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SCO LAYS FIRST ACE CARD -

HOLDS SECOND FOR MIPS COMPUTER JAZZ STATION

The Santa Cruz Operation Inc says it has now manufactured a small number of ACE Open Desktop "developers" kits: they're on its shelves all gussied-up with part numbers, but still awaiting first delivery. It's not recommending, however, that anybody use them for development purposes. They are more in the way of evaluation kits, according to staffers. Exactly how functional the operating system is at this point remains to be seen. About 25 to 30 OEMs and ISVs, companies still officially unidentified, but well-associated with the ACE Initiative, are expected to take delivery of the units, apparently this month. The software will run on the ARC-compliant MIPS R3000-based platforms that Digital Equipment Corp has brought out in its 3100 and 5000 series. SCO describes this "roll-out" as the first of three phases. The second will be an operating system designed for the 64-bit MIPS R4000 encased in a new MIPS Computer Systems Inc box codenamed Jazz, of which officials will only say to expect it "soon." The third will be a final iteration for the R4000. SCO, which has apparently backed-off its responsibilities to develop ACE's Unix operating system and thrown the ball back into DEC's lap (UX No 364), has no dates for either the second or third phases, though the mid-year timeframe set for R4000/Open Desktop product announcements is said to be "looking good." However, SCO has previously told Unigram.X not to expect the OSF/1-Intel version of Open Desktop before 1993 (UX No 364), putting that part of the Initiative way behind schedule and giving Microsoft Corp a greater shot at dominating it with NT. Of course, the unplayed Unix card in this equation is still SVR4 - now accepted by ACE as a Unix alternative. Unix System Labs will have to come out with an ACE system soon if Microsoft's advances are to be answered.

TOSHIBA TO USE SEQUOIA UNIX ON FAULT-TOLERANT SPARC LINE

Major Japanese companies are in a panic to get fault-tolerant systems to market. NEC Corp did an OEM deal with Stratus Computer Inc and Fujitsu Ltd has developed its own machine, and Toshiba Corp has now firmed up its May agreement with Marlborough, Massachusetts-based fault-tolerant Unix systems builder Sequoia Systems Inc, under which Sequoia is to give it a leg-up into the market. But rather than taking the forthcoming machines built around Hewlett-Packard Co's Precision Architecture RISC, Toshiba wants to take Sequoia's Unix System V implementation and fault-tolerant technology and adapt it to the Sparc RISC microprocessor. Under the agreement, the two will jointly develop a suite of fault-tolerant Unix workstations, communications systems and database servers, and a transaction processing system. The agreement calls for joint ownership and cross-licensing of technology developed under the agreement. Toshiba will initially manufacture a Sparc multi-processor, fault-tolerant server that embodies Sequoia technology, for distribution in Japan. The server will be compatible with Sequoia's current architecture as well as systems now under development that will use the Precision Architecture RISC. Sumitomo Electric Industries Ltd already has an agreement to market Sequoia systems non-exclusively in Japan, and an option to manufacture them - and may work with Sequoia to do a version using the MIPS Computer Systems Inc RISC. The agreement with Toshiba also covers the 68040-based Series 400, and the low-end Series 40 variant that is due out later this year. The decision by Toshiba to opt for the Sparc comes despite the fact that Toshiba is a licensee of the MIPS chip design - and has an agreement with Siemens AG for joint development of new versions of MIPS' R-series RISC. Toshiba also buys Sun Microsystems Inc Sparcstations OEM.

...CEMENTS SUN TIES WITH MOVE FOR INTEL SOLARIS

And Toshiba has further strengthened its ties with Sun Microsystems Inc by opting to use SunSoft's Solaris 2.0 implementation of Unix System V.4 on its Intel Corp iAPX-86-based 3100 series personal computers as well as on its AS Series workstations. Toshiba will start shipping workstations equipped with Solaris 2.0 in the first half, and personal computers running the operating system in the second half.

SUNSOFT FINALLY CLOSES INTERACTIVE DEAL

The SunSoft Inc/Interactive Systems Corp deal finally closed on New Year's Eve, more than three months after their agreement in principle was first initialled (UX Nos 350, 353). Insiders claim nothing substantive was changed during that time and attribute the delays to disentangling Interactive's on-going services and technologies business from the Intel-Unix side going to SunSoft. They also blame Interactive's owner, Eastman Kodak, for being bureaucratic and slow-footed. SunSoft's acquisition of Interactive's Californian-based, 200-person, \$30m Systems Products Division reportedly gives Sun, which is anxious to launch its much-heralded Solaris-on-Intel operating system, a ready-made infrastructure familiar with the shrinkwrapped Intel marketplace. Sun's own excursion into Intel some years back ended with the disbanding of that unit and the scattering of those forces. Interactive's sales and marketing relationships will continue on for its new master. Much to the chagrin of its present staff, the hullabaloo created by the SunSoft acquisition has overshadowed the fact that Interactive itself - or at least its old Service and Technologies Division - soldiers on. Interactive president and CEO Dennis Peck has been replaced by British ex-patriot Ben Salama, formerly head of the \$30m-a-year Services and Technologies division. Its Californian arm now gone, the company has shrunk back to its headquarters in Naperville, Illinois. Interactive intends to continue its traditional non-denominational Unix and networking consulting, licensing and software development operations for OEMs, including SunSoft, and end users, where it believes it will garner the bulk of its future growth.

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WILL RISC VAXES AND NAS TURN STRUGGLING DEC INTO WALL STREET'S DARLING?

In a parting shot to 1991, UBS Securities vice-president Marc Schulman has delivered himself of another opus, this one a 31-page treatise entitled "Digital Equipment. Ready for Take-Off" a fitting follow-on to his original blockbuster "Microsoft and the New Order in the Computer Industry" (UX No 328). Mr Schulman's position on DEC can be summed up by his advise to Wall Street touts: "BUY". Having probed Dec's psyche, he concludes its "long nightmare is ending". In fact, by his reckoning, DEC's earnings will jump from \$3.10 a share in fiscal 1992 (ie round about now) to \$7.50 in fiscal 1993, and assuming a flat equity market, believes that its share price could appreciate to \$90 by this time next year. Now, remember, this is a forecast about a company currently sounding warning bells about a serious operating loss on its second quarter, in a market not exactly bullish on high-tech issues where other analysts are busy slashing their forecasts on DEC.

IBM under pressure

However, we will let Mr Schulman's piece speak for itself as to whether DEC is a sound investment. What we are after are any marketing nuggets he may have squirreled away: Unsurprisingly, he anticipates, for instance, that the Alpha chip will initially deliver 80 VAX units of performance and 100 Specmarks (UX No 361) - 2.5 times the performance of the 83MHz CMOS chip in the new VAX 6000 Model 600. "The first Alpha VAX," he says, "will be a VAXstation that will be delivered in volume in the December, 1992 quarter. Alpha VAX 4000s should be delivered in the following quarter. They will be followed by Alpha VAX 6000s in the June, 1993 or September, 1993 quarter. The first Alpha VAX 9000s, which will have stronger input/output capabilities than the Alpha 6000s, will be only 15% slower than the fastest IBM mainframe in commercial applications and 70% faster in technical applications. Furthermore, in commercial applications the Alpha VAXs will on average provide 18 and 23 times the price/performance of air-cooled and water-cooled IBM ES/9000s respectively. In technical applications, the price/performance advantages will be twice as large. So, he concludes, unless IBM introduces some radically new technologies to improve its performance, DEC will be positioned to take large chunks of its business away.

Network Application Support

Having more or less wiped the floor with IBM, Mr Schulman then turns his attention to ACE. He attributes DEC's involvement in ACE to its expectation that the proliferation of ACE boxes - and not just those it manufactures and sells but everyone else's as well - will expand the marketplace for its high-margin Network Application Support (NAS) software. (Apparently both Mr Schulman and DEC take it on faith that the ACE explosion will really happen.) With the world now equating the notion of open systems with interoperability rather than Unix, Schulman claims, DEC has accidentally fallen into Aladdin's treasure trove - since it has been developing software (ie NAS) that facilitates heterogeneous integration and the creation of client/server applications for years now. According to Mr Schulman's count, at the end of October more than a thousand software companies, including Borland, Lotus and Computer Associates, were delivering over 2,400 NAS-conformant programs. "As clients", he notes, "NAS already supports systems running under every important operating system. In addition to its own VMS and Ultrix-based systems, PCs running DOS, Windows and OS/2, Macintoshes and Sun workstations can function as clients. At present, only VMS and Ultrix-based RISC systems can function as servers. During 1992's second half, server support will be extended to include hardware platforms - including ACE platforms - running the OSF/1 operating system. In 1993, server support will be expanded to include ACE platforms running Microsoft's Windows NT operating system, IBM platforms running the AIX operating system and HP platforms running the HP/UX operating system. At unspecified dates beyond 1993, NAS will also support platforms based on the IBM MVS and HP MPE operating systems. At present, it is not planned to support Sun platforms as servers."

Commodities

This, Schulman argues, makes better sense than what DEC's competitors are doing. Taking Sun and Silicon Graphics as models, he notes that DEC will be the only vendor selling NAS, while the others are commoditising their product differentiation: Sun with Solaris and SGI with its graphics libraries. It is also not flirting with self-impact, since within a year both Sun and SGI will be competing against high-performance PC hardware equipped with software technology that once distinguished their products. This position, coupled with its relationship with Microsoft and its concomitant promise of vastly enlarging DEC's grasp on the PC market, is supposed to turn DEC around and make it a Wall Street Darling. Meet you back here in a year from now to see if he was right.

INDEPENDENCE TECHNOLOGY SYSTEM MANAGEMENT TOOLS DEBUT

This week Independence Technologies is making its iView software available as a series of four standalone products: iView Log Manager and iView System Manager, iView SNMP Agent and iView Event Manager. Each product can now be purchased separately or as a modular system for managing hardware and application software in heterogeneous TCP/IP-based LANs or WANs. iView System Manager enables customers to monitor, control and restart hardware, networks, databases, transaction monitors and applications. The product consists of a central system manager that continually monitors and receives network-wide system information from one or more remote agents, either SNMP or CMIP. The company's SNMP Agent supports its proprietary management information base for monitoring software processes, file systems, Unix performance and the Tuxedo/T transaction manager from Unix Systems Labs. It will operate on any SNMP-based management environment including Sun's SunNet Manager. The iView Log Manager logs error and activity information from applications running on multivendor Unix boxes, be they workstations or high-end servers. The data can then be stored in a relational database for browsing, sorting and reporting using a built-in graphical user interface. The iView Event manager allows application processes to send and receive events from any process in the network, monitors Unix processes and restarts them if necessary. When used with the iView Ssystem manager, it lets users generate alarms. The software has been ported to Sparcstations, Pyramid MIS servers and DG Avion servers. A single System Manager sells for \$14,000. Each SNMP Agent is \$200. The Log Manager is \$3,000 and the Event Manager is \$2,500. Volume discounts are available.

NT TO APPEAR IN BOTH CLIENT AND SERVER VERSIONS

Regrouping to fend off advances by Novell and its new Joint venture Univel, Microsoft has combined its networking operation with its NT developers to create a Corporate and Network Systems Group headed by Paul Maritz, lately VP of Advanced Operating Systems: Microsoft is also positioning NT for both the client and the server just as Univel did at its debut a few weeks ago (UX No 364). That apparently means two versions of NT, folks. One - reminiscent of Univel's Destiny package - stripped down for the desktop but capable of peer-to-peer networking. The other complete with symmetric multiprocessing and fault tolerance.

HITACHI, FUJITSU TO SHOW NEW CHIPS AT ISSC CONFERENCE

Hitachi Ltd is set to reveal a 1,000 MIPS, 250MHz, 32-bit, BiCMOS CPU at the International Solid State Circuits Conference in February: it's thought to incorporate two super-scalar processors integrated onto a single chip. At the same event Fujitsu is tipped to detail a 70MHz part which performs at 289 MFLOPS. Sun Microsystems and Texas Instruments' delayed three million transistor Viking Sparc RISC will also be the subject of much discussion - it's expected to sample around the middle of the year.

LUCID, PARTNERED BY NCR, ENERGISES OBJECT PROGRAMMERS

NCR, it seems, has been in bed with Lucid for the past year jointly developing pieces of Lucid's C++ and C technology for use in the NCR 3000 application development environment. Lucid, for its part, is just starting to productize the technology this week beginning with its Energise Programming System (UX NO 365). The C++ written Energise reportedly eases the shift of object-oriented programming for Unix programmers by incorporating capabilities usually available only in specialised OOP languages such as Smalltalk, while also offering integrated support. Based on a client/server model and an object-oriented database, the company says Energise provides incremental compilation and linking to decrease the time a programmer must wait when making changes because of the edit-compile-debug cycle. It is also designed to allow a programmer to navigate easily through an entire program in the process of understanding code structure and isolating problems. The software includes a "browser" facility co-developed with NCR that permits multiple views into a program under development. Energise will ship for Sparc systems in Q1 with porting to other platform to follow during the year. Pricing for 5-man workgroups is 3,250 a seat; for an 10-man workgroup \$2,950. Quantity one is \$4,250. Lucid will sell directly in the US and through distributors in Europe and the Far East.

AUTOGRAPH'S COLOUR OUTPUT SOFTWARE NOW AVAILABLE IN US

Autograph International, the Danish-based company that was a spin-off from graphics specialists Uniras, has now formed a US arm based in San Jose, California, and has launched its EasyCopy/X software onto the US market. EasyCopy, which has been available in Europe since the Summer (UX No 340), is intended to solve the problem of getting true colour images from printers. It costs \$895 and runs on all the major Unix workstations and X terminals including DEC, HP, IBM and Sun platforms. As a standalone Easycopy includes a Motif interface with an X11 Release 4 screen grabber. It currently grabs images with 8-bit-plane colour definition but can reportedly output 24-bit colour file images to hardcopy devices. The tool will support 24-bit frame grabbing as soon as the X11 utilities allow this, the company said. Images can be imported directly from most of the popular image file formats. EasyCopy uses the Commission Internationale de l'Eclairage's Uniform Chromaticity Scales (CIELUV) colour calibration standard to match colours among devices. It also supports Unix spooling and Colour PostScript as well.

HP BUSHMASTER TO BREAK COVER

After months of anticipation and postponement (UX No 357), Bushmaster, the smallest and the cheapest of the Hewlett-Packard Snakes, is about to hatch next week. However, the HP viper won't be alone when it wriggles forth. HP will also be upgrading its 700 series CRX 2D and 3D colour graphics systems with two true-colour (24-colour plane) versions capable of faster vectoring and more realistic imaging than previously. Users should be able to buck up their systems with add-in boards that promise 16.7m colours. In addition, expect a family of 700 servers designed for the technical market. HP is doubling the RAM on its 700 boxes to optimise them as compute and file servers and engineering database servers: the 720 and 730 should have 128Mb internal and the 750, 348Mb. The new release of its HP-UX Unix implementation supports these improvements and should also allow for heightened external storage as well. Pretty much all of the specifications pertaining to the 50 SPECmark Bushmaster, which of course will debut as the 710, have been revealed in these pages in the last few months (UX Nos 356, 363), HP has only to fill in the price, which has been rumoured - somewhat dubiously - as being as low as \$5,000. HP, however, is trying to break that \$10,000 barrier by as much as it can. Bushmaster has apparently been stymied from getting out the door by the severe shortfall HP has experienced in Texas Instruments' floating point chips which has also badly affected the delivery schedule of the rest of the 700 line (UX No 352).

MERGER CREATES LARGEST US UNIX VAR

Systems integrators Andataco and R Squared are merging. Their marriage promises to create the largest Unix value-added reseller in the US. The new entity, to be called Andataco Squared, anticipates 1992 revenues in excess of \$100m with a combined customer base of over 10,000. The merger of the two privately-held companies will blend Andataco's strengths in the Sun marketplace with R Squared's expertise in mass storage subsystems. It will focus on selling add-on and add-in products to users and other resellers of Sun, Silicon Graphics, HP/Apollo, DEC and IBM as well as integrating complete systems. R Squared president Joe Campana will be chief operating officer overseeing operation and administration and Andataco president David Sykes will be president of the new company, responsible for sales, marketing and engineering. The new company has 130 employees, including 60 sales people working out of 13 sales offices. Six-year-old Andataco posted sales of \$40m in its last fiscal year ending November 1. R Squared, which goes back to 1983, had sales of \$30m in its fiscal year ending October 1. The merger could have consequences for San Diego, California-based Sparc laptop house RDI which has lost its marketing department, including manager Steve McAllister, to the new company.

BORLAND TAKES CONTESSA GUI AS FRONT-END FOR INTERBASE

Borland International is picking up the object-oriented Contessa Motif front-end for its Interbase relational database management system (acquired from its purchase of Ashton-Tate) and will resell it. Contessa from contexture systems (sic) also provides a WYSIWYG editor for incorporating Interbase BLOBS directly into an application display, a TCP/IP and DECnet networking component and a data integration interface capable of supporting multiple simultaneous dynamic connections to disparate data sources, real-time feeds, graphic packages and Interbase itself. Contessa is currently available from Borland on the HP/9000 series 400 and 700, the RS/6000, Sparcs, DEC Ultrix and HP/Apollo. Development licenses cost \$5,000 per developer and run-time licenses cost \$500 with volume discounts available.

FRAME TECHNOLOGY SETS UP BATTLE FOR THE DESKTOP

Frame Technology Inc, San Jose, California developer of the FrameMaker desktop publishing programme, is to form four separate business units to reflect the polarisation of the desktop market. It says that during 1992, it will create product centres for its Unix, Macintosh, NeXT, and Windows versions of its FrameMaker and FrameViewer software - OS/2 is a notable absentee - and each will operate as a business unit with profit and loss responsibilities, making it easier for the company to determine which will be the desktop winners and losers.

ACE, ANDF, THE ORB AND ALL THAT: 1991 - THE FIRST SIX MONTHS

January

The year begins with speculation about AT&T's plans to sell off a stake in its Unix System Laboratories subsidiary, which will broaden the ownership of Unix. The prospectus values USL at \$325m: AT&T says it is looking to sell around 30%. At UniForum in Dallas, Compaq is said to be evaluating the MIPS Computer Systems RISC processor. Open Software Foundation bemoans the \$1m tag of its X/Open board ticket. Multi-national Unix users with a collective buying power of over \$100 billion say they will push the industry to accelerate the delivery of open systems products. Fujitsu and Sun are said to be holding talks on a closer relationship: Fujitsu's interest in the Sparc becomes more apparent as its Amdahl sibling signs for the Sparc. Unigram beats the dailies to report that OSF is being investigated by the US Government's Federal Trade Commission over anti-trust violations, sparked by criticism of its controversial Request For Technology scheme by a dozen independent software vendors aggrieved at OSF's business terms and conditions. Former head of the IBM division that developed the RS/6000, Andrew Heller, surfaces as boss of start-up Hal Inc, to build high-performance RISC Unix workstations. In another mopping-up operation, DEC picks up a 65% stake in a new company to be formed out of Mannesmann AG's loss-making computer businesses. Data General lets its object-oriented technology go into a buyout called HyperDesk. Motorola's first 88000 customer, Textronix, shuts the door on its workstation business after failing to find a buyer. AT&T's fight for control of NCR rages: the Daytner launches its own Top-End transaction processing monitor which will compete with its suitor's Tuxedo. Dataquest figures for 1990 show Sun kept its workstation lead with 29.1% of the market, worth \$7,400m: HP took 22.7%, DEC 17.7% Intergraph 6.8% and IBM 3.5%. Computer Associates, the world's largest software company, with a strong distaste for Unix, comes down off its high-horse and enters the Unix lists for the first time, saying it will port its software to HP Unix. By the end of the year the firm has the biggest stand at the year's premier Unix Expo event. DEC announces 3,500 layoffs whilst Concurrent Computer teeters on the edge of bankruptcy.

February

Back in black: Data General finishes its financial year with the first set of profits in eight quarters, proving that investment in open systems can pay - some painful restructuring apart. Spain follows Germany and the UK in demanding XPG compliance for all future public IT procurements. First glimmer of Microsoft's New Technology, which is being designed by VMS architect Dave Cutler. And With Microsoft stock up to \$100 a share, Bill Gates' personal fortune rises to \$4bn, making him more valuable than the GNP of Bolivia and Afghanistan. The Advanced Computing Environment starts life as the gang of nine: Compaq, DEC, MIPS, SCO, Olivetti and Silicon Graphics say they will create a new workstation standard based around the MIPS RISC and Intel's 80486 running a Unix desktop operating system and NT. IBM's non-existent sub-\$5,000 workstation makes headlines: the RS/6000's seven chip-set will be shrunk to two.

March

Following 1990's graphical user interface wars, a layered API accommodating Open Look, Motif, Windows and Presentation Manager, looks the best bet for the basis an international GUI standard. Unlikely bedfellows they may be, but HP and Sun decide to play Romeo and Juliet, collaborating on an object-oriented Distributed Object Management Facility. They plan to converge their opposing remote procedure call protocols and take DOMF to the Object Management Group, which is hunting for an Object Request Broker standard. Barclays, a UK bank, is set to become largest European AIX user with a monster contract for up to 3,000 IBM RS/6000 boxes. IBM holds a "technology direction demonstration" of OSF/1 on its ES/9000 mainframe at CeBit. Oracle launches a parallel server database for multi-processing systems: it's also seeking an equity investor. Two years after defecting from Motorola's 88000, Stratus launches a fault-tolerant computer based upon Intel's i860 RISC with SVR4. HP "Snake" workstations are spied in Birmingham, UK, at the CAD/CAM '91 show.

April

HP sets the workstation world on its ear, introducing its Snake RISC workstations topping at 76 MIPS - 72 SPECmarks: a low-end Bushmaster model is planned - it will ship in March 1992. In a cheeky move, OSF presents Motif to IEEE for a direct ballot as the de jure GUI standard: Unix International replies with a similar bid for Open Look. IEEE smells a rat and rejects both. ACE launches itself, saying its model is the personal computer revolution of the 1980s. Bill Gates is touted as the force behind ACE - some see it as another Microsoft-on-Intel play. First problems at ACE as the Apache Group says it wants the ACE-MIPS hardware running SVR4, not Open Desktop. USL works on a binary desktop version of Unix for computers with 4Mb RAM, 40Mb disk. UK firm, Tadpole Technology, develops a Sparc-based notebook which is due by year-end. USL investors are Sun, Motorola, Amdahl, Novell (the largest), Olivetti, ICL, Toshiba, Oki Electric, NEC, Fujitsu and Taiwan's Institute for Information Industry. IBM wants to shed a further 9,000 jobs. Pyramid Technology takes a leap forward in the server market with its long-awaited MIPS R3000-based systems - AT&T, Olivetti and SNI are OEMS. OMG shortlists five technologies for its ORB - HP/Sun, HyperDesk, NCR/ODI, DEC and APM - pundits forecast an acrimonious selection battle. DEC takes a minority stake in MasPar Computer, confirming its entry into the massively parallel market via that route. Sun angers some of its 500 US dealers, telling them they can't market any of the Sparc-compatible machines. On the back of the federal investigation, Addamax launches a \$100m anti-trust action against OSF: its secure software was snubbed in favour of SecureWare technology for the security elements in OSF/1. Addamax claims OSF acted as an illegal cartel by conspiring to fix prices for software technology and providing competitive advantages to OSF sponsors by dictating standards favourable to their technologies and strategies.

May

DEC gets the first ACE-compatible MIPS-based DECstation out of the door. Increasing competition forces IBM to cut RS/6000 prices by up to 60%. The five runners in OMG's ORB technology request become three, then two as NCR/ODI throws its lot in with Sun/HP to face HyperDesk/DEC. AT&T wins NCR's hand for \$7,480m: the combined computer business to be run from NCR's Dayton, Ohio headquarters under president Gilbert Williamson. Former NCR chief, Charles Exley, who led the fight against AT&T, resigns. NCR unveils first fruits of its development agreement with Teradata: the NCR 3600, with up to 288 Intel 80486 CPUs, uses Teradata's back-end database processing system. ICL's VME mainframe operating system wins XPG3-compliance. IXI plans a object-oriented version of its X.desktop manager using HyperDesk technology. Sun's SVR4 implementation and Galaxy multi-processors promised are by year-end.

June

ICL buys Finnish systems integrator, Nokia Data, for £330m, to become a £2,000m business. Chorus Systemes, the French microkernel Unix house, wins Alcatel NV, the world's largest supplier of public and private communications systems, as a customer: Alcatel will put Chorus Mix on all its future PBXs. IBM gets UHC to do its dirty work: porting SVR4 on to the PS/2 which it bids on a contract with US retailer, KMart. More jobs go at troubled Unisys: the original 126,000 workforce is now down to 70,000. OMG tells the two ORB hopefuls to go away and combine their technologies by August - or forget it. The UK's Royal Signals and Radar Establishment wins OSF's Architecture Neutral Distribution Format RFT. RSRE's Ten15 technology will allow software applications to be developed independently of the target hardware. In January Unigram reported Apple and IBM were up to something: now high-level talks between the two are overheard. European Unix show is hit by absenteeism: Bull, Data General, HP, IBM, ISL, Olivetti, Sun and Unisys all stay away. NCR says it will ditch AT&T's Tuxedo TP monitor in favour of its own Top End system. Motorola wins Ford to its 88000 RISC: the firm will use it as an embedded processor in car control systems. UK office automation firm, Uniplex, is thought to be up for sale. Financially stricken Wang becomes an IBM reseller in return for \$25m investment, but cuts another 4,000 jobs at the same time.

GAINEXPOSURE TO EASE**PROBLEMS OF SOFTWARE DEMOS**

Gain Technology, the Palo Alto, California-based multimedia start-up once known as Cayenne Systems, is to introduce its first commercial product this week. GainExposure, part of the technology Gain has been co-developing with Matsushita (UX No 363), promises to provide live capture of X-Windows software demos and reduce the cost of software houses trundling their staff around from site to site by as much as \$100,000 a year. Gain, which has a patent pending on the technology, says demos can now be enhanced with audio, text and graphics, fine tuned for performance and sent out without the underlying technology like a video. The company points out that on-site demos are time-consuming and unpredictable, requiring expert personnel to travel to customer sites and install the entire software product on the customer's hardware, while sorting through thorny configuration and networking problems for the independent software vendor. By contrast, demos authored on GainExposure can be mass distributed on CD-ROM or other media. The US price of the product, to be shown at UniForum, starts at \$10,000 for a license bundle that includes an authoring license and 100 playback licenses. It runs on Sparc machines now, with versions for DEC, HP and IBM boxes to be added by the end of the quarter.

MICROPORT SHIPS MULTI-PROCESSING SVR4

After previewing the stuff back at Unix Expo (UX No 357), Microport Inc, Scotts Valley, California, is the latest to begin shipping a symmetric multi-processing version of Unix SVR4. The long-time Unix firm estimates that each additional processor added running under the environment increases system throughput by between 80%-90%. Prices start at \$800 for a two-user, dual CPU system. And Microport has also introduced version 4 of its standard SVR4 implementation, which now includes support for the iBCS2 Intel binary compatibility standard and release 3.2 of Santa Cruz Operation Inc Xenix. A complete runtime package costs \$1,250.

DANSK DATA FORMS MALAYSIAN JOINT VENTURE WITH GUTHRIE

Dansk Data Elektronik A/S, the Danish Unix systems builder from Herlev, is moving into Malaysia in a big way, signing with industrial group Kumpulan Guthrie Sdn Bhd for a joint venture for marketing of its Supermax systems in Malaysia and later move on to manufacturing. Guthrie will initially hold 62% of the joint venture, Dansk Data will have 19% and the Industrialisation Fund for Developing Countries the other 19%. Dansk Data may buy the Fund shares later. The company will be capitalised at the equivalent of \$2.33m, with the partners subscribing for the shares at par.

NO BUYER FOR STARDENT VISTRA, AS DEATH THROES AWAKEN GHOSTS OF ARDENT, STELLAR

US reports say belly-up Stardent Computer Inc, which is in the process of running down its business for closure, has been unable to find a buyer willing to take-on its Intel i860-based Vistra desktop line lock, stock and barrel, and is instead negotiating to sell-off just the graphics subsystem technology the boxes employ. That may go to Oki Electric, which supplied base hardware for the Vistra, and which has its own i860-based workstations which currently lack such a subsystem. Just 100 Vistra system are thought to have made it into the field, though Stardent engineers are still reported to be working on a 24-bit graphics unit for the thing, which is expected this month. Meanwhile, AVS Inc, into which Stardent and its leading investor, Kubota, span-off the firm's popular Application Visualisation System - a graphical imaging environment - is now up and running under the charge of Stardent chief executive Bill Poduska. Kubota now has worldwide marketing and development rights for Stardent's MIPS Computer Systems R3000-based Titan systems - which came from the Ardent side of the marriage - and a GS Computer Services spin-off has also been set-up to handle customers of the GS series of machines which came from Stellar Computer: that venture will also service Vistra customers.

MARKET ROUNDUP

Wake up and smell the coffee: it took Connecticut-based groupware house Coordination Technology five years and \$17m (\$3m of which belonged to JP Morgan) to realise OS/2 is not a viable platform. An insider called over the holidays to say the company is going belly up - just when its software is supposed to be named "Product of the Year" in the January 23 issue of Lan Magazine.

A poor man's SunSoft perhaps: Commodore is reportedly on the verge of cutting its Unix operating system loose from the Amiga hardware it needs to run on in an effort to spur consumer interest in the stuff. Pricing would start at \$800 and go to \$1,200 depending on the number of users in all. They should probably add some bells and whistles for more oomph.

The most recent issue of FT Systems by Omri Serlin claims OSF plans to make the Mach 3 microkernel part of its OSF/1.1 release this year: it goes on to say that the OSF microkernel could probably live with 2Mb of memory, although most workstation used to develop it are fitted with 8Mb or more. It quotes OSF R&D chief Ira Goldstein as explaining that the space is taken up with such frills as X-windows and Motif.

1776 Inc has reworked its Disk Array Software (UX No 303, 349), designing it especially for SCO Unix and Open Desktop. The new release, version 3.1, is said to be closely integrated with the SCO products and takes advantage of little-known SCO capabilities to simplify installation and avoid reinstalling Unix or ODT from scratch. In addition, the 1776 software now permits a backup boot drive to a different size than the primary drive. It is available immediately at the same price as the 3.0 release.

The famed !Unix Party Consortium, probably the only industry group ever to have fulfilled its charter to the letter, will be convening again this year at Uniforum: the US Park Service showed it had absolutely no sense of humour when it refused to rent the group Alcatraz for the festivities, so instead it'll be in Club O at 11th and Folsom in San Francisco in January 22, the first night of the show, beginning at 9pm. Tickets will cost \$35 a head including food and a four-hour open bar. !Unix had to turn people away last year and it's still on a first come first serve basis with a maximum 450 tickets available. Contact Joanne Lizzer at (212) 683-9294 if you want to come or simply send your money to her c/o Unix Review, 370 Lexington Avenue, Suite 1700, New York City, New York 10017. Again as last year the one rule is "vendors only".

Sparc International is now claiming 230 members and apportioning them as follow: semiconductor makers (4%), system suppliers (15%), ISVs (31%), independent hardware vendors (17%), VARs (22%) and others (11%). Just who are all those others?

The Seven-month-old National AIX-RS/6000 User Group is spreading its wings and plans to establish chapters throughout Europe, the Far East, South America, Australia and Israel: logically enough it's changing its name to the International AIX-RS/6000 User Group.

Integrrix of California has launched the SGX 100, a low-cost graphics accelerator card, to its controller line. Integrrix, which licensed the design from Sun, says the board used the same LSI chip that the Sun GX uses, and provides identical performance for \$2,450. The company also has a S4+ Keyboard combining the features of Sun's standard 107-key type 4 keyboard and the new Sun keyboard supporting the IBM 101-key PC keyboard for \$150.

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With Honeywell Inc out of the picture, a new American partner for Compagnie des Machines Bull SA is looking certain now, with Hewlett-Packard Co seen in Paris as the long odds-on favourite to take a small stake in the red ink-drenched mainframer, as part of a deal that sees Bull dumping its MIPS Computer Systems Inc RISC developments in favour of a line built around the Precision Architecture RISC favoured by Hitachi Ltd, Mitsubishi Electric Corp and Samsung Electronics Co. The French government is also expected to reduce its direct stake in Machines Bull to 51% from 76%, but mainly only by persuading state-owned banks and insurance companies to put up new capital.

Recession has caught up with Pyramid Technology Corp, which warns that it will report a fiscal first quarter loss on falling turnover for the period to December 27, and will also take a one-time charge of \$12m to \$15m to cover the cost of closing some facilities and laying off an unspecified number of employees: the company blames reduction in capital spending in the UK, and by the Baby Bells in the US; a year ago, it reported net profit of \$4.7m on sales of \$55m, and says sales will be down several million.

The customary battle between suppliers of input/output multiport boards and boxes that seems to take place at every trade show, is set to be re-activated again later this month at UniForum: companies such as Arnet, Chase, Computone, Corollory, Digiboard, Equinox and Specialix are all working on performance improvements to ensure their products can handle the additional loads from X-terminals. Arnet and Digiboard are thought to be preparing RISC boards, which Equinox and Specialix already have.

NCR Corp is about to ship the OS/2 version of its long-delayed Cooperation business software and workflow integration system: the Unix V.4 version will be available in June.

Reports say Solbourne Computer Corp is preparing to debut a \$10,000, portable workstation, based around the 64-bit Sparc-compatible RISC it has been developing with its partner Matsushita Electric Industrial Co.

Computer Products Inc, Boca Raton, Florida power supply manufacturer, is looking to diversify and has reached agreement to acquire Madison, Wisconsin-based Heurikon Corp, a manufacturer of VMEbus single board computers for real-time applications. Annual sales at Computer Products are running at \$110m, Heurikon is doing \$22m. Terms of the acquisition were not disclosed.

The Open Software Foundation has elected Mike Saranga - assistant general manager of systems structure and management for IBM programming systems - as its chairman: he replaces IBM vice president Peter Schneider, who held the post on an interim basis.

ICL Plc is not optimistic about prospects for the computer industry in 1992: the next 12 months will be "very tough", chairman Peter Bonfield told the Financial Times.

And ICL has signed up for Ki Research Inc's kiNET, DEC-to-Unix connectivity software, which it will sell on its DRS Unix servers.

Fujitsu Ltd is to license its Unix-based supercomputer operating system to Siemens AG as an extension of the agreement under which Siemens buys the VP series supercomputers for marketing in Europe on an OEM basis. Up to now, Siemens customers have still had to go to Fujitsu to get an operating system licence.

Hewlett-Packard Co has signed a joint reseller agreement with Informix Software Ltd under which Hewlett will resell Informix's relational-database management system and spreadsheet products on HP 9000 systems throughout the UK: a spokesman for Hewlett-Packard said this relationship would in no way compromise its dealings with Oracle Corp, Ingres Corp or Sybase Inc adding that "other negotiations (with these companies) are in the pipeline"; the deal will not effect sales of AllBase SQL under HP/UX as such sales are made for MPE compatibility reasons; it is believed that Hewlett-Packard struck the agreement because Informix has no direct sales force in the UK.

Microsoft Corp is now shipping the second version of its Windows 32-Bit Development Kit, which it says now includes code to develop for and run on MIPS Computer Systems Inc RISC systems as well as 80386 and 80486 systems: the new kit provides tools necessary for developers to maintain a single application source code base and generate code to run on both hardware types.

Promises of a December delivery date notwithstanding, Tadpole Technology's SparcBook notebook didn't make it: the company is now saying January 20th.

Hewlett-Packard says that Concept Modeller CAE software from Wisdom Systems now is available for its 9000 Series 700 workstations.

Users proposing to move to the System/88 4579 Model R20 80860 RISC-based fault-tolerant system from Stratus Computer Inc should hurry - IBM has pulled it out of Processor Group 20 for software pricing and rocketed it up to a new Group 38. The higher prices affect only machines that are shipped from April 1.

Distributed Object Computing is the theme of Seybold's 1992 Technology forum, scheduled for March 31-April 2 in Cambridge, Massachusetts: The idea is to figure out how end users can overcome the management and technical barriers preventing them from applying distributed and object oriented technologies to solve mainstream business problems.

General Automation, which says it is trying to bolster its Unix offerings, especially for its European channels, has signed a worldwide distribution agreement to sell Unidata's relational database as the strategic Unix product on its Advantage series of Pick/Unix boxes: in the UK its channels include Sanderson Electronics.

Dallas, Texas-based Uniras Inc is to integrate Montreal, Canada-based Visual Edge Technology's UIM/X Motif development tool into its X/Toolmaster graphics toolkit.

The State Forest Administration of Poland, Lasy Panstwowe, has picked Hewlett-Packard Polska and Austrian systems integrator SDS to supply a nationwide information system valued at over \$14m: it is buying 515 computers for 500 forestry offices and 17 district offices throughout the country as well as in its headquarters in Warsaw and has gone for HP 9000 Unix workstations, client-server computers and high-end machines eventually to be linked into an open-systems network to manage the forests that cover nearly a third of Polish territory.

Storage Dimensions has introduced SpeedStor for SunOS, a software programme designed to cut the time it takes to install generic SCSI drives on Sparcstations from six hours to 10 minutes: It's going through Qualix, Sun resellers and distributors for \$150 per node and \$500 per domain.

Seybold has found a replacement for Judith Hurwitz who left to start a consulting operation of her own (UX No 362): it's hired Michael Goulde away from Open Systems Advisor, leaving its founder, Nina Lytton, in the lurch. Meanwhile, Ken Sobel-Feldman has joined Meta Group as vice president and co-director of its mid-range systems strategies service. He had been strategic marketing program manager at HP and before that at Gartner Group.

Silicon Graphics has signed Procalculo SA of Columbia and Teknos Communicationes SA of Chile to distribute its entire line of Iris 4D systems and servers: SGI already has outlets in Brazil and Venezuela. Meanwhile, Trivia buffs might be gratified to know that SGI boxes were used for Michael Jackson's sometimes bowdlerized "Black or White" video as well as the Star Trek V1.

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HEWLETT-PACKARD SETS NEW INDUSTRY TARGET WITH SURPRISE LOW-END WORKSTATION

Reigning all its competitive resources for the charge, Hewlett-Packard Co will this week try to wrongfoot its competitors when it unleashes "Bushmaster Junior," an unexpected low-end "Snake" priced at \$4,990 - £3,990 in the UK. The surprise announcement will be coupled with the long-awaited debut of Bushmaster proper, the new 710 box which was previously thought to be the entry point to the 700 series. Junior, which even HP didn't expect to release so soon, is an expandable diskless workstation that will be formally known as the 705. Based on a 35MHz version of HP's PA Risc chip, the 35-MIPS unit will reportedly perform at 34 SPECmarks or 8 MFLOPS double precision Linpack. The price tag may prove a bit deceptive since the base unit includes only 8Mb internal memory, not really enough to run the average X-Windows or networking software that customers would use on the box. HP declines to talk about the number of units it thinks it can sell aside from "lots," but even it admits there will be what it termed a "higher connect rate" for the 16Mb version priced at \$6,340. The 705 comes only with a 19-inch grey scale tube offering 8 image planes. What makes the box more appealing, perhaps, is its configurability. Users can add two 420M drives for \$2,500 each or a 420Mb drive and a \$500 removable floppy, or a \$1,000, 600Mb CD-ROM, or a \$2,500, 2Gb, digital audio tape drive. It can also handle either thick or thin Ethernet and comes with two RS232 ports, one SCSI and Centronics port and an audio I/O port. By comparison, but scorned by HP as "anemic," Sun's diskless ELC unit is priced at \$4,995 - £4,000 - for 20 SPECmarks, 8Mb and 17-inch monochrome screen. Sun's IPX, with two 207Mb drives, lists for \$11,995 - £9,750 - for 24.6 SPECmarks. HP is quoting 90-day delivery for the 705 right now but by April hopes to bring that down to two weeks. It is targeting the financial market, desktop publishing, CASE, customer service and personal productivity with the 705. The 705 rollout could overshadow the introduction of its big brother, the long-expected 710, itself distinguished by being the first 50-plus MIPS box priced under \$10,000. HP, which expected to have 2,000 Bushmaster units out at customer sites by this week, quoted the 50MHz machine's performance at 57.9 MIPS, 49.7 SPECmarks and 12.2 MFLOPS. 16Mb RAM is standard on all Bushmaster configurations with the entry-level priced at \$9,490 - £7,515 - for a 19-inch grey-scale screen. \$11,490 - £9,115 - buys a 16-inch colour model and \$13,990 - £11,115 - a 19-inch colour. All models are diskless. Delivery is in two weeks. Product marketing manager Chander Khanna claimed the competition won't have time to digest the 705/710 price points before HP hits them with another body blow. Without being specific, he said to expect further Snake developments at the low, medium and high-end. A product plan chart showed at the launch included 115 and 140 SPECmark boxes for release this year (possibly the Spring), a 50 SPECmark "deep low-end" box for 1993, and 2-to-8-way multi-processors with performance of from 140 to 400 SPECmarks for 1993 and 1994. More details, page four.

SUN TO UNLEASH TIDAL WAVE - BUT SILENT ON SUPERSPARC

Under the code name Tsunami, Japanese for Tidal Wave, Sun Microsystems Inc is quietly working on a new (as opposed to new-generation) Sparc chip. As the evocative name implies, it's meant for the very high-volume, low-end side of the business so it should be cheap to produce. The design is Sun's own but, as in the past, it'll be fabricated outside, perhaps by Texas Instruments or Fujitsu. Meanwhile, the veil of silence that has seemingly descended over Sun's high-end Viking, aka SuperSparc, implementation is creating talk - especially amongst its competitors - that the thing has serious problems. And, truth to tell, we don't know how real reports are that Sun will announce a "Sparcstation 3" in May, trying to get out 5,000 units by the end of June.

LOW-END RS/6000 "DUE ON 21st"

Having finally overcome problems with the input-output chip which has repeatedly put back the announcement of its baby RS/6000 workstation (UX Nos 352, 322), IBM is set to add its runner to the swelling number of low-end workstation hopefuls. On the 21st of this month, a day before the start of UniForum, IBM is thought likely to unveil an entry-level Model 220 in its AIX RISC family, the first - and so far the only - member of the line to employ the long-awaited two-chip implementation of its RIOS processor, featured so far only as an expensive six-chip set. Rated at 25 SPECmarks, the 33MHz machine has a small cache memory and comes in three versions: a diskless unit and two others with increasing amounts of disk, and more upgrade capability than HP's Bushmaster. Integration of the RIOS chip-set is a stepping stone towards the completed desktop packaging of the chip currently being worked on by IBM, Apple and Motorola, called PowerPC. Also planned is a high-end Model 560 using the existing Rios chip-set running at 50MHz, which is thought to hit 90 SPECmarks (see story on page five). In between the two sits a 33MHz desktop version of the 530H, the 340, and the 350, a 72 SPECmarks desktop iteration of the 41.7MHz 550. Ships are set for the second quarter, according to an IBM dealer given a preview of the things, with a UK price-tag of £7,400 rumoured for the 220, which could translate into a sub-\$10,000 offering in the US. This would bring IBM nearer to - though leaving it at arm's length from - its competitors in this market, which could well help re-shape the look of the Unix industry over the course of the year. Similar low-end roll-outs from ACE founder DEC (UX No 362) and Hewlett-Packard (see above) have already happened, whilst Sun is still struggling to get its next-generation SuperSparc RISC into product shape.

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MISYS ADDS INNSITE, TWO OTHERS, TO PORTFOLIO

Salford Priors, Worcestershire-based Misys Plc has reached a conditional agreement to acquire Innsite International Ltd of Hounslow, Middlesex for £3.55m. Innsite, which supplies Unix-based software and services to the hotel industry, was founded 11 years ago by US computer services company Automatic Data Processing Inc, bought out by its management in 1987, with financing from institutional investors: it has some 100 staff. For Misys, the deal is a way into a market with great potential: chairman Kevin Lomax estimates that there are some 22,000 hotels in the UK, of which only 2,500 are fully computerised. Innsite's hotel business software is written in C and has its own proprietary tools built into it. The Hounslow company claims to have 150 systems installed at 1,150 UK hotels, and at 425 hotels overseas, to which it sells via 12 distributors. The cash-positive Worcestershire group has made two other acquisitions since its period end in November: Misys handed over £235,000 cash on December 24 for the hardware maintenance business of Principality Systems Ltd, one of its TIS resellers in South Wales, and, on December 31, it snapped up - for £205,000 cash - from its receiver, the business of Manchester-based Computer Management Systems Ltd, a supplier of software products to the construction industry. After £645,000 exceptional costs last time, adjusted for the trading losses of Modular Technology Ltd sold last July, Misys reported pre-tax profits for the first half of 1992 up 136% at £3.6m on sales down 2% at £32.3m. Excluding the Star Computer Group Maintenance Business, acquired last March, turnover was actually down 6.5%.

DOLPHIN RAISES \$3.4m

Norsk Data A/S affiliate, Oslo, Norway-based Dolphin Server Technology A/S has bolstered its financial base through a new round of financing, raising the equivalent of \$3.4m in new equity and loans, and conversion of debt into equity. Norsk Data A/S now own approximately 40% of the company. An international group of investors, Yorkdale Ltd, will own about 30% of the company. This group has various international holdings in technology, mining and agriculture. Of the remaining shares, 10% will be held by the Norwegian Industrial Fund and about 20% will be owned by Dolphin's employees and other Norwegian and international investors. Jens Hofgaard moves up from vice-president of finance to become president of the company.

NCR LAUNCHES GALAXY OPERATING

SYSTEM TO MIGRATE I-SERIES USERS TO UNIX

NCR Corp has launched its Unix-based Galaxy Operating Environment, providing its proprietary I-series mid-range system users with a migration path to the company's open System 3000 range. Galaxy, which is claimed to provide easy application and file migration to the System 3000, is a set of operating software and tools running under Unix SVR4, and conforming to NCR's Open Co-operative Computing Architecture. NCR's I-series hardware environments include System 10000, 9000 and 8000 series products, and the I-Tower which runs the RM/COS Cobol operating system - NCR has long believed in standards, and standardised all its commercial systems on a common kernel in the mid-1970s. The System 3000 is a seven-level family of Intel Corp iAPX-86-based general-purpose, scalable computer systems that support standard operating environments led by Unix V.4. Galaxy's Interactive Cobol Environment provides an NCR System 3000 with the appearance of ITX systems and a familiar operations environment. And the software enables current Cobol applications to co-exist with new applications on the same system. Galaxy Operating Environment varies in price according to the number of users and the environment - a configuration for the NCR 3445, supporting 32 users, with 16Mb RAM, colour monitor, 980Mb hard disk, Unix V.4, the NCR Interactive Cobol Compiler and Galaxy Operating Environment, would cost \$57,000.

NOVADYNE ADDS ENCORE 88100 BOXES FOR UNIX+REALITY

Santa Ana, California-based Novadyne Computer Systems Inc, successor company to Microdata and McDonnell Douglas Information Systems in the US, has come out with a line of multiprocessors based on the 88100 RISC from Motorola Inc with hardware sourced from Encore Computer Corp, Fort Lauderdale. The Series XT family runs the company's Umax, which combines its Reality implementation of Pick with Unix System V, and is designed for 64 to 256 users. It comes with two or four tightly-coupled 88100 CPUs and is claimed to have the industry's fastest processor-to-memory bus, running at 100Mbytes per second, plus intelligent input-output and both symmetrical and parallel multiprocessing capability by virtue of the multi-threaded capabilities of Umax. The dual-processor Series XT will be available in the US next month, with the four-processor model following in the second quarter. The high-speed M-bus is used exclusively for traffic between processors and memory and a standard VMEbus is used for communications, single or dual SCSI buses for mass storage, and an Ethernet channel for supporting the terminals. Umax supports the Stream input-output interface and Berkeley Fast File System. The Series XT line has from 16Mb to 272Mb memory and up to 6.3Gb disk - no prices.

COROLLARY ADDS TERMINAL CONCENTRATOR

Corollary last week added a new terminal concentrator to its 8x4 multiport product line. Called the 8/tctp+, the \$695 widget increases the distance allowed between the terminal and terminal concentrator to 2,500 feet by supporting RS422 and RS423 signalling. RS423 signalling. RS232 devices can also be connected over normal distances. The unit was originally designed for POS applications. The company also announced a new version of its 8x4 driver supporting SVR4 including the AT&T Streams communications interface, expected to be popular with OEMs. There is no charge for the Streams driver. Both products become available February 1.

DYNASOFT IBM MVS USER INTERFACE UP UNDER UNIX

The Workstation Group, a division of Dynasoft, has implemented IBM's MVS/VM-based ISPF user interface in Unix claiming that mainframe users familiar with the original environment will experience zero learning curve moving to the Unix version. Dubbed uni-SPF, the menu-based software is a complete operating environment the user can manage with a detailed knowledge of Unix. It can replace vi as a full-function editor and includes full-screen context editing, an edit and browse ring for simultaneous edit or browse of multiple files, cut and paste commands, split-screen capabilities and a dialog test facility. uni-SPF includes Dialog Management Services, based on the SAA standard Dialog Management Services from IBM, allowing users to write custom menu-driven dialogs. Site migrating from MVS-TSO and VM/CMS can move their Dialog Management applications intact. The product runs on Sun 3, 4, Sparcstation, HP Domain 3000-4000, HP-UX 300, 400, 700, 800, any SCO-Unix or Interactive 386/ix box, RS/6000 or AIX box. Prices start at \$399 for one or \$699 for two.

DATASURE HAS UNIX INSURANCE SOFTWARE

Dasure Ltd has introduced new products for the London insurance industry, Brokasure/X and Broker 2000. Brokasure/X is a Unix implementation of the company's existing Brokasure software product for the IBM RS/6000. Aimed at the direct and reinsurance broker, the system offers full Limnet support, Limnet being the electronic network for London insurance. A small broker will pay £100,000 for a system, including hardware. Broker 2000 sits between the brokers' host slip and cover noting systems and connects to the bureau machines, operated by Lloyd's, the London Insurers and Reinsurers Market Association LIRMA, and ILU, the Institute of London Underwriters, via Limnet. The system supports the handling of quotations, firm orders, declarations, agreement of endorsements and the advising of the signed lines. Broker 2000 costs £10,000 for the first user on the network and £1,000 a year for support.

SUN "TO RESTRUCTURE EUROPEAN OPERATIONS"

Sun Microsystems Inc is to restructure its European operations over the next few months, according to sources close to the company, in a move designed to offer large corporates more direct access to key engineering and development staff in Mountain View, California, as well as to top management right up to Sun's president, Scott McNealy. The move will see the closing down of Sun's Corporate European headquarters, situated in the UK at Bagshot in Surrey, which is currently run by European vice president Darryl Barbe and European director of business development Paul Massey. In place, Sun plans to divide European operations into three under its existing area vice presidents: North (including the UK, Nordic, Belgium and Holland) under Bill Passmore; Central (Germany, Switzerland and Austria) under Helmut Krings; and South (France, Spain and Italy) under Alain Pechon. From July 1st, they'll report directly to Carol Bartz, vice president of worldwide field operations at Mountain View, who in turn reports direct to McNealy. In practice, much of the de-centralisation has already taken place, with only one of Sun's major customers still managed from the European headquarters. A similar operation is happening in Japan and the Far East. Around 80 jobs at Bagshot are affected, but Sun hopes the changeover will be smooth, and intends to find places elsewhere for as many staff as it can. There will still be a need for some central administration services. Meanwhile, Sun is working on establishing a European presence for its subsidiary operations, which will be pan-European. SunTech is currently in the process of setting up shop in Paris, while SunExpress will also emerge in European guise over the next few months. As for SunSoft, which completed negotiations over the acquisition of Interactive Systems Corp at the beginning of the year (UX No 366), it is not yet clear whether or not the company will be run from Interactive's existing European facilities. Europe currently accounts for around 30% of Sun's revenues.

OSF TO REVEAL MICROKERNEL PROGRESS AT UNIFORMUM

The Open Software Foundation is going to be showing off some of its preliminary microkernel work for the first time in public next week at UniForum. Whether OSF ratcheted its schedule because of USL's recent tie-up with Chorus (UX No 359) or whether Unix System Labs shotgunned its marriage to Chorus because OSF was playing with microkernels (UX No 298,304,321) has now become pretty much a "chicken and egg" puzzle. The software going on display is based on Carnegie-Mellon's 3.0 iteration of Mach, said to be devoid of any Unix code. The microkernel effort is a project of OSF's Research Institute, aided and abetted by the Consortium's Grenoble arm, Carnegie, and independent consultants Mt Xinu, who have been working to make the academic Carnegie code more robust and efficient (UX No 346). It is still, however, far from a commercial product, though one insider called its current state "reasonable". Reportedly the team is moving towards an "engineering release," expecting to deliver source code to OEMs as an experimental research tool next quarter. Possibly a real development kit could be available as quickly as six months from now, the insider said. OSF founders DEC and HP as well as the Japanese are reportedly interested in microkernel's development, but OSF is getting much of its impetus for the work from Intel, which is using it in its massively parallel Paragon project (UX No 361). OSF is still at the single server stage of development and will be showing BSD, OSF/1 and DOS - each apparently a server - in separate windows capable of some document exchange. It has yet to progress - although it is reportedly working on it - to the multi-server stage where all the networking, say, or files - independent of the various operating systems - are compartmentalised as separate servers. The software will be shown by OSF and Mt Xinu running on 386 and 486 machines seeking to get feedback from the market. Unlike Chorus, said to be the only commercialised microkernel, the strengths of Mach are not thought to lie in real-time or distributed environments, so it will undoubtedly be used in different applications.

IXI X.DESKTOP NOW ON VMS

HyperDesk Corp's object-oriented Distributed Object Management System is not the only fish that IXI Ltd will be landing at UniForum next week (UX No 365): the UK, Cambridge-based outfit is also to unveil versions of its X.desktop manager for Digital Equipment Corp's VMS operating system, and the firm's latest OSF/1 iteration. The VMS implementation is the first non-Unix port IXI has undertaken, and it will be available to run under Open VMS, the Posix-compliant version of DEC's proprietary environment in the second quarter, priced at £600. Open VMS, due this quarter, includes compatibility with versions 1 and 2 of the Posix specification plus stuff from X/Open's XPG3 (and future XPG4) portability guides. "Pretty much everything Unix has got except the system management stuff," is how DEC describes Open VMS. The Posix development effort has been carried out at DEC's Italian operation. As well as the new OSF/1 port of X.desktop for DEC, the IXI graphical front-end is also available for the firm's Ultrix Unix implementation on its MIPS Computer Systems Inc RISC-based DECstations and the Santa Cruz Operation Inc's Open Desktop bundle, which currently features on DEC's Intel-based Unix workstations. The VMS port means the interface is now available for Digital the entire hardware range, and though DEC does not currently market the IXI product itself, the firm has hinted that once the ACE agenda, currently riddled with technical and political differences, is finally settled, that situation may change.

APACHES TO DEMO SVR4 SOFTWARE COMPATIBILITY AT UNIFORMUM

The old Apache Group will be having its first public pow-wow at UniForum. Now less romantically styled the MIPS/SVR4 Special Interest Group, the eight Apaches are planning to demonstrate software compatibility across systems using SVR4 and the MIPS Application Binary Interface. The idea is to show applications moving from laptop to personal computer to workstation to mainframe. The eight companies, which include Pyramid, AT&T, MIPS, NEC, Olivetti, Siemens Nixdorf, Sony and Tandem, are also anxious to lend substance to the notion that there will be a Unix SVR4 for ACE. The ABI is still very preliminary and the demonstration will be rather low-level. However, as it becomes more robust later in the year, the group is planning an independent software vendor recruitment drive complete with roadshows and seminars. The ABI code is being written by Pyramid, which is organising the event. It is scheduled for Thursday, January 23 at 3:30pm at the Nikko Hotel at 222, Mason Street.

KENDALL SQUARE IS LATEST CUSTOMER FOR TUXEDO

Kendall Square Research, developers of high performance parallel systems, has become Unix Systems Laboratories' latest Tuxedo customer and strategic partner. Waltham, Massachusetts-based Kendall Square (UX No 362), will offer Tuxedo and its Tuxedo System/D database on its new highly parallel box, the KSR1, designed for intensive large-scale transaction processing, corporate decision support systems and numeric processing applications. Kendall chief Henty Burkhardt III said the combination of KSR1 and Tuxedo will support high-intensity OLTP applications that are national in scope and complexity. The KSR1 is a family of scalable 64-bit 8-to-1,1088 processor parallel computer systems with a traditional shared memory architecture. Virtually all existing Unix-based algorithms, computational science, OLTP and database applications were developed for shared memory architectures.

CDC IS DESIGNING VERSION OF MIPS R4000 IN GALLIUM ARSENIDE

And Control Data Corp is the latest name to be associated with the thorny subject of RISC microprocessors in Gallium Arsenide technology, a project that has set at least two companies off with high hopes of doing GaAs Sparcs, only to see them dashed. CDC is firmly in the MIPS Computer Systems Inc R-series camp, and according to Electronic News, the Minneapolis mainframer is looking to do a GaAs version of the 64-bit R4000 for incorporation into a server by 1993. The paper says that CDC has chosen its GaAs fabricator - the leading names in the business are Vitesse Semiconductor, TriQuint Semiconductor (incorporating Gazelle Microcircuits), and Fujitsu Ltd, but the partner was not named. CDC will own the design but may license it to other vendors. It is of course also developing a multiprocessing version of the CMOS R4000 jointly with MIPS and expects samples in June or July and to be able to ship an MP machine by year-end.

HEWLETT-PACKARD SNAKEBITES

Integrated Unix for 1993

All the Hewlett-Packard Snakes - see front page - run its HP-UX Unix implementation, but the firm says users can now have OSF/1 on any of its PA RISC machines, if they specifically require it. The first quarter of 1993 will finally see an OSF/1 version of HP-UX: that'll be binary compatible with previous HP-UX iterations. For Apollo users, HP says it is speeding the process of rolling Domain functionality - like Apollo token ring - into HP-UX, and that'll also go forward into the merged OSF/1 offering. As far as offering application programming interfaces - like those now being undertaken under the auspices of the ACE initiative - so that its OSF/1 environment could also host Unix SVR4 applications (and vice versa), HP says it isn't sure whether these are going to be required, and that it is, in any case, pinning its tail on OSF's Architecture Neutral Distribution Format technology to do this kind of job.

HP is claiming price/performance leadership at all the significant price points in the workstation marketplace thanks to its Snakes: according to data it said was at least two months old, Snakes has brought it at least 500 new customers defined as either being accounts poached from Sun, IBM or DEC or companies that never used workstation before.

HP claims the 705 and 710 offer at least twice the performance of any competitive machine on the market for every one of their characteristics: floating point, graphics, integer, 2D and 3D.

HP says it doesn't see much competition from DEC and gets a kick out of tweaking IBM: it has no low-end, it says, while HP has replaced its low-end in less than 10 months. If IBM does come up with something soon, as is rumoured - see front page - that'll still be 23 to 24 months after it came up with the RS/6000.

HP figures its Certified Workstation Reseller program, now numbering about 50 dealers, should be good for a few of the new 705s and 710s but the program is still pretty much in gear-up mode.

Others, however, reckon that this schedule is too aggressive since HP is still having trouble getting adequate yield on the 66MHz chips that are used in the existing 730 and 750 Snakes. As a result 730s are very hard to get and HP is shipping 750s as fast as it can. The best these sources look for in the relative short term is a 760 doing 100 SPECmarks and based on a 80MHz or 85MHz PA chip. A clear detriment to the two Bushmaster models the competition is bound to pick up on is the inability to upgrade from a 705 to 710 or a 710 to a 720 which also may be factor of yield. Certainly the technology does not stand in the way.

Although HP was originally thought to be waiting for the launch of IBM's low-end RS/6000 workstation models before making its move (UX No 363), the firm said last week that it just couldn't afford to put off the announcement any longer.

Bushmaster Junior, which is obviously not even a proper code name, was so little anticipated its existence hadn't even become grist for the rumour mill - leading the industry to wonder why HP cobbled it together at the last minute. Perhaps, one armchair theoretician speculated, it's a pricing issue. But doesn't that make colour look even more of a premium than it might have?

HP will begin distributing its four top-selling workstation and software combinations from a logistics and support centre out of its manufacturing premises in Boeblingen, Germany.

New graphics power

This week, Hewlett-Packard is also scheduled to buck up its graphics performance with new CRX add-in cards for the 9000 series 700 machines. The CRX-24 offers 24-plain colour and 12 double buffered with 1.15m 2D/3D vectors per second and 7,804 X11 performance for the imaging and visualization markets. Although they are available for field upgrading, upgrade prices were not available. A 720 with a CRX-24, 16Mb internal, 420Mb disk and 19-inch colour screen will cost \$28,490 - £22,715. The CRX-24Z adds hardware Z buffering for anti-aliasing and volumetric rendering. A similarly configured 720 with CRX-24Z capabilities will cost \$36,490 - £29,115. The interface board and two 19" 1,280 x 1,024 colour monitors for dual CRX configurations are £15,000. The company is also introducing Power Shade, a 3D surface and advanced rendering software whose libraries include WaveFront's Personal Visualizer. Bundled with all CRX-24Z-fitted machines, Power Shade will cost \$2,000 - £1,600 - separately. The graphics products will ship in four to six weeks.

Following its Open Systems Symposium held in London last September, HP is holding a workstation conference at the National Motorcycle Museum in Birmingham's NEC on February 18th. Speakers include Andrew Sentance, economic director of the Confederation of British Industry, PA Consulting's Norman Schofield and Grand Prix car designer, John Barnard. HP says it'll be giving away workstations and software worth £250,000, and, in conjunction with PA Consulting, consultancy worth £1m.

HP is backing the new Snakes with an advertising blitz in the printed press - it hasn't steered itself for the plunge into television yet, unlike Sun, for example: the UK campaign will be funded to the tune of £300,000.

Although it says it still hears noise from Motorola Inc about a 50MHz 68040 part, HP has given up passing on these tit-bits to its customers as it hasn't got the confidence that the chipmaker will ever come up with the goods (even if it does, so what?): system upgrade boards with 33MHz versions of the 68040 are only just beginning creep out of HP's door.

Mark Tolliver, marketing manager for HP's Workstation Group responsible for the Snakes rollout and part of the core team on the Apollo acquisition, has left the company to join MasPar as VP marketing: his predecessor Bill Hogan takes over responsibility for MasPar strategic relationship with DEC.

HP has turned to Madge Networks Ltd's San Jose-based Madge Networks Inc for Token Ring network interface boards for the HP 9000 Series 700 Unix machines. It has signed an OEM agreement for the Madge Smart 16/4 EISA Ringnode, a 32-bit board for workstations and servers. The Madge Fastmac software is claimed to enhance performance of the Texas Instruments Inc Token Ring chip set by up to 100%. The boards cost \$1,600 and are planned to ship starting in March.

HP has also launched its compact disc-based software distribution service in Europe. Its LaserPro disc has demonstration versions of third-party software packages plus public domain software like CDX, which turns a CD-ROM drive into a conventional music CD player. Users can call HP for an access code to a full version of the application if they decide to buy it. HP is offering a free CD-ROM player for users who purchase a copy of Lotus 1-2-3 for HP-UX before July.

**SPEC TO WITHDRAW matrix300 BENCHMARK FROM ITS SUITE
AS WORKSTATION MANUFACTURERS BORROW SUPERCOMPUTER TECHNOLOGY
TO INFLATE PERFORMANCE RESULTS**

Towards the end of 1989 the System Performance Evaluation Cooperative introduced its SPEC benchmark suite in an attempt to provide a sensible means of comparing the performance of different Unix systems (UX No 252). Standard industry performance measures like MIPS and Dhrystone ratings were being wildly manipulated by manufacturers to show their products in a more favourable light, and were misinterpreted by users and the press alike. Whilst the SPEC benchmark suite has overtaken these other methods as a standard measure of Unix CPU performance, a closer look at the suite - and the impressive results that manufacturers are now claiming - has led the Sebastopol, California-based industry monthly, **Microprocessor Report**, to argue that SPEC ratings are now subject to their own kinds of distortion.

By borrowing cache-blocking techniques from the super-computer world, workstation manufacturers, the newsletter reports, have been able to achieve enormous performance gains for one of the ten SPEC benchmarks, the matrix300 programme. The first to publish "go-faster" matrix300 results based upon this technique was Hewlett-Packard Co, with the launch of its vaunted Series 700 PA RISC "Snake" workstations early last year (UX No 324). It gave two sets of results: one for the compilers it was shipping at the time, and another for the next release which came out during the summer. The original compilers on the 66MHz systems turned in a matrix300 performance of 36.1. New compilers gave a 657% improvement, with a matrix300 performance of 273.3. HP's latest benchmark report shows another 50% gain, to 407.7, bringing a total increase of more than ten times for the year.

Compiler optimisations - usually implemented via a Fortran pre-processor - are now used by all the other workstation manufacturers, including IBM, whose RS/6000 Model 550 started life with a matrix300 performance of 78.3 - it now boasts a rating of 729.8. Other SPEC benchmarks have also increased with new compiler technologies, but none so dramatic as matrix300. It means that when composite SPECmark performance numbers are quoted, they obscure the fact that the improvements are limited to a few of the benchmarks. The RS/6000 SPECmark, for example, went from 54.3 to 72.2, implying overall system performance rose by 33%. In fact, integer performance didn't improve at all, nor did several of the floating-point benchmarks.

Microprocessor Report identifies two fundamental problems with this situation. First is that although matrix300 has encouraged the use of special purpose optimisations from the supercomputer world on workstations, overall SPECmark results are unfairly inflated as a result, suggesting that overall system performance is rising, when in fact it is only going up for a few programmes in particular. In response, the SPEC committee has decided to omit matrix300 from its next release of the benchmark suite.

More importantly, for users, the results do not reflect the performance they'll get from running existing applications, because software houses do not send all customers new binary versions of their software every time a system vendor makes an improvement in its compiler technology. "In the real world, binary copies of programmes tend to last for years, so the performance gains indicated by new SPECmark reports won't be realised, at least in the short term, except by users who compile their own programmes," says **Report** editor, Michael Slater.

Moreover, as at least two radically different implementations of the major architectures are due to come to market in next-generation CPUs, software developers will have to pick one to optimise for, and that isn't likely to be the latest technology, which will have the smallest installed base. SPEC results are therefore likely to understate the relative performance of the more advanced machines. Whilst source-level benchmarks are important for architecture-independent comparisons, given the importance of the installed software base, **Microprocessor Report** calls for binary benchmarks that can measure the performance of new processor implementations on existing binary programmes as well as on optimised code.

UK AND RBOC SALES AFFECT PYRAMID -

BUT PROFITS WILL RETURN, SAYS CEO LUSSIER

"The first bad quarter in five years", says Pyramid's president and CEO Richard Lussier, in response to news last week that the high-end Unix server company faces a fiscal first quarter loss, restructuring and layoffs (UX No 366). The formal announcement of the results is due on January 21st, but Lussier is already anticipating a return to profitability by March, or at the latest June, despite the continuing recession in both the US and the UK. Lussier blames the setback on two factors: a drop in UK sales due to deferred orders, and cutbacks from the Regional Bell Operating Companies, which contributed only \$4m to turnover this year compared with \$11m last - and this in a sector where Pyramid gets its best margins through direct selling. And the company also faces potential problems with one of its largest OEMs - AT&T - which has provided up to 26% of Pyramid's business in the past. Pyramid now has to do business with AT&T/NCR, which is working on its own line of powerful multi-processor servers, the 3000 Series. "We had two great years with AT&T, \$37m out of \$180m in 1990, and \$60m out of \$226m in 1991". Since the NCR deal, business has been flat. But Lussier remains sceptical that the Intel-based 3000 Series will provide a viable replacement for the Pyramid line. "No company has been successful with a single chip architecture from desktop to mainframe," he maintains. He hopes to replace the AT&T business with increased sales from its other OEMs, Siemens-Nixdorf and Olivetti. With its strengths in financial, transport and retail industries for instance, Olivetti is currently gearing up to shift Pyramid boxes in volume in Europe. If this pans out as expected, it will give Pyramid considerably more influence in Europe than it currently has with its direct operations. "Olivetti's UK operation alone is the size of Pyramid plus 20%" points out Lussier. He hopes also to galvanise Olivetti's Italian plans for the Pyramid range, currently not so far down the line as the UK.

New Products

As for future product plans, Lussier promises closer relationships with database companies, and has formed a new database division to handle its relationships with Oracle, Sybase, Informix and Ingres. It also has plans to release parallel server technology along the VAX cluster concept in conjunction with Oracle Corp this Spring. A boost in power for the MIPS R3000-based Pyramid S Series, introduced last April (UX No 329), is on the cards before any R4000-based products emerge. The percentage of MIPS-based products shipped, as opposed to the older proprietary RISC-based T Series, is now approaching 50%, most of them going to new customers. Lussier could be happier with the financial performance of its partner MIPS Computer Systems Inc, and feels they should be concentrating on its core business. "You can't concentrate successfully on systems, chips and operating systems", he says. Lussier is also less than convinced by last year's bout of consortia-mania, despite Pyramid's own, rather peripheral, involvement with the ACE Consortium and its Apache Group subsection (see this issue). ACE looked a far better bet before some of the key players ended up with financial difficulties of their own. "Consortia fly in the face of the way US companies do business, for short term profits. We are more interested in partnerships".

THE YEAR UNIX BECAME THE INDUSTRY - 1991 PART TWO

July

Sun gears-up for the future, rolling out SunSoft and Sun-Tech subsidiaries. IBM and Apple announce long term plans to cooperate on an object-oriented operating system (expected by 1994) and PowerPC, a cut-down version of IBM's RS/6000 RISC which will drive future IBM and Apple computers. Motorola will manufacture the part. Summer of discontent: Sequent ends OEM sales and cuts 140 jobs after a bad quarter; DEC, IBM, HP and Unisys all shed more staff. Sun and Solbourne announce new low-end boxes: Sun's IPX and diskless IPC come in at \$12,000 and \$5,000 respectively. Now DEC buys Philips Information Systems. Silicon Graphics debuts multi-media, MIPS RISC-based Indigo workstation at \$8,000.

August

5,000 jobs go at AT&T Computer Systems in the wake of its NCR acquisition and MIPS looks shaky after second quarter loss - job and salary cuts follow. Sun tops \$3,000m, with profits rising 70% to \$191m on revenue up 31% at \$3,221m. Universal Software has IBM System/36 software emulator for the RS/6000. Unisys wins the KMart deal which led IBM to SVR4 back in June. X/Open says it'll give more power to users in future policy decisions. Oracle embarks on new product directions and image overhaul after turning in a \$12m loss: looks to Nippon Steel for a cash injection. DEC launches the MasPar massively parallel system as the DECmpp 1200, with up to 16,384 CPUs. Stardent spins off its popular Application Visualisation System, a high-end graphics environment, into a separate company, AVS Inc. GUI trouble brews in the ACE camp, as Compaq demands HP's Visual User Environment front-end for Open Desktop in place of IXI Ltd's X.desktop manager.

September

Creation of a new standards body is urged by the latest end-user alliance. The "group of ten" is backed by the US National Institute of Standards and Technology and some believe its Strategy for Open Systems could threaten X/Open's pre-eminent position. Unigram reports Interactive Systems has been secretly put up for sale and that SunSoft is the likely buyer. Meanwhile SunSoft reveals Solaris 2.0, its implementation of SVR4, and UK firm Tadpole unveils its Sparc-based notebook computer at Comdex in Las Vegas. OSF chooses technologies from Tivoli Systems and HP as the basis of its Distributed Management Environment, and rapprochement sweeps industry as Unix International endorses OSF's Distributed Computing Environment, DME and Motif technologies in its own vision of distributed computing: Atlas. SunSoft comes clean and admits it plans to buy Interactive. Novell and USL begin talks on closer collaboration. There is dancing in the corridors as ICL beats IBM to a £200m deal with British Gas.

October

USL is dealt into the ACE hand as members agree to develop interfaces that will allow SVR4 and OSF/1 applications run under Open Desktop. Galaxy, Sun's new series of one-to-four CPU, asymmetric multi-processing servers disappear: they use 40MHz Cypress Sparcs, not the superscalar Viking part under development at Texas Instruments, which is delayed until 1992. MIPS announces the 64-bit R4000 RISC that ACE is betting its Unix hand on: there are three versions, for low-end, high-performance and multi-processing systems, going from 40 to 60 SPECmarks. Apple and IBM unveil two joint ventures: Taligent for the object-oriented system environment and Kaleida for multi-media technologies. Cray Research says it will buy bankrupt Floating Point Systems.

HDS wins the largest X-terminal order so far: 60,000 units worth \$70m as part of a \$1.6bn US army contract awarded to Boeing. USL and Novell announce a distribution deal and plan a joint venture company to handle Destiny, USL's cut-down version of Unix for the desktop. USL releases multi-processing SVR4 MP. OSF will give up its X/Open board seat at the end of the year pleading poverty, it may initiate its own branding scheme. DEC previews its \$5,000, Maxine ACE workstation at Comdex.

November

At Unix Expo in New York, USL shows Destiny, modularised Unix for the desktop, designed for computers with a minimum configuration of 4Mb RAM and 60Mb disk. OMG reveals ORB: a combination of the competing submissions. HP shows ORB working next day at Unix Expo. Meanwhile, Steve Jobs slams OMG's efforts, saying NeXT will have its own system, Remote Object, within six months. A \$70m loss seals the fate of Compaq president Rod Canion: he's replaced by Eckhard Pfeiffer. Prime Computer (ravaged by take-over defence), Nokia Data (bought by ICL) and AT&T (now incorporating NCR) are also to withdraw from the X/Open board. SCO lays off 10% of workforce and may pull plug on ODT for MIPS. Cray withdraws its offer for Floating Point Systems. USL CEO Larry Dooling is replaced by VP sales and marketing, Roel Pieper: it takes a \$1m stake in French micro-kernel house Chorus Systemes. Motorola's next-generation RISC, the 64-bit 88110 hits 63 SPECmarks. Stardent Computer - nee Ardent nee Stellar - throws in the towel. Intergraph launches next-generation C400 Clipper RISC workstations and servers, plans OSF/1 by the end of 1992. Intel launches Paragon XP/S supercomputer, with 66-4,000 i860s, it goes to 300 GFLOPS running Mach and OSF/1. Now Cray says it will buy FPS. DEC has a 64-bit implementation of OSF/1 running on its next-generation Alpha RISC, which is touted at 100 SPECmarks. DEC will use Alpha in everything from laptops to supercomputers, and Cray says it wants the part for a parallel supercomputer too. After a secret run-off, Sequent eschews MIPS RISC in favour of Intel 80586. Sanyo debuts the first Unix-based pen computer. 20,000 jobs are to go at IBM, which now employs 303,000, down from a peak of 407,000 in 1986: it plans everything from a colour laptop to 16-CPU, 64-bit multi-processor for RS/6000 Unix series.

December

The Unix workstation market shows its first quarter-on-quarter decline: shipments by the top six vendors are down 7.9% on average, though HP and Silicon Graphics buck the trend. However, USL says it sold 1.2m units of Unix this year, 35% up on 1990. DEC bites back at HP's Snakes with new ACE-compatible DECstations, starting at £3,000 for the 16.3 SPECmarked Maxine. IBM forms separate companies for storage devices, printers and recruitment - first steps towards a promised radical restructuring. AT&T's NCR acquires back-end database engine firm, Teradata, for \$520m. Novell underlines its pivotal industry role: wins HP and Stratus to NetWare - NeXT, Data General and AT&T may follow - and reveals Univel, the joint venture with USL, in which it holds 55%. After more than a year on the market, UK Unix office automation firm Uniplex is snapped up by IBM specialist, IMI Group. HP's low-end Snake - the 50 SPECmark Bushmaster - has been around for six months, but won't ship till next March. A consortium, including the Israeli government, is being put together to acquire Unisys. ACE looks less and less convincing as DEC takes over responsibility for ODT on the MIPS RISC: SCO says ODT for ACE-Intel may not be out till 1993. Everything object-oriented will be the flavour of the new year.

"ACORN RISC NOTEPAD TO HEAD APPLE'S 1992 LINE-UP"

Apple Computer Inc has always indicated that it saw Acorn Computers Plc's Acorn RISC Machine as a controller rather than a CPU, but *Le Monde Informatique* expects a notepad version of the Macintosh built around the RISC, now the property of Acorn's Advanced RISC Machines Ltd joint venture with VLSI Technology Inc and Apple, to be among at least 11 new Macintoshes it expects this year - and reckons it could appear as soon as this month. The "Macintosh Tablet" is expected to use the same LCD display as the PowerBook 100, putting up 640 by 400 pixels, and to have a magnetic stylus, 2Mb to 8Mb, LocalTalk ports and two slots for integrated circuit memory cards. The paper expects the operating system to be derived from System 7 with handwriting recognition extensions, either the software licensed from the Russian enterprise, Paragraph, or PenPoint from Go Corp, the latter at least as an option. A separate remote communications box and a box for interfacing the machine to a desktop Mac for dumping files and data are also expected. The paper also expects a new PowerBook based on the 68030 that will offer the best power-to-size ratio yet, measuring 10" by 8.3" by 1" and weighing about 4 lbs. It is expected to have 2Mb to 16Mb memory, 9.5" 640 by 400 backlit LCD display with 16 grey scales. A disk drive will be an external option, and the trackball will be replaced by an IsoPoint fingertip controller. It is expected to come with an optional desktop docking station with two NuBus slots, hard disk and SCSI and EtherTalk interfaces, plus a video interface for a full screen. That's expected around August time, accompanied by two high-end evolutions of the PowerBook 170, using faster versions of the 68030 than the present 25MHz, one with supertwist nematic mono LCD, the other with 256 colour thin film transistor active matrix display. The paper also looks for a colour Classic IIc with most of the features of the Macintosh II at around \$2,000 in October; it expects the 68020 of the LC to be replaced by a 16MHz 68030 and go to 16Mb rather than 10Mb, and a 25MHz 68030-based IIsi at the price of the present IIsi. Faster CPUs for the Quadras, and a Quadra 500 with 25MHz 68040 complete the crystal ball gazing.

SIGMA-X/OPEN SURVEY SHOWS JAPANESE BUSINESSES ARE MOVING TO DISTRIBUTED SYSTEMS

A survey of 251 listed user companies conducted jointly by Sigma Systems and X/Open in Japan, taken between March and August last year, has revealed that while most of the respondents currently have single-vendor, centralised processing systems, users are in the future aiming for multi-vendor, distributed systems. Specifically, only 30% of respondents are currently using X/Open's Common Application Environment, CAE, while 35% have adopted Posix; however, 73% and 66% of the companies thought that their dependence on these products respectively would increase in the future. Some 47% of users had IBM's Systems Application Architecture installed, but 39% of those users thought their use of SAA would decline over the next few years. On object-oriented technology, only 13% were currently using object-oriented databases, but 65% saw their use increasing in the future, with 38% of respondents saying that this migration would occur in the next three years. Interestingly, 69% of Japanese respondents didn't feel that inappropriate security was a problem for open systems. Survey results and analysis are included in X/Open's Open Systems Directive Third Edition.

FUJITSU AND PFU JOINT VENTURE LAUNCH NEW MODELS IN A-SERIES OF UNIX BUSINESS COMPUTERS

Fujitsu Ltd and its joint venture company with Matsushita Electric Industrial Co, Panafacom Ussac Ltd, or PFU, have launched two new models in the A-series of Unix business computers - the high-end A-120, and the entry-level A-Micro. The A-120 is based on a 33MHz Motorola 68040 processor, with a 1.3-times performance upgrade on its predecessor, the A-100. It can take up to 112Mb of main memory and is field-upgradable from the previous models of the Compact A series. Costing the equivalent of \$115,000, the product will ship in May. The desktop model, the A-Micro, is based on a 20MHz Motorola 68030 and costs \$15,000, shipping now. Office automation software for the A-series, with functions such as sales order processing, stock control and accounting, are supported via the EPOACE/UX software environment, with an Open Look-based user interface.

REPORT FINDS "NO COHERENT UNDERSTANDING OF OPEN SYSTEMS" AMONGST UK MANAGERS

Although a new UK Department of Trade and Industry report, conducted on its behalf by AT&T Istel and Benchmark Research, shows that within five years the bulk of solutions offered by information technology suppliers will be based upon open systems, its main finding - somewhat alarmingly - is that there "is no coherent or common understanding of open systems," amongst managers in the UK's manufacturing industry. Awareness of open systems is still confined to IT departments, it says, whilst the growth of open systems in industry will be severely restricted until knowledge is extended to the manufacturing and financial sectors of organisations, it believes. Contrary to what the industry often tells us, the report reckons IT suppliers, not customers, are the driving force of open systems, whilst those managers interviewed said the need for improved external communication systems (such as EDI), was the best reason for adopting open systems policies. The DTI's Open Systems Technology Transfer programme, initiated to encourage UK industry to adopt open systems strategies, was to have run for three years from 1989 (UX No 237), but the watery effort ran out of cash in September 1990 after only fifteen months and £12.7m spent (UX No 300). Free copies of the report are available from AT&T Istel.

UK FIRM OFFERS SYSTEM 36 USERS A ROUTE TO UNIX

Now that IBM has withdrawn its embargo on Open RS/36, UK firm, Open Services Ltd, Isleworth, Middlesex, is following in the footsteps Universal Software Inc - and California Software Products International - announcing that it is to begin marketing a migration product for IBM System 36 users allowing them to move to the IBM AIX Unix environment. Open Services has picked-up Framingham, Massachusetts-based Liant Software Corp's LPI Unix RPG II compiler to do the job, after, it says, Liant gave up marketing the stuff in the US and left it in a bottom drawer. Open Services is offering a package of services to enable System 36 users to move to a variety of Unix platforms, rather than going the AS/400 route. The migration software supports the System 36 control language and is claimed to offer a broader set of alternatives than Universal's Open RS/36. The package, which includes training, but not the actual porting of source code, is priced from between £5,000 and £10,000. Open Services has teamed with UK firm SOS, which will offer a parallel hardware migration service where required.

SUNSOFT'S EASTERN ALLIANCES

New Sun Microsystems Inc subsidiary SunSoft has been busy making alliances in Japan: president Ed Zander, recently in Japan for the official announcement of OEM tie-ups with Toshiba Corp and Matsushita Electric Industrial Co on their Sparc-based hardware, has announced Solaris 1.0 for Japanese, Chinese and Korean language environments; SunSoft plans to set up an office in Japan by March and strengthen its sales channels for Solaris 1.0, which will be supplied on one compact disk containing SunOS 4.1, Open Windows Version 2 and Open Network Computing for network environments; the price for the compact disk will be roughly \$1,400; an application development environment and localised graphical user-interface will follow; the Intel-based Solaris 2.0 is currently the subject of negotiations with Japanese personal computer makers; Japanese personal computer company ASCII Corp is to be the sales channel for Intel Solaris 2.0; SunSoft subsidiaries in Taiwan and Korea are to be set up this year.

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The Weekly information newsletter for the UNIX © community worldwide

After months of what IBM described last week as a "routine" investigative, the US Federal Trade Commission has sanctioned Blue's historic alliance with Apple. The companies are now going ahead with formally incorporating their joint ventures, Taligent and Kaleida, and leasing real estate in Silicon Valley for them. The question of the moment is personnel and any answers hinge on their appointing boards of directors followed by executive teams. The firms are keeping mum until the boards are in place sometime in the next few weeks. A number of people have been asked to sit, but the boards are still not formally constituted.

An upgrade for the Unisys Corp A9 mid-range mainframe is reportedly on the cards that will give up to fourfold performance improvements over current systems: the machines will run Unix under the A Series operating system as a guest, presumably via the Intel co-processor announced last February (UX No 322).

Novell is set to release Version 1.2 of its NetWare NFS implementation, which improves file name mapping between NetWare and Unix: the company will also offer the ability to run the NetWare administrative console from a Unix workstation under X-Windows.

Rumour has it that OSF's Mach microkernel has been ported to the DEC Alpha RISC chip, PMAX.

Trivia buffs might enjoy knowing it was the Japanese companies NEC and Sony that picked the name Apache for the breakaway ACE group.

Apparently not much credence should be given to Wall Street circulated reports of a 50MHz Sparcstation 2+ coming down next month.

OSF now has over 300 members having added 62 organisations last year including 23 user companies: Users now represent 27% of the membership. Meanwhile, UI has over 250 members and just admitted Information Builders, the software house as an associate member.

The first European Conference on Interoperability, sponsored by X/Open, is set for London February 6-7 at Olympia 2: PA consulting Group and Blenheim Online are the organisers and senior managers from Unilever, EDS, Swiss Bank, BNP and CCITT are expected to speak.

We'll all get a chuckle out of this one: IBM plans to ship OS/2 2.0 without beta testing major parts of it like the "seamless" Windows integration or the 32-bit graphics engine.

The number of starts in the firmament over MIPS Computer Systems is dwindling fast: one of its most lustrous lights, John Hime, VP of systems marketing, has just shot over to Tivoli Systems to be its new marketing vice-president, replacing Stan Timme who left the company some weeks ago. Hime, whose credentials include stints at Sun, Frame, Pyramid and DG, will direct product marketing, product planning, marcomm, business development and ISV relations for the two-year-old software start-up. He left MIPS back in the fall when the company instituted a voluntary "retirement" program that saw about 10% of the 700 staff go. Insiders consider that the MIPS infrastructure was suited to a company twice its size.

Interface Computer GmbH of Munich, Germany, says it has set up a subsidiary, IF Computer Asia Ltd, in Hong Kong: Interface, which sells knowledge engineering products, including IF/Prolog, and Unix products in Japan and Asia, intends that the new Hong Kong office will support regional companies and develop the market for its products; in Japan, Interface works with two partners - Mitsubishi Research Institute and Computer Applications Company, and its products are claimed to have been used in applications such as subway tunnelling in Tokyo, polymer design, and banking and finance.

In its New Year message, San Jose-based Intel Corp lays down the gauntlet to a growing band of chipmakers marketing or preparing to launch clones of its microprocessor architecture, saying that it will cut prices on the 80386 family by as much as 35% and increase research and development and capital spending this year. The 25MHz full 80386 will fall to \$99 from \$152 for those asking for 1,000 or more for delivery after April 1. Intel says that fourth quarter profits, to be announced next week, will be better than expected, with microprocessor sales back at record levels after having fallen off a bit in the third quarter.

Two Moscow companies have announced the availability of Zortech Inc C++ compilers for rouble buyers: JV Dialogue-MIFI has a distribution deal with Zortech and will begin to sell Zortech's C++ version 3.0 product for 6,000 roubles; the company's C++ for OS/2 costs 10,000 roubles and the Zortech C++ Science/Engineering product will cost 13,000 roubles; joint venture VEMO says it now able to selling the Zortech C++ version 2.0 for 3,980 roubles; the company promises a 50% upgrade discount to version 3.0 when it has access to the later C++ release.

Software AG is joining the rush of developers of software for proprietary systems to convert their products to Unix, and will do versions of its Adabas database management system, Natural proprietary development environment and NetWork communications manager for the Siemens Nixdorf Informationssysteme AG MX300I and MX500 Unix machines.

The legendary Rear Admiral Grace Murray Hopper, credited with pioneering the first practical compiler, and a major contributor to the development of Cobol, died in her sleep on New Year's Day. She was 85, and still a senior consultant with Digital Equipment Corp at the time of her death.

Colombus, Ohio-based BenaTong has a tool for NeXT Computer developers that allows them to add serial communications capabilities to their programmes: Serial Solutions apparently wraps the object-oriented Objective C language around Unix serial device drivers, making serial ports appear like any other class in the language definition - it costs \$50.

Sun is to recommend that customers wanting to use the Modula-2 language on their Sparc systems should buy Edinburgh, Scotland-based Edinburgh Portable Compilers Ltd's compiler package following a deal between the two.

Alliant Computer Systems says one of its Intel i860 RISC-based Campus/800 parallel superminicomputers at the University of Stockholm - with 192 CPUs and 4Gb memory - has simulated chemical models of a reaction involving up to 481 atoms and lasting 36 hours: that's seven times larger than has been previously achieved on any other supercomputer, it claims.

Solbourne Computer Corp has introduced Veritas Corp's disk storage management software - which boosts input/output performance - as the Solbourne Volume Manager, and Interstream's network file system accelerator as its HS/NFS solution: both are now available for Solbourne's symmetric multi-processing Sparc systems.

Uniface International and Hewlett-Packard have a new technology alliance which will see the Uniface application development environment ported to HP's MPE operating system: applications developed for the new version will also run on MS-DOS, OS/2, VMS and other Unix platforms.

The price-performance of Hewlett-Packard Co's RISC-based HP9000 Series 700 line is so challenging that even competitors cannot ignore it, and Huntsville, Alabama-based Intergraph Corp, has made a tentative step towards offering its computer-aided design software on alien hardware when it said it would offer it for Sun Microsystems Inc Sparcstations (it's out this week), now says it will do a version of its MicroStation 4.0 to the HP 9000 700s. MicroStation HP700 is set for second quarter, the Development Environment later.

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PRIME TAKES WANG ROUTE: \$400m PACT WITH HP

Prime Computer Inc last week followed Wang Laboratories Inc in tying its hardware future to a strong manufacturer, and has chosen Hewlett-Packard Co as its partner. Both its Computer Systems Business Unit and Computervision subsidiary will resell Precision Architecture servers and workstations worldwide, and Prime will convert its computer-aided design and manufacturing software to run on Hewlett-Packard workstations and its Prime Information Pick-based software to Hewlett's business servers. Prime agreed in a letter of intent to buy \$400m US list price of HP 9000 Series 800 business servers and HP Apollo Series 700 workstations over the next three and a half years. Prime plans to sell the HP 9000 800 family of business servers to existing 50 Series mini and new customers, and PrimeService will do hardware, software and added-value support for the products Prime sells. Computervision products on Hewlett-Packard workstations will be announced once software conversion and testing have been completed. It seems likely that the buyout artists that burned their fingers so badly when they loaded Prime with a ludicrous debt burden will at some stage cut their losses and sell to Hewlett. Prime's decision casts another long shadow over MIPS Computer Systems Inc - Prime, like Wang Laboratories Inc had a major OEM pact with MIPS for computers.

QUORUM ENGINE WILL RUN MAC PROGRAMS ON RISC

Hostages long held captive in the highly defended bastion of the proprietary Apple Macintosh could be liberated soon by the intervention of a tiny start-up called Quorum Software Systems Inc. The two-year-old Menlo Park, California-based company is promising to unveil technology this week at Uniforum that will have Mac programs running on anybody's RISC system beginning with Sparc, MIPS and RS/6000-based boxes. The 20-man start-up has spent \$2m in venture capital money reportedly developing a complete and portable software implementation of the Macintosh application programming interface called the Quorum Compatibility Engine. What it's done is duplicate the hooks or interfaces offered to developers by the fabled Mac ROM, the Apple treasurehouse jealously guarded by its legions of lawyers. Quorum's attorneys have apparently surveyed Quorum's situation and pronounced it hazard-free. No employee ever worked for any Apple entity and it reportedly started from scratch using public information, bypassing a "cleanroom" approach. The Engine is said to allow Mac applications to run in native RISC mode at RISC speed under graphical user interfaces such as Open Look and Motif. Initially what will come of the work are two products, Quorum Latitude and Quorum Equal, the first for software developers, the second for end-users. Latitude, now in beta and due to ship this quarter, will allow independent software vendors to recompile and enhance Mac programs to suit the Quorum Engine while retaining all the functions they have under the Mac interface. Equal, however, will be a hybrid, shrink-wrapped product consisting of the Quorum Engine and a Motorola 68000 emulator coming in the second half priced between \$500 and \$1,000 in single quantities. It is called a hybrid because the emulator is needed only 20% to 40% of the time. Functions such as graphics, fonts, menus and printing that a Mac directs to the Tool Box will be done by the Quorum Engine in RISC native mode. Quorum's performance is reportedly in the mid-range, equal to an Apple IIsi. The firm hopes its solution will answer the Unix industry's calls for GUI-based applications, which has been sounding increasingly shrill the last few months. At the same time, it could release those held prisoner to the Mac hardware - perhaps even Apple itself. Quorum's approach has reportedly already netted it vendor attention. It is said to be going into Uniforum armed with technical co-marketing pacts with SunSoft Inc and Silicon Graphics Inc to encourage ISVs to adopt the technology as well as endorsements from Adobe and Aldus, which are planning product announcements down the road. Developers can expect to be told of vast savings in porting time and costs with Quorum, as opposed to starting from scratch. Quorum is currently raising a second round of finance, looking for \$2m to take it through productization and marketing. Further along it expects vendors to buy in as strategic partners.

SPARTA AND CAIRO ON MICROSOFT'S ITINERARY

Microsoft Corp has quite a few self-imposed milestones to make in its march to world domination, including landfalls in "Sparta" and "Cairo," internal code names for two apparently strategic plans. Cairo, which Microsoft styles a "dramatic" evolution of Windows and is reckoned by outsiders to be an ultimate goal, is not due until the fourth quarter uof 1993. It's described internally as including an object management system, an object file system, an object-oriented graphical user interface, a new style guide, a distributed file system, security and a directory. It has all the earmarks of a distributed network operating system that will go on top of NT. Sparta, on the other hand, which is due next quarter, is just additions to Windows. Stuff like integrated network client support and Windows server network architecture. The only way Microsoft can feasibly sell NT is direct - which may be why it's bucking up its consulting operation. Our armchair strategists, however, say that when it starts handling the Bank of America directly, hardware will become a mere backdrop, allowing the software to be priced at its intellectual value and making it awfully difficult for other software vendors to compete.

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SUNSOFT LAUNCHES EARLY ACCESS VERSION OF SOLARIS 2.0

SunSoft is to stick to its previously published schedule and announce an early access program for its iteration of SVR4, Solaris 2.0-on-Sparc, with immediate availability. Its appearance at UniForum means early versions of 2.0-on-Intel are to follow in 90 days, with hardened versions following 90 days after that. The debut of Solaris 2.0-on-Sparc should be greeted by endorsements from OEMs such as Toshiba, Solbourne, Tadpole and Sun Microsystems as well as other Far Easterns plus ISVs like Oracle, Lotus, WordPerfect, Frame, Interleaf, Cadence and Mentor. The latter are particularly important to Sun as proof it continues its applications capture. Early access versions will also find their way into the hands of some end users. SunSoft is now in the process of digesting the half of Interactive that it bought and plans to use Interactive's version of System V 3.2, which Interactive confusingly called 3.0, as the first step in its migration path to Solaris-on-Intel. If developers use Interactive 3.0, what they produce will be binary compatible with Solaris 2.0. However, if they use Solaris 1.0 as their platform, they will have to recompile. SunSoft considers the introduction of this part of Interactive's software into its product line as a strong endorsement of Interactive's capabilities. What it will do with Interactive's version of SVR4, however, remains to be seen. SunSoft is still evaluating how important an immediate SVR4 product is to its customer base, particularly among European companies. So far it considers that it is not losing any sales opportunities - with customers saying they are willing to wait for a robust fully fledged piece of software - but then again it has not taken the SVR4 product off its price list.

ATHENIX TO PREVIEW ITS NEW APPROACH TO X-TERMINALS

Athenix, the 18-month old start-up with the star-laden management team that includes the former VP of Sun's worldwide operations, one of the magnificent seven from IBM's original PC group, a Bell Labs veteran credited with helping create Unix, and an expert display designer, is playing its cards very close to its vest about exactly how it will realise the claim that its first product will change the way X-terminals are priced and used (UX No 359). Apparently, the newcomer will have a high-volume, small footprint manufacturing prototype at UniForum this week, but how ready and available it is and what price points it can hit remain to be seen. Athenix, named from the goddess Athena who sprang fully armed from the brow of Zeus, claims to have reinvented both X-terminal technology and the way the boxes are brought to market. The technology is called Multi-X and uses a shared-controller architecture so that server software, font and emulation software don't have to be embedded in each box. It's supposed to perform above and cost less than conventional X-stations. The controller under the Athenix scheme will have two basic forms: host-based and LAN-based. The first will be self-contained in the host with high-speed access to its resources. The second will be a single LAN connection and shared-resource controller servicing many graphics terminals. Athenix forecasts that in future its terminal will be upgraded without modifying the controller and vice versa. The company is spreading the burden and lowering its costs. It has Singapore-based multi-national Wearnes Automation, an investor, manufacturing Multi-X at no cost, Merisel handling inventory and delivery to OEMs, resellers and end users, Altos as one of its OEMs, and service and support coming possibly from Xerox. It is believed to be aiming at heavy commercialisation, replacing the four million \$500-600 alphanumeric terminals US business buys each year. It probably won't ship before second quarter.

IMP HAS "THIRD GENERATION" FAULT-TOLERANT SYSTEMS

Integrated Micro Products Inc has developed what it calls the industry's first line of scaleable Unix systems based on third-generation fault-tolerant technology. The first member of the line is the XTM, scaleable from one to two 68040 processors. The product will ultimately include a high performance system scaleable to eight processors as well as a low-cost version. The company describes third-generation fault tolerance as entirely implemented in hardware, eliminating the need to modify applications or operating systems and allowing Unix enhancements to be incorporated easily. IMP calls its technology OpenFT3 and will immediately begin marketing to OEMs as adaptable to different CPU chips, architectures and flavours of Unix or other operating systems from PCs and PC LANs to mid-range and large-scale systems. OpenFT3 reportedly represents a complete FT solution including FT CPU design, data integrity features, FT I/O structure, integrated FT uninterruptible power, configurations management systems and user serviceable design. OEM pricing depends on customer specifications. IMP OEM Technology Division VP Brian Knowles claims the architecture will become the source for at least 25% of all FT Unix systems sold. IMP's new XTM system, which is of course based on OpenFT3, is also being put on the OEM market. The company's first announced customer is Motorola which is using it as the hub for a new trunked radio system called SmartZone, designed for police, fire, ambulance, gas and electric utilities. The front-end of the Moto configuration required a real-time operating system and IMP ported PSOS from Software Components Group to the STM as a co-resident operating system, reportedly a first in the world of fault-tolerant Unix. The STM architecture has two components, the FT core and redundant I/O subsystems. The core consists of two or three CPUsets, each containing one or more MPUs and associated cache and primary memory. All major components within each I/O subsystem are duplicated as are peripheral subsystems and disk storage. The system, running System V, includes a single or dual 33MHz 68040 offering 27 MIPS to 54 MIPS; between 16MB and 256MB of main memory and dual FT I/O buses. The XTM CPUsets operate synchronistically and can be configured with dual or triple redundancy. OEM volume pricing starts at \$50,000 for a 27 MIPS system and \$60,000 for the 54 MIPS including Unix licence.

LYCKLAMA LEAVES INTERACTIVE FOR OPEN SYSTEMS START-UP

Unix pioneer Heinz Lycklama, lately Interactive's senior vice president of technology, has left the company, now that half of it is in Sun's hands, to strike out on his own. He's formed a technology and management consultancy called Open Systems Technology Associates in Northridge, California to help vendors and end users with Unix strategy, open systems trends, systems architecture planning, product evaluation and testing and migration planning. He already has SunSoft, Interactive and Interactive's parent Eastman Kodak as clients. Reach him at (818) 363-1572.

INTEGRIS ACQUIRES UNICORN'S CICS-ON-UNIX TRANSACTION PROCESSING SOFTWARE

Bull-owned systems integrator Intefris has acquired the UniKix (CICS on Unix) technology from Unicorn Systems on undisclosed terms. The acquisition includes Unicorn's VM CICS product. Intefris will now service the Unicorn client base of some 25 customers worldwide. Unicorn's UniKix and VM CICS development, support and sales personnel have transferred to Intefris. Intefris plans significant new investment in UniKix, both in R&D and marketing distribution. It will seek third-party partners in both the application and systems software areas to help expand distribution quickly.

INTERGRAPH UNVEILS FULL LINE OF C400 CLIPPER MACHINES

Huntsville, Alabama-based Intergraph Corp yesterday announced its next-generation computer-aided design, manufacturing and engineering workstations and servers using its new C400 version of the Clipper RISC. The family includes the Series 2400 desktop and Series 6400 deskside workstations and servers, which join the InterServe 6605 server and the InterPro 6450 and 6480 workstations already announced (UX No 360), and ship in March. Both series deliver an overall CPU performance level of 33 SPECmarks, 10 double precision Linpak Megaflops and 36 Dhrystone MIPS - three to six times faster than systems using the C300 Clipper, with floating-point-intensive applications showing the most improvement. Although the new machines are binary-compatible with their predecessors, it is best to recompile to optimise for the new features of the C400 - the C400 chip implements both superscalar dispatch and superpipelined operation to optimise concurrency at all stages of program execution. The minimum workstation configuration includes 16Mb main memory, 426Mb 3.5" disk and 19" 256-colour monitor. High-end workstation configurations can include 256Mb main memory, up to 5Gb of disk and dual 27" monitors simultaneously displaying 16.7m colours. When configured with the VITec-VI-50 Image Computer, the ImageStation 6487 for high-end image processing applications creates the company's highest performance graphics subsystem. Workstation prices range from \$18,500 at the low end to over \$100,000 for high-end configurations. Server configurations omit graphics adaptors and displays and prices go from \$13,900 to \$100,000.

SPEC FIELDS DUAL BENCHMARKS

The Systems Performance Evaluation Co-operative has abandoned the SPECmark measurement for comparing workstation performance in favour of a set of dual benchmarks that will show integer and floating-point performance separately, to get round the problem that by optimising their compilers, vendors have been able to inflate the apparent performance of their machines (UX No 367). Microbytes notes that the current suite favours floating-point performance, which worked to the detriment of systems not designed for scientific and technical applications. The new benchmarks should help level the playing field for commercially-oriented boxes.

UniSQL LINKS RELATIONAL, OBJECT TECHNOLOGY

Austin, Texas-based UniSQL Inc has developed a database engine and manager, plus a development environment, with which it believes it can tap the growing number of integrators who are looking to take advantage of the benefits of object-oriented concepts, but who do not want to abandon investments in traditional relational database systems. UniSQL's software is said to merge object-oriented and relational approaches in client/server environments. The firm reckons the fruits of its two years of labour give it a similar lead over relational database vendors trying to build object-oriented features into their existing SQL offerings. Priced at from \$7,200, the software is out in March on Sun Microsystems Inc workstations.

NOKIA BUY WINS ICL £35m OF BUSINESS WITH BUNDESPOST

ICL Plc picked up some pretty good business when it acquired Nokia Data Systems, notably an on-going contract with the Deutsche Bundespost Telekom, which had put £15m of business Nokia's way since 1987. It has now renewed the contract in spades, extending it for another three years and committing to some 24,000 machines worth £35m over that period. They are to be used throughout its organisation for administrative and general office applications. The machines won the business by meeting Telekom's ergonomic and design specifications.

NETVIEW FOR AIX IS JUST ONE OF IBM'S 31

IBM will this week announce 31 new products, half of them hardware related, the remainder, software. As well as the expected newcomers to its RS/6000 RISC family (UX No 367), IBM is also thought to have readied an AIX version of its widely used - but hierarchical - NewView network management system. Until now, NetView has demanded an IBM mainframe sitting in the middle of a network for all management purposes. An existing entry-level version of NetView for AIX only allows messages to be passed up through the network system, it doesn't allow an RS/6000 to manage it. NetView/6000 is likely to change all that. Also new is software, thought to have been optimised using the Ingres database, that will allow clustered RS/6000s to be viewed as a single image. In addition, portable Novell NetWare for AIX should finally be announced - with ships due in a month - though a native implementation isn't expected until after Novell's next release of NetWare, late this year. IBM is also likely to flesh out its computer-aided software engineering strategy for Unix, and all the new software should be available to run on a new release - version 3.2 - of the AIX operating system.

ISO WOOED BY COMPETING PLANS FOR A STANDARD OPERATING SYSTEM INTERFACE

The Japanese national standards group is understood to have submitted plans for a language-independent Generic Operating System Interface, Gosi, to ISO, that it claims would provide an application software interface at a higher level of abstraction than the IEEE's Unix-derived Posix specification which depends on the C language. The group claims that Gosi would support existing, and future generations of computing environments: possibly including the Pink operating system effort currently underway at IBM/Apple. Meanwhile, IEEE has submitted its own plan for a generic operating system interface to ISO: its baby is christened Mosi, the Microcomputer Operating System Interface. Along with a growing number of other hopefuls, the Japanese group is also reported to have proposals for an application programming interface that supports a range of windowing systems, including Motif and Open Look. And, like others encroaching on X/Open Group's traditional terrain, the group is thought to have a reference model and framework for application portability.

ADVANCE ROYALTY FOR MIPS ACE KIT IS A COSTLY \$1m

We weren't able to drag it out of them at the time but it seems the folks over at Microprocessor Report used a bigger stick: according to the December issue, the advance royalty MIPS is demanding for using its instant ACE kit is a million dollars - \$500,000 (\$100 per system on the first 5,000) for the paper schematics, HAL binaries and boot ROM code; another \$500,000 for software source code and machine-readable designs for the hardware. No wonder they were shy - makes Sun's prices look like a giveaway scheme. Microprocessor Report also traces the Acer and Olivetti R4000 prototypes to these MIPS kits.

NOVELL BAGS ACE FOUNDER SCO

After tempting Unix System Labs to shack up in Univel, the joint venture announced at the end of last year to marry desktop Unix to its networking technology (UX No 363), Novell Inc has gone for the other jugular and struck a deal with ACE founder Santa Cruz Operation Inc. The deal should result in the ability to seamlessly connect SCO's Open Desktop and Unix operating systems with Novell NetWare networks. To this end SCO has licensed NetWare's IPX/SPX transport protocol and says it will feature in Open Desktop and SCO Unix by mid-year.

UNIFORUM 1992, SAN FRANCISCO -

**MKS BRINGS POSIX SHELL AND UTILITIES
INTERFACE TO MPE, VMS, CTOS**

DEC, Hewlett-Packard Co and Unisys Corp have already announced that they each intend to bring Posix compliance to their respective proprietary operating system environments. Turns out that Canadian Unix system software house, Mortice Kern Systems Inc, Waterloo, Ontario, is providing the shell and utilities interface required to comply with version 2 of the Posix standard. MKS' InterOpen software, licensed to each of the firms, will bring Unix features to the their respective VAX/VMS, MPE/ix and CTOS (Convergent Technology workstation) environments.

**UNIX INTERNATIONAL, USL,
DETAIL EARLY ACCESS TO DESTINY**

Unbeknownst to anyone but a select coterie, Unix System Laboratories has been parcelling out very preliminary copies of Destiny, its long-awaited desktop SVR4, since November under an early access program due to be revealed by Unix International this week at UniForum. The source code is believed to have found its way to only a handful of companies so far including Japanese firms such as NEC and Fujitsu who are said to be developing Kanji versions. Destiny code, once it is robust, will be available from USL "binary ready," meaning that although it is source, an OEM should have to do very little, if anything, to it unless it chooses to add some particular bells and whistles before putting it out. Univel, USL's new joint venture with Novell, will peddle its own Destiny binary, seeking sales among some of the OEMs USL is shooting for. Early access is restricted to UI's major and principal members who hold a licence to SVR4.1 ES on which Destiny is based. The terms and conditions of early access are reportedly not completely defined as yet. UI is also expected to confirm at UniForum that SVR4 ES/MP went into early access on December 31st. The software, upward compatible with its predecessors, supports 30 parallel processors.

**UNIPLEX PREVIEW NEXT GENERATION,
CLIENT-SERVER PRODUCTS**

Office automation specialist Uniplex Ltd, recently the subject of a takeover from the IMI Group (UX No 363), is planning to demonstrate some of the components of its next-generation software at UniForum this week. The products, which have not yet been named, will show the company's determination to move towards a client-server architecture, where new components (such as a word-processor or communications module) can be slotted in on top of a core server portion of the product. At UniForum, UniPlex is expected to demonstrate the server portion (effectively a preview of Uniplex version 8), which has been codenamed London. Client portions to be demonstrated include what-you-see-is-what-you-get graphical word-processor for the X-Windows and Windows-3 environments (code-named Miami and Tokyo respectively), and an X.400 communications module. New directory mail management for X.400 and time management software will also be included. PC-Unix connectivity will also be expanded from the current offering - Locus' PCI product - to embrace Portable NetWare and LAN Manager. Uniplex was not saying when the product would be released, but it is thought that the target is this year, at least. Uniplex has already begun the process of upgrading its long-established software by working with GUI specialists IXI Ltd, and it is also working with Hyperdesk Corp on object-oriented features (see below). The UK will see demos of the new software shortly after the show. Critics of the company are looking to see whether new owners IMI Group will commit the required resources for Uniplex to take its long-awaited next technological steps forward.

**MIPS SIGNS UP TANDEM
TO REBADGE UNIX SERVERS**

You win some, you lose some. On the positive side for MIPS' systems business, the company is expected to announce a new OEM deal with fault-tolerant systems vendor Tandem Computer Corp this week. Tandem already sells own-designed MIPS R-Series R2000-based fault-tolerant machines (UX Nos 357, 359), and wants to re-badge the rest of the MIPS range, on the principle that you only need one fault-tolerant box on a network - the rest can be standard Unix servers. It will be porting its NonStop Unix environment over to the MIPS machines. Tandem is also thought to be working on R3000 and R4000 versions of its fault-tolerant machines for release some time this year.

**HYPERDESK ANNOUNCES NEW
PARTNERSHIPS AT DOMS LAUNCH...**

Hyperdesk Corp is announcing new partnerships with independent software vendors along with its HD-DOMS Distributed Object Management System rollout at UniForum (UX No 365). As well as the expected tie-in with IXI Ltd, Westborough, Massachusetts-based Hyperdesk is also announcing agreements with Uniplex Ltd, Constellation Software Inc and Netwise Corp. IXI will incorporate HD-DOMS into future releases of its X.desktop graphical desktop manager, allowing X.desktop to display and manage Hyperdesk objects as well as standard Unix files. Uniplex says it will base its new-generation client/server products (see separate story) using HD-DOMS as "a fundamental layer for building new applications". Constellation Software, a 1990 start-up of Framingham, Massachusetts, will incorporate the product into its HyperStar client/server database access product for Unix and Windows, which gives users the ability to perform multiple database queries and updates in a multi-vendor distributed network. Hyperdesk is taking an option to relicense the HyperStar product. And NetWise Corp of Boulder, Colorado, says it is working together with Hyperdesk to integrate the product with its Remote Procedure Call technology for distributed application development. HD-DOMS, which makes its debut at UniForum, is billed as "the first suite of software tools and services designed to enable application developers to build and integrate open distributed applications for PCs, workstations and servers". It will be demonstrated on DG AViiON and Sun Sparc hardware, integrated with the Informix Wingz spreadsheet and a Windows 3 clipboard hooked up to WordPerfect, accessing flat files, databases and HyperDesk objects through the object request broker. The HyperDesk product, of course, conforms to the recently announced Object Management Group standards (UX No 356). Development kits, ready next month, will cost \$1,995, run-times, due later, are \$495. Meanwhile, the company is setting up its UK operations, and plans to have an office in place in West London by mid-February, run by director of European Operations Nigel Elkan.

**DELL DEALS WITH SCO - TALKS
TO JOBS OVER NEXTSTEP**

Dell Computer Corp has struck up a deal with the Santa Cruz Operation to sell SCO's Unix System V Release 3.2, in addition to its commitment to Unix System Labs' V.4. The deal, announced a few weeks back in the UK, will also be announced at UniForum. Dell said it had no plans to drop V.4, which will lead into the Solaris environment forthcoming from Sun Microsystems, but wanted to offer the SCO system as an option. Referring to reports in the New York Times that it was considering taking on the NeXTStep environment for Intel platforms, Dell confirmed that it had been approached by NeXT but had come to no agreement regarding NextStep. ACE member Compaq, once a vocal fan of Hewlett-Packard's VUE environment, is also said to be considering NeXTStep, according to the paper.

- SHOW PREVIEW

TRANSARC LAUNCHES OSF DISTRIBUTED COMPUTING ENVIRONMENT FOR SunOS, AIX

Transarc, one of the original members of DECorum, last week started taking orders for the first DCE developers kit, which it's making available on Sun and IBM workstations starting in March. Based on DCE 1.0, it's intended for SunOS 4.1.2, aka Solaris 1.0, and AIX 3.2. The kit includes the core DCE components: Remote Procedure Call, Threads, Cell Director Service and Security Services. Distributed File Service and the Global Director Service among other less essential pieces are not included. The kit will come as a bundled package priced at \$15,000. Licensees may operate one Name Server, one Security Server and up to 10 DCE clients. Support and training are included as is an upgrade based on DCE 1.0.1. Transarc proposes to provide two seats in a two-day course for application developers. Additional server licences will go for \$2,000 each and client licenses for \$500 each. Additional training can be had for \$750 a seat. Early licensees are expected to include companies developing applications using Encina, Transarc's DCE-based OLTP products. First product ships of Encina are scheduled for this quarter. The company is particularly anxious, especially since it gets royalties from its DCE contributions, to applications ported. Its customers have reportedly identified Sun and IBM boxes as the most important platforms.

...AS DEC UNVEILS DCE STARTER KIT

Sniffing that its stuff is based on the "real" OSF Distributed Computing Environment, DEC this week will announce a DCE Starter Kit for its version of OSF/1 as well as both its RISC and VAX Ultrix. The software, however, won't be available until May. DEC, which casts suspicions on the integrity of the new Transarc DCE developers' kit (see above) incomplete and less robust, has divided its kit into three separate and separately priced packages whose purchase is said to depend on what the ISV needs. The first is a runtime service pack including the Remote Procedure Call, Cell Directory Service (CDS) Clerk, Distributed Time Service and a Local Directory Service described as a "skinny CDS." The second, unnecessary if the first is taken, is a CDS Server package. The third is an application developers kit including the C-based Interface Definition Language (IDL) and a compiler. DEC, like Transarc, is interested in jumpstarting development, and claims easy implementation. The full kit should be announced mid-year. DEC is holding back pricing until its disclosure this week.

...AND DEBUTS FIRST PRODUCTION QUALITY OSF/1 IMPLEMENTATION

It's not everyday that a company the likes of DEC introduces a new operating system, so they're throwing a big bash this Wednesday to celebrate the expected arrival of DEC OSF/1 (UX No 363), the first production quality version of the consortium's operating system to debut. DEC will doubtless focus on the chocolate chips it's added to OSF's plain vanilla system. The DEC OSF/1 includes real-time hooks, for instance, based on IEEE's emerging standard 1.003.4 Draft 10 which DEC promises to track. Then there's also a high degree of binary, source and data compatibility to Ultrix and the ability of the two to share network protocols. DEC obviously needs to wring out as much interoperability as it can. It's also following ISO96.60, the CD-ROM file system standard, supports Ansi FDDI and increases the file descriptors to heighten data processing. It will come with X11 and Motif 1.1.3. First shipments are set for March. Besides pricing it this week, DEC is expected to jump on the bandwagon. Over the next few months DEC will bring out some helpmates for its OSF/1. Expect a PrintServer source kit in February, DECPascal in March, DECFortran in April and DECops 5, an expert system environment in May. Further down the road are software packages like DECwrite and DECpresent, C++, a DECwindows tool for Motif, NAS 200 and NAS 300.

SEQUENT LAUNCHES NEW SYSTEMS, TIES WITH OSF FOR MP DEVELOPMENT

Sequent Computer Systems Inc is expected to launch faster versions of its Intel-based multi-processors this week, according to sources close to the company. The new machines are the Symmetry 2000 Models 250, 450 and 750, should be priced from \$50,000 to \$2.5 million (£45,000 to £1.5m in the UK), with a top-end, 30-processor 750 supposedly capable of supporting up to 3,500 users. The machines also have improved memory and disk capacity, better throughput and communications I/O and have performance in the 200 TPCA region. And, following up its closer links recently with the Open Software Foundation (UX No 352, 353), Sequent is expected to be revealed as the primary multi-processing development and reference platform for OSF/1. The company has completed its portion of the work on Unix System Labs' ESMP project for Unix System V.4, and is waiting for USL to combine it with its own development. It is thought Sequent will eventually offer both products as options and see what customer demand is.

IQ PREVIEW DATA RETRIEVAL SYSTEM

IQ Software, formerly Programmed Intelligence Corporation, will be showing pre-release version of its new end-user software IQ Access at Uniforum. Built on an ad hoc query architecture, it retrieves data from corporate repositories and transfers it directly to desktop applications. It can reportedly access and retrieve across more than 60 databases and ISAM file systems, supporting Unix, VMS, DOX, OS/2, AOS and over 35 platforms. The SQL databases supported include Oracle, Informix, Progress, Ingres and Sybase as well as 3GLs including COBOLs. The software will be sold direct and through third parties priced from \$500 to \$25,000 depending on platform. It will be available in both host- and SQL-based/client-only version beginning in March. In the third quarter the company will introduce PC/character and GUI client/server versions for both SQL and non-SQL file structures.

VERITAS TAKES UNIX ADMIN TOOLS TO SCO MARKET

OEM supplier Veritas this week moves into the SCO shrink-wrapped marketplace. The company's Volume Manager and Visual Administrator, developed as part of its strategic relationship with Unix Systems Labs and the Unix International Roadmap requirement for logical volume management, are coming out for SCO Unix, SCO MPX and Open Desktop. Volume Manager is available for SCO Unix at an end-user price of \$1,495 and for SCO MPX at \$2,995. Visual Administrator will go for an end-user price of \$995 for any of the SCO operating systems.

UI HAS APPLICATION PROGRAMMING INTERFACE LIBRARY FOR ATLAS

Unix International is publishing an Atlas API library of interface specifications this week. According to UI, 30 interfaces exist, and half, all based on X/Open standards, will be published. It will also detail its systems management requirements vis-a-vis print services and network management. Reportedly, Unix System Laboratories, which must realise UI's framework, is talking to Siemens Nixdorf for the print services, and with Net Labs for the network management.

UNIFORM 1992 - SHOW PREVIEW

MERCURY ANNOUNCES X-WINDOWS APPLICATION TESTING TOOL

Santa Clara, California-based start-up Mercury Interactive Corporation will use Uniform to announce XRunner, an automated software testing tool for X-Windows applications. Using its interactive development environment, engineers can test scripts in a C-like programming language. Test scripts can reference variables, perform conditional operations, call other test scripts and handle errors. During test execution, XRunner automatically enters the required input, monitors results and compares them with expected results. XRunner is Output Synchronized. Instead of playing back recorded scripts based on time, the system waits with the next keystroke or mouse movement until the expected feedback appears. The system is windows-sensitive, ensuring correct replay even when windows do not reopen at their previous position and size. XRunner scripts can be modified. Minor script changes can accommodate new features or upgrades so entirely new scripts are not needed. It will also check stress thresholds. The software currently supports Sparcstations. Mercury plans to release versions for HP-UX this month, with the DECstation and RS/6000 following later in the first quarter. XRunner's base configuration, including five floating licences, is priced at \$35,000.

NCD USES MIPS RISC IN LATEST X-TERMINALS

X-terminals mavens NCD is expected to launch three new RISC-based boxes this week; one, a monochrome called the NCD 19r using a MIPS R3000 chip. NCD previously had a RISC box based on the Motorola 88100. The other models to be announced at Uniform, the colour NCD 17cr and the grey-scale NCD 19g, will be built on the same chip. The 19g is the company's first grey-scale. NCD is taking the approach that the processor should depend on the application the terminal will be put to. Like other X-terminal makers now caught up in a price war, the company was guarding its price/performance figures until this week.

...AS VISUAL TECHNOLOGY LAUNCHES X-WINDOWS DISPLAY FOR CAD/CAM

Visual Technology is introducing the TX600C, a colour display fully implementing X-Windows available as either a complete system or a base only. Built on a 25MHz 68030 chip, plus a 32-bit, 40MHz 34020 graphics processor, the unit is meant for CAD/CAM geographical information, mapping, medical imaging and desktop publishing. As a customisable base the box costs \$3,495. Complete with a 19-inch screen, 1280 x 1024 resolution, keyboard and mouse it will go for \$5,895. Systems are also available with 15, 17 and 21 inch greyscale or colour monitors.

NEW PC X-SERVER RELEASES FROM HUMMINGBIRD

Hummingbird Communications Ltd, Markham, Ontario, will unveil a new version of its HCL-eXceed X-Windows server for MS-DOS-based personal computers that supports XGA graphics: it is priced at \$600. The firm has also added a local window manager - hwm - with Motif look and feel, to its other PC-to-Unix connectivity products, and has a new release of its HCL-eXceed/W X-Windows server for Microsoft Windows-based PCs, which costs \$550. Hummingbird says the market for PC X-Windows server products grew by more than 300%, to \$15.04m - or 58,022 units - during 1991, up from \$5.05m - 23,225 units - in the previous year. The firm claims it took 29% of all 1991 PC X-server unit sales, although UK firm, VisionWare took 39% of the Windows segment of the market - see below - and White Pine emerged as the leading independent Macintosh X-server supplier.

VISIONWARE TO SUPPORT NCD'S SERIAL COMMUNICATIONS PROTOCOL

UK firm, VisionWare Ltd, Leeds, has signed with Network Computing Devices Inc, to support NCD's XRemote asynchronous communications protocol under XVision, its X-Windows server for Microsoft Windows-based personal computers. XRemote allows X-terminals to communicate over serial lines. At the show, VisionWare will preview new releases of all three of its products - PC-Connect 6.1 (to ship in April), SQL-Retriever 2.0 (due in February) and XVision 4.1 (for June).

iXOS HAS GRAPHICAL DATABASE QUERY TOOL

German Unix house, iXOS Software GmbH, Munich, is to debut a new icon-based query tool which it claims will allow non-programmers to manipulate relational databases under Unix. The iXView/SQL query generator, implemented under OSF/Motif, represents databases graphically, and is already in use at the German federal government. It costs \$1,000 for single-user licence - \$7,000 for a ten-user network package - and is available for IBM AIX, Sun Sparc and Intel iAPX-86 environments running Unix SVR4 and SCO 3.2. iXView/SQL requires 8Mb RAM, 10Mb free disk space, X-Windows 11.3 or higher and Motif, and currently supports the Oracle and Informix databases, with other ports to follow.

ICL DEBUTS GRAPHICSPower TOOLKIT

ICL will be showing off its object-oriented Xg toolkit (UX No 365), which it says enables developers to add graphical user interfaces onto applications. Developed in conjunction with its parent Fujitsu, objects in the toolkit include the usual circles, lines and bitmaps, but it also features higher-level objects such as trees, graphs, tables and networks. Some ICL customers - Cathay Pacific Airlines in Hong Kong and the UK's National Westminster Bank amongst them - are already using the thing. ICL is calling it GraphicsPower in the US - it ships in April.

SCG BRINGS EMBEDDED VERSION OF CHORUS MICRO-KERNEL TO MARKET

Software Components Group, the Integrated Systems Inc (ISI) division that signed a technology licensing agreement with Chorus Systemes back in September (UX No 353), is bringing out Aria this week, a product based on the Chorus Mix microkernel. It was developed for the embedded real-time distributed systems market targeting control engineering, communications and automation first. ISI has customised and implemented source code for the microkernel. It will distribute Aria as binary implementations. Initial products, compatible with Unix 3.2, will operate on 68030 single-board computers. Beta starts this quarter and shipments follow in the second with a single-copy development kit priced at around \$9,000. ISI will market directly in the US with Chorus responsible for the European end.

HP EXTENDS OPEN VIEW FUNCTIONALITY

Following the release of its Open View SNMP - simple network management protocol - agent for Sun Sparc platforms last year (UX No 344), Hewlett-Packard this week announces an extensible version of the software for HP-UX and SunOS. HP says OpenView Extensible SNMP Agent allows the agent monitor any application or other system activity such as printers, other computers and databases. It was previously limited to monitoring basic network and system activity. HP will bundle the network node manager - it can handle up to 500 nodes - in with its 9000 series workstations: OpenView Extensible SNMP Agent is priced from \$1,000 to \$300,000.

CONTROL DATA TO RESELL NEC SUPERCOMPUTERS

Control Data Corp is to begin marketing NEC Corp's SX-3 supercomputers in Europe and well as the US. Control Data will market the SX-3 under the NEC name, with NEC providing customers it signs with hardware, testing and maintenance support. NEC will train CDC engineers in marketing and technical support and CDC will act as total systems integrator, selling the supercomputers with its own hardware, initially aiming at the automotive and aerospace industries, where it can offer its own advanced manufacturing applications, three-dimensional graphics workstations and high-end Unix servers. NEC sought an agreement with CDC, which was a supercomputer pioneer and built its own supers until it ran out of money and closed down its ETA Systems business some three years ago, because of the difficulties it has found in winning supercomputer sales outside Japan on its own. Of the 20 SX-3s so far sold, 11 have been installed, but only five outside Japan - three in Europe, one at the Meteorological Office in Canada and one in the Houston Area Research Centre - but that one is owned by NEC's HSNX Supercomputers subsidiary. A sixth foreign order comes from the Brazilian meteorological bureau. While NEC is counting on CDC to sell to US and European industry, it will itself continue to aim at the research and academic market, through its head office SuperComputer Marketing Promotion Division and organisations such as its European SX Technical Centre, established in January 1990 in Cologne Germany. It has no interest in the military market. The SX-3s run Unix System V.3.1. NEC and Control Data are both in the MIPS Computer Systems Inc RISC camp - CDC helps design R-series parts as well as using them in its workstations and servers, NEC fabricates them in Japan, and the two hope to co-operate in other areas. CDC, with 1,800 machines in at 1,000 sites worldwide, can claim only four sites in Japan.

INFORMIX ADDS TRANSACTION FEATURES IN ONLINE 5.0

Menlo Park, California-based Informix Software Inc has introduced the Informix-OnLine 5.0 release of its relational database, saying it is optimised for high volume distributed transaction processing and decision support environments. It is shipping this week for Sun Microsystems Inc, Hewlett-Packard Co HP 9000 and AT&T Co systems, with versions for other Unix systems to follow next quarter. The company claims that the new release is the first relational database to support the X/Open Co Ltd's XA standard for heterogeneous distributed transaction processing and the first Unix implementation that is 100% compatible with the ANSI SQL-89 standard for SQL databases. It adds stored procedures, which can reduce message traffic in a client-server environment; the ANSI SQL 89-compliant declarative integrity constraints, which enforce a set of safety checks on all applications accessing the data, to enhance security; and distributed up-dates with two-phase commit recovery when used with the optional Informix-Star product. Informix-OnLine 5.0 will also feature a multi-threaded architecture, initially to be implemented on Sequent Computer Systems Corp Symmetries, with other major systems to follow in the next release. Optional add-ons include Informix-OnLine/Workstation Manual, electronic graphical documentation for database administrators with HyperText-like links and active graphics; Informix-OnLine/Optical generic interface to optical disk subsystems; Informix-TP/XA, which can be used to connect the database with any X/Open-compliant transaction manager such as Unix Labs' Tuxedo, NCR Corp's Top-End, Transarc Corp's Encina and Siemens AG's UTM for distributed transaction processing.

CHARLES RIVER TO SELL ORACLE HARDWARE ACCELERATORS DIRECT

Framingham, Massachusetts-based Charles River Data Systems Inc is establishing a direct sales force to handle its iAPX-86-based Relational Accelerator database computers. It is only 18 months since Charles River signed a \$35m three-year pact with System Industries Inc under which the Milpitas, California-based company integrates the Relational Accelerator with its disk and tape subsystems. Charles River will not comment on its relationship with System Industries, but according to Electronic News, says that its distributor is less focused on the database area. System Industries intends to continue offering the Accelerator and acknowledges that it has concentrated on its installed base, though it is planning to bring out a high-end database engine to augment the Charles River line. The new sales effort is being headed by a former Encore Computer Corp executive, and Charles River is thinking of setting up in Europe as well as the US and Canada.

SUN SPOTS

Sun Microsystems Inc president, Scott McNealy, says the firm has shipped some 3,000 of its latest multi-processing Galaxy servers in the first 45 to 60 days of their release (UX No 354), shooting the company into the top three multi-processing Unix vendors, he claims.

Unsurprisingly, McNealy is not worried by Hewlett-Packard's latest workstation gambit, the low-end Snakes introduced last week (UX No 367). He maintains that Sun's vision of a scalable RISC architecture is still firmly embodied by the Sparc, which, he believes, continues to outflank HP's Precision Architecture RISC part by virtue of its use in all sectors of the market, where it features, for example in Tadpole Technology's Sparc notebook, and Thinking Machines' massively parallel Sparc supercomputer.

On the fortunes of Digital Equipment Corp, Sun's McNealy firmly believes that it could have "blown us out of the water," if it had done three things: "one, stopped hiring; two, set up VMSoft; and three, put its VAX chip architecture into the public domain." The chances are that "Unix may not ever have happened then," he says.

Meanwhile, "IBM would give a trillion bucks to be where we are now, with one processor architecture and one operating system environment," he believes.

Sun has been drawing flack for the price/performance lead that others, like HP and DEC, appear to have opened up over its workstation technology during the last year or so. However, McNealy is adamant that Sun has never been first in the market with new technology. "Sun wasn't first with Unix, with RISC or with multi-processing. Apollo Computer always had better distributed computing solutions and graphical user interface technology. However, we have always been first in volume, and by the end of the year we'll be the first, by volume, in the Unix on Intel market, with Solaris," he says.

McNealy expects the Sun Express distribution operation to contribute between \$150m and \$200m to the coffers at Mountain View, California, this year. Currently the unit is only running in the US, and as Europe constitutes half its market "we've got to get Sun Express to Europe as fast as possible."

McNealy believes Sun does not have to be overly ambitious in pursuit of Intel/Unix customers with the forthcoming release of the Solaris operating system for iAPX-86 environments: "give me, for example, 5% of the Intel marketplace, or 500,000 installations, and I will have satisfied Sun's shareholders for the next three years," he says.

Explaining Sun's close relationship with Japanese manufacturers - ties that have occasionally sent industry watchers scurrying to look for any sign of the banns (UX No 316) - McNealy believes that in the computer industry, some Far East firms are on the right track. "Fujitsu is the one company that has really understood this 'open systems' thing. Look at what ICL, Amdahl and Nokia are now doing."

Sun now employs 350 staff at its Japanese operation - the country is its fastest growing international market - where Fujitsu and Sun are its biggest customers.

And Sun Tech is reportedly harbouring in its midst the makings of still another business unit which won't take full form for perhaps another year: the loosely configured group is called Sun Solutions and is responsible for productising laboratory technology aimed at putting multi-media features on groupware.

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NT, which should be running at the MIPS booth at Uniforum, is scheduled to go into beta in April: Before Univel came along, Microsoft had isolated its corporate competition as the two IBM/Apple ventures Taligent and Kalieda and SunSoft's Solaris.

Computer Sciences Corp's challenge to the huge billion dollar Defense Department RCAS contract award resulting in the largest X-terminals award ever let (UX No 355) has been dismissed. Boeing and its subcontractor get to keep what they got: Uniplex, one of those subcontractors, figures the deal is worth \$5m in the first three years and \$10+ over the full 12 years.

Wanna bet Goldstar isn't making Sparcettes? Its name is on the clone list but it apparently lost interest and let its name to a third party.

Sparc laptop hopeful RDI is going off on a couple of tangents as it said it might at Comdex, and has launched a Mac version of its Nissan-designed wall-hanger (UX No 357), the Profile, using motherboards pulled from Apple LCs. A 486 version is pencilled in for later this year. Meanwhile, RDI is claiming its relationship with Sun is much tighter now, with Sun salesmen getting commission for selling BriteLite laptops.

OK, so we got the code name slightly wrong back in June last year (UX No 334, 335): Unix World reports that HP executive vice president Lew Platt told a meeting of analysts "If you take anything away from this meeting, the new low-end workstation isn't code-named Bushwhacker, it's Bushmaster".

650 IBM RS/6000s (and probably RS/5,000s), 650 ICL DRS/6000s and 140 Siemens/Nixdorf workstations are being installed as part of the Single Access Terminal Project portion of the UK's Department of Social Security: the project as a whole has been going on since the early 1980s, and has been planned with the help of Anderson Consulting - it already includes some 70 ICL VME-based mainframes, 1,000 ICL proprietary Momentum minicomputers, and 41,000 computer terminals, all connected via OSI protocols. The DSS pays out benefits to some 60 million people.

JSB Computer Systems Ltd, Macclesfield, Cheshire, is working on some whizz new X-Windows technology, and has appointed Noel Poore, formerly X.desterm product manager at rival UK firm IXI Ltd to oversee the effort as special projects manager.

In the UK, London-based TCAM Systems Ltd, which develops software for the securities industry has opened an office in Edinburgh, staffed by former employees of investment bank County NatWest Wood Mackenzie who have moved to the firm following a joint venture between the two.

Bracknell, Berkshire-based Oracle UK has won a lucrative £5m contract with the Ministry of Agriculture, Fisheries and Food to supply its financials software, which MAFF will eventually use throughout its organisation. Oracle replaces MAFF's existing Dun and Bradstreet accounting software. Gradual implementation of the system will begin this April: it'll eventually support 2,000 users over a wide area network.

Parallel processing software outfit, 3L Ltd, Livingston, Scotland, and C++ language house, Computer Innovations Inc, Tinton Falls, New Jersey, have jointly developed a parallel version of C++ for transputers, which is being marketed as an add-on to 3L's parallel C compiler for £300.

CSK Corp's Danbury, Connecticut-based Micrognosis claims the 654-user, Unix-based, local area network-linked exchange trading system it has installed for the London International Financial Futures Exchange is the largest of its kind in Europe.

San Diego, California-based TeleSoft has released version 2.0.5 of its TeleUse graphical user interface development tool: it now includes support for C++ applications, OSF/Motif 1.1.4 and, in addition to existing ports, is also available for Silicon Graphics and NCR Unix systems, whilst AT&T Network Systems is currently integrating the thing into a large application it is developing.

Two former presidents of Groupe Bull, Jacques Stern and Bruno Fontaine - his last position was director of computer systems and telecommunications at Elf Aquitaine Group - have teamed to found Sycomore, a new Unix software development, system engineering and consultancy firm, to be based in Paris.

Turns out that the matrix300 scam used to inflate SPEC benchmark results (UX No 367), was first exposed by Andrew Allison in the California-based RISC Management newsletter last August.

Intel Corp's move to fend off the clones by slashing 80386 prices doesn't look likely to save it from continued erosion in its heartland - at the end of the month, the company will be confronted with the first clones of its current flagship product, the 80486. Advanced Micro Devices Inc chairman Jerry Sanders last week told financial analysts that his company would formally launch its first 80486 clone on January 30 and will likely ship soon after.

PEXlip, a command set that integrates three-dimensional graphics with the X Window System, has been endorsed by Digital Equipment Corp, Hewlett-Packard Co, Sun Microsystems Inc, Convex Computer Corp, Evans & Sutherland Computer Corp, Hitachi Ltd, Ithaca Software Inc, Kubota Corp, SHOgraphics Inc, and Tektronix Inc: implementations of PEXlib will be available from DEC, Hewlett-Packard, Kubota and Sun Microsystems in the second half of the year, and preliminary versions are said to be available now from DEC and also from Sony Corp.

Groupe Bull SA chairman Francis Lorentz reckons that losses for 1991 will turn out to be at about half the level for 1990, when the company was in the red by the equivalent of almost \$400m: sales of large mainframes under GCOS slumped 20% during the year, with Unix system sales rising 35%: as to the beauty contest between Bull's two US RISC suitors, IBM Corp and Hewlett-Packard Co, IBM chief John Akers is now doing the rounds, seeing Lorentz, Prime Minister Edith Cresson, and the final arbiter President Mitterrand.

Longmont, Colorado-based Solbourne Computer Inc is laying off just over 100 employees as part of a scaling down of the Sparcsystems builder to focus on the server end of the Unix market. The cuts involve elimination of some layers of management but will not affect development engineering or US national technical support. The company says that while it will still market desktop systems, development efforts will focus on servers, where it sees its strongest competitive advantage. It says it has a series of servers for launch this year.

Digital Equipment Corp's \$138m second quarter loss was much worse than expected, at \$1.11 a share where 40 to 60 cents was seen and the figures show evidence that DEC has yet to see any gain from its cost-cutting.

Motorola Inc says that sales at its information systems group in 1991 were down 2%, leading to a widening of the operating loss compared with 1990; orders fell a painful 11%.

Sun staffers have declared the high-volume Tsunami chip (UX No 367) they're working on "boring" and can't understand why we'd be interested.

For all this blather coming out about NeXT's counter-Uniforum show NeXTWorld next week, the organisers tell us there's not one announcement or press even scheduled - only a Q&A with Steve Jobs after his keynote Wednesday morning.

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TEXAS TO ANNOUNCE SUPERSPARC BY THE END OF JUNE - SUN WILL FOLLOW WITH DRAGON SERVER...

Texas Instruments is going to announce the long-awaited Sparc Viking chip (UX No 316), before the end of June - in other words before the end of Sun Microsystems Inc's fourth quarter. Then the ball dribbles into Sun's court. There will be upgrades to the Galaxy multi-processors based upon it, but far more interesting will be what Sun has in store under the code name Sun Dragon. It seems that Viking is destined for a general purpose multi-processing server capable of 1,500 SPECmarks, incorporating ten, fifteen and may be even more processors. Dragon will see the first use of Dynobus, which is not exactly a bus, but a device to connect processors more elegantly, it is understood. The first Dragon could appear in the third quarter, definitely by the fourth. The move could impact HAL, the Andy Heller/Fujitsu start-up designing the 64-bit Sparc multi-processor systems for transaction processing (UX Nos 314, 349): it is unlikely to have its own machines out by that time. Cray, Sun's newest design win, is borrowing from Dragon to jump-start its own development effort - see page three.

...THOUGH ICL PLANS VIKING ANNOUNCEMENT NEXT MONTH

ICL may steal the thunder of both Texas Instruments and Sun: on February 5th it is scheduled to announce two Viking-based boxes - likely to be the first made - as part of a range of Sparc systems it's debuting. They are the deskside 460 CPU2+, apparently rated at 55 MIPS, with a single board, and the high-end 664 CPU2+, with a maximum four-processor configuration, which will go to an estimated 240 MIPS. Delivery won't be until later in the year.

IBM's BABY RS/6000 PRICING LOOKS KEENER IN UK THAN US...

IBM Corp duly unveiled its heavily-delayed bottom-end RS/6000 Model 220 workstation last week - but while US pricing was much as expected, pricing in the UK was rather keener. There are five new RS/6000s - three desktop systems, the 220, 340 and 350, and two deskside systems, the 520H and 560. Prices go from under \$7,000 - £5,000 - to around \$64,000 - £51,000 for full entry configurations. Performance measurements include a SPECmark rating of 25.9 and 6.5MFLOPS. With 16Mb and the 19" monochrome monitor, the diskless 220 system is \$6,345 - £4,950 - about the same as Hewlett-Packard Co charges for a 34 SPECmark system in the same configuration. First ships are in March but volume will be in the second quarter. There are new FDDI and Block Multiplexer Channel adaptors for the RS/6000, supported by the new version of AIX. The company also announced the AIX Software Development Environment WorkBench/6000 framework product for software engineering, using Hewlett-Packard's SoftBench, and the RISC-based IBM 6611 Network Processor, again long-awaited and its first multiprotocol bridge-router for consolidating data traffic from different types of local network on a single link. Full details on page four.

...PREPARES "TO OEM AUSPEX SERVERS"

IBM has a secret pact with Santa Clara, California-based Auspex Systems Inc that's been months in the making, to OEM Auspex's high-end box, the NS 5000, sources report. IBM is said to be in the process of installing the first wave of machines and may not yet be at the two dozen mark. Down the road, IBM is apparently planning to yank the Motorola and Sun Sparc chips Auspex currently uses, and to substitute its own RS/6000 engines: in the past Auspex has said it would like to take the IBM part on-board (UX No 352). Things have not yet reached that point however, and IBM's initial installations are the Motorola boxes running the Auspex operating system, an undercover version of SunOS. IBM is snubbing the Sparc-based machines so as not to give aid and comfort to the enemy. It will eventually substitute AIX. Sources interpret the move as evidence IBM recognises that mainframes are doomed, and, in keeping with its reorganisation into more quick-footed business units, is unleashing AIX onto mainframe-class servers. The Auspex machines, uniquely architected, are input/output file servers used for NFS file sharing (UX No 363). They do not run applications - or at least Auspex does not support them. Sources think it unlikely that IBM will buy into Auspex.

NO TEARS AS COMPAQ, SILICON GRAPHICS BREAK UP

The new spartan regime at Compaq Computer Corp has decided that the company's \$135m investment in Silicon Graphics Inc for a 13% stake, and the prospect of jointly producing a low-volume, high-price super-workstation are things the company can no longer afford. It has ended joint development with SGI, entered a cross license agreement for the technology already developed using its \$50m for that purpose, and will have SGI buy back the shares Compaq holds for \$150m - the higher price reflecting today's fair market value. Compaq and SGI originally thought they had the means to create a synergy between the the product lines, but when they sat down and looked they found they couldn't come out with a joint product line. The list of requirements were at odds: EISA for instance was important for Compaq, while 3D graphics, one of SGI's major requirements, was not. The Indigo, released by SGI after the deal had been cut, was not what Compaq needed, with price being the major factor. Recent talk that Compaq might adopt the NeXTStep environment suggested that its thinking on ACE and its future high-end had radically altered since last May when it cut the deal. But despite everything, Compaq is not looking to exit ACE, and is expected to replace the SGI development effort by using instead the MIPS "instant" ACE kit to develop an R4000 workstation (UX No 359), but it also has a very serious eye on the Intel 80586 and says it "can't wait" for Microsoft's NT. ACE-compliant kit will be at least six months, which means it won't be amongst the first. The split has been dubbed a "friendly divorce". SGI is expected to turn up one or more new partners in the near future.

...BUT SGI R4000 BOX EXPECTED THIS WEEK

Rumours have it that Silicon Graphics is to reveal its first R4000-based workstations this week. Compaq denies that the SGI machines (thought to be mid-range imaging boxes called Crimson) are the results of their joint MIPS/ACE design. Compaq said the boxes are too high-end for that, but it's suggested that a lower-end little brother for them is also in design. Compaq expects to use SGI technology, which doesn't fit its product requirements at the moment, a few years from now, when the market is more mature in its demands. Meanwhile, DEC and Compaq were also denying rumours that UniForum that DEC would now act on those old reports that it would move to acquire Compaq (UX Nos 355, 357).

SEQUENT UPS THE ANTE IN COMMERCIAL MULTI-PROCESSING WITH NEW SYMMETRYs

Recently the target of some pretty strong rumour-mongering from within the industry (UX No 364), Sequent Computer Systems Inc last week went part-way towards answering some of the tell-taleing, unveiling three new models in its Symmetry 2000 series of Intel Corp-based multi-processing systems (UX No 368).

The Symmetry 2000/250, /450 and /750 come with up to six, 10 and 30, 50MHz 80486 processors respectively. System memory goes from 320Mb on the 250, up to 950Mb on the 750 - each has a SCSI-2 disk subsystem. Sequent claims the input/output channel controller featured in the subsystems - each controller has four separate 10Mb per-second channels - can perform up to 1,600 input/output operations per second and will clear some data access bottlenecks. Total disk capacity of the RAID-1-compatible subsystems goes from 32Gb on the /250 to 260Gb on an eight-controller /750. Sequent says the /750 achieved 214.53 transactions per-second using the TPC-A benchmarking suite running Oracle: \$18,250 per transaction. Oracle's SQL*NET now also runs over NetWare for Sequent on the boxes, (a parallel-enabled version of Novell NetWare), whilst new communications facilities for the range include 4Mb and 16Mb per-second Token Ring and 100Mb per second FDDI. It is also offering a VMEbus input/output interface for attaching Etherneted systems and peripherals. Out now, the /250 is priced between £45,000 and £170,000. The /450 costs from £165,000 to £500,000, whilst the /750 goes from £178,000 to £1.5m for a top-end, 30-processor machine that will supposedly support up to 3,500 users. US prices go from \$50,000 to \$2m. The new models replace the existing 200, 400 and 700 Symmetry systems, though users with 25MHz or 33MHz 80486-based machines can upgrade to the 50MHz part via a board swapout. Sequent says with the increased performance and disk handling capacity, it should now be able to make inroads into the mainframe market. At the launch, Sequent pitched its /450 Symmetry against Hewlett-Packard's 9000 series 870s/30, which comes in at £357,000, for 168 MIPS performance, 160Mb disk and 2.6Gb storage. The Sequent box delivers 164 MIPS - with 160Mb disk and 2.7Gb storage - for £185,715, it says.

Picked as development platform for OSF/1.2 MP

And, following-up its closer links recently forged with the Open Software Foundation (UX No 352), Sequent has emerged as the primary multi-processing development and reference platform for OSF/1.2, and future releases. OSF is doing the work on Symmetry systems at its Grenoble labs - Sequent says it will licence the technology back when it is complete, and its systems will be AES-compliant by the end of the year. The company has completed its portion of the work on Unix System Labs' ES/MP project for Unix System V.4, and is waiting for USL to combine it with its own development. Sequent will eventually offer both products - as well as OSF's Distributed Computing and Distributed Management Environments - as options, and see what customer demand is.

Return to profit expected, though future is not all rosy

The Beaverton, Oregon-based outfit should go further in answering critics when it reveals its fourth quarter results this Monday, which are expected to show a return to profit after three quarters of losses totalling \$49.7m on turnover of \$151.7m. Sequent chairman, Casey Powell, indicated the firm would report sales in the region \$60m for the final quarter, and deliver a dividend of 3 cents or so a share. UK sales, it says, rose 37% during 1991. Casey warns, however, that results for the first quarter of this year are unlikely to match those of the quarter just gone. Sequent hit the wall at the end of 1990 - Casey admits the firm did not pay close enough attention to the downturn in the market - and it didn't really see any upturn in 1991, even after the Gulf War.

No sales of systems over \$350,000 in 1991

Indicating the severity of the situation it faced, Casey - somewhat alarmingly - disclosed that Sequent made no sales of systems costing over \$350,000 during the whole of 1991. Compounding its problems, at the beginning of 1991, Sequent had no backlog of orders outstanding: this year, he says, the firm has \$30m orders waiting to be shipped, although two-thirds of this is written down to the renewed OEM business it is now getting from Unisys Corp, which recently signed with Sequent for a further two terms (UX No 365).

The long-standing OEM arrangement with Siemens-Nixdorf Informationssysteme will come to an end in the second quarter, and Sequent says it won't be looking elsewhere for other OEM business, but hasn't discounted alliances with its old sparring partners. OEM deals will account for no more than 10% of Sequent's future sales, Casey says.

May buy-in components too

In future, Casey says, Sequent may consider buying-in the various hardware components which it currently manufactures for its systems: that would allow more money to be released for software development. It's a strategy that Sequent competitor, Pyramid Technology Corp, has already indicated it may adopt (UX No 367). Indeed, when it was founded, Sequent claimed that it would never build what it could buy-in. "But then we went off and built what we could buy," says Casey. Sequent currently spends some 70% of its research and development budget on software. And, tilting directly at Pyramid (UX No 367), Casey says Sequent will be first to market with the Oracle-based clustering software that the database firm is understood to be developing with both companies.

UK IBM SYSTEMS INTEGRATOR FORMS OPEN SYSTEMS GROUP

The growing market for Unix systems and services, being realised in an increasing demand from its customers, has led UK systems integrator, Specialist Computer Holdings Ltd, Birmingham, to set up an open systems group, under the charge of Stephen Moyle, formerly of Optim. Although SCH is known primarily as an IBM reseller - it also markets Altos, Compaq and Toshiba kit - Moyle says as an open systems operation, his unit must be able offer an alternative to the RS/6000 AIX platform, and therefore intends to pick up technology from one of the current crop of hopefuls, either something from the ACE camp, or Sun Microsystems Inc's Sparc boxes running Solaris. In any case, Moyle is advising customers not to put all their eggs in one basket - or Unix camp - but to go for standard software products when formulating open systems strategies. In SCH's experience, Oracle, Sybase and Informix are the most popular Unix databases, with Tetra and Systems Union's Sun Systems the preferred accounting solutions: it runs Oracle's help desk too. Although only a small proportion of SCH's current business, Moyle has set a target of 20% of SCH's turnover for the medium term, and says the group will make its money selling value-added services, consultancy and project management: not box-shifting. SCH has bought two value-added Unix resellers to get the group on its feet - the Applied Group, Warrington, Lancashire and Midlands-based Business Partners. Although its core business will be selling multi-user commercial Unix systems, the group will also be entering other markets, such as CAD, by acquisition. As well as its most recently added sites, Moyle's unit will operate out of SCH's 13 branches - incorporating six IBM technology centres - across the UK: SCH claims to account for more than 10% of IBM's overall business in this country. The group has a headcount of 30 - SCH is staffed at around 500 - and Moyle claims the ratio of support staff to sales people across the the organisation is 3:1. Privately-held SCH made pre-tax profits of £5.3m on turnover of £79.7m to March 1991.

WORKSTATION USERS CAN ACCESS MAINFRAME DBs

Information Builders Inc has announced Enterprise Data Access/SQL client software for three Unix platforms - IBM's RS/6000, Hewlett-Packard's 9000 Series 800 and 700 and Sun Microsystems Sparcstations. EDA/SQL's application and communication interfaces will enable these users - via server software - to transparently access relational and non-relational data residing on 26 databases and file structures on IBM and DEC mainframes. EDA/SQL client software enables 3GL and SQL-based tools on Unix platforms to access IBM databases such as DB2, IMS and VSAM along with VAX databases like as Rdb, RMS and Sybase. SQL is used as a common access language to data residing on local and/or remote servers. EDA/Link provides a TCP/IP-based connection. Available now, EDA/SQL on AIX, HP-UX and SunOS is \$350 per workstation. Servers software will follow during the second quarter of this year.

SUN CUTS A DEAL WITH E&S FOR HIGH-END 3D GRAPHICS ACCELERATOR

Sun Microsystems Inc and Salt Lake City, Utah-based Evans & Sutherland Computer Corp are this week expected to announce that they have cut a deal that will have Evans & Sutherland developing high-end three-dimensional graphics accelerators, and selling them both unbundled and in a line of high-performance computer products based upon unannounced, high-end Sun machines. Both companies are predictably coy about identifying the Sparc boxes any further. Presumably they are referring to Sun's anticipated high-end Viking-based systems - see page front page. The companies also declined to say when either product would actually be available, or estimate the value of their deal. This will be Evans & Sutherland's first outing with Sun, having previously - and for reasons it can't quite remember - used the MIPS R3000 as the basis of its ESV workstation. E&S has managed to get away somewhat less than 4000 ESVs worldwide - not exactly a runaway bestseller even for the kind of specialised niche marketing E&S does. Evans & Sutherland faults the MIPS decision because the MIPS operating system wasn't robust enough, and the tools were insufficient, it said. These are not problems it expects to be replicated with the Mountain View, California firm. With Sun, it expects "satisfied customers". Sun gets to infiltrate new high-end 3D markets - with no serious investment - out of the arrangement. The E&S product, when it comes, will piggyback on the Sun installed base, upgrading some existing machines, the pail said. High volumes are not anticipated. Sun will apparently co-market the graphics accelerator which should be of higher performance than Sun can provide on its own currently. E&S anticipates the final system product will start at \$40,000 and hit at Silicon Graphics. Markets are Flight Simulation, Modelling and Automotive Design. The Sun accelerators will be software-compatible with E&S other workstations. For Sun, the new graphics products will be compatible with 3D applications written using its XGL, SunPhigs, Xlib and PEXlib Libraries. Software compatibility from E&S will include the high-end 3D E&S applications such as CDRS, SYBYL, AUS and others using ES/PEX. Features will include texture mapping and anti-aliasing.

...AS CRAY CREATES NEW UNIT FOR FLOATING POINT SPARC KIT

It's not clear that this means that Cray Research Inc is pinning its parallel processing future on the Sparc chip - some persuasive voices suggested that it had settled on Digital Equipment Corp's forthcoming Alpha RISC for its top-end massively parallel effort, but in the wake of its acquisition of the assets of Sparc user Floating Point Systems Inc, Cray Research Inc last week stood up with Sun Microsystems Inc to announce a string of collaborations. As well as creating a seamless software environment to enable Sun systems and Cray supercomputers to work together efficiently, Cray will use technology developed at Sun Microsystems to build high-end Sparc RISC computers that will complement the product lines of both companies - Sun has long wanted a top-end scientific-oriented machine and once hoped that a machine developed by Star Technologies Inc would fit the bill. Cray Research has also joined Sparc International, and has formed a subsidiary built around the Floating Point assets called Cray Research Superservers Inc to produce and market Sparc-based products. It plans to produce high-end Sparc servers for shipment late in 1993 in the \$1m to \$3m range. The Cray-Sun deal took two years to put together. Sun was very anxious to close it, as it needed someone working on a high-end non-massively parallel multi-processor, way above where Sun will go in the near future - and one that will run all Sparc applications. The deal proved illusive until a facilitator was found in the "person" of the Cray-FPS acquisition, which provided a compass point and a way for Cray to work with Sun, as well as an immediate entry into the Sparc marketplace. Sun officials responsible say it is in no way a financial deal - Sun doesn't expect to make any money from it directly. It's an engineering deal unlike any other, with Sun sharing none of its treasures with anyone else. Cray will springboard off Sun's Dragon development - see front page - and will use some low-power, high-speed technology Sun has in its treasure house. Cray has yet to write a full-blown product spec.

IBM, HP IN BIDDING WAR FOR BULL AND THOMSON

A bidding war has broken out between IBM and Hewlett-Packard in their attempt to extend their sphere of influence to include Bull. HP is thought to have the inside track following Bull's evaluation of its two suitors. It is said to have won both the business case and technical preference for its PA RISC technology not only on technical merit but out of fear, voiced even by its customer base, that an alliance with IBM would devastate the Bull culture. IBM, however, is said to be pressing its suit with fervour, rumoured to be putting something in the neighbourhood of half a billion dollars on the table to lure the troubled French company into its net. The sum, not all cash, is said to be more than HP is ready to ante up for a minority equity stake. To complicate a situation fast devolving into a political scuffle, Bull's major shareholder, the French government, is believed to have thrown the semiconductor might of Thomson SA, another struggling French flagship outside the orbit of Groupe Bull, into the equation (UX No 365). The details of what is being proposed remain unclear. A decision now rests with the Mitterand administration. IBM appeared to be trying to exert further pressure late last week by leaking to the press that it had won - a claim that was apparently true at the time! IBM wants Bull to adopt high-end variants of its anticipated PowerPC technology as the basis of its future development. HP is the only one of the big three computer companies to still have a strong business position in Western Europe. IBM is apparently fighting for a prop. But even with an alliance with either HP or IBM, however, it is not clear Bull can regain a viable financial position.

NEC "HAS EXCLUSIVE DEAL FOR MIPS R5000"

The Japanese press has reported that NEC has an exclusive on the MIPS R5000, the rumoured successor the the R4000 that will incorporate superscalar technology, speculative and out of order execution, fewer branch and other delays and victim cache (UX No 354). The gossip on the UniForum floor claimed NEC was likely to take over the MIPS chip development operation, eventually adding proprietary bits and making it impossible for the other fabricators to build the standard part.

ALTOS IS FOLDED INTO ACER

The Acer Group Inc's Altos Computer Systems has ceased to exist as legal entity. The Taiwanese firm has folded Altos' worldwide sales, marketing and distribution channels into its own operation, which leaves Altos little but a brand-name. The move provoked Altos UK's managing director, Colin Goble, into resigning from the firm: he's replaced by Eugene Cheng, formerly general manager of Acer's OEM business in Taipei. Terry Cooke, Acer's UK sales and marketing director takes over responsibility for the combined UK group, which is based in Slough, Berkshire. The company is adamant that users of Altos' Intel Corp iAPX-86-based Unix systems will not be abandoned, saying that new machines will be announced in March.

USL TAKES TUXEDO DOWN MARKET WITH VERSIONS FOR SANTA CRUZ

Traditionally the preserve of the mini and mainframe-size market, Unix System Labs is taking its popular Tuxedo transaction processing monitor down to the low-end of the market, striking a deal with Santa Cruz Operation Inc to offer the thing on SCO Unix 3.2 and Open Desktop. Tuxedo ETP 4.2 for SCO will be distributed by Edison, New Jersey-based Information Management Company - prices go from \$1,200 to \$90,000 depending on configuration, ships begin in April. In addition, USL has signed for Hewlett-Packard's exception and event handling technology which it will use in its C++ language: it'll feature in the next 4.0 release of C++ from USL, due in the first half of next year.

IBM BUILDS ON PROMISING START WITH ITS BIGGEST RS/6000 HARDWARE, SOFTWARE LAUNCH YET

Alongside a raft of AIX software, IBM duly unveiled its latest RS/6000 workstation and server models last week. The hardware side of the Unix announcement comprised five new machines, including the long-awaited entry-level 220 system, the first - and so far the only member - of the AIX RISC family to use the 33MHz, 1.2m device, single-chip implementation of the Rios RISC processor, which has featured so far only as an expensive six-chip set.

Desktop Model 220 is star of show

The desktop Model 220 comes in a variety of guises - though 16Mb RAM is standard on all - including a low-end, diskless unit, with no monitor, that will sell for £2,772. The 220 performs at 25.9 SPECmarks - or 17.5 SPECint and 33.7 SPECfp, according to SPEC's newest integer and floating-point benchmark suites (UX No 368 and see page) - and 6.5 MFLOPS. A more realistic entry-point for the diskless offering is £4,950 - \$6,345 in the US - which includes a 19" grayscale screen and the Power Gt1 graphics adapter (available in three versions for the 220), or £4,960, which buys a 14" colour screen. By comparison, Hewlett-Packard Co's newest "Snake" workstation, the diskless 705 (or Bushmaster Junior), is priced at \$6,340 for 34 SPECmarks, 16Mb RAM and a 19" monochrome screen, whilst Sun Microsystems Inc's diskless - and older - ELC is priced at \$5,000 - £4,000 - for 20 SPECmarks, 8Mb RAM and a 17" mono screen. Moving on up the 220 range, the 22W, with 160Mb disk, 19" mono screen and Power Gt1 graphics is priced at £5,424 - that rises to £7,103 with the addition of a 19" colour screen. With 400Mb disk, Power Gt3 graphics and a 19" colour screen, the price is £10,479. The competition here is Sun's IPC, which, with 8Mb RAM, two 207Mb disks and a 17" mono screen, lists at \$11,500 - £9,750 - for 24.6 SPECmarks, and HP's 710 Bushmaster, which, with 16Mb RAM and 19" mono screen delivers 49.7 SPECmarks for \$9,500 - £7,515. Each Model 220 is kitted-out with Ethernet, SCSI and two Micro Channel Architecture slots. System memory can be expanded to 64Mb, maximum disk capacity goes to 4.6Gb and optional 3.5" floppy drives are also available. The 220 arrives in April, but only in limited quantities - volume ships are set for the second quarter.

Model 340 is desktop version of 530H

The RS/6000 Model 340 - a desktop version of the existing 530H - uses the existing 33MHz Rios chip-set. It's rated at 56.6 SPECmarks - 28.8 SPECint and 88.7 SPECfp - and 14.8 MFLOPS. With 16Mb RAM, 160Mb disk, 19" colour screen, 4 Micro Channel Architecture slots and Power Gt3 graphics, it costs from £20,014. In the US, the same machine - but with a 19" grayscale screen - is \$18,900. The Model 350, a desktop iteration of the 41.7MHz Model 550, performs at 71.4 SPECmarks - 36.2 SPECint and 112.3 SPECfp - and 18.6 MFLOPS. It comes with from 32Mb RAM: with 400Mb disk, a 23" colour screen, four Micro Channel slots and three-dimensional 24-bit PowerGraphics GTO 002, it costs from £45,866. In the US, a 350 with 32Mb RAM, 160Mb disk and a 19" grayscale monitor is \$26,900. The 340 and 350 are available in March with 400Mb disks - April if configured with 160Mb disks. A deskside Model 520H - which replaces the existing 520 - runs a 25MHz Rios chip-set and performs at 43.5 SPECmarks - 21.8 SPECint and 68.9 SPECfp - and 11.5 MFLOPS. A 32-user version, with 64Mb RAM and 1.7Gb disk is priced at £42,064, available this month. With 32Mb RAM, 400Mb disk and a 19" grayscale monitor, the thing is \$28,117 in the US. At the top-end, the Model 560 server uses a 50MHz CPU and is rated at 89.3 SPECmarks - 43.8 SPECint and 143.6 SPECfp - and 30.5 MFLOPS. With 128Mb RAM and 16Gb disk, it costs from £214,960 in May. With 64Mb RAM, 800Mb disk and 19" monochrome, it is \$64,117 in the US.

New release of AIX, 3.2 conforms to Foundation's AES

The new hardware was accompanied by a brand new release of IBM's Unix, AIX Version 3.2, which now conforms to the Open Software Foundation's Application Environment Specification, as well as X/Open and Posix 1003.1. It is also easier to use, faster, and can now support diskless and dataless workstations, FDDI and Block Multiplexer Channel adapters. The new release can be used on existing models as well. AIX 3.2 also includes streams I/O support from Unix System V.4, and Xerox's XNS protocol levels 1 and 2. IBM will support both the new release and the previous (3.1) until August 1992. 3.2 becomes available in February, with FDDI and Block Multiplexer support in March and diskless and dataless support in April.

Also released was AIX NetWare/6000, allowing the RS/6000 to run as a network server for Novell NetWare client systems running DOS, OS/2 and Windows applications - available February. Other software announced includes AIX InfoCrafter/6000 on-line information retrieval system, a new version (1.2) of the AIXwindows Environment/6000 including GKS, PHIGS, PEX and 3-D options, X11 Release 4, OSF/Motif, IXI Ltd's X.desktop and Display Postscript. An AIXwindows Interface Composer, based on Motif, generates C code needed to implement the GUI for an application. IBM claims it has 5,000 leading applications now available for the RS/6000.

Hewlett-Packard's SoftBench lays the foundation for AIX software engineering

IBM also claimed to be making its first steps towards bringing the separate worlds of SAA's AD/Cycle SAA and AIX CASE more closely together yesterday, introducing a new CASE framework for AIX, configuration management and version control, and interoperability functionality with mainframe-based AD/Cycle library services. The framework is patterned after the European Computer Manufacturers Association (ECMA) reference model for open distributed software development, a model taken up recently by the National Institute of Standards and Technology. This defines three levels - visual, tool control and data. Visual is handled by using OSF/Motif throughout; tool control is through the new IBM SDE WorkBench/6000 and SDE Integrator/6000 offerings, including task management services, tool-to-tool services and tool integration services (based on HP's SoftBench Broadcast Message Server licensed from HP last April); and data integration by supporting emerging standards, such as the ECMA Portable Common Tools Environment standard. The tools include a program editor, builder and debugger, software analysers, mail and file transfer services and software configuration support. 27 CASE software developers said they would support the framework. Configuration management and version control is covered by two products: AIX CMVC Server/6000 and CMVS Client/6000, with one CMVC server able to support multiple workstation clients. It uses either the Informix or Oracle relational databases, and uses either the Unix SCCS utility or the PVCS Version Manager for AIX from Intersolv Inc. Customer demand has led to increased interoperability and commonality between its AIX CASE and AD/Cycle, says IBM, and accordingly it rolled out MVS Library Connector/6000, allowing AIX RS/6000 developers to connect to the IBM Software Configuration and Library Manager (SCLM) on MVS mainframes. And IBM also introduced the AIX XL C++ Compiler/6000. All should be available in May, except the Informix version of CMVC, due in October.

NetView for AIX for mixed protocols

As expected, IBM also launched an extension of its NetView family for AIX. AIX NetView/6000 works in conjunction with NetView - IBM's first generation network management product - in a mixed protocol environment to correlate different sources of information at a single site, including support for SNA, NETBIOS, AppleTalk, TCP/IP and SNMP protocols. It also established the NS Vendor Enablement Programme ensuring that future hardware can be managed on the AIX NetView/6000 through SNMP management information bases; AIX NetView/6000 will be available from June 1992. And IBM's first RS/6000-based multiprotocol multiport bridge-router, the IBM 6611 Network Processor, has been launched in the US, Canada and Japan, and is promised for Europe in the future. Designed for the LAN environment, it can support both Token Ring and Ethernet local area networks as well as network transmission technologies. It is available in two models - the 140 with four slots and the 170 with seven slots. The other highlight of the day was the announcement of the licensing of IBM's Advanced Peer-to-Peer Networking (APPN) for the use by other manufacturers; enabling other companies to develop software compatible with APPN for communication between WANs and LANs.

ORACLE REORGANISES PRODUCT DIVISIONS ALONG HARDWARE LINES

Oracle has reorganised its product divisions along hardware lines, with the Oracle-on-Unix business previously handled in its Unix business division now split across a number of vendor-aligned divisions. The DEC product divisions assume responsibility for both VMS and Ultrix-based Oracle products whilst the Hewlett-Packard unit takes over responsibility for Oracle on HP-UX, as well as MPE. A Sun Microsystems product division is headed-up by Roger Choplin, previously senior director of development at Oracle's Unix division. It will handle Sparc and compatible systems, as well as the Solaris operating system on Sparc and Intel platforms. The former Unix business unit becomes the Unix products division: it's headed by James Sha and will handle Oracle on Pyramid, Sequent, Silicon Graphics, Intel, and AT&T/NCR systems. A desktop products division headed by John Kish and has responsibility for Apple A/UX, as well as MS-DOS, OS/2, Windows and MacOS. In calendar year 1991, Oracle's estimated Unix-related revenues were \$561 million, a 47.2%, and increasing proportion of total revenue. Revenue from each of the three main vendor platforms - HP, Sun and IBM (RS/6000) - is expected to be between \$80 and \$100 million this year: Oracle UK did £4m of business on the RS/6000 in just the last six months of 1991. The reorganization does not affect Oracle's overseas operations, which according to Jerry Baker, vice president of the product line divisions, are pretty much decentralized in terms of development and marketing anyway. Oracle's directions for the near future include support for the increasing integration of Unix with Novell networking, and the incorporation of multi-media business data. This will surface first in the upcoming Oracle version 7.0, which will have the capability to store unstructured database elements such as audio and video. Beta releases of the software are due soon and porting to half a dozen initial platforms has begun. It expects a minimum six months beta test period. Object-oriented technology will feature in subsequent releases.

SOLBOURNE CUTS 100+ JOBS IN MOVE TO FOCUS ON SERVERS

Longmont, Colorado-based Solbourne Computer Inc is laying off just over 100 employees as part of a scaling down of the Sparcsystems builder to focus on the server end of the Unix market. The cuts involve elimination of some layers of management but will not affect development engineering or US national technical support. The company says that while it will still market desktop systems, development efforts will focus on servers, where it sees its strongest competitive advantage. It says it has a series of servers for launch this year.

EMAP'S JUNE UK UNIX SHOW IS NO MORE

EMAP Exhibitions has cancelled the European Unix Show - recently re-named Unix '92, which was scheduled to take place between June 16-19th. EMAP claims the show has been "a victim of the acceptance of Unix as the key platform for future IT growth. Unix is now a generic issue and the show cannot address every vertical market sector in which companies now target their marketing/promotional budgets". The show built on the early events organised by the UK UniForum user group (then known as /usr/group/UK), and saw the light of day in June 1985 as a show primarily for the OEM market (UX No 32). From there it grew rapidly each year, but in 1989 Reed Exhibitions pitched in with its own rival show, Open Systems, run in November. By last year, this competition, combined with the effects of the recession, caused some of the big names industry names to stay away (UX No 338). EMAP has plans to start off a dedicated workstation show, probably next year.

UNIX LABS SIGNS TIVOLI FOR

UNIX V MANAGEMENT ENVIRONMENT

Unix System Laboratories Inc, Summit, New Jersey has rallied Tivoli Systems Inc, Austin, Texas for development of the Unix System V.4 answer to the Open Software Foundation's Distributed Management Environment, describing their planned offering as a unified open framework for computer and network management, to be built on Tivoli's WizDOM Environment, also used by the Foundation. Object-oriented WizDOM supports management of computers, systems, computer users, groups of users, disks, printers, modem pools and other resources. It enables graphical programs to be developed for any task involved in setting up, changing and managing system and network resources under Open Look, Motif and character VDUs.

AMERITECH TO BUY LIBRARY SOFTWARE DEVELOPER DYNIX

Ameritech Inc, Chicago, has agreed in principle to acquire Dynix Management Inc, Provo, Utah developer of library information software systems worldwide, on undisclosed terms. Dynix has a Unix product set of library automation systems for public libraries of varying size, and school, academic and special libraries; it will be joining Ameritech Information Systems.

ATHENIX X-TERMINAL USES MIPS RISC

The Athenix Corp mystery X-Terminal (UX No 368), turns out to be a 15-inch, full-page, monochrome, bit-mapped display based on the MIPS 3000 RISC and home-grown ASICs. The start-up has reproduction units and is just going into beta. It's still shakey on exactly what performance and price will be, figuring performance will be tuned as the software is further debugged and tweaked. It's betting on two to four times the performance of a conventional X-terminal at under \$1,800 a seat to start reaching pricing levels of \$700-\$800 in two-three years. It's gone through seed money and two rounds of venture capital worth a total of \$10m and is currently looking for a third round of \$8m-\$10m. It's also tapping a lot of OEM shoulders looking for customers since its business plan demand it move lots of units. Athenix has farmed-out manufacturing of the Multi-X terminals to Wearnes Technology Pte Ltd, the things will be marketed by US distributor Merisel Inc, whilst Xerox Corp will service and support customers. It says other OEMs and support firms will be signed for Europe - and the US.

ICL AND STRATUS EDGE CLOSER WITH RE-MARKETING DEAL

ICL has struck up a cooperative agreement with Stratus Computer Ltd in a bid to extend its UK systems integration business to fault-tolerant systems. The two plan to work together in bids to qualified major customers, with ICL acting as a prime contractor and Stratus offering expertise, supplying and supporting its full i860-based fault-tolerant range. Both sales forces will be aligned in the effort. The deal is not an OEM agreement - like the deals Stratus already has with IBM, Olivetti, NEC and Ericsson - and ICL will not be re-badging the boxes. Nor is it exclusive, with both companies free to work with other suppliers if they need to. But Stratus claims that total revenues could be from £50 to £100m over the next five years, with £10m forecast for the first year. Stratus should get about a third of that. ICL has worked with Stratus before, using Stratus hardware as a component of its Carrier400 message handling system. Key markets include building societies (to run ICL's Fujitsu-sourced automatic teller machines), utilities, and secure government applications. Eastern European business may also benefit Stratus, which has no presence there itself. Both companies use Unix System V.4, although ICL will also use the proprietary VOS operating system where customers want it. ICL also plans to port Unix applications to run on Stratus machines.

UK REFLECTS US UNIX MARKET, FINDS REPORT

Mirroring Dataquest Inc's previous end-of-year US report (UX No 362), Twickenham, Middlesex-based research organisation Wharton Information Systems' latest investigation of the UK information technology market says last November was the first time in several months that the MS-DOS sector generated more revenue than the Unix environment - and by a considerable margin. According to its figures, IBM regained top spot in the MS-DOS/Apple market in terms of revenue and number of units shipped, followed closely by Compaq - whose dealers complain of machine shortages, particularly the portable LTE - and Amstrad. More than 50% of DOS-based system shipped were equipped with Microsoft Windows - 70% of which were unbundled - whilst Sanyo and Sharp carved up most of the growing notebook market between them. Wharton says whilst total Unix system shipments were up, the actual number of seats installed declined, reflecting a surge at the low-end of the market. In the software market, Sage boosted its share of the accounting sector, whilst Dataease and Paradox were the beneficiaries of increased database shipments. Microsoft's Project lead the project management market, and its Excel for Windows spreadsheet nudged Supercalc5 into third place for the first time in that market, though both remain some way behind Lotus 1-2-3. Word processing emerged again as the biggest revenue earner in software, with WordPerfect now coming under pressure from Microsoft's Word for Windows. Novell picked up on a rise in networking business, with Microsoft and Sage leading the trailing pack.

...WHILST ONLY JUST OVER HALF OF

TOP UK MANAGERS APPRECIATE COMPUTERS

A survey claims that just 56% of senior managers in large UK companies fully understand the benefits that computer-based solutions can offer. Further that a low 38% believe that computer-based techniques enable companies to bring products to market faster and faster. And yet 61% say that British companies are more advanced than competitors in the use of computer-based techniques. An unhappy 6% snarled that computer systems had been the biggest and most expensive mistake in the history of the company. These were some of the findings of a 1992 Manufacturing Attitudes Survey commissioned by the Coventry-based Computervision UK Ltd division of Prime Computer UK Ltd, and undertaken by Benchmark Research. In September 1991 Benchmark conducted 152 telephone interviews with directors of manufacturing sites with over 300 employees across all sectors of UK industry including engineering and process. Of these 34 were managing directors, 47 technical directors and remainder directors of major site functions. The response rate was a high 62%. Computervision director Garreth Evans says that, despite the findings of the survey, the UK has a high rate of computer literacy. He says that the age of senior managers accounts for their reluctance to examine the pitfalls and benefits of computers - the next generation will be fully cognisant of the business benefits of computers.

NOVELL SETS NETWARE NFS RELEASE 3.11

Novell Inc launched a new version of NetWare NFS last week: a set of NetWare Loadable Modules for NetWare v3.11, it provides Unix users with Network File System service and supports all widely-used current versions of Unix. Features of the new release include a bi-directional print gateway that enables NetWare users to print to Unix printers and vice-versa; a File Transfer Protocol gateway that enables client systems to access files on any NetWare server on the network, including those that do not support TCP/IP services; and an X-Window application called X Console that can be used to access the NetWare v3.11 graphical user interface administration utilities - Monitor, TCPCon, NFS Admin. NetWare NFS 1.2 is available now at \$5,000 per single copy, \$15,000 for a five-pack; 1.1 upgrades are \$750 till July 31.

OPEN OPTIONS TO DISTRIBUTE UNIX NETWORKING PRODUCTS IN UK

Open Options Distribution Ltd is the latest company on the UK distribution scene. Based in High Wycombe, Bucks, it has been started by a number of Unix distribution veterans, including Victoria Parker, ex Frontline sales manager who has also worked at Rapid Recall and Micro Macro, co-director Tim Martin from Sphinx Level 5, and national sales manager Jonathan Dawkins, also from Sphinx Level 5. Currently five strong, OOD aims to become a specialist in the Unix and networking market, and has set up initial deals with Unipalm, 3Com and Chase Research. It is also talking to Novell, primarily about the new Univel desktop Unix activities Novell is working on with Unix System Labs. Other products signed up include Dynatek DAT and backup products, and terminals, and SCO for Unix (but not Open Desktop). The company is looking for further products to add to its portfolio, but intends to remain a specialist rather than take on the majors.

METROLOGIE "LOOKS FOR TOPLOG BUYER": FRONTLINE TO FILL SUN HOLE

Unix distribution in the UK has always been a volatile business, and since pioneering Unix software distributor Sphinx sold out to Pegasus (UX No 224), later passing onto Vistec Level 5 (UX No 294), the leading companies in that area have gone through a number of iterations. The French Metrologie Group, which has a stake in both Amarante and Top Log UK, went through some restructuring last month after losses were announced, and is now said to be looking for a buyer for Top Log. One suggested candidate is Computer 2000, the parent company of Frontline. Meanwhile, Frontline itself is said to be looking for replacement hardware to fill the gap left by its lost Sun Microsystems account (UX No 354), and according to UK magazine Microscope has opted for Tatung, which sells both Intel and Sparc-based desktop. But a Frontline spokesman called the article "speculative", and said Frontline was still exploring its options, including some "prestige names".

ACT FORMALLY LAUNCHES ITS PROMISED NEW ACT NETWORK Si INTEGRATION UNIT

ACT Group Plc, the Birmingham-based software and services company which was formerly part of Apricot Computers until Mitsubishi bought up its hardware activities in 1990, has formally announced the start up of ACT Network Si, a new division dedicated to providing network-based systems integration to large corporate and government customers. The mission of the new division, a spin-off of ACT's Computer Support business to be headed by Chris Winn, is to design, implement and support company-wide networked systems for large national organisations with multi-vendor computing environments, the emphasis on "one-stop shopping". The new division employs 45 dedicated staff - mainly in sales - though the activity will draw on the staff resources of the existing ACT divisions. The services offered by ACT Network Si will include network management services; installations of multi-vendor systems and software; design of communications infrastructures; and engineering services. The new division will focus primarily on the UK - ACT says its representation abroad is largely confined to ACT Financial Systems, now the group's largest division, generating an annual £60m to £70m. ACT, which is projecting turnover of some £120m for the current year, says it still has "considerable cash balances" and can afford further acquisitions to strengthen the Midlands group's position in its existing vertical markets: health care, the utilities, central government and finance.

SPEC SPLITS BENCHMARK INTO INTEGER, FLOATING-POINT SUITES

Following system manufacturers' widely publicised manipulation of SPECmark performance ratings (UX Nos 367, 368), the Systems Performance Evaluation Co-operative last week released a new suite of benchmark tests, splitting integer and floating point operations to give a more accurate representation of system performance. Integer performance CPU tests contain six benchmarks written in C, representing the following application areas: circuit theory, LISP interpreter, logic design, text compression, spreadsheet and software development (GNU compiler). They're called, respectively, 008.espresso, 022.li, 023.eqntott, 026.compress, 072.sc and 085.gcc. The second suite, to evaluate floating point CPU performance, has 14 benchmarks, two written in C, the rest in Fortran - five of which are single-precision - representing circuit design, Monte Carlo simulation, quantum chemistry, optics, robotics, quantum physics, astrophysics, and other scientific and engineering problems. It has two kernel benchmarks. They're dubbed 013.spice2g6, 015.doduc, 034.mdljdp2, 039.wave5, 047.tomcatv and 048.ora. There will be no single SPECmark rating as such, instead, integer and floating point performance will be known as SPECint and SPECfp - each the mean of the respective set of results. The 20 benchmarks double the number in SPEC Release 1, though several have been carried forward into Release 2. In addition, new benchmarks to measure overall system throughput, networking and disk input/output performance are being readied for release this year and next. In its announcement SPEC reminds users that the best way of comparing the performance of different systems is to use the actual application on the machines. It proposes its benchmark suite only as a second alternative, where comparing application performance is not feasible. Furthermore it recommends that users study the profile of each individual benchmark, select one or more that are most representative of their environment, and compare systems based on their performance on these test(s). It says the floating point set will be best suited to comparing engineering platforms, the integer suite for base CPU performance in commercial environments. The new benchmarks are priced at \$425 for CINT92 - the integer set - and \$575 for CFP92, the floating point suite: the two for \$900. Existing customers can upgrade for \$300 and \$400 respectively, or \$600 for both.

WOLLONGONG HAS NFS CLIENT SOFTWARE FOR VAX/VMS

The Wollongong Group, based in Palo Alto, California, has followed rivals TGV Inc in offering NFS client software for VAX/VMS users (UX No 271), giving VAX users access to files on any Unix systems on the network. Pathway Client NFS 2.0 also offers transparent sharing of remote files and directories, coping with file naming differences between VMS and Unix, and allowing remote NFS systems to be backed up using VMS utilities and peripherals. The company began in the late 1970s by producing a version of Unix for the University of Wollongong, and made its name by providing TCP/IP for DEC users wishing to connect up to Apranet/Internet. From there it went on to supply TCP/IP to the likes of AT&T (for the 3B range), NCR, Aris, Phillips and Cray. More recently, Wollongong has shifted emphasis to the low-end of the market with its Pathway Access TCP/IP implementation for DOS, Macintosh, OS/2 and Windows 3.0. Last year, the company took a majority stake in UK firm European Network Engineering Ltd of Wokingham, Berkshire.

DEC TO TAKE OVER ALL MARKETING OF CRAY Y-MP EL FROM JULY

DEC has an exclusive worldwide arrangement to distribute Eagan, Minnesota-based Cray Research Inc's entry-level Y-MP EL for the next three years. For the first six months, both Cray and DEC will distribute the \$300,000 machine, which features one to four CPUs, each with a peak performance of 133 MFLOPS; then, from July 1, the responsibility is all DEC's. DEC, which will keep the Cray name, says it will sell the Cray baby alongside the DEC VAX 9000 vector machine, rating 125 to 500 MFLOPS, and the DECmpp line of DEC-badged MasPar Computer Corp massively parallel supercomputers. Being Unix-based, the Cray Y-MP EL system is seen by DEC as the "open" equivalent of DEC's high-end VMS-based VAX 9000 vector machine, and it is not anticipated that the Cray machine will impede on DEC's own product sales. DEC has agreed to sell at least half of the 100 Cray Y-MP EL systems planned for sale in 1992 - Cray claims to have received 50 orders to date for three-month-old system.

RS/6000 ROUNDUP

Fred Martin, IBM's European director of AIX systems, believes the European market for open systems products will be worth some \$8.6bn this year - 61% of which will be commercial sales, the other 39%, technical. That compares with sales worth \$5.6bn in 1990, split 54% in the commercial sector and 46% in the technical arena.

In the first year of production - 1990 - IBM says its sold 23,000 RS/6000 systems, sales worth \$1bn: its 1991 RS/6000 business fetched \$1.6bn with around 40,000 systems sold, it says.

IBM is saying that it expects to top the league of workstation shipments by the fourth quarter of 1993: currently it holds third place, and is some way behind Sun Microsystems Inc, in first place, and Hewlett-Packard, in the number two position - see back page. HP says it doesn't dispute IBM's claim.

On the low-end 200 configurations, IBM says it hasn't optimised pricing or packaging for non-colour and diskless systems.

Don't expect multi-processing RS/6000s to come from the 220 CPU: it has no symmetric multi-processing hooks.

The single-chip RISC Power in the 220 chip is joined on the board by IBM-designed ASICS which are manufactured in Japan by Toshiba. The POWERchip itself is manufactured in the US (Burlington) and in France.

The 220 CPU is all IBM's own work: binary compatible with the upcoming PowerPC it'll be handed over to the development effort with Motorola for the PowerPC features to be joined in. IBM achieved 1.2m devices using 64-bit superscalar technology.

IBM would not be drawn on specific plans for implementing object-oriented technology on its Unix range, though it says the next release of AIX 3.2 will include object-oriented features, and it will be making a complete object-oriented strategy announcement later in the year.

IBM Corp has turned to Hunter Systems Inc, Palo Alto for MS-DOS emulation on its new RS/6000s, adopting the XDOS system, which enables MS-DOS users to maintain the functionality, look and feel of their original MS-DOS application on a Unix workstation. Hunter will also establish and manage an RS/6000 Application Porting Centre in Palo Alto to help vendors convert their MS-DOS applications, starting March.

IBM Corp's Bill Filip looks for the new RS/6000 200 series babies to account for between 20% to 25% of the \$2,400m it expects to do in workstations this year - making up 25% to 50% of the sales by volume.

IBM characterises sales of its RISC PowerStations worldwide as around 58:42 technical: commercial use. In Europe the ratio is 50:50, while UK is 60% commercial applications and Japan more than 60% oriented towards technical applications.

AIX/6000 3.2, IBM's new operating system version for the PowerStations, is a fully internationalised system with all language versions simultaneously available. Japanese EUC (Extended UNIX Codes) are supported and for the first time a Kanji Test Suite was used in the testing of the new AIX version.

Taking a page out of USL's book, IBM is now talking about an AIX Lite - a little something for the IBM/Apple alliance to toy with: like USL's Destiny, it would be a desktop implementation based on the new AIX 3.2 for the PowerPC - smaller, cheaper and less functional than the norm; fitting into 4MB to 8MB but expandable, so if you wanted all 1,200 commands you could have them.

Pink technology is apparently going to be incorporated into AIX in pieces, and IBM is supposedly going to put OS/2 on the RS/6000 - but it's not exactly in a rush.

It sure enough took them a long time to admit it but IBM's Advanced Workstation Division president, Bill Filip, has finally said publicly that "for all practical purposes" it has dropped NeXTstep.

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You may not have noticed, but IBM reckons that it already delivers a consistent user interface on all its product lines - in particular, it claims that 75% to 80% of its Common User Access definition from Systems Application Architecture is in the Open Software Foundation's Motif graphical user interface.

The Unigraphics Division of EDS bought nearly 250 of HP's new 710 workstations and 750 servers to establish an advanced software development environment replacing VAXs: Competitors reportedly included DEC of course and Sun.

But in the UK, HP has been ousted by Sequent at Eagle Star Insurance in London: the company is installing a brand new Symmetry 2000/750 running Oracle.

DEC Professional is anticipating the first of the DEC Alpha machines in six months, claiming its code named Cobra and describing it as a 104-VUP RISC/VMS workstation.

Software Components Group's Aria (UX No 368) is the first adaption of Chrous on a non-Intel platform: the company is also considering putting Aria on Sparc and Intel.

NCR Corp has won a £1.6m order for their new mainframe-class computer, NCR System 3600, from a Spanish savings bank, Caja de Ahorros de Navarra, taking over from the bank's IBM mainframe; it will handle 3000 terminals using NCR's TopEnd transaction processing software with the ability to run both large volumes of transaction processing and immediate decision support.

In the UK, Empress Software UK has ported its Empress RDBMS and 4GL to the Tandem range of fault-tolerant Unix machines allowing Empress users access to Tandem's Integrity systems as well as the opportunity to enter the non-stop processing market.

The world's largest private pension fund, Teachers Insurance and Annuity Association College Retirement Equities (TIAA), is to implement Alex Technologies' Alex development tool to access mainframe applications on its network of Sun workstations for its Investment systems, using Open Look.

Informix Software Inc, has completed porting all its database products to Amdahl Corps' UTS operating system; products including database servers and application development tools can be accessed immediately from Amdahl mainframe computers running UTS Release 2.1

California-based, Interactive Systems Corporation, this week launched STREAMware X.25, a complete implementation of X.25 transparently operating with the UNIX System TCP and the Retix OSI standard networking protocols. As part of a new marketing strategy for 1992, its licensed networking technologies are targeted at the relatively unserved OEM market. Other STREAMware products offered include TCP, SNMP and NetBIOS. STREAMware X.25 is due for release in April.

The RISC Management newsletter believes HP got away only 25,000 snakes last year, most of them in the final quarter, because of the short fall in TI Floating-Point processors. It also estimates DEC shipped 42,000 DECsystems and DECstations last year, most of them lower-priced systems.

Auspex Systems has released further additions to its Network Server software: the Writer Accelerator - transparent to Unix and NFS applications - promises to improve NFS throughput of network servers by 20% and user response time by 50%. Priced at \$4,000 shipments begin in March. Auspex servers now also support X-terminals and X workstations as part of an agreement with Interactive Systems Corp, licensing Portable Open Windows Software; this additional feature costs \$2,500.

The Open Software Foundation is planning to release Motif R1.2 in the second quarter: it'll be based on X11R5 from the X Consortium and include extended internationalisation, a drag and drop metaphor for data interchange, tear-off menus and geometry management improvements. Snapshots are already available.

Oracle Corp has finally joined the Object Management Group, putting that august Framingham, Massachusetts body firmly on the database map: the wedding of the relational and object models is on the agenda.

Dickens Data Systems, Norcross, Georgia, has introduced a 1.6Gb drive for IBM RS/6000 systems priced at \$10,000.

The 25 volumes of X/Open's Common Applications Environment - CAE - will be available next quarter on compact disk: out initially as a personal computer-based application running under Microsoft Windows - a Unix version will follow in the third quarter - it costs \$850.

After snaring Prime Computer Inc last week in an \$800m deal, Hewlett-Packard has now extended its relationship with Ultimate Corp: the firm has signed to take \$80m of HP's 9000 series 800 systems over the next three years (it sold \$30m of the same machines last year) - in return HP is loaning Ultimate \$5m over the same period, to "augment Ultimate's working capital," it says.

Sounds unlikely after the cuts - see page 5 - but reports say Solbourne Computer Inc is preparing to launch a \$10,000, portable workstation, based around the 64-bit Sparc-compatible RISC it has been developing with partner Matsushita Electric Industrial Co.

Correction: Tandem Computers Inc points out that far from merely "working on" MIPS Computer Systems Inc R3000 RISC machines as we said last week, it launched the NonStop Integrity 300 Unix machine and NonStop Cyclone/R and NonStop CLX/R for Guardian, all using the R3000, back last October (UX No 359).

French observers, bemused at Prime Minister Edith Cresson's proclaimed quest for synergy in her engineered merger of the Commission a l'Energie Atomique and the civil side of Thomson SA - primarily consumer electronics and white goods, have only been able to come up with one thing she might have in mind so far - nuclear-powered vacuum cleaners.

Unix International members are reportedly getting impatient with how much bang they're getting for their buck: with the kind of access they have to Unix System Labs they're questioning first principles, and wondering how useful UI actually is. The betting is it won't last much more than a year.

The Open Software Foundation, having achieved certain milestones with its microkernel work (UX No 367), is now talking about a nano-kernel, a real-time version stripped of any virtual memory support and useful for supercomputers and embedded real-time applications.

Remember all that vacillation over which RISC Compaq would eventually take between Sparc, MIPS and even Motorola (UX No 318)? Well gossip has it that when Rod Canion took the company into ACE the R&D department was not consulted, the suggestion being that the decision was exclusively a political one.

Parallel processing software outfit 3L Ltd, Livingston, Scotland, and C++ language house, Computer Innovations Inc, Tinton Falls, New Jersey, have jointly developed a parallel version of C++ for Transputers, to be marketed as an add-on to 3L's parallel C compiler for £300.

HP executive VP Lew Platt last week told Unigram.X that the company is still bedevilled by shortages of floating point chips from Texas Instruments, backlogging 730s some 16 weeks and higher-end Snake boxes some 20 weeks. He can commiserate with Sun on this score - it's Viking chip is coming out of the same TI oven.

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\$1,000 BERKELEY UNIX SOURCE CODE RE-EMERGES FOR INTEL - NO AT&T CODE IN KERNEL

A new Falls Church, Virginia-start-up aims to put Berkeley System Distribution Unix back on the map by coming out with a commercialised version of the operating system for Intel-based machines. Cheekily, Berkeley Software Design Inc has chosen its name so that the BSD initials can be used to tag its product - BSD/386 - giving it more than a hint of a connection with the developers of the system. In fact, the company, which has seven staffers and is run by Rob Kolstad, ex Convex, Prisma and SunSoft, has no official link with Berkeley University, and just paid its \$300 for the Berkeley source code on which to base its product. The important thing about BSD/386 is that it includes no AT&T code, and can therefore be sold at a fraction of the cost of "real" Unix, as licenced from AT&T's Unix System Labs. It costs \$1,000 for the kernel and the full source code, and a binary version is planned for the third quarter at \$500, when the company claims it will be able to run all applications written for SCO's Unix version V.3.2. The product, now out at 30 beta sites, is based on Berkeley University's Networking Release II, which came out last Summer - described by Kolstad as "two releases up from Berkeley 4.3 and one back from 4.4". The company then added the missing modules, such as device drivers, utilities and X Windows 11.5. Also included is TCP/IP, Posix 1003.1 and 1003.2, ANSI C, C++, troff, TEX and a re-implementation of Sun Microsystems' Network File System. Most interesting of all is the inclusion of OSI protocols within the kernel - something which Berkeley University has been promising for some time (UX No 231). Unlike other cut-price Unix-alikes, BSD/386 is a fully functional release with some exciting technology for very little money. System requirements are 4Mb and 100Mb disk. As for Berkeley University itself, we are told to expect Berkeley Release 4.4 to come out in alpha versions by September, with the final version by year-end.

ICL ROLLS-OUT LATEST SPARCS, INCLUDING VIKING

ICL will this week unveil new additions to its DRS6000 range of Sparc systems, including two boxes that will use the Texas Instruments/Sun Microsystems Inc super-scalar Viking RISC, when it finally arrives (UX No 369). As expected (UX No 360), a four-processor version of its current top-end box, the dual CPU Model 70, will use the same 40MHz Sparcs on four boards, come with from 64Mb RAM, two SCSI channels, two 600Mb disks and deliver 116 MIPS. That 644 box is followed by the 652 CPU 2. It utilises two boards, each with dual 40MHz Sparcs, rated at 116 MIPS, but is also a spring-board to the 664 CPU 2+ with up to four boards (eight processors), delivering 240 MIPS and supporting up to 100Gb disk, which will eventually house Viking parts when they become available. ICL's "slimline" desktop models will be complemented by a uniprocessor 40MHz box going to 29 MIPS, a dual-processor 40 MHz model 442, the 450 CPU 2, with two chips on a single board - both rated at 58 MIPS - and the 460 CPU 2+, a single board box which will also be capable of taking the Viking part. Whilst some observers are saying Viking has run into the same problems that plagued delivery of Hewlett-Packard Co's floating-point unit for its Snake workstations - they come from the same Texas Instruments oven - there is also thought to be a storm brewing over the planned timing of Viking's release to the Sparc-compatible community. Sparc builders and Sparc International reportedly want an agreement to ensure they can get their hands on Viking much more quickly than they were able to get hold of Sparcstation 2 technology, which eventually took almost a year following Sun's launch (UX Nos 356, 308).

NCR, DATA GENERAL EYE IMP TECHNOLOGY

Integrated Micro Products Ltd, the £4m-a-year Consett, County Durham Unix systems manufacturer that is majoring on fault-tolerance these days, could just have plugged a big gap in the market with its OpenFT/3 technology, which is claimed to implement fault-tolerance entirely in hardware and to be processor- as well as operating system-independent (UX No 369). Manufacturers increasingly need a fault-tolerant string to their bow, but up to now their only options have been to strike up some kind of OEM agreement with Tandem Computers Inc - so far not a player in the OEM market, Stratus Computer Inc, which is ready to do an OEM deal at the right price, or Sequoia Systems Inc, in which case the competition is led by Hewlett-Packard Co. The possibility of adding a fault-tolerant product line without straying from a chosen chip and Unix implementation offered by Integrated Micro therefore looks extremely attractive, and we hear that the company has won the unannounced endorsement of both NCR Corp and Data General Corp for its new technology. The implication is that NCR is looking at building a line of fault-tolerant machines using the OpenFT/3 technology with Intel Corp iAPX-86 processors, and Data General with the 88000 RISC chip. An NCR spokesperson said that a deal had not yet been signed.

IBM CHOSEN AS BULL PARTNER

IBM Corp and the Rios RISC have won the beauty contest to decide which company should have the doubtful privilege of bailing out Groupe Bull SA. Prime Minister Mme Edith Cresson suggested that IBM would put up \$100m for a 5.7% shareholding in the state-controlled company that has been a political football for the last 20 years although that is still under negotiation; it would value the entire group at \$1,755m and "balance" the 4.7% stake held by NEC Corp. IBM will manufacture and assemble RISC products for Bull at its Corbeil-Essonne plant, and supply disks OEM to Bull, which in turn will contribute its expertise in multiprocessors - IBM does not yet have any multiprocessor RS/6000 models. Bull will manufacture circuit boards and subassemblies for IBM at Angers, and there will also be product exchanges between IBM and Bull's Zenith Data Systems, with Zenith building some laptop and notebook computers for IBM and IBM supplying Zenith with disks. Bull will also join the Computer Design Centre in Austin, Texas, where engineers from IBM, Motorola Inc and Apple Computer Inc are designing the PowerPC version of the Rios RISC. The other contender for Bull's hand, Hewlett-Packard Co, may get a consolation prize in the shape of an invitation to invest in another state-controlled loss-maker, SGS Thomson Microelectronics NV as part of a semiconductor collaboration pact.

ACE MEETS TO THRASH OUT UNIX ABI

There have been more Advanced Computing Environment meetings in the last two weeks than you can shake a stick at. There was a general members meeting the Tuesday before the UniForum show opened, and it seems MIPS Computer Systems Inc is trying to get its arms around ACE's loose cannon - at least they reportedly made every attempt to dominate the proceedings and get MIPS people on all the committees. One big change is going down that could really stir things up: according to an apparently new regulation, sources say, any two of the original five founders - to wit MIPS, Santa Cruz Operation Inc, DEC, Microsoft Corp and Compaq Computer Corp - can veto anything any other group of members, no matter how many, want to do. ACE has also kicked off a 17-company Unix Specification for ACE Technical Work Group, to define the ACE Unix binary standard so software can run on multiple ACE platforms with no modification. It's being chaired by Silicon Graphics Inc's System Software Technology Centre director of technology, Robert Olson. Sources in the old Unix SVR4-loving Apache Group, newly style the MIPS/SVR4 Special Interest Group, claim MIPS is trying to "kidnap" the application binary interface and define it itself, to its own advantage. The result could be a "roll your own" philosophy - a "non-standard" approach to how an ABI or and API is defined that appears fair and even-handed - that tears ACE further apart. Certainly it couldn't go down too well with the likes of Intel. Apparently the committee leadership, reportedly MIPS, Unix System Labs, DEC, SCO and Sony Corp, are set to meet in Dallas on February 26 to grapple with the dilemma.

CONSORTIA: THE NEW GROWTH INDUSTRY

Remember when ACE got started and gloried in the fact that there were no fees attached? Well, all that's changed now. It's instituted an Executive Advisory Board, officially intended to provide ACE with - no chortling now - strategic leadership and direction. Some 16 companies are reportedly represented including MIPS, which owns the chair, USL, Silicon Graphics and Sony. These are the folks who are willing to kick in \$50,000 apiece for the privilege of eligibility. (We wonder who the cheques are made out to since ACE is supposedly not a legal entity.) The stipend, doled out in quarterly payments, also entitles them to act as an ACE spokesperson, register with the ACE speakers' bureau and makes them eligible for representation on the Marketing Committee. It also buys them primary booth selection at ACE Expo, a 9,000 square-foot piece of property the Initiative intends taking at InterOp and dividing into 10x20 booths - that is if it can come to terms with Microsoft, which would like a bigger piece of real estate. If you're only willing to kick in \$10,000, you get to come to the meetings, participate in work groups and exhibit at the ACE Expo. But if you're a cheapskate and only put \$1,000 in the pot, that only covers the mailing and production costs of all the documentation you're entitled to receive - plus a bimonthly newsletter.

PURE PERFECTION FOR C, C++ CODE?

Pure Software Inc is promising to heighten the reliability of any C or C++ programme with a home-grown technology that uses instruction level checking. Unlike traditional source code debuggers, Purify uses a patent-pending process that performs instruction-level checking of the object code combing it for illegal memory access errors and memory leaks. It then identifies their causes in the original source code. It checks all code including third-party libraries. The product supports code on sparc boxes under SunOS 4.1.1 along with CC, cc and gnu 1.X compilers. List price is \$2,750 for a single floating network license. Availability is now.

MAC-ON-RISC HOPEFULS SLUG IT OUT

A regular cat fight could be in the offing between Quorum, one of Uniforum's anointed darlings, and its next nearest competitor Xcelerated Systems over the new-found Mac-on-RISC niche. Quorum's well-orchestrated debut (UX No 368), forced Xcelerated to accelerate its announcement schedule lest it sacrifice too much mind share to its rival. In contrast to Quorum, which started with a developers' kit called Latitude, Xcelerated is focused solely on the end-user market. Also in contrast to Quorum, Xcelerated, in beta since late November and with tested apps to its credit, says it started delivering end-user good two weeks ago. Quorum doesn't expect to have its end-user software Equal ready until the second half - perhaps sometime around "December 32nd," Xcelerated president David McMillen taunts. So far Xcelerated's \$700 package Liken will run shrinkwrapped Macintosh applications (at least those that run on a monochrome 68000 machine) only on Sparc machines. However, Sun is the market leader. Yet, despite that prestige position, Sun salesmen are known to need a quick fix for their lack of commercial applications, which forces them to walk away from any number of hardware sales. By dangling the prospect of thousands of readily available off-the-shelf packages in front of them, Xcelerated expects to quickly capture the attention of Sun Microsystems if not SunSoft - especially since Mac programs, unlike the mass of PC software, have a graphical bent. After Sparc, Xcelerated estimates it will move into Hewlett-Packard's orbit followed by the next two or three market leaders as well as bases belonging to Next and Sony. No availability schedule has been set. Xcelerated figures it has the edge on Quorum in not being dependent on Display Postscript, in supporting Apple's System 6-based programs as well as System 7 and in flashing the well-beloved Mac interface. However, its software has yet to support sound, Appletalk and communications ports. It requires Apple System Tools 6.0.7, purchased separately, to allow concurrent access to both Mac apps and Unix. Liken is implemented using the X-Windows technology in Open Windows. Its solution is entirely software-based now that it has developed a 68000 emulator. Like Quorum, it says it has produced the functional equivalent of Apple's all-important ROM without treading on Apple's intellectual property - yet realizes that fear of Apple retaliation may scare off OEMs. Xcelerated will be selling direct to end users, though it is talking to some distributors, and is reportedly getting its leads from vendor companies, foreign as well as domestic. It reckons it can penetrate 10% of new Sparc customers. Xcelerated first came to general attention months ago when a preliminary version of Liken was allegedly incorporated in BriteLite, the Sparc laptop from RDI. RDI was subsequently slapped with a lawsuit and is still operating under injunction, McMillan said. Data may be stored on floppy, CD-ROM and hard disk in either Unix or Mac-compatible formats including access to networked computers via NFS. The Liken window can vary from a minimum 512x342 to a maximum 1152 x 900. Xcelerated says performance varies with configuration exceeding the Mac Classic on a low-end Sparc and increases as memory, disk, CPU power and graphic acceleration increase. A machine requires 6MB free disk, 8MB RAM and a 1.44MB floppy.

ADVANCED RISC MACHINES ADDS GEC PLESSEY TO ITS ARM RISC SOURCES

Advanced RISC Machines Ltd, the Cambridge design house owned by Acorn Computers Plc with Apple Computer Inc and VLSI Technology Inc, has won GEC Plc's GEC Plessey Semiconductors Ltd as another source for its ARM series of RISCs. GEC Plessey will fabricate and market the RISCs and will also use them as standard macrocells in application-specific circuits. They will be implemented in 1 micron CMOS and fabricated at the 6" wafer fab in Plymouth, Devon. GEC Plessey is particularly interested in the use of the ARM chips for embedded applications in telecommunications, network automotive and peripheral control and microcomputers.

DEC WINS SOFTWARE CONTRACT AT NORWEGIAN TELECOM

Digital Equipment Corp is this week expected to announce a deal with Norway's public telecomms operator, Norwegian Telecom, to provide a range of software packages and support services that will run on the company's DEC, IBM and Sun Microsystems Inc Unix systems; eventually supporting up to 10,000 users. Last April, after opting for the open systems road, Norwegian Telecom chose DEC, IBM and Sun to fulfill its Unix hardware requirements for the next ten years: Norwegian Telecom is budgeting around £11m a year for this task. DEC is to supply and service Norwegian Telecom's Unix office automation software on these platforms, including WordPerfect, Lotus 1-2-3, VisionWare's XVision MS-DOS emulator, IXI X.desktop (and OSF/Motif on the Sun boxes), using local sub-contractors. Norwegian Telecom is an 18,000-strong outfit.

OEM HAS SPARC 2 BOARDS

OEM Engines Inc, a Campbell, California-based subsidiary of Marathon International Inc, will this week come out with a Sparcstation 2-compatible upgrade board for Sun Microsystems Inc workstation users built around around Tera Microsystems Inc's uniprocessor 40MHz Sparc chip-set, which is made by LSI Logic Corp (UX No 356). The OEM 28/40, implemented on a Sparcstation 1 motherboard, comes with three SBus slots, up to 64Mb RAM, runs Solaris 1.0, costs \$4,500 and will be delivered within 24 hours of order, claims OEM president, Jim Hall.

IBM, AUSPEX CONFIRM THEIR JOINT VENTURE ON UNIX SERVERS

The evolving relationship between IBM Corp and Santa Clara, California-based Unix server builder Auspex Systems Inc, revealed here last week (UX No 369), has now been formally acknowledged by the two companies. They say that Auspex and IBM Storage Products Line of Business have signed a development agreement for joint exploration of future opportunities for high-performance file servers - understood to mean that Auspex will build future servers around the IBM Rios RISC. They say that prototype file server models using IBM's new 1Gb 3.5" disk drive and the architecture pioneered by Auspex have been produced and are being tested, although these may not appear as products; IBM gets all coy about its plans, saying "as customary, IBM does not speculate on future product announcements." No word yet on IBM buying Auspex servers OEM.

NEC LAUNCHES R3000-BASED UNIX LAPTOP, CHEAP R3000s IN PLASTIC

Unix laptops are becoming mainstream products in Japan - although whether anyone is actually buying them is another matter, and the latest entry comes from NEC Corp, which has launched a 28 MIPS laptop version of its EWS4800 workstation, the EWS4800/120LT. It is based on NEC's variant of the MIPS Computer Systems Inc R3000 processor, the VR3000. The laptop comes with 13" 1,280 by 1,024 resolution monochrome thin-film transistor screen, and with the minimum 16Mb of memory costs \$14,220. It runs System V.4 and NEC expects to sell 12,000 in the two years following first shipments in April. NEC also announced that it has achieved up to 40% cost reduction in the VR3000 chips through the use of plastic instead of ceramic packaging. It is offering the VR3000A CPU, VR3010A floating point processor and VR3600A, which integrates the two. The new versions are currently available in 24MHz and 33MHz versions but by mid-1992 NEC hopes to have plastic-packaged 40MHz parts. The VR3000A is \$97 when you order 1,000-up.

SILICON GRAPHICS SEES CRIMSON WITH MIPS R4000SC BOXES

As expected (UX No 369), Silicon Graphics Inc has rolled out its Crimson series of mid-range imaging and graphical workstations and servers in the Iris range, which use the second iteration of MIPS Computer Systems Inc's 64-bit, R4000 RISC. The all-colour, three-dimensional machines are rated at 70 SPECmarks performance, and come in above the low-end, multi-media Indigo boxes launched in July last year. They use MIPS' 50MHz R4000SC - secondary cache - CPU, which follows the first R4000PC part, with an R4000MC - multi-processing chip - to follow. A basic Crimson/S compute server comes in at £24,000, whilst the Crimson/Entry, which comes with an eight-bitplane graphics subsystem including software Z-buffer, costs from £25,700. The Crimson/XS comes with an optional Z-buffer and SGI's geometry engine, is claimed to do 250,000 three-dimensional vectors per-second and costs from £31,700. A Crimson/XS24 is priced at from £33,430 and includes 24-bitplane colour for full-colour imaging and solid modelling. The Crimson/Elan includes everything in the XS/24, plus hardware Z-buffer and four geometry engines, is reckoned to do one million three-dimensional vectors per-second and comes in at £36,870. Crimson/VGX and /VGXT use the high-performance graphics subsystems which feature in SGI's Iris PowerVision machines, and cost from £60,000 and £85,850 respectively. Each comes with up to 256Mb RAM, 3.6Gb disk, two SCSI channels and four VME expansion slots. All ship in March, and SGI emphasises that it is not aiming the Crimson series at the volume end of the workstation market. Meanwhile, MIPS Computer says the R4000MC is now being sampled by its semiconductor partners - Integrated Device Technologies Inc, LSI Logic Corp, NEC Corp, Performance Semiconductor Corp, Siemens AG and Toshiba Corp - and expects volume production to begin by the middle of the year. MIPS says 75MHz implementations of the R4000 series are still expected by the year-end - they will perform at over 100 SPECmarks, the company claims.

PROJECT ATHENA BOFFINS FORM NETWORK MANAGEMENT VENTURE

Two of the Massachusetts Institute of Technology's Project Athena gurus are trading in their academic robes for business suits, kicking off Geer-Zolot Associates, a new company to expand on Athena's technology and supply software and services for managing distributed environments. OSF's Distributed Management Environment will play a key role in the company's development, focusing on remote service management, network security and event notification. Long-term it intends to produce a complete connectivity kit for independent network service providers. The founders are Dan Geer, formerly manager of systems development on Athena, and Ken Zolot, the project's technical supervisor for system development. Both founded the Innovative Technology Research Centre at DEC after their stints at MIT. Project Athena was the seedbed for both Kerberos and the X-Window system.

USL DESCRIBES ITS DESTINY

Unix System Labs quietly demonstrated Destiny, its anticipated desktop product still months away from release, to a narrow circle of potential customers at a secret hotel suite at Uniforum a couple of weeks ago. Meanwhile, our trusty reporter was accidentally misdirected into a sparsely attended, unadvertised technical session on the subject. There Destiny was described, more fully than previously (UX No 358), as a foundation set consisting of a desktop manager, graphics, Open Look runtime and printer drivers. USL anticipates the system will be additionally configured with advanced graphics, administration, multi-user set, development set and network set including NFS, RFS, Internet and Remote Procedure Call. Add-ons were said to include the Veritas file system, Motif run-time and development kit, C2 security, encryption utilities, Font I and II and CD-ROM. The desktop manager was broadly described as including windows, drag and drop, Open look and Motif, deskset apps and on-line hypertext help. USL is employing Moolit, its Open Look intrinsic tool kit offering a choice of Motif's look and fell. The package's simplified graphical administration calls for add/delete user, printers, software install, backup/restore and file system management. USL also staged canned ten-minute demos of Destiny for the press, analysts and ACE general membership but the stuff in the suite was an in-depth two-hour look-see.

NeXTWorld News

There was no word of any of the companies that had been said to be lining up to adopt it - OEM partnerships will be announced in the coming months, it says, but NeXT Computer Inc duly unveiled its NeXTStep 486 version of its object-oriented system software for machines using the 80486 microprocessor at NeXTWorld Expo, held at the same time as Uniforum. With the environment, 80486-based computers running NeXTstep 486 can interoperate seamlessly with NeXT computers and communicate with MS-DOS- and Windows-based machines, Macintosh and other Unix computers - it has built-in Network File System for workstations, Novell Inc NetWare for MS-DOS machines and AppleShare for Macintosh computers. NeXT claims that because it supplies the entire development environment, converting current NeXTstep applications to run under NeXTstep 486 is "both simple and reliable" - Lotus Development Corp, WordPerfect Corp, Adobe Systems Inc and Wolfram Research, have created versions of their NeXT applications for NeXTstep 486. The environment requires 8Mb to 16Mb of main memory, a mouse or similar pointing device and either 120Mb for the user version or about 400Mb for the developer version on hard disk. The product will be available as a shrink-wrapped offering in user and developer versions and through some OEM customers, pre-installed on their 80486-based computers. The user version will cost \$1,000, and the developer version will be \$2,500.

NeXTstep 3.0

NeXT also formally announced the new Release 3.0 of its NeXTstep environment - without elaborating on the improvements beyond saying that it had additional communications features, tools for developing applications for databases and three-dimensional graphics, integrated foreign language support and integrated help. On the hardware front, it has moved to 33MHz 68040s from the 25MHz version previously used in its computers, dubbing the new machines Turbo models. The new Turbo machines are rated at 25 MIPS, compared with 18 MIPS for the 25 MHz versions. It also cut prices an average 10% and launched a 360 dots per inch four-colour printer and external CD-ROM drive. NeXTstep Release 3.0 will be available from NeXT in the second quarter.

443% increase in 1991 sales - but only to \$127m

The jury is still out - and it is going to be a long wait for a verdict - on whether NeXT Computer Inc can become anything more than a minor player in the computer market of the 1990s, but the fact that the company is still around and growing fast is a promising portent. Nevertheless, although fourth quarter revenues were around the \$34m mark, and the company says that December was strong, it had been looking for \$50m. For 1991, it achieved a 443% increase in turnover over 1990 to \$127m, but gives no indication of whether it has yet turned a profit. And it seems that the name of Steve Jobs may strike more positive chords abroad than it does at home these days, because a remarkable 43% of business came from Europe and the Pacific - where the mighty Canon Inc is in charge of sales: 43% foreign business is a much higher proportion than is typical for a company in NeXT's stage of development.

NeXT can front-ends to Teradata

The one big deal announced at NeXTWorld was that El Segundo, California-based Teradata Corp, in process of being acquired by AT&T Co's NCR Corp, has signed a joint marketing agreement and a NeXT Database Kit Adaptor for the Teradata DBC/1012 Data Base Computer. With the DBKit Adaptor, NeXT users gain access to the DBC/1012 relational database management system which uses an array of Intel Corp iAPX-86 microprocessors to sort through hundreds of Gigabytes of data stored on disk. The two companies signed a joint marketing agreement providing for exchange of technical information, prospect referrals, training and joint sales co-operation. The NeXT Database Kit extends the power of NeXTstep's object-oriented system software to database application development. DBKit is an integral component of NeXTstep Release 3.0, and is claimed significantly to speed the development and implementation of database applications with graphical user interfaces. It has a layered architecture that provides for the development of database adaptors to translate data source-independent queries into function calls for specific vendors' databases. The promise of an adaptor for the DBC/1012 from Teradata means that NeXTstep users with no knowledge of the DBC/1012 or its syntax requirements will be able to develop object-oriented database applications with graphic front ends. The DBKit Adaptor for the DBC/1012 will go into NeXTstep 3.0 beta test sites at the end of the quarter.

PICK CLAIMS 20% OF IBM'S RS/6000 BASE

With the onset of the open systems movement, Dick Pick's Irvine, California-based Pick Systems Inc was forced to begin re-positioning its product as a stand-alone database management system, rather than a complete, but proprietary, operating system (except to enthusiasts of the environment). The launch of its Advanced Pick for some versions of Unix and for MS-DOS last year confirmed the firm's direction. In the Unix world, Advanced Pick currently runs on AT&T Unix, SCO Unix, Data General AViiON workstations running Unix SVR4-based DG-UX, ICL DRS6000 Sparc servers and IBM's RS/6000. Indeed Pick is claimed to be running on around 20% of IBM's installed base of RS/6000 users, whilst Unix is now thought to account for around 25% of Pick's overall revenues. However, because Pick is not written in the traditional language of Unix - C - the company has had to move the software on to each individual processor architecture, as well as each flavour of operating system running on it. Another factor hindering a greater take-up of its Unix versions is that although SQL is widely regarded as an inadequate means of accessing databases, the query language nevertheless enjoys widespread support amongst the Unix community. Pick justifiably asserts that in by-passing SQL it can offer better performance than other Unix database systems, however, it still needs a standard SQL interface to encourage developers to write to it, and to users to encourage users to adopt it. An SQL interface is on its way for this year, says Greg Shandel, Pick's director of international sales. Ports to Hewlett-Packard's PA RISC chip, Sun Microsystem's Sparc, DEC VAX/VMS and MIPS Computer Systems' RISC are planned, but then the company has been talking about these since 1990. The deal to port Pick to IBM's ES/9000 mainframe is much more concrete - a beta version is expected before the end of the year, with a full release early due in 1993. Also on the way are Windows and Portable NetWare versions of Pick.

R&D planned for Moscow

After opening, then closing, a UK subsidiary, Pick has moved its remaining UK support office to the Haseley Business Centre in Warwick. Further afield, Shandel claims some 700 installations in Russia - a Cyrillic implementation is on sale for Roubles - whilst its base in Moscow may begin to serve as a research and development operation as well as a sales and support office, Shandel says. A UK survey of Pick software developers prepared for the firm by Irvin Ella & Associates found that for 65% of respondents, Pick will play an increasing role in their future plans. Around 40% of developers are software houses with less than five employees, whilst 25% employ at least 20 staff. Most said they would like to see Pick ported to other Unix platforms. The financial stability of the privately-held company was thought to be in danger after it was revealed that founder Dick Pick and his wife were to split: Pick's wife was thought to control a 40% shareholding in the firm. Shandel says the divorce is still proceeding, but Pick's wife "does not have a significant interest," indicating that means less than a 25% stake.

CUMULUS TERMINALS VIE WITH ATHENIX

Like Athenix (UX No 368, 369), Cumulus Technology Corporation is targeting the alphanumeric replacement terminals market. Its widget, the AlphaWindow Terminal, is based on the new Alpha Window standard from the Display Industry Association. It offers a windows environment under a Motif-style interface supporting 16 sessions and 22 windows, each reportedly running a different application, and claims to be able to run virtually all existing character-based Unix apps. The system was designed with host software rather than terminal firmware. The AlphaWindow includes a high-resolution 15-inch display to which it plans to add SCO Console and AT&T Console mode emulations. Pricing is \$760 for the terminal; \$460 for the limited licence software. Unit will ship this spring.

"COMPUTER POWER CRUMBLING" - TODAY INC FORMED TO SELL-OFF 4GL

According to sources, financial problems have forced the Melbourne, Australia-based systems integration and services company, Computer Power Group Pty Ltd, to wind down its 1,000-strong Computer Power Europe operation - which includes the sales and marketing unit for its Today 4GL - and retreat to a core business shell back down under: with exception of Today Inc, that is.

Computer Power Group Pty Ltd says the much-delayed, client/server version of its fourth-generation language applications generator, Today, is due to start shipping in April, some 10 months behind schedule (UX No 338). Not so, say sources intimately associated with the product. They say that the 4GL, as it was originally specified, will not be around for another 12-18 months at the very earliest - leaving customers and developers hopelessly stranded - and that Computer Power is preparing to get shot of Today lock stock and barrel to anyone who will buy it. Today client/server was announced back in May last year, when product brochures were produced for potential customers, allegedly detailing the imminent arrival of the product - but in the full knowledge that it was not going to be available for at least two years. When this became clear, managing director of Computer Power Europe's Today effort, Chris Leptos, quit the firm.

"R&D is out of control"

Today client/server was intended to be all things to all database environments - supporting most flavours of Unix, plus MS-DOS, OS/2 and VMS; Oracle, Sybase, Ingres, Informix, Rdb, Allbase SQL, Turbo Image, RMS, KSAM, ISAM and serial file databases; X-Windows, Motif, Open Look, Windows, Presentation Manager and IBM CUA interfaces; plus TCP/IP, NFS, DECnet, Banyan Vines, Novell NetWare and LAN Manager networks. Some distributed elements of the existing Today 5.0 release are understood to work - but only with the support of third-party products - and new iterations planned over the next few months - see below - will only add support for a couple of those database environments. Some point the finger at Computer Power's head of research and development down under, John Field: "the company's research and development is completely out of control, the product is nowhere near where it should be," says one developer close to events.

Ex-Unify CEO to run Today Inc

Sources say an attempt to sell-off the 4GL will be carried out under the auspices of a US venture, Today Inc, a Sacramento, California-based spin-out that Computer Power is forming with the help of ex-Unify Corp chief executive officer, David Saykally. (Saykally emphasises that he is not a CPG employee, but has been taken on specifically to get the unit up and running, and will decide his future when that task is complete). Today Inc, which will surface at the end of March - and which is thought to be the vehicle for off-loading Today - is being formed partly as a result of pressure brought to bear on financially-troubled Computer Power by its investors, like Citibank in the US, and partly by the fact it has neither the resources or technical expertise to bring the promised offering to market. Computer Power secured \$10m financing from a venture capital syndicate back in 1988, including the National Australian Bank, to develop Today when it bought the infant product from BBJ Pty Ltd. That money is fast running out - there will be none left by September 30 - and Computer Power is thought to be incapable of meeting the \$4m-a-year development costs that will be required to realise the promises it has made for Today client/server. According to insiders, Saykally's brief is to get whatever he can for Today, from any quarter: if he runs it as a business and can't find a buyer, he doesn't get paid. He is reported to have said that Today is nowhere as good as the Unify 4GL.

Smokescreen

"Computer Power is crumbling and Today Inc is a smokescreen," says one Today developer left without a product to work with: now it is cutting its considerable losses and switching to another 4GL environment. "When BBJ had Today it was ahead of its time, Computer Power underestimated the technical expertise needed to develop the product and has lost \$20m in the process," the developer claims. Computer Power has had modest success in selling previous versions of Today through value-added resellers in Europe: it claims some 5,000 run-time licences, many of which are thought to be in Italy, and 1,400 having been sold by ArCAD in Sweden. However, insiders believe that Computer Power has netted less than \$1m a-year from this business.

With its training centres in France and Germany gone, the formerly 1,000-strong Computer Power Europe, based in Purley, South London, has been scaling down its operation and is understood to have only a skeleton staff of five remaining, under the charge of consultant Tony Blyth, not a CPG employee. Blyth maintains that Today will continue to be sold via country partners across Europe - in the UK this may involve taking a stake of up to 25% in one of its UK resellers - or doing some kind of share swap - and inviting the chosen one to rent the now vacant office space down in Purley. He says Today has been delayed because the firm had to wait for database vendors to release the latest versions of their products, and then build the relevant interfaces into the 4GL, and that March should see the release of Today for Oracle and Informix on Intel Corp iAPX-86 platforms, with a Sybase implementation ready for June. He admits that it will be another year or more before complete range of platforms is supported.

X/OPEN ROUNDUP

In the UK, X/Open Co Ltd's 324-page analysis of the open systems market - the Open Systems Directive - is available from March, priced at £300 (UX No 364). Interoperability - the key issue for open systems users, according to the study - will be addressed in a future release of X/Open's portability guide: XPG5. X/Open says it will improve its time to market with future standards specifications: "the requirements process is too long and convoluted at present," it admits.

The standards body has also initiated an application registration programme, allowing software suppliers to provide an XPG3 statement of conformance for their packages: to qualify, the application must run, and be available, on at least two XPG-branded platforms with different processor architectures. Other software that is used to write the applications - such as a database - must also be XPG branded or registered. A directory of registered applications will be out in April.

Its motive for these programmes is not all altruistic: the withdrawal of AT&T, Prime Computer, Nokia Data, Philips and the Open Software Foundation - plus their cash - from its board for one reason or another, is forcing X/Open to hone its commercial interests. The branding programmes all generate revenue, and the various guides and specifications are now available in a range of formats, including hard copy, on-line and CD-ROM. The loss of boardroom revenue "is concentrating our minds," X/Open admits, "because there are a lot of things that we need to do, and we need money, people and expertise to get them done." The group's medium term view is that it will probably have the same number of members in three years as it does now, though the names are likely to change.

Whilst all the empty board seats can be attributed to takeovers or lack of funds, the well-publicised style of OSF's withdrawal still rankles with X/Open (UX No 356). It was hoped that the Foundation could be accommodated within its independent software vendor council via a small change in the rulebook, but even that modest goal has proved unattainable: "we don't like OSF not being there," X/Open says, "but we can't resolve it, it's too problematic - OSF doesn't easily fit into categories."

LOTUS FORMS UNIX GROUP

Down on its uppers these days, Lotus has decided to pay more attention to Unix, forming a Worldwide Unix Group bringing together existing marketing and development efforts into a team as part of the Lotus International Business Group. Long-time Unix maven Larry Crume, VP, international product development, will ramrod day-to-day. Lotus intends upgrading its Unix 1-2-3 products, moving to additional platforms like the RS/6000 and creating Unix versions of Notes and cc:Mail. The Lotus Realtime Products Division, headed by Brian Bell, will be part of the new unit. Marketing and business development will be run by David Rome.

unigram·X

In case you're curious what Microsoft is spending annually on Windows try: \$110m on R&D, \$20m on development support, \$20m on phone support, \$25m of marketing and \$5m on stuff like sales support. Too bad it still isn't software for people rather than machines.

Dataquest Inc says 1991 factory gate revenue for the workstation market continues to have high growth, posting a 14.5% increase. Sun Microsystems Inc holds the largest worldwide workstation market share with about 29.0%, followed by Hewlett-Packard Co with 18.8%, IBM with 16.0%, Digital Equipment Corp with 11.6% and Intergraph Corp with 5.9%.

In addition to parent Prime Computer Inc's \$400m four-year deal with Hewlett-Packard Co HP 9000 Series 800 and 700 workstations and servers (UX 368), Computervision Corp has a similar (though presumably rather smaller) deal with Digital Equipment Corp for MIPStations, which has not yet been formally announced, according to Electronic News. Until these two agreements, Computervision was selling its design software only with Sun Microsystems Inc kit.

The Object Management Group has finally issued its Request For Information "to solicit documentation of object-oriented technologies in the area of Object Services." This may sound innocuous but those that followed the twists and turns of the Request for the Object Request Broker are probably in for a political tale of equally epic proportions - a foretaste of the battles to come can be savoured if one ponders the fact that Philippe Kahn and Bill Gates will have to come to some kind of compromise in product areas such as ObjectWindows and technology areas covering Object Linking and Embedding; the saga becomes even more intriguing when one mulls over another aspect to the contest, which is that the plucky Object Group team has decided to ensure it is open to allcomers, including some tiny object-oriented companies with innovative technology, by decreeing that the end proposal will be a standard model to which current commercial class libraries can be upgraded.

And copies of the OMG's Common Object Request Broker, CORBA, are now out at £30: in the UK they can be purchased from Hounslow, Middlesex-based Eric Leach Marketing.

Control Data Corp's Soviet joint venture, Besta, claims it has produced the first domestically-assembled 32-bit workstations at its facilities in Moscow: the units are made entirely from imported components; they can support up to 50 terminals and can be integrated in to personal computer networks; Besta says the workstations will have applications in banking, CAD/CAM and industrial control systems.

Pinnacle, the almost forgotten Cypress-Ross version of a superscalar Sparc chip, is supposed to be described at Comcon in San Francisco (February 25-27). Who knows if it won't beat Viking out? Certainly Sparc cloners are estimating that if it works out it could prove to be more available to them than Viking. DEC's Alpha chip is also supposed to be detailed at Comcon.

Since Sun is proving to be hunted up tighter than a cloister about the viability of Viking - see page one - it's impossible to gauge the merit of rumours that it considered dumping it as recently as a month or a month and a half ago. We also can't tell whether the gossipmongers are right when they claim that Hewlett-Packard solved its problems with Texas Instruments under non-disclosure and now Texas Instruments has to re-engineer the solution to apply it to Sun's problems.

Hey, wanna buy an instant ARC kit cheap? Folks who don't want to pay MIPS \$500,000 plus additional royalties for its basic ARC manufacturing kit and no schematics can go to Deskstation Technology in Lenexa, Kansas. Deskstation has hung a price tag of \$225,000 and no royalties for its ARCstation 1 R3000 starter kit, the only other one besides MIPS' known to be kicking around (UX No 368). It includes the ingredients for an ARC-compliant motherboard compatible with existing PC-style chassis, power supplies, add-in cards, disk drives and video controllers. It will be available in April. If you want the schematics too - which from MIPS would cost a minimum of \$1m (UX No 368) - Deskstation reckons you want to license a customisable design and "will work with the customer." Rumour has it that MIPS has a third alternative it's posing to potential clients: No up-front, just 10% of everything you sell.

The number of companies said to be actually going to produce ARC machines is exceedingly tiny by all reports: In addition to Acer and Olivetti who will be OEMing you can add DEC and Siemens Nixdorf: The latter of course is making MIPS chips so the move seems only natural.

Following the release of its Open View SNMP - simple network management protocol - agent for Sun Sparc platforms last year (UX No 344), Hewlett-Packard has announced an extensible version of the software for HP-UX and SunOS. HP says OpenView Extensible SNMP Agent allows the agent monitor any application or other system activity such as printers, other computers and databases. It was previously limited to monitoring basic network and system activity. HP will bundle the network node manager - it can handle up to 500 nodes - in with its 9000 series workstations: OpenView Extensible SNMP Agent is priced from \$1,000 to \$300,000.

Interactive Development Environments Inc, San Francisco, California, is to port its Software through Pictures CASE development environment to Motorola Computer Group's series of 88000 RISC-based Delta machines: the deal will be worth some \$3m to IDE over the next three years. IDE is one of the 27 firms that has committed to supporting the AIX Software Development Environment WorkBench/6000 - based upon Hewlett-Packard's SoftBench - that IBM announced last week (UX No 369).

Insignia Solutions Inc, Mountain View, California, says it made over \$1m from selling its MS-DOS-under-Unix SoftPC package on NeXT Computer Inc boxes: that'll rise to \$2.5m this year, it says.

In the UK, Misys plc's Misys Computer Maintenance division has bought the hardware maintenance business of Swansea-based Principality Systems on undisclosed terms: it has some 200 Altos, Olivetti and MIPS Computer Systems customers.

Following the plan to use its recently-acquired Interactive Unix V.3.2 implementation as a stepping stone to Solaris 2.0 on Intel platforms (UX No 368), SunSoft says that it will continue to support Interactive V.3.2 - and the Architech series - for the next five years: customers buying Interactive Unix from now until June 30 will be eligible for a single-user upgrade to Solaris 2.0 on Intel for \$200. In the UK, SunSoft is now operating out of Interactive's former offices in High Wycombe, Buckinghamshire.

Sequent Computer Systems says that rather than selling no systems valued over \$350,000 during 1991, it just didn't hit its sales targets for systems of that size during its third quarter (UX No 369): Sequent UK claims an average system sale of \$390,000 for the 1991 period, but gives no breakdown.

With SCO Open Desktop, Ultrix, OSF/1 and IXI X.desktop now on offer in various combinations across its VAX, MIPS Computer and Intel-based hardware lines - with SCO/DEC ACE Open Desktop to follow - some are saying that DEC's Unix menagerie is becoming too unmanageable and that the firm is just waiting for New Technology to arrive before it can ditch the lot and start again, Microsoft style.

Last month's three day UniForum bash in San Francisco is thought to have attracted around 30,000 delegates - several thousand more than expected - and the show could now be upgraded to a five day event from next year, according to observers.

As well as launching version 4.0 of its System V 3.2 Unix operating system - which costs from £500 - and version 2.0 of its SCO MPX multi-processing extensions - priced at from £1,300 - the Santa Cruz Operation Inc has decided to remove the Ingres database from its Open Desktop bundle: it is thought that the inclusion - and cost - of Ingres in ODT, was making the desktop environment unattractive to potential customers.

Ingres Ltd, announced this week its support for DEC OSF/1 - the company's first outing into the Open Software Foundation OSF/1 market - will incorporate the recently launched Ingres 6.4 Intelligent database, applications development tools and open connectivity products, is scheduled for release after DEC's first customer shipment.

Huntsville, Alabama-based Intergraph Corp has brought stability to Daisy Systems Corp - now Dazix is in a position to start buying on its own account, and has snapped-up Layout Concepts Inc of Boca Raton, Florida and will move the staff thousands of miles west to its development base in Boulder, Colorado.

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ICL's EXPANDED DRS6000 RANGE INCLUDES SURPRISE LOW-END DESKTOP

As expected, ICL revealed its expanded Sparc-based DRS6000 product line at the start of its three-week long "Open World" event at its Bracknell, UK headquarters. It divided the range into three groups: compact, slimline and midi, with eight new and future systems integrated into the existing, but renumbered, products (see page three). One surprise is the low-end "compact" Model 240, due in May, an ICL-made Sparcserver 2 equivalent with 16Mb memory and a 40MHz Sparc chip. The machine takes Sun S-bus add-on cards, more appropriate for the low-end market than the VME-bus of the larger models, and supports from 1-12 users. It's rated at 29 MIPS, and was on show at Bracknell. Then, as reported, come the one and two-processor, 8-40 user 440 and 442 slimlines, and the four processor 644, all using 40MHz chips from Cypress Semiconductor. These should be deliverable by the second quarter. The two CPU2 machines, with two chips on a single, multi-level cached board, are the 58 MIPS Models 450 and 116 MIPS 752 (not 652 as thought). These should be ready by the third quarter, and will give ICL an immediate boost of throughput before its expected Viking superscalar Sparc models appear. These, ICL confidently predicts, will be ready by the fourth quarter. They are the two-processor 460 and eight-processor 764, rated at up to 240 MIPS. UK pricing for the 240, CPU2 and Viking models is not yet set. The Level 400 starts at £13,500 for the 420, £15,500 for the 430, £18,500 for the 440 and £22,500 for the 442, all base-level models. The Level 600s are £38,750 for the 630, £44,750 for the 632 and £85,750 for the 644. A typical 48-user Level 442 should cost around £60,000.

...MAKES HAY IN RUSSIA WITH UNIX SYSTEMS VENTURE

Capitalising on the investment of frequently non-productive time and effort it made in the Comecon countries throughout the period of the Cold War, ICL Plc is moving quickly to establish a lead position in Eastern Europe and the countries of the former Soviet Union, and its latest major venture is a collaboration in Tataristan, part of the Russian Federation, to assemble its mid-range DRS 6000 and DRS 3000 Unix systems. Its partner is Kazan Manufacturing Enterprise of Computer Systems, which was the second largest computer manufacturer in the former Soviet Union, contributing the ES-1046 model to the Rjad unified line of near-IBM 360-compatible mainframes. The joint venture is called ICL-KMECS and the Tatar Republic has committed to finance import of components and sub-assemblies for the next three years.

KUBOTA CLAIMS FIRST WORKSTATION USING R4000

Kubota Computer Corp reckons that it will beat Silicon Graphics Inc by a day or two with launch of the world's first workstations incorporating the MIPS Computer Systems Inc R4000 chip. The initial model is to be shipped in the first half of this year, with a high-speed model based on an 80 MIPS CPU in second part of the year. The models conform to the Advanced RISC Computing specification of the Advanced Computing Environment Consortium. Kubota plans to sell the workstations through its subsidiaries and also on an OEM basis. Kubota's US subsidiary Kubota Pacific Computer in Sunnyvale, which has taken over the Titan minisuper-computer business from failed Stardent Computer Inc, has announced that it is developing a high-end model of the Titan series. The new model will be a successor to the current top-end V3000, and is currently known as the G4. Its new model will have a graphics processing speed of 1m polygons per second.

..AS SILICON GRAPHICS STARTS MIXING IT AT THE LOW-END

Hard on the heels of its MIPS Computer Systems Inc R4000-based Crimson RISC boxes (UX No 370), Silicon Graphics Inc has announced new versions of its entry-level Indigo imaging system. The Indigo XS, XS24 and Elan - each rated at 26 SPECmarks performance - are essentially R3000 RISC versions of the same Crimson models and use three-dimensional GTX graphics technology derived from SGI's top-end Power Series machines, incorporating, the firm says, 25 new custom chips and 700,000 gates. The eight-colour Indigo XS performs 250,000 three-dimensional vectors per-second, comes with 16Mb RAM, a 16" colour screen, costs from £11,100 and is available in April. The Indigo XS24, with 24 colours, 16Mb RAM and a colour monitor, performs 250,000 three-dimensional vectors per-second and is priced at from £12,800 in April. Indigo Elan, a 24 colour, one million three-dimensional vectors per-second box with 16Mb RAM and a 19" colour screen is available from March, priced at £23,000. All models are compatible with existing Indigo, Crimson and PowerVision machines, and will be able to take the R4000 chip when it arrives. A video interface card will be out in May for the existing Indigo box - a version for Indigo Elan will follow in October. SGI says it is currently negotiating a deal with Quorum Software Systems Inc for its interface that will allow Apple Macintosh applications to run on RISC computers - in this case the MIPS part - under Motif.

ALL ITS OWN WORK - OSF DME SNAPSHOT DUE NEXT QUARTER

The Open Software Foundation has been unable to find volunteers from within its ranks with either the will or resources to undertake the herculean task of putting together the various elements of its complicated Distributed Management Environment technology. Both DEC and IBM apparently turned down an invitation to host the work, so OSF has moved some of its Munich staffers over to Cambridge, Massachusetts, where a 10-strong team is currently working to integrate the component parts. First snapshot of DME technology is expected at an announcement early next quarter.

IBM TO USE MULTIPLE 88000s FOR FUTURE RS/6000 GRAPHICS

Making it clear that IBM Corp looks after its friends, Motorola Inc's lagging 88000 RISC is to get a significant fillip in the wake of the decision by IBM and Apple Computer Inc to bring the company in on their PowerPC RISC party. According to Electronic News, IBM is to use Motorola's new module of multiple 88000 RISCs as the high-performance graphics processor for a forthcoming version of the RS/6000 workstation. Motorola and IBM declined to comment on the reports.

NTT JOINS THE OPEN SOFTWARE FOUNDATION

Nippon Telegraph & Telephone Corp, Japan's state-controlled telecommunications giant, joined the Open Software Foundation last week. NTT, with an annual turnover of around \$34bn, is already a supporter of OSF's Distributed Computing Environment and Motif technologies via its Multi-vendor Integration Architecture, its three year-old blueprint for migrating to open systems, a specification to which Fujitsu Ltd, NEC Corp, Hitachi Ltd, IBM Japan Ltd, Digital Equipment Japan and its NTT Data Communications systems integrator were asked to contribute. Nippon Telegraph plans to use the Multivendor Integration Architecture specification in procurement for some government systems - where a relational database is required. Foundation president David Tory claimed NTT's move was indicative of the growing influence of major users in the open systems movement.

FIRST ALPHAWINDOWS TERMINALS SET FOR MAY, AT \$600

After debuting at UniForum (UX No 365), the first alphanumeric (character-based) display terminals which conform to the emerging AlphaWindows standard are due to begin shipping in May, with entry-level prices pegged at around \$600. None should be more than 10% more expensive than the price of a corresponding character-based offering, insiders say, because terminal manufacturers should be able to re-deploy many of the unused resources that currently gather dust inside their bog-standard offerings. AT&T, Cumulus, Edisa, Link, Microvitec, Televideo, Wyse and DEC are amongst those with terminals under development. The AlphaWindows effort is backed by the Display Industry Association, DIA - formerly the International Association of Character Windowing Standards - which creates hardware and software standards for display terminals. AlphaWindows-compliant terminals will support existing terminal emulations like VT220 and Wyse 60, and are claimed to be able to run existing character-based applications without any modification, whilst providing all of the popular windowing features that are typically found on graphical-based systems, such as running multiple applications, transferring information between applications, resizing, scroll bars, icons and buttons. "A near painless upgrade," from single-session terminals is how proponents describe the technology. AlphaWindows has a mouse interface, supporting window placement and sizing operations (under control of the window manager), which also takes account of the latency associated with Unix's TTY asynchronous channels. Operations requiring immediate feedback are performed locally by the terminal. AlphaWindows does not come with a standard interface, it separates the window manager functions from the display server, allowing competing software vendors to provide window managers with various user interfaces, though level 1 compliance with OSF/Motif is required. Terminal vendors will be able to define the look of the windows, whilst the window manager will define the feel. Manufacturers are free to decide which emulations - and the number of sessions (windows, applications) - that their products will support, along with types of keyboard layout, mouse, screen size, resolution and colour. However, all products must conform to DIA's AlphaWindow technical specification, and all compliant display terminals should be able to work with all AlphaWindows-compliant window managers. The idea is to bring the ease-of-use and functionality associated with graphical windowing systems to the vast number of users whose requirements are easily met by character-based applications, without the associated cost of graphically re-programming software (in X-Windows, for example) or investing in more powerful (and more expensive) graphical-based systems, such as X-terminals. AlphaWindows terminals handle windowing operations in hardware, and will come in three guises: a low-level implementation of the specification; terminals with primitive windowing - some fixed boxes; and those with advanced features, like drag and drop, pull-down menus and scroll bars - "everything you'd get on a graphical system except the graphics." AlphaWindows terminals are not expected to make much of a dent in the X-terminal marketplace, but are more likely to gradually replace standard character screens by bringing windowing functionality to the existing commercial application base.

..AS BARCLAYS BANK TAKES A LOOK

In the UK, Barclays Bank is now said to be evaluating the use of AlphaWindows terminals, reportedly after finding the cost of implementing its X-terminals-with-RS/6000s strategy prohibitively expensive to implement across the organisation in one fell swoop. AlphaWindows terminals could suit Barclays' interim needs, not only due to the lower cost of the technology when compared to X-terminals, but because much of its banking software is written in Cobol, which although unsuitable for re-writing in X, should in theory run unchanged on AlphaWindows screens. Barclays is thought to be re-developing its applications using the Ingres database on IBM's RS/6000 AIX platform. Proponents of the Alpha technology claim that an RS/6000 can support up to five AlphaWindows terminals for every X-terminal that hangs off it. DEC, which will apparently manufacture an AlphaWindows terminal later in the year, is said to be in on the race to supply Barclays with such a product.

NATURAL LANGUAGE HAS ENGLISH-BASED QUERYING TOOL FOR DATABASES

Natural Language Inc of Berkeley, California has added Natural Language Release 5.0, an English-based querying tool for relational databases that features an embedded, intuitive graphical user interface for ease-of-use, and an enhanced application development environment that greatly reduces the deployment cycle. Although interesting in itself, the product has an added cachet in that Microsoft Corp is a shareholder in Natural Language, with a stake just above 10%, and the two companies talk from time to time about product collaboration. This new release of Natural Language supports most desktop Unix machines, thus taking it into new low end markets and the price is below \$5,000. Natural Language claims that its software is the only product available that enables users to gain direct access to database information by asking for it in conversational English. Graphics, table manipulation, data analysis, and reports are now also accessible through pull-down menus. Via a file manager Natural Language lets users integrate information with their most familiar tools, including 1-2-3, Microsoft Excel and SAS System. But how, you may be wondering, does the developer build Natural Language applications? She uses ICon - an intelligent, window-based graphical toolset used by the system developer to build, test and debug applications. With ICon, a developer teaches Natural Language about the semantics and structure of a specific database. The toolset helps to automate this customisation process by guiding the developer through a series of windows and menus using the knowledge it already has learned about the database application. The developer is guided by four main windows to describe relations, attributes, mappings, and other information about the database. Natural Language 5.0 runs in the following environments: 80386-class personal computers under Santa Cruz Unix, Sun 4 Sparcstation, DECStation, Hewlett-Packard 9000 Series 700 and IBM RS/6000. Support for Solaris 2.0 and Microsoft Windows and MS-DOS are currently under development for 1992. On the server side, Natural Language runs on Sun Microsystems, Hewlett-Packard, IBM, Intergraph, Pyramid, and Sequent, and all Digital Equipment Corp machines. It also supports all major databases including Oracle, Sybase, Ingres, Informix, Rdb and Ultrix/SQL and Open Look, Motif and DECwindows.

NEW UK COMPANY SNOWBIRCH TO LAUNCH SYSTEM/4 OBJECT-ORIENTED DEVELOPMENT ENVIRONMENT

A new object-oriented development environment called System/4 is about to be released courtesy of a new UK company, Snowbirch Systems Plc, based in Shoreham-by-Sea, West Sussex. Snowbirch was formed by a small investment company to take over the business of Da Conti International - the company that developed the product; Da Conti is now in receivership. The product, which took four years and £1.5m to create, is a successor to Sensible Solutions, one of the early fourth generation languages, developed by US company O'Hanlon. Da Conti was a distributor for the product and decided to put object-oriented technology into it, thereby creating System/4. The first product release will ship sometime this month, but System/4 already boasts a number of users with its pre-release versions. The minimum single-user configuration for System/4, amazingly, merely requires 640Kb of memory and a standard 80286-based personal computer. The multi-user version runs on standard NetBIOS networks and will migrate to a Unix version by the end of the year. A single-user pack costs £1,450, whilst the corporate package, which is the main focus of Snowbirch's marketing effort, costs £4,800 and, for that, the organisation gets a multi-user development licence, one year's support, upgrades and a three-day dedicated workshop. So what is System/4? The core of the product is a proprietary language-based development environment offering 500 functions. The environment has its own three-dimensional relational database that can store objects and offers object linking technology. This means an application object can be created in, say, Lotus Development Corp's 1-2-3, to then be selected in the database and linked to the agent that created it, so that the object can be edited using the native agent; then, when the developer exits the agent, the changes will be stored in the System/4 database. At the moment, the product is not SQL-compliant but this will be remedied in the third quarter of this year. The environment also has a text processor that has hypertext and some intelligent rules processing, as well as a report writer. The fourth-generation language is written in C, the rest of the product in System/4.

ICL's NUMBERING SYSTEM EXPLAINED

Even ICL was confused by the new numbering system of the DRS/6000 range (see front page) - "we simply ran out of numbers", said more than one hapless ICL employee - so here, as far as we can fathom it, is the full range, including existing, renumbered models. The first letter signifies the cabinet (2 slimline, 4 compact, 6 midi), second the chip and third the number of processor boards.

240 (future) 1x 40MHz
 420 (was L20) 1x 25MHz
 430 (was L30) 1x 33MHz
 440 (new) 1x 40MHz
 442 (new) 2x 40MHz
 450 (future, CPU2) 2x 40MHz, single board
 460 (future, superscalar), 2x Viking
 630 (was L50), 1x 33MHz
 632 (was L65), 2x 33MHz
 640 (was L60), 1 x 40MHz
 642 (was L70), 2 x 40MHz
 644 (new) 4x 40MHz
 752 (future, CPU2), 4x 40MHz, single board
 764 (future, superscalar), 8 x Viking

First apps for OpenVME demonstrated

As for progress on Open VME, the first proprietary operating system to gain base XPG3 branding from X/Open. It turns out on closer inspection to be an actual port of a subset of Unix to the VME architecture. ICL has set up a porting centre for VME-users thinking of porting Unix applications onto their mainframes. The first to be completed, by mid-year, will be the Informix database and its associated 4GL applications. The Intelligent Query information retrieval package from Programmed Intelligence Corp was also being demonstrated at Bracknell. ICL claims to have had few teething problems with the porting. On its first release to undisclosed users, Open VME is said to be one of the factors that swayed British Gas to choose ICL over IBM for its £200m mainframe contract last October (UX No 353).

DeskPower V.4 to challenge SCO Unix territory

ICL has confirmed that it will enter the race to establish Unix System V.4 for the desktop this year, using its Intel DRS3000 PC range as the hardware platform (UX No 364). ICL has been working closely with Unix System Labs on the project, named Deskpower, but its exact relationship with the joint USL/Novell Univel effort remains unclear. The user interface for Deskpower will be X-Windows, fronted by IXI Ltd's X.desktop. According to Andrew Roberts, ICL's director of mid-range systems, the product will be ABI-compatible with Sun's separate Solaris desktop effort. Roberts admitted that market penetration might be small, and that its popularity might be hit and miss, as it was with X-Windows. A developers toolkit for the environment is expected next month. Eventual price for Deskpower is likely to be around £750, making it competitive with SCO Unix.

New tools speed the way to Tuxedo-based TP applications

Unix-based transaction processing systems are still thin on the ground, mainly due to the fact that much of the support software has yet to emerge. ICL has now announced support for two 4GLs to tie-in with its Open Systems Transaction Management environment - Ally Software Inc's Ally 4GL and Unify Corp's Accell language. Ally, developed by Unisys Corp, has been targeted at the TP world and is already integrated with Tuxedo, while Unify intends to extend Accell with TP extensions later this year. The issue, according to Unify's Bill Osberg is to implement server versions of Accell that include some of the program logic. Client versions of Accell already exist. Tuxedo is currently the only "open" TP game in town according to Osberg. "It has the lead by two years, with product and distribution in place. [NCR Corp's] has product but no distribution, while [Transarc's] Encina has distribution but no product!". However, Unify's ventual aim is to provide TP monitor independence. The emergence of databases that comply to X/Open's XA interface between the transaction and resource monitors is also speeding up implementation of open TP systems: Informix Corp is the first, but Oracle, Ingres and Unify are all expected to follow.

HAL - TWO YEARS OLD, BUT NO PROTOTYPE

Hal Computer Systems, Andy Heller's start-up, is in the running for the dubious distinction of "most paranoid company in the business." Even simple questions like "what market are you aiming at?" meet with evasion and reponses like "open systems for the commercial marketplace." The braggadoccio is there though. According to Hal's vice president of sales and marketing, Art Goldberg, it's getting ready to take over the world. (It must be in line behind Bill Gates and Steve Jobs.) Hal, we guess, is caught in the bind of trying to keep some sort of visibility without having a product. In fact, it doesn't even have a prototype yet, and it's approaching its second anniversary. (The company has spent its time building the team up from 50 to 200 people in less than a year and nailing down \$40m in financing from Fujitsu, it says.) Hal apparently intends to pursue the on-line transaction processing market, with a family of high-end machines built around a proprietary 64-bit, CMOS superscalar iteration of Sun's Sparc chip - a technology approach it figures is good for the next decade. Since its marketplace is concerned with data integrity, it is building a lot of control logic, error checking and redundancy into the chip - apparently a very time-consuming exercise. Fujitsu resources are supposedly available. Hal can dip into Fujitsu's patent portfolio and systems engineering talents. It also says it is working with Sun on the Sparc International Architecture Committee to expand the architecture beyond Version 8, in terms of memory and data addressability, the instruction set and context switching. The systems it's intent on creating are meant to displace proprietary mainframes and it will start with a uniprocessor. Given that brief, how seriously should Goldberg be taken when he says his price point is everything above \$10,000? Hal says it will use Unix SVR4 ES, adding extensions of its own, from third parties, like OSF and Fujitsu. It may or may not go with multi-processing. It's interested in microkernel technology and could develop its own using Chorus Systemes' Chorus Mix as a base. It will apparently develop its own systems management. It will, however, under a pact just signed with Fulcrum Technologies, be using that company's Ful/Text information retrieval software for on-line documentation.

TADPOLE TO LAUNCH SPARCBOK IN UK

Although it's a UK firm, Cambridge-based Tadpole Technology Ltd chose to debut its Sparc notebook, the SparcBook in the US last year (UX No 357). It hasn't really been available this side of the Atlantic in any significant quantities until now, but customer demand for the product has apparently forced Tadpole's hand over the last few weeks. The company says it is now able to supply the thing in the UK - prices go from £3,056 to £9,200 - but it is still setting-up a European distribution channel, and is looking to sign resellers in the Sun Microsystems Inc marketplace. The European launch of SparcBook is scheduled for the second quarter.

ELSEVIER PUTS MATSEL UP FOR SALE

Matsel Ltd, Oxford, a subsidiary of Amsterdam-based, Elsevier Science Publishers Ltd, is up for sale. The move is a bid by Elsevier to focus more on its principle publishing business. Matsel - set up in 1984 - markets Peritus, an Autocad-based materials selection database for the CAD/CAM community, which runs under Unix and MS-DOS. Elsevier bought into Matsel during the 1980s, and by 1990 had completed a takeover. However, it looks to have bitten-off more than it can chew: "we need to find Matsel a different parent," says Brian Scanlan, managing director of Elsevier's Barking, Essex-based operation. Matsel, which claims 500 users, including the European Commission, has an estimated turnover of £100,00 a year.

HP, SEQUENT AND PYRAMID IN THE RUNNING FOR BT'S MERIT

British Telecom, has shortlisted HP, Sequent and Pyramid as potential hardware suppliers for a project to power one of Europe's largest personnel and payroll systems (though ICL and Amdahl aren't out of the running, it says). BT's £3m Merit project will eventually handle up to 218,000 employee files: a pilot project will be up and running in September. Software for Merit is still under revue, though BT has an existing £1m contract with Peterborough Software Ltd for the firm's payroll and personnel applications.

HERE TODAY, HERE TOMMOROW, ARGUES SAYKALLY

David Saykally, heading Computer Power Group Pty Ltd's latest attempt to bring the client/server version of its much-delayed Today 4GL to market in the US - possibly under the guise of Today Inc (UX No 370) - says that March 28 will see the release of the product running on Unix, MS-DOS, Hewlett-Packard's MPE and DEC VMS, supporting Informix, Oracle and ISAM-compliant databases. Saykally, who denies reports that his brief is to find a buyer for the 4GL, says the Today venture that he is to head has secured funding from a syndicate - though additional investment is being sought - and that there are now some thirty programmers working on the software. Overall responsibility for research and development remains - for now - with John Field at Computer Power's headquarters in Melbourne, Australia (though Field now works for Saykally). The Today 4GL will be marketed via country partners in Europe, Asia and the Pacific regions, whilst a telesales team and support centres will handle North American business. Saykally says Today client/server will be targeted at the Intel Corp iAPX-86-based, low-end of the market, where Progress, Informix and Ashton-Tate will be its main competitors: the Cognos, Uniface and Unify 4GLs are aimed higher-up at the departmental level, Saykally believes. There is more than enough room in the market for Today, he says, as "none of the others have really scratched the surface." He hopes the Today venture will bring in around \$12m next year.

..BUT COMPUTER POWER "MUST TRY HARDER"

After the drubbing recently handed-down to it by critics (UX No 370), supporters of the Today 4GL have been quick to rally to its defence. Lars Anderen, managing director of long-time Today distributor and developer, Arcad Technology AB, Alingsas, Sweden, says the forthcoming client/server release is "a vast improvement," on the existing version of Today, though he admits that it only handles "certain levels" of client/server functionality, and cannot, for example "send off certain processes and have them handled in MS-DOS." Arcad, a beta site for the product, has a version - 5.005 - working with the Informix database on DEC's Intel 80486-based ApplicationDEC Model 433 multi-processor system running SCO Open Desktop. It has sites running the 4GL on Hewlett-Packard's MPE operating system, whilst versions for VMS, Oracle and Sun Microsystems' SunOS are now being tested. Today client/server isn't due for release until the end of March, but Arcad will be showing the stuff off at next week's RS-show in Malmo, Sweden. It has an MRP package designed specifically for the Swedish marketplace, based upon Today, called adixSoftware. Commenting on the future for the 4GL, Anderen says he "would be unhappy to see Today sold-off," but would like Computer Power Group "to concentrate more on Today." Spinning-out the 4GL into a separate venture, like a Today Inc, "would be a good idea," Anderen believes, "because we need Today to be a player in the US market. The real problem "is sales," he says, "All this should have been done three years ago."

...AS SERVICE AND INTEGRATION ARM DISTANCES ITSELF FROM SOFTWARE UNIT

Andrew Giles, managing director of Computer Power UK Ltd, the professional services and project management division of Computer Power Europe, says the events now taking place at Computer Power Software UK Ltd - responsible for the Today 4GL product in the UK and another division of CPE (UX No 370) - have no bearing on his 80-strong, Purley, South London and Birmingham-based outfit. Giles, who declined to comment about CPE's Today software operation - which is based in the same Purley offices - says Computer Power UK Ltd is a profitable operation - it turned over #3.5m last year. It serves the UK and Benelux regions and Giles says 70% of its business is Unix-based. CPE is the European holding company for financially-troubled Computer Power Group Pty Ltd, Melbourne, Australia, which owns about 20 companies around the world. Last year Computer Power Group sold its profitable Control Data Institutes in France and Germany as going concerns to satisfy creditors: it bought the two units back in the 1980s.

SUN SPOTS

Here are two little unannounced technology items Sun Tech doesn't want us to know about even though its chief was chatting them up at Demo 92: one is a prototype SBus-based motherboard with ISDN on it that Sun figures half its customer base might be interested in. The other is Insignia's SoftPC masquerading as Sun PC, a way for Sparc users to run DOS, Windows and OS/2 apps in protected mode with Unix in the background. Sun Tech will also be persuing the Sun market for Novell Netware.

Sun flatly denied a report in last week's InfoWorld that it has an ace up its sleeve - no pun intended - in case Viking falls on its face: the paper claimed Sun has a collateral Sparc project in the works with Fujitsu for "insurance" if Viking falls too far behind schedule.

Sun, meanwhile, is starting to take umbrage at all the pot shots everybody, including us, have been taking at it over Viking. "It's not true that the chip isn't making its original schedule," says advanced development director Dave Ditzel. "It takes time to do these things." They're not being debugged. Sun seems to want to chalk up a lot of its failure to describe Viking further than it did at the Hot Chips Conference last August (UX No 348), to the admittedly stringent rules laid down by the Solid State Circuits Conference. SSCC wants first crack at any of the information published in the papers read there and will bar a company for bending the rules quicker than you can say a "sexy microprocessor." Needless to say then, the Viking SuperSparc is due to be unveiled there the third week in February. TI will reportedly announce its existence shortly thereafter.

Sun would also like to put the lie to any and all notions that its Viking fabrication is suffering from the same problems that beset HP considering that both have been dealing with TI (UX No 370): au contraire, says Sun. We're not using the same technology or the same fab site. We're BiCMOS; they're CMOS and got their tie in the mangle jacking up the clock on the floating point.

Whatever experience it's having with Viking hasn't stood in the way of Sun's expanding its relationship with Texas Instruments: TI will be making Sun's new high-volume low-end Sparc chip Tsunami (UX No 367). The thing's being done in CMOS and should occupy a smaller piece of real estate than current Sparc chips. Reputedly low-power, it could be taken up by the portable Sparc cloners for their next-generation machines. In Sun's case it'll probably wind its way into a \$5,000 colour machine that, according to our Sun sources, will probably find favour amongst the enterprise crowd who want hassle-free network connection and also want to keep the internal environment consistent even if all they want to do is read their mail, update their calendar, follow the stock market and do a little text editing. It's apparently not conceived a head-to-head competitor of high-end PCs. Still, Sun thinks it could do 100,000 units in a year or two with manufacturing costs lower than the PC cloners.

Sun has just gone to Fujitsu Microelectronics for a 1280 x 1024 large-screen flat-panel plasma screen that'll work for the S-bus in its Sparcstations. The thing offers 100dpi in a 16-inch diagonal format, according to Fujitsu and industry-first for flat panels. Taking a cue from RDI's Profile, the monitor will reportedly hang on the wall and Sun is targeting financial transaction, airline reservations, desktop publishing and software developers. A nice enough add-on in itself but there's another - nie on miraculous - side to this story. Showing a speed of motion unknown among Sparc cloners, Integrix says it has beaten Sun at its own game and in its own timeframe. It claims to have taken the same 8-bit Fujitsu panel and made data transfer four times faster with a 32-bit graphic controller board. Integrix's subsystem bundled with the single-slot S-bus controller and display list for \$5,500. The card alone is \$1,250. A 1024 x 1024 display is also available.

Pleasanton, California-based Themis Computer says its new Sparcard family of RISC systems is the first to market using Fujitsu Microelectronics' 40MHz Sparc 2-compatible chip-set. Rated at 28.5 MIPS, the Sparcard 2LC and 2SE use Mbus - alongside VME and Sbus - Sun's 64-bit, multi-processing bus architecture: no prices given.

EX-SYBASE VP JOHN LOUTH HELPS SET UP INDIAN SOFTWARE SUBSIDIARY HCL EUROPE

India's largest computer manufacturer is setting up shop in Europe. The \$250m a year parent company, HCL, now has Marlowe-based joint venture HCL Europe, established under the auspices of HCL's wholly owned subsidiary HCL America. HCL Europe is in partnership with former Sybase Inc vice president John Louth, with HCL owning 65% and Louth 35%. HCL Europe will plug any hole that exists, it says, and is to import Unix, data base and systems software expertise from India and the US as required. The two month old Marlowe, Bucks office has seven personnel beavering away on seven projects, four European and three British and Louth hopes to achieve £500,000 worth of business by year-end. Future areas of business will be workflow automation and object-oriented databases, says Louth. HCL launched HCL America in 1988 to service companies such as Sun Microsystems, Hewlett-Packard, Amdahl, Pyramid, IBM and Sybase. HCL America currently has 170 consultants in the field and forecasts 1992 revenues of \$25m. Founded in Delhi, India, in 1977 as a computer manufacturer specialising in multi-processor Unix systems, HCL moved into the systems software development market, capitalising on the wealth of talent emanating from India's 600 institutes of technology. Other subsidiaries include HCL Leung in Hong Kong, HCL Sybase in Singapore and Reach Software in California.

UNIX - A BITTER SWEET PILL FOR AUTODESK

The US market for MS-DOS-based CAD/CAM software was worth some \$346m in 1991, according to Cambridge, Massachusetts-based market researcher Daratech. That's up 12% on 1990, though down on the previous year's 23% growth - a downturn attributed to the increased popularity of Sausalito, California-based Autodesk Inc's Unix version of its Autocad package. Autodesk took a 71% - \$248m - share of the MS-DOS market, though its business is slowing as more of its customers switch to the Autocad under Unix. Daratech believes Autodesk's Unix revenues could reach \$16m this year - more than the MS-DOS CAD revenues of every other player with the exception of Intergraph Corp. However, Autodesk shares plunged recently after the company warned that fourth quarter profits for the period to January 31 would be down on last year's corresponding earnings, on sales that are only slightly higher than the \$62.3m recorded a year ago.

SUITESOFTWARE TAKES ON HYPERDESK WITH DOME
La Mesa, California-based SuiteSoftware has come up with some new technology which it says allows developers to create applications that are independent of operating system, network, format or database. A run-time version of SuiteDOME - Distributed Object Management Environment - comes with development tools, and is currently supported under Unix and DEC VAX/VMS: MS-DOS, Windows and OS/2 implementations follow next quarter, with a version for IBM's AS/400 due in the third quarter. DECnet and TCP/IP support is included, with Novell NetWare and LU6.2 scheduled for next quarter. X.400 and X.25 gateways are planned for later in the year. The firm says relational and object databases, as well as ISAM and flat files can be accessed and controlled via a distributed data management component in the software. SuiteSoftware is going head-on with HyperDesk Corp's DOMS system - prices start at \$750 per node.

JSB DUMPS IIM X SERVER FOR XSOFTWARE

UK firm, JSB Computer Systems Ltd, Macclesfield - now also in Scotts Valley, California - has won Interactive Technologies of Los Angeles to distribute its MultiView and other PC-to-Unix connectivity packages. Meanwhile, it has snared Siemens-Nixdorf Informationssysteme AG back in Europe: SNI, which already works with MultiView on some projects, is to integrate the stuff across all of its Unix platforms. From March, MultiView - which is a Microsoft Windows application that allows users to view MS-DOS and Unix applications simultaneously on Unix-based character terminals - will come bundled with San Diego, California-base AGE Logic Inc's XoftWare, a Microsoft Windows X-Windows 11R4 server which is an enhanced version of PC Xsight, the MS-DOS X server AGE acquired from Locus Computing Corp last September (UX No 352). JSB's choice of AGE software leaves Anaheim, California-based Integrated Inference Machines out in the cold: JSB had been working with IIM since last year's UniForum show in Dallas on similar technology (UX No 316), but plumped for XoftWare last November, because it says, IIM was only able to offer X-Windows 11R3 technology.

MARKET ROUNDUP

The Object Management Group has endorsed The Instruction Set's object-oriented design seminar and C++ programming workshop: the Instruction Set, meanwhile, has teamed with Relational Courseware, the SQL training maven, to co-develop an object oriented curriculum.

UBS Securites VP Marc Schulman is backpeddling on his prediction that DEC earnings will hit \$7.50 in fiscal 1993 (UX No 366). In his latest bulletin he downgrades it to \$5.00 figuring the company's red ink will slop over from the December quarter into the March quarter. His estimates also reflect his understanding of the migration process from Vaxes to on-coming Alpha which has changed. Originally he thought customers would be able to field upgrade to Alpha from DEC's new VAXes. He's since found out that won't be possible with current packing of the new VAXes. "Thus," he says, "probably in early fiscal 1993, it appears that DEC will change the packing of the new VAXes, and only then will simple board swaps be required for migration. Obviously, our concern is that a goodly fraction of DEC's customers will wait for the new packing.

Silicon Graphics has signed Sime Darby Systems, the largest multinational corporation in Southeast Asia, to distribute its complete line in Malaysia and Brunel, regions new to SGI.

Claims printed in some US journals that Apple is already talking to Quorum Software Systems about acquisition are patently untrue, Quorum's CEO says. The company says it has had "friendly discussions" with Apple chief John Skulley and the two firms are currently trying to schedule an engineering meeting. Apple is reportedly interested in Quorum's Mac-on-RISC work for two reasons. One is to stop Mac developers from fleeing to Windows because the Mac market isn't big enough for their appetites. And two, because they might find in Quorum an initial bridge product to throw into their joint venture with IBM. Quorum claims it could fulfill Apple's immediate look and feel obligations to the venture almost immediately and could port to Finder and Quick Time "overnight."

Charles Boesenberg has quit as president of MIPS Computer Systems Inc to join Central Point Software Inc in Beaverton, Oregon. David Ludvigson, executive vice-president, has assumed responsibility for all areas that previously reported to Boesenberg and Robert Miller will re-assume the title of president at the company.

Sporadic gossip since the beginning of the year that Verenigde Nederlandse Uitgeversbedrijf NV was ready to sell VNU Business Publications Ltd in the UK has risen to a crescendo this week, the assumption being that the buyer will be Pat McGovern's International Data Group, which has twice tried and failed to enter the UK computer publishing market, first in partnership with the Thomson Organisation, then by buying the struggling Computer News weekly publication.

In Europe, Unix International will be formally unveiling its UI training accreditation scheme this week: ICL, Pyramid, Oracle and Prime are amongst those who are expected to receive UI's stamp of approval. Towards the end of the month, UI is expected to unveil its 1992 RoadMap - said to include more on its desktop Unix plans - plus its SVR4 product catalogue, a 1.5" thick document containing a listing of SVR4 software, training and consulting services.

X/software GmbH, Gronenbach, Germany, has developed a software emulator that allows applications developed under Atari Corp's GEM interface to run on Unix. Available for Atari Corp's TT/ASV Unix box, X/GemOnX comes in client/server and single-user versions, no prices given.

Borland International Inc, Scotts Valley, California, has announced its Borland Object Component Architecture, which, founded upon its Unix and VAX-based InterBase database engine, will allow applications like dBASE, Paradox, Quattro Pro and ObjectVision to share common binary large objects - BLObs - such as forms, reports, queries and tables. BOCA uses an application programming interface which includes SQL Access Group's call level interface and C++ class hierarchies.

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The Sequent Computer Systems Inc bushwire is humming once again: this time around AST Research Inc is the subject of re-kindled interest in the Beaverton, Oregon-based firm, originally identified as a possible candidate for Sequent as far back as last August (UX No 345). Observers say Sequent - which has recently been the subject of much takeover speculation - would make a "good technological fit" for the Irvine, California-based Intel iAPX-86 system manufacturer which also has a line of multi-processors.

IMI Plc's Redwood International Ltd has won a \$10m contract for its Uniplex office automation software from Boeing Computer Services Inc.

Santa Clara, California OEM supplier Veritas Software Corp has moved into the Santa Cruz Operation Inc shrink-wrapped Unix marketplace. The company's Volume Manager and Visual Administrator, developed as part of its strategic relationship with Unix Systems Laboratories Inc and the Unix International Roadmap requirement for logical volume management, are coming out for Santa Cruz Unix, Santa Cruz MPX and Open Desktop. Volume Manager is available for Santa Cruz Unix at an end-user price of \$1,500 and for Santa Cruz MPX at \$3,000. Visual Administrator will go for an end-user price of \$1,000 for any of the Santa Cruz operating systems.

It looks like Sir Tony Cleaver is well out of it with IBM UK reporting truly appalling figures of a pre-tax loss of £124m for the year ended December 31 1991, compared with a £420m profit in the year before. Loss after taxation was £75m - a decline of £266m over the year. The group took a £184m knock for restructuring, but even without that charge pre-tax profits slumped 86%. Turnover for the year was £3,798m down 8% from £4,324m a year ago: home revenue declined 14% to £1,700m, while revenue from the export of goods and services dropped 3% to £2,278m. Over the year 2,639 jobs were cut and the IBM UK workforce now totals 14,909.

Credit Lyonnais has bought 20 fault-tolerant systems from Stratus Computer Inc, Marlborough. Two computers will drive the state-owned bank's automatic teller machines and the remaining 18 will be integrated into Credit Lyonnais' distributed information system, Plan Elan, as regional servers. The systems will receive data from an Oracle database and operate via an X25 network and local area networks to the 2,000 branches throughout France.

Midland Software Ltd, based in Ruddington, Nottinghamshire, is to launch its Delphi Freedom range of Unix-based pensions applications next month to complement its existing the personnel and payroll packages.

Opus Systems Inc says it's got the nod from Sun Microsystems Inc to move its personal computer upgrade SparcCard through Sun's value-added reseller channel.

Here are two little unannounced technology items Sun Tech doesn't want us to know about even though its chief was chatting them up at Demo 92: One is a prototype SBus-based motherboard with ISDN on it that Sun figures half its customer base might be interested in. The other is Insignia's SoftPC masquerading as Sun PC, a way for Sparc users to run DOS, Windows and OS/2 apps in protected mode with Unix in the background. Sun Tech will also be pursuing the Sun market for Novell Netware.

Alameda, California-based Jupiter Systems has announced a modular high-performance 19-inch colour X-terminal, the MX600 Network Display Station supporting up to six 1280x1024 displays controlled by a single mouse and keyboard and housing a maximum 64MB. It has an X11 Release 5 server and optional hard disk with one Ethernet interface standard. X Imaging Extension (XTE), the emerging standard for image processing, is also available. The unit with a single display and 4MB is priced at \$6,500.

OOPS house Objectivity is reorganising. CEO Bob Field stays on the board and continues on as a consultant replaced by former VP/international operations and CFO Atam Lalchandani who is now president as well. To reduce costs, the company has been divided into four separate groups: product operations, North American sales and marketing, international sales and marketing and finance and administration.

The rumour mill has picked Joe Guglielmi, IBM's general manager of marketing and business development for personal systems, as the soon-to-be-named head of the IBM/Apple venture Taligent seconded by Ed Bires of Apple as COO and Robert Carberry, assistant general manager of systems technology for Blue's personal systems business, to run Kaleida.

NCR and USL both deny a report in the January 15 issue of Datamation that they haven't been able to agree on how to make Tuxedo and TopEnd interoperate and have broken off talks. According to Dick Connally, product manager for NCR's TopEnd, the reverse is true: They have decided to make the competing transaction processing monitors follow the evolving OSI-TP standards for OLTP and as they unfurl expect to start getting their acts together later this year or early next.

The 350 CEOs who've gone to ETRE, the European Technology Roundtable Exhibition, in France where they get to rub shoulders with their European and US counterparts will appreciate that ETRE's founders are kicking off an even more exclusive shindig for Asia: ATRE is scheduled for Saboro, Japan May 31-June 2, designed to bring together the world's leading computer companies to discuss new directions and growth opportunities in the Pacific Rim and the specific charter of linking large Japanese electronics companies. Working sessions will be in English.

As reported (UX No 368), Hunter Systems scored a pact with IBM to put its XDOS technology on the RS/6000: starting in March, Hunter will have a porting centre operating at its California headquarters to help customers, developers and remarketeers port their DOS applications to the IBM box and produce native Unix versions. In the UK, XDOS for the RS/6000 will be available from Memec plc group's Thame, Oxfordshire-based Transformation Software Ltd

Sure cure for insomnia: X/Open has counted up 75 standards from 19 worldwide organisations and put them in the industry's first standards reference guide including a list of what all those darn acronyms mean.

The old Floating Point Systems, aka FPS, has been renamed Cray Research Superservers Inc by its new owners: due to its new relationship with Sun (UX No 369) the restyled entity has joined Sparc International.

UK firm, AI International Ltd, Berkhamstead, Hertfordshire, has a Quintus Prolog Runtime Generator for MS-DOS computers that will allow Quintus Prolog 3.1 application code developed under Unix SVR4, VMS and on DEC, Hewlett-Packard/Apollo, IBM, Intergraph, NCR and Sun Microsystems Unix systems to run unchanged on stand alone Intel 80386 and 80486 boxes - no prices given.

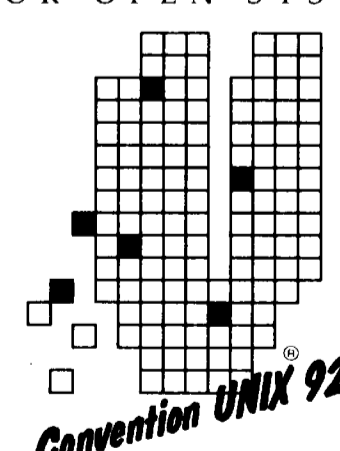
The UK's University of Manchester Institute of Science and Technology has ordered 70 HP 900 series 700 "snake" workstations which it will use for research and teaching: the deal is worth £2.1m.

Greg Blatnik, once a Dataquest VP with the Display Terminals and Graphics Services, has joined the X terminal consultants over at the X Business Group as a vice-president.

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IBM OUTLINES MASSIVELY PARALLEL RS/6000 RISC PLANS

IBM Corp has shown its massively parallel processing hand for the first time, announcing that it will establish a Highly Parallel Supercomputing Systems Laboratory to build parallel machines around the Rios RISC used in the RS/6000. The company said the effort would complement work in Europe already carried out on clusters of RS/6000s. The aim of the laboratory, to be established in Kingston, New York will be to create a scalable parallel architecture and machines offering performance in the hundreds of GFLOPs, and capable of expanding into the TFLOPS range by 1995. They will also optionally be supported by ES/9000 mainframes as front-ends, although development of the Vector Facility, now in use at 500 sites with 1,000 Vectors in total, will continue. The company will also do further work on loose clusters of three to 32 RS/6000s to be used as entry level parallel, batch and data servers. The planned parallel system will use Multiple Instruction-Multiple Data architecture with distributed memory architecture and message passing for processor co-ordination. Herb Bud of IBM Europe told our reporter at the Super Computing '92 Show in Paris last week that the effort was a development of a project called Vulcan, which uses a low-level operating system kernel on the processing node. This is in fact a combination of Single Instruction- and Multiple Instruction-Multiple Data technology, with the emphasis on message-switching; each processor sending and receiving one byte per cycle, with the clock set at 20 cycles per micro-second. Bud talked of "an offering by the end of the year," most likely in the area of improved co-operation between clustered RS/6000s.

MIPS HAS R4000 SYSTEMS ON THE RUNWAY...

MIPS Computers Systems Inc says it is just waiting for the ACE Initiative to deliver final specifications for its Unix operating system(s) - "the gating factor" - before bringing workstations and servers to market based upon its own R4000 RISC chip. The uniprocessor offerings, thought to include low-end workstations and mid-range servers, are expected to be announced next quarter. Server systems will come in below MIPS' existing multi-processor boxes which use the R6000 ECL part and lie at the top-end of its product line. In anticipation, MIPS is cutting tags on its existing R3000-based systems to ensure that they will remain competitive on a price/performance scale, with the new R4000 offerings. It won't be doing multi-processing R4000 systems until next year. MIPS says it could bring the R4000 machines to market now, running an existing implementation of its AT&T Unix-derived RISC/os variant, but that would mean upgrading to an ACE-compliant version of the Unix SVR4 kernel that it intends to offer, only weeks later: it is planning a further iteration of RISC/os before it moves to a fully ACE-compliant release in any case. MIPS, which currently uses Visix Software Inc's Looking Glass desktop manager to front-end its operating system, says it hasn't decided whether it will use IXI Ltd's X.desktop, the interface which Santa Cruz Operation Inc is supplying with ACE Open Desktop: ACE's specification will allow vendors to use a metaphor of their choice.

...AS CHIPMAKERS TEAM ON VOLUME PARTS

This week, at the International Solid State Circuits Conference in San Francisco, MIPS chip houses Integrated Device Technology Corp, Toshiba Corp and Siemens-Nixdorf Informationssysteme AG are due to announce their three-party partnership to co-develop and produce high-volume standard derivations of the R3000 and R4000 multi-processing units for the Unix, personal computer and embedded markets. They intend sharing technology and research and development costs, and though all three may not produce everything, they will guarantee a second source.

APPLE'S SECRET CRISP RISC NOW IN USE AT GO CORP

AT&T Microelectronics has developed a RISC chip code named Crisp. (Could this be the same one that AT&T was working on back in 1988, which was scrapped when it opted to take Sun's Sparc chip (UX No 181), a decision later reverse, we wonder?). Apple Computer Inc is thought to have paid to get Crisp to the second generation stage, at which point its name changed to Hobbit. Apple then threw the baby out with the bathwater when it trashed Jean-Louis Gasse, apparently preferring the Acorn RISC Machines ARM chip. Hobbit is now reportedly being used by ex-Sun Microsystems Inc ringmaster-turned-venture capitalist, Bernie La Croute, at his pen-based start-up Go Corp along with Go's operating system. Nothing to do with Unix but a good tale bears re-telling.

UNIX LABS CAN'T PIN OSF DOWN ON TERMS FOR DCE

Unix Systems Labs is still arm wrestling with the Open Software Foundation over the terms and conditions that will allow it to provide Distributed Computing Environment technology to its followers. Months of discussions have reportedly gotten them to the point that they know what's supposed to go on the piece of paper but still no piece of paper, a situation that would seem to put pressure on USL if it is to make good its voiced intent to announce DCE-on-Unix SVR4 in the next month or so. The current stumbling block seems to be OSF's lack of imagination, having never considered cutting what is basically a master distributor deal with anyone, let alone USL. USL also needs to be covered for service, support and integration, since it wants to move what it gets from Siemens-Nixdorf Informationssysteme AG, which is porting DCE to plain vanilla SVR4, to SVR4 ES and MP as well as make it compatible with everybody else's version of SVR4. So while the SNI work is still not finished, USL is racing to win garlands for "the first productised value-added version of DCE." It's a race USL very much wants to win even though it tells itself the exercise may be for nought. It suspects that the user, for all the hullabaloo DCE created, may find the bill for DCE interoperability too excessive and discover that Sun Microsystems Inc's Open Network Computing was what he or she wanted all along. Or, in another scare scenario, it frightens itself with learning that the DEC and IBM implementations of DCE are so proprietary that DCE's promise of interoperability can't be met.

NEC SAMPLING VR4000 MP, VOLUME SET FOR APRIL

NEC Corp has announced the multiprocessing version of MIPS Computer Systems Inc R4000 chip, saying that samples of the VR4000 will be available next month, putting it just ahead of the field of R4000 makers which all expect to be sampling the multi-processor version by midsummer - see opposite. NEC claims performance of 70 SPECmarks, 90 MIPS, as a single chip and 235 SPECmarks, 350 MIPS in a four-chip multiprocessing module. Samples are said to be a hefty \$2,190 and NEC plans to be making 10,000 of the things a month when volume shipments start in May. NEC has also extended its technical agreement with MIPS, first signed in March 1989 for five years, to run for another five-year spell and running out in March 1999.

CRAY COMPUTER PUTS PRODUCTION CRAY-3 ON HOLD, SEEKS PARTNER...

Seymour Cray was always taking a gigantic risk when he took his Cray-3 project out of Cray Research Inc and off down to Colorado Springs, Colorado as Cray Computer Corp, and the dreams have turned very sour. Cray Computer says it has scaled back development plans for the GaAs Cray-3 supercomputer after losing its lone customer, and has started searching for a business partner. Cray's board of directors has approved a revised business plan under which work will continue on a prototype of the Cray-3 with testing planned for next month, but with no customer demonstration site, "the market opportunities for 1992 do not appear sufficient to warrant the risk of increasing expenditure to build a 16-processor system for the second half of 1992 without a signed contract," the company said. It wants a partner to help with the sale of smaller Cray Computer products, marketing, manufacturing, software and financial capability.

...AS CRAY RESEARCH CONFIRMS PLANS FOR DEC ADVANCED RISC ARCHITECTURE

Cray Research Inc has now confirmed that, as expected, it will use Digital Equipment Corp's Alpha RISC in its forthcoming massively parallel processing system, which will come in above its Sparc-based machine. The 64-bit Alpha will be launched as ARA, standing for Advanced RISC Architecture. As reported, DEC rates the Advanced RISC Architecture at 150 MIPS - VAX MIPS presumably, and says it is clocked at 200MHz; the peak performance is estimated at 400 MIPS.

SUNPICS EXTENDS NEWSPRINT WITH NEW RASTER SUPPORT

SunPics, Sun's printing and imaging arm, last week extended the capabilities of NewsPrint 2.0 with the introduction of NewsPrint XP, an OEM product co-developed with Linotype-Hell AG that will let network users output to imagesetters, high-resolution laser printers, large-format plotters and other high raster memory devices. NewsPrint XP's first licensees are scanner/recorder house ECRM and SRS Imaging, the latter for its new 900 dpi laser. Like NewsPrint 2.0, XP speeds output by allowing the page imaging process to be handled in the Sparc, where it's more sensible to spend money on memory, rather than in the output device. XP's new technology allows a single-page raster image to be split into small bands, reducing the system's memory requirements and producing a Postscript-compatible solution. Through a feature called OpenScreening, SunPic's shared halftone library interface, developers can incorporate their own proprietary screening process or take advantage of the patented screening SunPic offers to get Postscript Level 2-compatibility for monochrome devices. Level 2 compatibility, the leading-edge standard, won't be completely available until fall, SunPic said. As a licensable technology, XP becomes available in May. SunPic declined to discuss terms and conditions since they will vary from case to case.

UNIX STANDARDS "GET IN THE WAY"

Unix standards are just hot air, a recent IDC survey reports. It finds that 63% of European corporate users have not yet decided whether to use X/Open's XPG3 brand, whilst a further 76% remain doubtful of Posix standards, and have little interest in the Open Software Foundation's DCE and DME and Unix International Atlas technologies. 53% of those questioned had no policy on a specific Unix version: 75% had made no graphical user interface choice. More than a third of users found standards an obstacle to the effective use of their Unix systems.

MEIKO-PARSYS-TELMAT CONCERTO HAS \$10m FIRST DAY ORDERS

London-based Parsys Ltd, Meiko Scientific Ltd of Bristol and France's Telmat Informatique SA, headquartered in Saultz, last week launched the first product to emerge from the GP MIMD Esprit supercomputing initiative. As expected, Concerto was unveiled at the Supercomputing '92 exhibition in Paris last week, and it is a distributed-memory supercomputer based on Sparc and Intel 80860 processors. The mid-range supercomputer achieves 60 MFLOPS per processor in double precision mode, 80 MFLOPS in single precision, it scales up to a 64-processor configuration, achieving some 1.29 GFLOPS, and each processor has 32Mb of memory. Concerto owes more to Meiko's technology than the other two, presumably because of its experience of mixed 80860 and Sparc technology. The three collaborators claim that the machine has brought in \$10m of orders from the US, Asia and Europe, and the client list includes rival Cray Research Inc, INRIA, the Royal Signals and Radar Establishment and Toyota Motor Co. Being Sparc-based, Concerto runs SunOS, and it supports low-level message-passing primitives including CS Tools from Meiko, NX/2 from Intel Corp, the PARMACS library and the new applications support interface from GP MIMD. The last enables applications to be written for both supercomputers and personal computers. Concerto uses some Transputer technology, but to link the processors to the disks rather than increased processing power. A four-node configuration comes in at \$110,000 and the price goes up to around \$1.3m for a high-end model. All three companies are shipping now, but the triumvirate seems unclear on how revenue will be split, and it's worth noting that Meiko and Parsys are regarded as head-on competitors, except for this collaboration. Meiko assembles the machine in the UK and is likely to dominate US sales as well, Telmat will market in France, and Parsys will get Spain; each will badge the machine as their own. Meanwhile, two other strands of the GP MIMD initiative - the TeraFLOPS system and Transputer-based T9000 machine - are due to ship in the last quarter, as first implementation and prototype respectively. T9000 availability depends on a ready supply of the T9000 chip from Inmos Ltd, and further details are being kept under wraps for the present, except to confirm that the TFLOPS machine will not use the T9000 chip, and looks as if it will be an expanded version of Concerto.

MCS BRINGS NETWARE AND UNIX CLOSER

Outside of the Univel Inc sphere of influence, the integration of Unix with Novell NetWare local area networks is to get a further hand on its way when Irving, Texas-based Micro Computer Systems Inc releases its UniLink Basic and NetBIOS software later this month. The products reportedly allow NetWare clients to access applications hosted on Unix, without having to use separate connections or mount different sets of protocols. UniLink Basic, priced at from \$1,000, allows users to login in to Unix hosts and establish terminal sessions using emulation, as well as transferring files: it includes application programming interfaces and Token Ring device drivers. UniLink NetBIOS, from \$700, brings a NetWare-compatible NetBIOS application programming interface. The software initially supports personal computers running Santa Cruz Unix or Interactive Unix, with a SunSoft Solaris 1.0 version set for March and Solaris 2.0 (Unix SVR4) support planned for later in the year.

SUN AND SILICON GRAPHICS USERS GET VIRTUAL REALITY TREATMENT

WorldToolKit, the personal computer-based virtual reality package from Sense8, San Francisco, California, will be available for Sun Microsystems Inc and Silicon Graphics Inc workstations from June. Now beta-testing on Unix, the three-dimensional, interactive software is based upon a C library and is aimed primarily at on-screen developers who need more processing power than that available on most personal computers. Sense8 file format is compatible with most CAD/CAM applications, making the package attractive to Unix developers. In Europe, basic versions of WorldToolKit are available for £6,000 running the Sun Sparcstation 2 and Silicon Graphics Indigo RISC boxes, from London-based Virtual Presence Ltd. A full virtual reality package, with the tools of the trade, like sensory gloves and headsets, would buck-up the price to around £50,000. The UK Virtual Reality show takes place at London's Olympia on April 1 and 2.

MASSIVELY PARALLEL PROJECT TO USE 88000s, REAL-TIME MACH

Interest in parallel computing continues to grow and the Centre for High Performance Computing at Worcester Polytechnic Institute in Worcester, Massachusetts has been awarded a \$10.6m contract from the US Army Intelligence Center at Fort Huachuca, Arizona for the development of a compact and reliable shared memory multi-processor architecture capable of physical distribution and scalable performance into the Tera operations per-second range. This Defense Advanced Research Projects Agency-sponsored research effort includes the development of a real-time version of the Mach operating system and of a programming environment and tools for massively parallel computing. The contract will fund development of Lynx, a high density RISC multi-processor compute node that will fit on a single 6U board; Galactica Net, a Gigabyte per-second optical interconnect for massively scalable multi-processing; Insight, a parallel computing framework; and the real-time Mach. Lynx is an ultra-compact stand-alone minisupercomputer using multiple Motorola 88110 RISC microprocessors that can also be used as a supercomputing node when connected through Galactica Net to many Lynx to create a general-purpose, shared memory, massively scalable parallel computer. The Lynx project combines advanced packaging technology, ASIC design and a high performance bus architecture to integrate four Motorola 88110s, 256Mb memory, a VME64 input-output bus interface and a Galactica Net interface. A single Lynx node will do about 200 MIPS and fit onto one 9" by 6" 6U circuit board. The Lynx software will include parallel Ada, parallel Fortran and parallel Common Lisp programming environments, each with a non-intrusive parallel algorithm development and evaluation framework, called Insight, specifically designed for real-time parallel programming. The project will extend the Lynx architecture well beyond four processors through the use of distributed shared memory supported by Galactica Net, linking up to 1,204 nodes; part of the effort will involve shrinking the Galactica Net interface into Lynx single node size requirements. Mach will be extended to support a distributed shared memory environment. The work will be done at the High Performance Computing centre, which is actually in Marlborough, Massachusetts.

TINYTERM OFFERS UNIX ACCESS FOR WINDOWS USERS

Utah-based Century Software has launched TinyTerm for MS-Windows, a plug-and-play Windows-based communications and terminal emulation program that lets users access programs on Unix, Xenix and VAX hosts as though they were local applications. Called by its creators the fastest terminal software available for Windows, TinyTerm emulates the six most widely used Unix terminals including the Wyse 60 and SCO colour consoles. Cost is \$60 a user for up to five users. The company has also created TinyTerm for X-Windows, a terminal emulator for accessing multi-user systems on a network. It lets users access character-based Unix applications as if they were using a personal computer. Price is \$300 for SCO ODT and \$400 for Sparc.

ICL AND SUN FARE BEST IN EUROPEAN IDC REPORT

In a new European Unix-user survey carried out by market researcher IDC, 400 corporate users reviewed their Unix vendors. Bull and IBM were rated the poorest hardware vendors in terms of reliability and maintenance, though they fared slightly better with their training and support services. Even in France, users seem to have little confidence in Bull as a Unix vendor, they say it lacks a clear priority in developing Unix hardware versus its proprietary based business. IBM, despite increasing RS/6000 sales, unable to remove all customer doubts about its reliability as a Unix supplier. Hewlett-Packard fared somewhat better on the hardware side, but fell down on software, training and support, with below average ratings. ICL and Sun came out on top in the report, with ICL being the only major European vendor to increase its share of the European Unix market over the last two years. IDC says ICL is now the fifth largest European Unix vendor in terms of revenue. Whilst Sun got top marks from users, it faces difficulty in breaking into non-Unix accounts, the report concludes.

ICL LOOKS FOR HALF ITS OFFICEPOWER UNIX SALES TO BE ON ALIEN KIT BY 1993

ICL's decision to do an implementation of its OfficePower office automation suite for Santa Cruz Operation Inc Unix, Sun Microsystems Inc Sparcstations and IBM's RS/6000 is a bid, the company says, to break into the open systems software market from its traditional proprietary base. OfficePower is also to be extended to support Novell Inc NetWare local area networks and Microsoft's Windows 3, Word and Excel environments. The Sun, SCO and IBM versions are thought to be the first in a series of Unix platforms that ICL will target as it attempts to maximise revenues from the popular office package. inherited from Computer Consoles Inc. The news is unlikely to have people falling off their chairs, however, as Sun already offers OfficePower in its software catalogue, and ICL has been talking about plans to port the software to other Unix environments for two or three years now. OfficePower for Sun and SCO platforms will be out next quarter, an RS/6000 version in the third. ICL has an estimated 150,000 OfficePower end-users in the UK - 250,000 worldwide - and says it'll be working with more independent software vendors on other applications for the suite - announcements will follow soon. ICL's third party Unix relationships will account for some 50% of its Unix-derived OfficePower revenues by the end of the year, the company says.

ARE THE VIKINGS COMING?

Now that ICL has announced the world's first Viking-based Sparc machines (UX Nos 369, 370, 371), we thought we'd ask them whether in fact they have any Viking chips to put in them. Turns out it's not allowed to tell us because of some sort of "Texas Instruments-Sun Microsystems non-disclosure" embargo. ICL is also not allowed to tell us whether it has a Viking prototype, a Viking pre-production unit or even a Viking cardboard mock-up. What it is allowed to say is that it has "working hardware," though what that means under the circumstances is anybody's guess. However, ICL has got itself a backdoor in the Alamo: its designs use an M-Bus, and if Viking is a no-show, ICL can simply substitute a more viable chip - provided there is one on the horizon. Meanwhile, on the eve of the ISSC conference - see opposite - where Sun is supposed to remove more of the veils surrounding Viking (UX No 371), reportedly undisclosed sources are saying its performance won't be quite up to what HP claims, but it should be in the ballpark.

FRONTLINE REPLACES UK SUN DISTRIBUTION DEAL WITH DEC

Frontline Distribution of Basingstoke, Hants, which bills itself as the UK's largest trade-only computer distributor, is to offer DEC workstations in place of Sun from next month, in a move aimed at building up DEC's commercial Unix channels. Frontline was the first in the world to sign up for a Sun distribution deal back in April 1990, and was Sun's second biggest customer in the UK. It claims to have been responsible for 12.5% of Sun's indirect sales last year. News of the split first surfaced back in October (UX No 354). Frontline says it would have been happy to continue with the deal, but that Sun felt that margins were too tight. Sun itself says that it was not unhappy with Frontline, but that the business models of both companies were diverging, with Sun moving towards a single master reseller - Technology Plc of Warrington, Lancashire - servicing a few authorised business centres and a range of resellers. Although Frontline investigated the Sparc clonemakers, it plumped for DEC because of its existing relationships with the Santa Cruz Operation and Microsoft Corp, both tied in with DEC through the ACE Consortium. With DEC increasingly keen on exploiting the market for Microsoft's NT on workstations, Frontline, which says it sold £1.8m worth of Windows and Windows-based applications last year, looks a good bet. The focus is commercial, rather than technical, and Frontline says it will be pitching the DEC product line hard at its former Sun customers. The two will be pitching together for business at the Windows Show this week, from Wednesday 18th to Friday 20th at London's Olympia.

FINISHED ACE SPECS STILL SOME WAY OFF

Formal adoption of multi-processing hooks for its ARC specification by the ACE Initiative's executive advisory board is now just "a tick" away, says MIPS Computer Systems Inc. However, finalised application interface specifications for its shrink-wrapped Unix system software are still some way off. There will be one binary interface that will cover ACE members' uni- and multi-processing requirements, but "there will be more than one implementation of the ABI," MIPS says: one for every version of OSF/1 and Unix in use by the ACE crowd. Before that can happen an API must be established. A high-level API specification, which is complete, will be joined by an agreed lower-level definition any day now - although work on it is not expected to be complete much before the fourth quarter. The ABI will follow, sometime after. Finally, finished product will have to go through each vendor's testing and release schedule. The OSF's Distributed Computing and Distributed Management Environment technologies - which are also part of ACE's brief - will be rolled into the specs as and when their components arrive. That's how SCO will be staging releases of its ACE Open Desktop Unix bundle, by incorporating the specs as they come along. ACE has apparently been trying to set a date for rolling out all the hardware, all the software, and all the operating systems which are ready thus far: June was suggested, but that reportedly didn't go down too well with Microsoft which would prefer the third or fourth quarter. And those initial ACE Open Desktop "Development" Kits that SCO has started delivering, but isn't recommending be used for development purposes (UX No 366), have gone to OEMs Acer, DEC, MIPS, Olivetti and Siemens Nixdorf and software houses Aires, Autodesk, Informix and Oracle.

MAIN FORMS FRONT-END SUPPLY UNIT

UK database, services and consultancy group, Main Co, Wokingham, Berkshire, has set up a new company which will focus specifically on delivering commoditised front-end solutions for corporate database users. Called Soft Toolrack Ltd, the division will supply graphical user interfaces, executive information systems and decision support systems for Oracle, Sybase, Ingres, Teradata, IBM DB2, Apple Macintosh and MS-DOS database users. Former Oracle staffer, Rick Marengo, managing director of Main Co, will be going after customers with a team of staff that combines sales and technical support experience. It's a strategy similar to that employed by the financial industries, Marengo believes, where insurance sales people, for example, are trained and qualified to both demonstrate and talk in detail about the technical aspects of the products they offer, as well as handling the business end of the transactions. Soft Toolrack has a Top 40 list of products that it will carry, and reckons that around 70% of its business will be on Unix. An eight-hour support contract will be available for 15% of the purchase price, on-line support will cost "a few thousand."

FINANCIAL SOLUTIONS TO PUT ACCOUNTING SOFTWARE UP UNDER DEC OSF/1

In the UK, Financial Solutions Ltd, Basingstoke, Hampshire, is releasing its Open1 accounting package, for the DEC's implementation of OSF/1 and other Unix environments. Open1, a multi-lingual and multi-currency package, works with Oracle, Sybase, Ingres, Informix and Rdb databases, supporting X-Windows, Motif, Macintosh and Microsoft Windows graphical user interfaces. Why OSF/1? "Because whilst the market is very segmented on OSF/1, we believe OSF will deliver," says Financial Solutions' sales and marketing director, Nigel Heath. Heath admits any widespread adoption of the Foundation's operating system is unlikely to take place until the end of the 1990s, but firmly believes the future of open systems lies with OSF/1 and its successors - not Unix. He is sceptical about DEC's involvement with Advanced Computing Environment consortium, but says the company will follow that direction if software and hardware vendors show sufficient interest. Open1 ships in April with prices going from £5,000 at the entry level to over £500,000 for high-end users. It will be available on DEC VAX/VMS, OSF/1, and Hewlett-Packard, IBM, Pyramid, Sequent and Unisys Unix platforms.

FIREFOX DEVELOPS NETWARE 2-TO-UNIX

LINK WITH NOVELL'S BLESSING

It seems strange that having bought Excelan Inc, Novell Inc should turn to a third party to provide enhanced TCP/IP support for NetWare 3.11 and 2, but that is what it has done. It has given its blessing to Firefox Ltd, the Coleshill, West Midlands software company, which has developed the necessary value-added processes and NetWare Loadable Modules to do the job. Although NetWare 3.11 comes with built-in TCP/IP support, the Firefox approach is different enough for the company to believe that it has a large potential market. The difference lies in the fact that NetWare clients do not have to run TCP/IP protocol stacks themselves - they use the ordinary NetWare protocols. Instead, it is the server-based Firefox software, dubbed Novix, which handles the intricacies of maintaining TCP/IP sessions between the server and the host. The software uses the same approach which Firefox took with its Novos OSI software for NetWare and is clever enough to pass Novell user names and so on to the Unix host during remote log-ins and assign each NetWare client its own unique IP address. This should prove a boon to Unix administrators who will be able to identify remote users properly, instead of receiving generic IDs. The fact that the client is not running TCP/IP makes the package unsuitable for Unix Wizards that want to get to the command line. Instead, the package is aimed at users that need to run Unix-based applications but don't care about the operating system. The network manager configures the Novix NetWare Loadable Module or value-added process to advertise the names of the applications to the NetWare clients' shell. On top of this, a variety of specialised redirectors can be installed, so the company claims, that communications packages that address the communications port using the MS-DOS Int14 interrupt or a number of other methods should automatically get a menu of applications sitting on the Unix box. Other benefits include the ability to re-direct print output from the host to NetWare Queues. The server and MS-DOS re-directors cost £700 to £5,000 depending on the version of NetWare and the number of sessions supported. For NetWare 2.15 and 2.2 this looks to be it as far as Unix support is concerned: Novell insiders say there is no apparent development that would lead to a comparable product. Presumably its own Unix gurus have bigger fish to fry.

DEC-NOVELL PACT TO ADD NETWARE SERVICES TO PATHWORKS

Digital Equipment Corp has extended its agreements with Novell Inc to cover integration of NetWare services into DEC's Pathworks corporate network operating system, starting in the second half of the year. The planned Pathworks products will give NetWare users access to enterprise data, applications and services via Digital's Network Application Support products in local and wide-area networks. Personal computer users will be able to access and manage file and print services on NetWare-based Pathworks for VMS, Ultrix and OSF/1 servers and on Novell NetWare servers in a consistent manner.

PARCPLACE AND RATIONAL TEAM ON OBJECT-ORIENTED C++ SOLUTION

ParcPlace Systems and Rational have announced an agreement to integrate their respective C++ products, providing programmers, they claim, with a complete object-oriented solution. This alliance ensures future versions of Objectworks/C++ and Rational Rose will be integrated allowing analysis and design in Rose and then translation of those designs into C++ application code using Objectworks/C++. Objectwork/C++ Release 3 costs \$2,000 and ships second quarter; Rational Rose is available at \$4,000 per licence - currently being beta-tested, release is scheduled for February. Both products are available on Sun Sparcstations and the IBM RS/6000. And ParcPlace is to add the OSF/Motif interface as a front-end to Objectworks C++ 3.0: the release will include a native implementation of X-Windows.

RUSHED ON TO ITS FEET: THE UNFINISHED SCORE THAT BULL MUST DANCE TO

by Maureen O'Gara

The deal IBM Corp cut to finesse Groupe Bull SA into becoming its partner looks like it could be worth almost the half billion dollars that industry sources claimed IBM put on the table (UX No 369), once you factor in all those Zenith laptops it has promised to buy. "The deal it cut," however, may be a premature statement, since spectators close to happenings in France these last nine months claim IBM and the French rushed their announcement out in the absence of having anything signed, and are still negotiating not only IBM's equity position in Bull, but on other features of their multi-pronged agreement as well.

Their hurry may be attributable to the fact that a decision as to who Bull's partner would be was supposed to be made last September 24. What caused the delay, sources say, is the fact that what started as a pure technology decision quickly became a political football with French jobs put at stake. Bull started shopping for a RISC/open systems partner last summer after it reportedly realised that it wouldn't be able to build high-end, commercial, multi-user machines out of MIPS Computer Systems Inc chips - at least not machines that matched the performance of its stock-in-trade mainframes, the installed base IBM covets. (The MIPS chip for instance only accomplishes in multiple software-based commands what Hewlett-Packard Co's PA RISC chip does in one instruction). Bull sought out IBM, HP and DEC, the world's top three computer companies. DEC talked for a while, but dropped out some time last Autumn, perhaps because, unsure whether its Alpha RISC would in fact materialise, declined to cut Bull into the piece of Alpha it wanted. Almost immediately after Bull first reached out for someone, the French government, Bull's owner, kicked off a set of parallel negotiations with the suitors, compounding the agendas of the negotiators. Once the government became involved, the criteria and goal of the deal reportedly never seemed fixed. Though in hindsight it may seem patently obvious that the decision ultimately rested with the government, one negotiator said that from the inside it was never that plain. The government injected a portfolio of non-technical issues into the negotiations, not the least of which was the need to maintain a position consistent with the anti-Japanese stance previously adopted by French Prime Minister Edith Cresson.

Partnership

Enter an equity proposal to offset the piece of Bull owned by NEC with an American interest. Hewlett-Packard had envisioned a nice little partnership of equals with both companies working on common goals and contributing to the strengths of the other. It was busy firming up cooperative agreements with Bull on such matters as common OSF interest, networking, CASE and multiprocessors. It was negotiating a different kind of deal than the one that eventually went down, and while HP's notions may have found favour with the Minister of Industry and key advisors to Cresson, IBM's pitch appealed more to the Minister of Finance, Cresson herself and apparently French president Mitterand. However, HP was willing to match NEC's stake at a cost of around \$100m and it did manage to attenuate discussions for some weeks with the Thomson angle, since the French - not to mention IBM itself - are very interested in HP's ASIC capabilities and its CMOS/BiCMOS 0.5-0.6 micron technologies. What it couldn't stomach was taking on Zenith boxes any more than it could commit to the subcontracting, procurement and future funding that would be required to protect its initial investment from eventual dilution. Sources suggest that the scale of IBM's commitments, made on its behalf by IBM/Europe under the apparent leadership of Armstrong, caused Armonk to draw in its breath once they had tallied them all up. The IBM-Bull nuptials are already being criticised as just the sort of short-term short-sighted arrangements a bunch of politicians would put together.

Prophecies abound predicting that over the next decade the once-proud French flagship will, like Wang, gradually drift off into being nothing more than an IBM distributor. That is, if it can last that long. There appears to be nothing intrinsic to the IBM agreement to stop its haemorrhaging losses long-term - no solutions to its fundamental problems of uncompetitive technology, cost structure, too much staff and an overwhelming dependence on the state as customer. Sceptics argue that IBM does not resolve Bull's fundamental need for high-end commercial multiprocessor RISC technology since it doesn't have that sort of a box itself and that including Bull in the IBM/Apple axis was a bit of last-minute window-dressing that came as news to Apple. Bull's abandonment of MIPS, however, was in the cards all along. Being forced to dance with IBM instead is going to be a hard step for it to follow.

From its corner, MIPS Inc says that Bull accounted only 2.72% of its business in any case. And, although the Sunnyvale, California-based firm would not comment, it is thought likely that MIPS may pick up some of Bull's value-added resellers who have been exposed to its technology. The IBM deal "was nothing to do with little MIPS," it cries, saying "it was purely down to money. We didn't get a look-in, even at the very beginning of the negotiations." Bull, it says, was pressing hard for R4000 multi-processing technology to replace its existing Motorola kit, but MIPS insisted that it was concentrating on getting the ACE stuff out of the door, and though it offered all it had at the time for Bull to go off and do what it liked with, Bull simply couldn't wait.

PIPEX EASES INTERNET ACCESS FOR UK TCP/IP USERS

Commercial TCP/IP users in the UK should now be able to plug into the resources of the Internet more easily, following the formation of Pipex, a new division of Cambridge-based Unipalm Ltd. Pipex - the Public IP Exchange - is offering four levels of service based on 64K digital leased lines, with a £1,800 installation charge and annual subscription ranging from £7,500 to £13,500. Unipalm managing director Peter Dawe, who spent three months researching the project, says the service is the only fully commercial one available - it has been launched as a full commercial service and will be actively marketed to encourage as many users as possible. Connections with the University of Kent's UKNet and the JANET Joint Academic Network are being negotiated, and Pipex is connected to the five major US commercial TCP/IP network providers via CIX, the Commercial Internet Exchange. Internet gives access to three to seven million people, and three quarters of a million computers worldwide.

* For those with smaller budgets, the UK part of EUnet, is now offering dial-up access to Internet, based around the Telebit NetBlazer router from Chernikeeff Network Systems of London W4: prices were not available as we went to press. Pipex promises a dial-up service later in the year.

UNIPLEX GOES THE OBJECT, GRAPHICS ROUTE WITH LONG-TERM

MIX-AND-MATCH MEDLEY PROJECT

As reported (UX No 368), Uniplex Ltd has finally bitten the bullet and embarked upon a major overhaul of its long-established Uniplex integrated office automation software suite, one of the dominating forces in the Unix software market. Called Nouveau, the effort aims to move the software into the worlds of graphics and objects, from a terminal-host architecture to client-server, and also to allow users to plug in their own preferred product modules - such as their favourite word processor or spreadsheet - if they like. Dumb-terminal users will also continue to be catered for. Uniplex has obviously been taking a peak at newer-generation products such as Clarity Rapport, and at the facilities available in desktop publishing systems such as FrameMaker, and is putting in place an architecture to deal with compound documents - text, paint and draw (and later voice and video) - that can be associated with, and operated on from a single document. There are five key areas to be addressed by Nouveau: document processing (in a multimedia context); business communications (including global mail and directory services); document management (particularly dealing with compound documents); information access (beyond databases to financial information, process control etc); and active integration (drawing Uniplex and third-party applications into a groupware context).

Uncharted territory

At the core is the "Universal Server", providing the mail backbone, with X.400 mail, X.500-based routing and management, transfer agents and gateways, and support for compound documents. It will also interface to Novell, telex, fax, and to proprietary office systems such as Profs and All-in-One. This, along with a Microsoft Windows client, X-Windows client and character-based client will make up the first release, expected this year, possibly in June. The following year will see the release of an Active Integration Manager, allowing resellers and end-users to embed office rules and procedures into the system to automatically trigger off events. And in 1994 the full document and object management support should be available. Of course, Uniplex is moving towards uncharted territory as it attempts to link applications - its own and third party - to service compound documents, especially when they could be required to work across global networks with thousands of users, as required by many of the company's giant government and defence contracts. For MS-Windows applications it is using Microsoft's Dynamic Data Exchange (DDE), and will use the Object Linking and Embedding (OLE) facility. For Unix, it has implemented its own versions of DDE and OLE, but must wait for the Object Management Group to sort out a standards-based approach before it can go too far. To that end, it is working with object specialists and OMG members Hyperdesk Corp (UX No 368). Meantime it will encourage its third-party application vendors to add support for its interfaces.

* Now that its parent company Redwood International has been sold off to IMI plc, a far larger UK firm (UX No 363), Uniplex US chief Jeff Waxman has resigned citing personal reasons: the US operation will be managed by a team of US-based senior executives headed by Patrick Register who is otherwise in charge of international sales at Uniplex Ltd, the Uniplex unit that operates outside the Americas.

IBM ROUNDUP

Its new acceptance that there are other manufacturers with equipment that people want to use - forced on it by the realisation that it is taking a much smaller proportion of the data processing dollars of its major customers than it did a decade ago, means that IBM is having to consider putting its software onto alien hardware. The NetView network management Service Point now runs on Sun Microsystems Inc kit, and OfficeVision and even transaction processing, which to most IBM people means CICS, could go onto third party kit - at least it makes IBM's development more profitable.

IBM is pretty pleased with how open its networking has become - it reckons it can now do Open Systems Interconnection with Systems Application Architecture and AIX 3, TCP/IP with all AIX Unices, Systems Network Architecture Logical Unit 6.2 on AIX 3 and SNA, Ethernet in the Network Control Program, NetWare in OS/2, and that it also has Fibre Distributed Data Interface and CallPath implementations, and it is now turning its attention to Frame Relay and enhanced multi-vendor networking. Observers reckon that DEC is further down most of those roads, but c'mon - there was a time not long ago when you could have any networking from IBM as long as it was SNA...

IBM Japan Ltd has opened an Open Systems Centre in one of its Tokyo offices, to provide information on multi-vendor environments: specifically, the centre is based around SAA and AIX environments, and will offer advice on systems integration, communications, installation and development methods for customers wishing to link IBM hardware and software with those of other vendors.

IBM has named one of its own, 36-year Blue veteran Catherine Selleck, as president of Metaphor to replace David Liddle now that it owns the entirety: Liddle has gone on to greater glory as vice president of new systems business development for IBM's Personal Systems line of business.

IBM Austin has been in the forefront of the upheavals at IBM over the past three or four years, and has had to bear its share of recessionary cuts. Three or four years ago, it was working three shifts seven days a week, now it is down to two shifts five days a week and employment at the plant is down to 7,000. Two layers of management have been removed, and staffing has been cut by 20%, although IBM was able to find other work in its various operations in the area for the employees that were displaced. Hopes in Austin are of course now all pinned on the new RS/6000 Series 200, and the plant is hoping that other OEM agreements will follow the one with Wang Laboratories Inc, so that it can improve on its current 45,000 boards a quarter.

Competition in the Unix systems market is so fierce that companies will do almost anything to improve their position in the price-performance stakes - and once they have done all they can to boost the latter, they start looking for ways to trim the former. For its TPC-A and TPC-B benchmark tests for the new low-end RS/6000s, IBM, spotting that they were cheaper than its own, used Applied Digital Data Systems Inc terminals and Digichannel terminal concentrators.

The latest issue of RISC Management makes the interesting observation that what you see in the new IBM Model 220 (UX No 369), will probably be pretty much what you'll get in the first PowerPCs. Given the target of getting PowerPC boxes out the door this year or early next, the newsletter reckons "little is likely to change in the CPU. Motorola will have its hands full converting to its process and designing the 88110 input/output bus-compatible replacement for IBM's input/output controller."

MARKET ROUNDUP

Emeryville, California-based Sybase Inc has upgraded the tool set that supports development of relational database management system applications. Release 5.0 of its APT Workbench includes support for both Unix graphical user interface standards Open Look and Motif, as part of a GUI Style Editor for building graphic applications from character-based front ends developed with technology licensed from London-based Alex Technologies Ltd. A spokesman said a Microsoft Windows version is also planned. The software will also import data and applications, such as other relational and non-relational databases and flat files, via the Sybase Open Server through remote procedure calls; the company also released version 5.0 of its Data Workbench visual support environment. Both products will be out later this month on nine Unix environments including Sun SparcStation, IBM RS/6000, HP9000 700, Digital Equipment Corp Ultrix, Pyramid Technology, Sequent Computer and NCR Corp.

Oracle Corp is to announce the next version of its database, version 7.0, in April with actual release set for the end of the summer. Version 7.0 is important to Oracle because it brings the database up to date with features such as triggers, referential integrity, stored procedures and two-phase commit - features its competitors already offer; users, most still on 5.0, have been expecting it for a year. And Oracle says that the Oracle Financials suite is now available for MIPS Computer Systems Inc's RISCComputer servers, and all systems supporting the MIPS RISC/os.

Network Computing Devices Inc has re-priced its new X-terminals (UX No 368): the monochrome R3000-based NCD19r is going for \$2,900 (4Mb DRAM) and replaces the \$3,400 68020 NCD19 which can be upgraded for \$1,500. The new model is said to double the performance of the old which has an installed base of 18,000 units. The new colour 88100 NCD17cr (6Mb DRAM) is at \$5,400 and the company's first grey-scale 88110/floating point NCD19g (6Mb DRAM) is at \$4,500.

And Tektronix Inc has added the XP12 and XP18 to its series of low-end XP10 X-terminals: the 19", 1,280 x 1,024 resolution XP12 is priced at £2,000 - the 17" colour XP18 display has a resolution of 1,152 x 900 and costs £3,000.

At Uniforum, its very first Unix show, CompuAdd debuted a 28.5 MIPS 40MHz Sparcette, the SS2, which it has priced at \$10,000 for 8Mb RAM, a 240Mb hard disk, 1.44Mb floppy and 16-inch Sony screen. Shipments start in March.

Unix International is claiming that over 1,000 independent software vendors have now joined its 18-month-old International ISV Program, promising to port their proprietary and MS-DOS software to Unix SVR4: UI says that means another 2,500 software products in the SVR4 arsenal besides the 18,000 already written.

Hewlett Packard Co, has released version 3.0 of HP C++, its implementation of Unix Systems Labs' C++ 3.0 language environment: HP C++ 3.0 runs on HP 9000 series 700 workstations - support for series 800 systems follows next quarter - prices go from £2,000.

In the first collaboration between the two, EurOpen and the Usenix Association are holding a joint workshop on open systems workshop in the Channel Islands on April 6th and 7th at the Hotel de France, St Helier, Jersey.

Apex Computer, Seattle, Washington, which provides training and support for third party Sun Microsystems Inc suppliers, has launched a UK office in Winnersh, Berkshire, to serve the European market. The one-person set-up will provide local support, network maintenance and distribution facilities via a bonded warehouse in Rotterdam. The growth of the workstation market has precipitated Apex's decision to cross the Atlantic, says Bob Greenway, who is heading the operation: he claims Apex has already secured a contract to train users in an undisclosed French manufacturing company.

The Czechoslovakian Federal Ministry of the Interior has signed up for an Informix Software database management system, which it will run on 140 Wyse computers running SCO Unix.

The old ADAPSO, now styling itself as the International Technology Association of America or ITAA, is holding its fourth annual Emerging Software Technology Seminar in Salt Lake city, Utah on March 26 and 27. The subject this year is Architectures for Client-Server Applications: Objects, Standards and the Real World. Speakers include OSF business manager, Jonathan Gossels, IBM director of Open Enterprise Distributed Systems, George Siegle, DEC DCE program manager, Sumner Blount, OMG president, Chris Stone, Unix International chief architect, Laurence Brown, Microsoft application architecture director, Greg Whitten and strategic planning vice president, Gregory Olson, Versant vice president technology, Mary Loomis, Plexus president Tom Frederick and Lotus chief technology officer John Landry.

The first great commercial application for Unix workstations and servers was to provide share, bond, commodity and currency traders with more power on their desktops than personal computers could deliver, and the next one looks likely to come from the retail sector. Sun Microsystems Inc reports SparcSystem sales to the likes of McDonald's, J C Penney, John Menzies, Brewers Retail, Sears Canada, Burdines, Shottenstein's Value City Department Stores, Kash & Karry, US Order, Carnival Cruise Lines, Royal Caribbean Cruises and Hotel Grand Central, and says that retailers are using networked Sparcstations and servers for a wide variety of applications, such as point-of-sale support, stock management and control, credit card authorisations, electronic data interchange, sales tracking and research, transaction processing, decision support, accounting, labour management, and advertising layout and design.

Information Builders Inc is to port its Focus 4G1 to Pyramid Technology Corp's MIServer Series running Unix SVR4. And Pyramid has launched a Pyramid Professional Services unit to provide customers with a single point of contact for system integration, training, support and maintenance.

Alfalfa Software Inc, Cambridge, Massachusetts, has released version 2.0 of its Unix electronic mail system Poste: all features of the software can now be accessed from ASCII terminals, terminal emulation packages and Alfalfa's X-Windows based graphical user interface - it's available this month on most Unix platforms, prices start at \$400 per single user copy.

Having given the VAX/VMS look and feel to a host of alien Unix and other operating systems, Boston Business Computing Ltd, Andover, Massachusetts has now given the treatment to one of Digital Equipment Corp's own operating systems - its implementation of the Open Software Foundation's OSF/1. It is offering versions of its VMS-emulation family of software for DEC OSF/1: the products comprise EDT+, VCL, Vbackup, Vnet and Vmail, giving VMS users their familiar look and feel for software development, the user interface, communications, electronic mail, and data storage and retrieval when they move to OSF/1 on the DECstations; available now, licences start at \$500 for two users.

Siemens Nixdorf Informationssysteme AG has won an £18m deal with the Norwegian Army, which has signed for 150 Targon servers running SNI's secure version of Unix - SecTOS - supporting 2,500 workstations: SNI is to supply one of the systems every 14 days until 1996.

Epilogue Technology Corp's European subsidiary, based in Marlborough, Wiltshire, has introduced what it claims is the smallest and fastest TCP/IP implementation on the market: Attache Plus is a superset of Epilogue Attache, its UDP/IP transport protocol - no prices given.

Informix Software Ltd has gotten into bed with Data General Corp, in a deal which enables DG to resell Informix's relational database and spreadsheet products on the AViiON range running DG/UX Unix: while the agreement is a first for Data General, Informix is also involved in a similar agreement with Hewlett-Packard Co.

Auspex has raised another \$13m in mezzanine financing from five sources including Prudential Equity Investors, the lead investor, and Olympus private Placement Fund: the other three, Technology Venture Investors, Sequoia Capital and Fuji Xerox, all had a piece of the first \$21.3m Auspex raised.

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The Open Software Foundation has officially moved into its new offices in Brussels, after spending some nine months camped out in DEC's nearby Zaventem premises (UX No 362): OSF's European operation - which includes a regional office in Munich and the research institute in Grenoble, France - is headed by Alain Fastre. OSF denies rumours that it is shedding any of its staff - it says it is hiring two new section managers for Europe, plus engineers for the Grenoble and US-based development teams. OSF says the various DME suppliers have each done some pre-integration work on their respective components, but that it will piece the jigsaw together.

UK, Cambridge-based IXI Ltd's cut of the deal that DEC has struck with Norway's state-owned PTT, Televerket (UX No 370), is worth some £500,000 to it. IXI is to provide 7,000 copies of its X.desktop manager for Televerket via its Norwegian distributor, Arena Data AS, which works out to £71.43 per copy: IXI's price list for X.desktop only runs up to 1,000 user licences, which retail for £200 per copy.

Whoops! Last issue we incorrectly identified X/Open as the author of the industry's first reference guide to international standards, when it was 88open which did all the work on "The World of Standards." Sorry about that.

Tadpole Technology made its latest deadline and is now shipping its Sparcbook notebooks in the US: all configurations and options are available including colour and parallel-to-SCSI host adapters. Floating point units are standard.

Wang Laboratories Inc has now sold the Voice Services Division of Wang Information Services, to VoiceCom Systems Inc, San Francisco, taking its annual turnover to over \$30m.

Electronic Data Systems Corp's Unigraphics Division has bought 250 of HP's Model 710 workstations plus some Model 750 servers, to establish an advanced software-development environment: it will use the kit to develop the next generation of the Unigraphics computer-aided design, manufacturing and engineering software at sites in Cypress, California; St Louis; and Cambridge, UK.

In Ireland, Glockenspiel Ltd, Dublin, has released Glockenspiel C++ 3.0, a C++ open toolset, for IBM's AIX SDE workbench/6000 and the 32-bit OS/2 release 2.0: an integrating common tool environment Glockenspiel C++ supports OSF/Motif and Windows and also runs on DEC, Sun3 and Sparc, SCO Unix platforms - the two IBM systems are scheduled to ship in the second quarter.

Sun Microsystems Inc has won an order from BP Oil for 1,500 licenses for Sun's PC Network File System, an integrating multi-vendor network solution for PCs on MS-DOS, Unix, minicomputers and mainframes. The contract is the first part of a total of 2,500-3,000 licenses scheduled to be installed over the next 2-3 years.

Digital Equipment Corp is planning a drastic 20% to 25% cut in engineering and research expenditure, shaving \$400m off its annual budget according to insiders that spoke to the Wall Street Journal, who said the moves were outlined to senior managers by president Ken Olsen on January 14. According to an internal memo, Olsen will streamline product packaging and engineering, and kill off "perpetual projects" that divert precious engineering funds to a few low-volume products. DEC spent \$1,600m on research and development, 12.5% of turnover, in calendar 1990, spending as a proportion much more than do the likes of IBM Corp and AT&T Co. A trimming of product lines and variations, and a simplification of marketing is expected to be initiated within the next two or three weeks and several of the top DEC managers are expected to be without a job.

Bull UK, has struck an OEM deal with Specialix Ltd for RIO - Specialix's intelligent I/O controller - which will be integrated into Bull's DPX/2 open PC-server. Under the agreement Specialix will be the sole supplier of I/O serial connectivity products for Bull's open PC-server.

DEC has declared its continuing support for Metrologie UK Ltd announcing that it will be DEC's distributor for Unix multi-user solutions. Metrologie already with a strong base in providing small and medium enterprises with Unix solutions will be valued by DEC, as is its partnership in the PC market.

Siemens Nixdorf has chosen Synchronise - a personal and workgroup time management tool - from the California-based Crosswind Technologies Inc, as the calendar component to the Office Communication & Information System (OCIS). Synchronise using a client-server is able to support users across geographically separate locations taking into account time zones differences; allowing schedules and resources to be transparently managed.

The first announced customer for NeXT Computer Inc's NeXTstep 486 personal computer implementation of its object-oriented operating environment is expected to be Canon Inc. The Comline news service reports from Japan that Canon plans to implement a Japanese language version of the NeXTstep system on its 80486-based personal computers and to supply it to other vendors.

In addition to parent Prime Computer Inc's \$400m four-year deal with Hewlett-Packard Co for HP 9000 Series 800 and 700 workstations and servers (UX 368), Computervision Corp has a similar (though presumably rather smaller) deal with Digital Equipment Corp for MIPStations, which has not yet been formally announced, according to Electronic News. Until these two agreements, Computervision was selling its design software only with Sun Microsystems Inc kit.

Unigram.X can be contacted on E-mail at: "unigram!george@uunet.UU.NET"

Progress Software Corp, Bedford, Massachusetts, tells us to watch for a "mega announcement" next month, which it says will double the market potential for its Unix-based Progress 4GL development environment and relational database management system.

Legato Systems Inc, Palo Alto, California, has introduced a Novell Inc NetWare version of its NetWorker backup and recovery package: supporting PC local area networks running NetWare 3.11, the stuff is out next month priced at from \$2,300, and will be followed later in the year by a single version of NetWorker capable of backing-up mixed NetWare and Unix environments.

DEC has formally licensed the forthcoming Microsoft Corp Windows NT operating system, presumably to run it on machines built around its own forthcoming Alpha RISC parts.

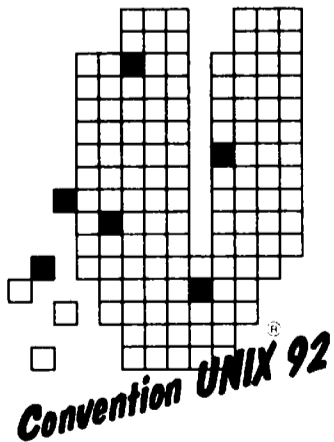
Rumour has it NeXT, a Motorola design win, may be toying with the idea of using HP's PA chip for its next generation machines. Someone has also told us they've seen NextStep running on Sparc.

Not to put all its eggs in one basket, the fabled and immensely powerful Nippon Telegraph & Telephone, the Japanese state-run PTT, joined Unix International at the same time it put its name on the members roster over at the Open Software Foundation (UX No 371) - just chalk it up to OSF's Japanese PR people being quicker off the mark.

Venture capital is hard to come by but that doesn't mean there isn't money around. A group of guys with some funds to place and a management and marketing team ready to move in is looking for a product /company - tools and applications are of particular interest but they'll probably listen to anything. Call (301) 375 6875.

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PEACE DECLARED: UNIX INTERNATIONAL, OPEN SOFTWARE FOUNDATION TO "WORK TOGETHER"

The industry can heave one huge sigh of relief this leap day week. Its bitterest rivals, Unix International and the Open Software Foundation, are at long last, planning a formal declaration of peace and a final end to the Unix wars. Their official rapprochement, which could be publicly sealed as quickly as next month at the CeBit Hannover Fair, will include a joint statement directed to the end-user community forswearing incompatibilities in their different operating systems approaches. The two consortia are said to be working on the wording of the statement as well as on the particulars of how it will be implemented. The date for signing this "peace treaty," as it were, has not been firmly set and could slip into April: that depends on getting past the political stonewalling of the DEC and IBM contingents. "It's an IBM and DEC issue," says UI. Apparently OSF founders Hewlett-Packard Co and Siemens-Nixdorf Informationssysteme AG are now convinced - via their respective work with the UI camp's Sun Microsystems Inc and Unix SVR4 - of the need for such a mind-meld, but "as long as DEC and IBM don't influence OSF in a big way, then it should go forward. OSF, as an organisation, is in favour," says UI. First indications of the move are likely to come this week at UI's annual members meeting in San Diego, the largest turnout the organisation has ever hosted. UI president, Peter Cunningham, is expected to issue a rousing call for peace between the Unix camps, complete with allusions to the once unthinkable fall of the Berlin Wall and the thaw in the Cold War. He will urge the organisation to create new directions that will encourage companies historically aligned against it to cross the divide, and formally invite OSF to participate in future technical developments, as it has been doing on an ad hoc basis for the past months, as either a member or non-member. He is also expected to provide for greater participation in UI's processes by end-users, long alienated by the Unix feuds and showing their displeasure by not buying. The peace treaty comes at a key juncture for the entire Unix community as it moves to mass market Unix-on-the-Desktop, and meets the monolithic juggernaut fielded by Microsoft Corp. Festering rifts will only play into Microsoft's hands.

X/OPEN NOW FREE TO WORK ON OPEN SYSTEMS "BUSINESS SPECIFICATION" FOR USERS

If UI and OSF can make it to the altar, a triangle will be complete with the addition of X/Open Co Ltd. In what looks like yet more good news for users, the standards group has got the go-ahead from its board to start making good some of the promises it made last year about becoming a more user-driven affair (UX No 346). When X/Open's now re-structured User Council meets in Frankfurt this week, it will set in track a definition of programme requirements, the ultimate goal of which is to produce a "business specification" for open systems. This will be primarily a non-technical document for the consumption of commercial users and organisations, designed to sell the open systems philosophy to information technology users. The specification will form part of a programme that will evolve in parallel with X/Open's technical specifications for open systems that are sponsored by the supply side of the industry. For some time the user community has demanded a charter that would push vendors to address their unfulfilled promises of interoperability, application portability and standardisation, as well as calling for a blueprint which they could take to their organisations and departments, justifying the business benefits of open systems. X/Open expects the business specification to be sponsored by the user community, in the same way as the industry has sponsored the development of XPG. Users will get a specification which lays out business benefits of open systems, detailed information about how organisations can plan for, and implement open systems, how spending on open systems can be justified and how organisations can be educated into taking plunge to open systems. X/Open says it recognised the need to change last year (UX Nos 336, 346), but, given its industry-dominated board, it has taken until the current rapprochement to see some wood through the trees. X/Open envisages significant changes in its overall game plan as a result. "They'll be the sort of changes we thought we'd like to make. You start with an idea, a direction and try and progress it, and last year we made the decision to change. However, it is still too early to say what the final outcome will be," the group says. The new strategy, apparently formulated and agreed by the X/Open board over the Christmas period, would have included the blessing of OSF, which was still a member at that time. X/Open's User Council gets a new look and a new chairman to kick the process off this week. After two years in charge, the European Commission's Walter de Backer steps down as (founding) chairman of the User Council. He's replaced by Denis Brown, director of the centre for information management in the US Department of Defense's information systems agency. Following elections, the council now has a six-strong executive committee whilst the assembly has 42 commercial and government organisations in its ranks. A framework of programme requirements which will be put into play at the Frankfurt meet is to be followed by a definition of development activity. Other user organisations are likely to be drawn into the specification process when the User Roundtable meets next, sometime in May or June. X/Open warns to expect no formal integration of the various groupings under one umbrella organisation.

HP HAS 100MHz VERSION OF ITS RISC - MORE SNAKES IN THE PIT

Hoping to steal some of Digital Equipment Corp's Alpha thunder by going to the press a day earlier - see page three - Hewlett-Packard Co last week raised the threshold that RISC competitors will have to cross to match chip performance claims, announcing its next-generation Precision Architecture RISC 7100 chip. It is the firm's first pass at a superscalar, single-chip version and, true to its word, it's claiming it will operate at up to 100MHz and produce systems that will do better than 120 (old) SPECmarks and around 38 MFLOPS, compared with the 76.8 SPECmarks that its current top-end workstations achieve. HP figures to get its "working prototypes" into the HP 3000 Series 900, HP 9000 Series 800 and the HP Apollo 9000 Series 700 systems late this year. Entirely home-grown and free of the troublesome Texas Instruments Inc floating-point processor that marred the roll-out of its Snakes, the PA-RISC 7100 should lower the costs of future HP products because of the single-chip design. The device, however, while combining integer and floating point on a single wafer, includes no on-board cache, though it does use standard commercial RAM chips to implement cache and runs them at the same speed as the CPU "as opposed to several competitors' RISC offerings that run the cache at a lower speed," the company says. The new part supports caches from 8Kb to a vast 3Mb and is fully-compatible with its predecessors, making it adaptable for workstations as well as multiprocessor servers, HP says. The chips are fabricated in 0.8 micron CMOS, compared with 1.0 micron for the current RISC parts that are fabricated at the company's Fort Collins, Colorado and in Corvallis, Oregon plants - technology that IBM, Groupe Bull and Thomson SA are anxious to get their hands on (UX No 372). In the US, HP has already got a 100 SPECmark-plus 7100 engine up and running in the labs "with a big fan blowing on it." The thing is just waiting for a home. Apparently HP's marketing people are still thrashing out packaging for the finished product - plus a positioning strategy - whilst engineers are working on a cooling system for the power-hungry part which can be accommodated in existing box designs. Technology based upon the 7100 in the labs is known as PCXT, according to US sources. PCXT will eventually find its way into new Snake workstations: expect a Coral II, possibly as the 740 (Coral is the 750) and a King Cobra II which could emerge as the 725 (King Cobra is the 730).

DISTRIBUTED MANAGEMENT THE FLAVOUR OF UNIX INTERNATIONAL'S LATEST ROADMAP

Unix International publishes the third edition of the System V Roadmap this week. The hefty document shows the organisation is putting a lot of emphasis on Distributed Systems Management and hopes to take a lead over the OSF DME with which it will be compatible. Its object-oriented, Tivoli-based framework will be out in the first quarter of 1993, along with five applications; backup, restore, print services, software installation management, startup, shutdown and user group management. In 1994 it'll add network management, software licensing management and storage device management. UI is also shooting to make its transaction processing more commercial and mainframe-like. This year it will add COBOL support for application development and a stored request feature allowing programs to schedule transactions for later execution. These will be followed in 1993 by enhanced CICS interoperability, support for large transaction processing (TP) configuration handling thousands of users and OSI-based support providing interoperability between diverse TP monitors. All the TP technology will come from Unix System Labs. UI is also making provision for support of the Open Software Foundation's Distributed Computing Environment this year, and next year will add Open Network Computing enhancements from Sun Microsystems Inc that will improve NFS performance and have it support wide area networks. The ONC remote procedure call will be made secure via Kerberos and RSA-based authentication. Support for object management and new naming technologies will be delivered by 1994.

DEPARTURE OF ARMSTRONG TO RUN HUGHES THROWS IBM SUCCESSION PROBLEM INTO CONFUSION

The shock decision of Michael Armstrong, chairman of IBM World Trade (and thought to be virtually unchallenged as successor to John Akers when Akers reaches retirement age in 1994), to jump ship and become chairman and chief executive of Hughes Aircraft Co throws the issue of the succession to Akers into confusion. Armstrong had inherited the poisoned chalice after all the other contenders fell from grace or by the wayside and it is now thought that Akers may have to plunge into the next generation to find his successor. According to the *Wall Street Journal*, the two names being mentioned are Robert Labant, who just left the AS/400 behind to become US marketing chief, and Bernard Puckett, head of software and services. Armstrong says he decided to take the top job at the General Motors Corp subsidiary because it meant he could start running his own show immediately. His mission will be to accelerate its diversification from its core military business as the peace dividend starts to bite.

US SPRINT PICKS UNIX WORKSTATION FOR ITS NETWORK MANAGEMENT FAMILY

US Sprint Communications Co has come out with Insite, a family of network management products for its network, which can work with industry standards and interfaces as well as Sprint's own and other network management systems. The first products are Insite Executive, a graphics-based network management system, and 800 Call Director, a service management product for toll-free lines. Sprint said that its strategy is that all its services will be monitored and controlled via a Unix workstation. The company added a commitment to Open Systems Interconnection standards, and support for existing de facto standards such as Simple Network Management Protocol. Sprint also announced enhancements to its Clearline network services, with a variety of DS-3 services supported, and said that it was undergoing a comprehensive Frame Relay interoperability trial with Nynex Corp.

DEC WARNS JOB LOSSES IN GERMANY COULD REACH 4,500, MAINLY IN DISTRIBUTION

Digital Equipment Corp says it may cut 550 to 4,500 jobs - a remarkably wide range - at its German unit, Digital Equipment GmbH. The Maynard, Massachusetts minimaker said the planned cuts would affect mainly its Munich distribution operations, adding that it was necessary because of mounting problems in key customer markets as well as the general slump in the market.

ICL AND FUJITSU CARVE UP THE WORLD IN MAJOR ASSET SWAPS

Although ICL Plc operates at arm's length from 80% shareholder Fujitsu Ltd, the two have found plenty of potential synergies, and last week announced the formation of three new joint companies. In Europe, Fujitsu Systems Business - Europe will be owned and run by ICL - will take over the marketing and support of customers for Fujitsu's VP supercomputers and M-Series mainframes, employing about 70 people. In North America, a new Fujitsu-ICL Systems Inc, under ICL management control will bring together ICL's retail systems business in the US, Canada and Latin America plus ICL's Caribbean operation, with Fujitsu Systems of America Inc, covering retail, automated teller machines and handheld terminals; ICL will hold 80% of the new 2,000-employee company. In Oceania - Australia, New Zealand, Fiji and Papua New Guinea - an expanded Fujitsu Australia Ltd under Fujitsu's management will take over ICL operations in the region: Fujitsu will hold an 80% stake in the 1,900-employee company.

IBM LAUNCHES RS/6000 OPTICAL CHANNEL CONVERTER

The Serial Optical Channel Converter for the RS/6000 provides two ports on each Serial Optical Channel Converter. Each port can make an optical link with another RS/6000 or with an external router. It provides data paths to the system memory separate from the Micro Channel interface, where applications can use high bandwidth and dedicated communications. The hardware protocol features include error detection capability and the ability to pace the arrival rate of frames dynamically, and it supports TCP/IP through standard AIX and Unix interfaces. Also, there is an AIX programming interface for applications that directly use the converter. It is supported by RS/6000 Powerstations and Powerservers 520, 520H, 530, 530H, 540, 550, 560, 930, 950E and 950. Two converters are supported by the RS/6000 Powerservers 930, 950E and 950, both of which provide four optical connections.

BULL SETS ITS SIGHTS ON BECOMING A MAJOR PLAYER IN SYSTEMS INTEGRATION

Groupe Bull SA announced last week that it intends to boost its systems integration revenues to between 10% and 15% of its total business by 1995 from around 5% in 1991. Jacques Weber, director of Bull's Systems Integration and Services, says that the rate of growth in integration is considerably stronger in Europe than in the US, and that Bull is ranked tenth in the world, fifth in Europe. The company has systems integration units in the US, UK, Italy, France and Scandinavia, where it bought 75% of Diab Data AB of Stockholm, Sweden last year.

DATA GENERAL CLAIMS FIRST UNIX VERSION OF MESSAGE-HANDLING SERVICE

Data General Corp's AViiON Unix systems are claimed to be the first Unix systems to use Action Technologies Inc's Message Handling Service. The systems can now act as NetWare servers by complementing native NetWare servers, and provide both Message Handling Services and commercial Unix applications in the one environment. Message Handling for AViiON provides electronic mail service for Data General's AV Object Office, and Office users will be able to use messaging services as well as other data management services. This implementation has been certified by Novell Inc for compliance with the Message Handling standard so that applications can communicate between different environments.

OKI FIRST WITH NATSEMI FUTUREBUS+

National Semiconductor Corp and Oki Electric Industry Co Ltd are very pleased with the new Okiserver 8500. They claim that it is the first complete system using the emerging highspeed Futurebus+ standard implemented using NatSemi's Backplane Transceiver Logic interface chip set. The Okiserver 8500 is claimed to be the first commercial product using profile A of the Futurebus+ standard. Also using the set is Digital Equipment Corp's DECnis LAN Controller 622 Network Communications Board.

FUJITSU'S TALK OF TSUNAMI PLUS CONFUSES THE ISSUE, SAYS SUN

Sun and Texas Instruments are said to be irked at the behaviour of Fujitsu which has been going around for months bragging that it has a piece of Tsunami (UX No 367, 371), and effectively getting people's noses out of joint. The upshot of all this is what Sun views as a rather confusing story in last week's Electronic Engineering Times that is likely to mislead readers unless they bother to unravel it. First of all, Tsunami has nothing to do with Viking or with Pinnacle, or in fact with anything at Sun's high-end. As we have said, it is a high-volume, low-cost, low-power chip that will go into the low-end \$5,000 colour Sun boxes. The chip is being made by Texas Instruments and the boxes are imminent. Secondly, there is a second-generation Tsunami design which Sun had the misfortune to code-name Tsunami Plus, which it will rename as soon as it can think of something else to call it. This single-chip silicon, being a next-generation part not intended to see the light of day for the next 18 months, Sun says, has a more aggressive set of specs attached to it - specifically 50 SpecMarks at 75MHz. The fact that the performance is more aggressive than what Sun expects from the current 50MHz iteration of Viking doesn't mean that Tsunami Plus will wend its way into a high-end Sun machine, it says. Like Tsunami One, if you will, it's intended only for the low-end, the follow-on to the Tsunamis we're soon to encounter. By the time the second generation Tsunamis hit the market, Sun figures it will have revved Viking performance way over anything Tsunami Plus has to offer. Thirdly, although these Tsunami Plus chips are likely to be made by Fujitsu, they don't have a deal yet, and at the rate they're going won't have if they don't put a sock in it. Fourthly and not to change the subject, Sun is a lot more interested in the high-end Cypress Semiconductor/Ross Technology superscalar Pinnacle chip than it used to be. We won't speculate on why until we know for certain.

USL'S DESKTOP GOES OUT TO BETA SITES

Fifty copies of Destiny were supposed to leave Unix System Laboratories last week, bound for three months of hopefully rugged beta-testing by a collection of OEMS, ISVs and porting partners. While USL applies itself to the Intel version of its Unix SVR4 for the desktop, ICL and Fujitsu are porting to the Sparc and NEC is sliding it on to the big endian model of the MIPS Computer Systems Inc R4000 chip. Whether a MIPS/ARC "little endian" edition materialises is still up in the air. If it does, the betting is Olivetti will run with it. USL feels confident it's got the Japanese market covered with OEMs. Europe, however, still needs sorting out. Some OEMs are reportedly already touting Destiny to large potential end users and showing off its slim lines. Although it needs 4Mb to boot, it'll reside in only 3Mb, leaving 1Mb over for applications in a 4Mb system, making it interesting to simple dedicated installations and federal bids. This week, Destiny is supposed to be introduced to the Unix International fraternity at its annual members meeting in San Diego, California. Much to its annual members annoyance, USL has rejected the glitzy kick-off justly merited by a product that has to meet Microsoft head-on and break its stranglehold on the marketplace. Still practising marketing-by-circumspection, USL has instead opted for a private suite and a sign-up policy, only one step removed from demanding non-disclosure agreements.

DEC REVEALS MORE ON ALPHA CHIP - CHALLENGES HP'S PA RISC

As soon as HP put out its RISC chip announcement - see front page - DEC went on the offensive. In the wake of DEC's unveiling the Alpha at the International Solid State Circuit Conference last week, it has scheduled a press event for this week where it is promising to reveal such little niceties as Alpha's price, actual as opposed to peak performance, availability and licensing partners, making it sound like they might have someone other than Cray. In fact, they need another semiconductor fabricator to build the thing, otherwise other box-shifters are unlikely to sign on. We haven't heard whether they have anybody yet, only that one house at least turned them down. Microsoft is supposed to be there, probably to confirm how NT is being ported to the Alpha chip (UX No 372 et al), and we've heard the chip has been uninspiringly renamed the 21064, while the overall strategy has been generically dubbed ARA, which we gather is short for Alpha RISC Architecture. Intercepted E-mail claimed the chip would be available in volume in six months time. For those who were interested, DEC last week was willing to read off a comparison chart pitting the purely little endian Alpha against Hewlett-Packard's new PA 7100. DEC tweaked HP for being only 32-bit and only 100MHz peak performance; for using 0.8 micron rather than 0.75 micron design rules, for putting integer and floating point on the single chip and not load and store branch as well, for only having 850,000 parts rather than 1.68 million and for neglecting to design in on-board cache, a situation it claims will limit HP's ability to improve performance and speed significantly past what it's got. Before it starts throwing stones, however, DEC may be best to look to its own house. There are already whispers in the industry that none of the many Alpha prototypes DEC has running are using a fully functional chip, and that volume systems delivery is a year or more off, a schedule that HP is promising to beat. People also want to know how good DEC's compiler technology is and how effectively Alpha will run software.

...AS IT BUILDS ITS PORTABLE VMS ON THE MACH-3 KERNEL

Although the initial implementation of VMS on the Alpha RISC is to be straight VMS 5.4 as supported on the current VAX machines, Digital Equipment Corp's plans for a portable implementation of VMS that can be licensed to other vendors is progressing, says Systems & Network Integration. The paper reports that Portable VMS is being built on the Mach-3 kernel from Carnegie-Mellon University in Pittsburgh. Some observers believe that if DEC prices it cheaply enough, Portable VMS could give Unix a serious run for its money, describing it as more powerful and more full-featured. But despite DEC's claims that it is in the process of turning itself from a hardware company into a software company, there are doubts that major players would want to be dependent on the company for their operating software. DEC would face the problems AT&T Co ran into over Unix, which led to the creation of quasi-independent Unix System Labs.

OSF TO RELEASE ITS MICRO-KERNEL IN THE THIRD QUARTER AS OSF/1 BECOMES IK

by Maureen O'Gara

The Open Software Foundation has started referring to OSF/1 as IK, short for integrated kernel, in contrast to MK, its new microkernel technology (UX No 367), which will be going into its first general release as MK 1.0 in the third quarter of this year. The pair will be developed along separate but related tracks until they converge in the summer of 1994 with the third microkernel iteration, known on the IK side as OSF 1.3. At that point, says OSF's VP and resident technology wizard Ira Goldstein, his team will have solved "the kit problem" and produced a microkernel as suitable for the workstation as the supercomputer. This "hybrid" or "common release," in which reusable parts will carry over from IK to MK, will be a distributed real-time system, secure to the B3 level and configurable for uniprocessors, multiprocessors and supercomputers without current liabilities. (Right now, for instance, IK is faster than MK on a uniprocessor).

Microkernel technology is particularly important for the next-generation of massively parallel machines that have caught the industry's fancy, Goldstein said, alluding to plans such as IBM's to produce highly parallel boxes out of the RS/6000's RIOS chips (UX No 372). About 12 companies including IBM, Bull and Siemens Nixdorf, he indicated, have the MK snapshots and two major firms, apparently other than the Intel Scientific Supercomputer Division which is putting OSF/MK into its Paragon machine, but identified only as having revenues over \$100m-a-year, have committed to using the OSF microkernel in future projects. As with today's OSF/1, the basis of this MK 3 (or MK '94, as Goldstein decided to call it for clarity's sake during our interview), will of course be Carnegie Mellon's MACH. OSF, however, is not bound to follow Carnegie mechanically, Goldstein said. For instance, it's already looking at other technologies like X kernel, the University of Arizona's framework for defining network protocols. Real time won't spring full blown into the microkernel either. MK will begin to be real time next summer with the release of MK 2 (MK '93) which is meant to extend the microkernel from the computer to the cluster.

Purged AT&T code

Goldstein says that by embracing fiber optics over copper (which is too slow), a relatively ordinary workstation can be turned into a supercomputer. Goldstein's team will pile as much functionality as it can into each of these prospective releases, with MK '93 running the most current libraries and commands. One of the issues MK was meant to resolve back at the height of the Unix Wars was the purge of AT&T code from future OSF operating system (UX No 282). Now that the white hot rage of those days is cooling the issue seems less lively. The microkernel could be purified of any AT&T code, Goldstein claims, but the question now is whether to bother. The code used is V.2 and as Goldstein pointed out any royalties accruing from it to Unix System Labs are not dependent on the cost of the system. They would be picayune on a massively parallel machine. Whether they would be burdensome at the lower end remains to be seen. Goldstein suspects USL's own microkernel strategy - if for no other reason than the arm's length relationship it has fashioned with its microkernel choice, Chorus systems [stet] - will not be able to keep pace with his. With the new administration now ensconced at USL and pragmatism its watchword, Goldstein wonders out loud whether it's time for them to put SVR4 on his microkernel.

NCR TAKES INTEGRATED MICRO'S XTM FAULT-TOLERANT UNIX BOX

Consett, County Durham-based Integrated Micro Products Ltd reports from its Los Gatos, California base that AT&T Co's NCR Corp has decided to market, sell and support its XTM fault-tolerant Unix computer system. NCR has identified a number of markets that require fault-tolerant Unix computing including manufacturing, telecommunications, finance, and retail, its Customer Services Division says. The deal was foreshadowed here three weeks ago and another is cooking at Data General Corp (UX No 368, 370). The XTM computer system, based on the MC68040 microprocessor, guarantees nonstop computing through a self-checking architecture that is transparent to the user. It has been qualified, tested and approved by NCR for inclusion in the company's Systems Integration Product Portfolio, a list of products approved for sale by the NCR sales force as well as integration with NCR's product line: the sales force will get full commission credit for sales of XTM systems. The agreement has already resulted in an order from Newport News Shipbuilders, which builds ships for the US Department of Defense, for a manufacturing data collection system. No value was put on the agreement between the two. According to reports, NCR's decision is likely to be a stop gap measure until its own efforts to produce a fault-tolerant machine are complete. NCR is talking to IMP about using the firm's processor-independent OpenFT/3 technology for that task. NCR parent AT&T's OEM agreement for Tandem Computers Inc's fault-tolerant systems is targeted at the telecommunications market, and is unaffected by the IMP deal.

US UNIX HOUSES SUCCESSFULLY WOO INTERACTIVE CUSTOMER BASE

Interactive Systems' new identity as a part of Sunsoft Inc has left V.4 users high and dry looking for alternatives, according to competitors such as UHC Inc, Houston, Texas; Microport Inc, Scotts Valley, California and Esix Computer Inc, Los Angeles, California. Those companies have eagerly snapped up cast off users, and all report significant surges in business since Interactive's merger with Sunsoft and subsequent endorsement of Solaris (UX No 350). The deal has had a profound effect on the Unix SVR4 market, says Spike Kasper, president of Microport: "Interactive stayed in just long enough to ship its beta V.4 versions...now its users are committed and we're selling the licenses". This is echoed throughout the SVR4 vendor community, which claims to be riding the wings of success since the takeover. UHC, for example, said that the flood of orders it has received has wiped out its complete inventory this quarter, exceeding projected sales twofold. Both UHC and Esix claimed that "pure" V.4 users were not interested in following Interactive down the Solaris route, and would prefer to stay with mainstream V.4 shops. Sun Microsystems Inc's Solaris 2.0, due to be released in June, is seen by its three American competitors as "a competent product" for Sun Sparc systems, but they don't see it making too many waves elsewhere. Esix's Unix divisional manager, Jeff Hewitt said: "it remains to be seen what Sun can actually do...it's still a foreigner in the commercial business sector." Interactive's position as USL's principle publisher of V.4 (UX No 322), fell by the wayside following the Sun deal, and, say the competitors, had no bearing on each company's ability to sell their products. "USL's principle publisher is a lot of market fluff spread around by USL and Interactive, that never got off the ground", said Hewitt. A USL spokesperson said that there are no plans to appoint any principle publishers in the future.

AS MICROPORT DEBUTS DESTINY CHALLENGER

The news of USL's Destiny program - see page three - has somewhat taken the limelight away from another launch taking place this week from Microport Inc, Scotts Valley, California, which is set to release its Runtime plus desktop Unix implementation, a modularised source code version of AT&T USL's System V release 4.0. Like USL's Desktop 4.1 - USL's product name of the Destiny program - Runtime plus for Intel-based platforms, needs a minimum of 4Mb memory, and supports Open Look, Motif, IXI Ltd's X.desktop 3.0, Locus Computing Corp's DOS-merge and X11/News - all of which are optional, so that the base system takes around 25Mb, if application space is all the user wants. At 40.94Mb, Microport's president, Spike Kasper, says Runtime will be at most 1Mb larger than Desktop 4.1's 40Mb expected capacity - which USL says is still scheduled for release in July or August this year. Unlike the USL offering, Runtime plus does not feature C2 security. All applications developed on 4.0 will be compliant with the new release 4.1, says Kasper. Microport expects the \$1,250 price tag on Runtime will compete aggressively against Desktop 4.1. As part of its effort to hit the low-end of the market, it is to bundle a single-user copy of JSB's MultiView windowing system for character-based terminals with every copy of its SVR4 Version 4.

ACER READIES MP BOXES AS BOZEMAN GOES FROM ALTOS UNIT...

Acer America Inc, San Jose, California, (incorporating the former Altos Computer Systems which the Taiwanese Acer Group parent now bills as its Unix systems business unit) is to announce the multi-processing systems it promised last June, early next quarter (UX No 350). With up to four 50MHz, 40 MIPS, 80486 processors, which it says can handle up to 200 users, the company will market them both as new additions to its MS-DOS-based AcerFrame series, and as commercial Unix multi-processors under the Altos badge that it will continue to use. The hardware all comes from Acer, whilst Altos, trying hard to maintain an identity, has added the Unix stuff. With its Altos label, Acer is pitching into the fiercely competitive market for commercial multi-processing Unix systems, currently dominated by the likes of Sequent Computer Systems Inc, Pyramid Technology Corp and Hewlett-Packard Co. Acer is launching the things at a time when Sequent and Pyramid, it believes, will be diverting their energies into reducing their respective cost bases. With its experience of operating on narrow margins, derived from a volume, low-cost manufacturing base, Acer reckons it can become a significant player in this sector. The Altos-badged box is to run Santa Cruz Operation Inc's multi-processing Unix MPX implementation. However, it doesn't intend to offer a productised transaction processing monitor, such as Unix Systems Labs' Tuxedo or NCR's Top End, but says it will provide its own performance monitoring tools. Acer is confident the SCO Unix will be able to meet all its requirements despite the lack of Unix SVR4 compatibility, but says that it has V.4 escape routes in hand if such a strategy becomes necessary. Acer Altos is now headed-up by Ronald Chwang, following the departure of Bob Bozeman, with Lee Cannon as director of marketing. Eugene Cheng heads up the UK group effort.

...DUAL CPU ACE EFFORT EXPECTED...

Acer, which, along with Olivetti, is believed to be one of the few OEM wins for the Advanced Computing Environment initiative, demonstrated an ARC system based upon the MIPS Computer Systems Inc R4000 chip back at its launch (UX Nos 370, 354). However, reports suggest that it doesn't intend producing the MIPS box it's been showing off after all - at least not the way one would expect. Proving, wags are saying, that MIPS never really counted for much in the whole ACE equation, Acer will reportedly "make a system with interchangeable CPU modules, allowing the user to install either an Intel Corp 80486 (or perhaps P5) CPU card or an R4000 CPU card. Olivetti is thought to have a similar strategy in place. And Acer has belatedly launched the Altos 4500 series of SCO Unix-based mid-range systems, for 12 to 50, users in the UK. The boxes, which were debuted at Comdex in the US last October (UX No 357), go from £8,000 to £14,000 here and will be upgraded to use Intel's 50MHz 80486 part in future.

SILICON-GRAPHICS, ISVs, ENDORSE SUNSOFT'S OBJECT-ORIENTED TOOLTALK

SunSoft scored its first hit recruiting other hardware vendors to ToolTalk, its object-oriented software for sharing data across networks regardless of platform. Silicon Graphics has endorsed it, promising to ship it on Iris by the end of the year. Meanwhile, SunSoft also has a bunch of ISVs to back it, including Frame, Interleaf, Applix, Island Graphics, Visix, Softool, TeamOne, Procace, Digital Tools, CaseWare and Silvaco. Under SunSoft's sponsorship they have formed the Case Interoperability Alliance for defining common messaging mechanisms between applications and publishing their formats in "The Case Interoperability Series, Volume 1," now available. Other such alliances will follow for EDA and desktop publishing/Productivity tools.

RISC ROUNDUP

Our compliments to *The Microprocessor Report*: it was able to pin LSI Logic Corp down and finally get it to admit that the gossips are right, and that Lightning ain't gonna strike. LSI has trashed the Lightning high-end Sparc chip project blaming it on an insufficient market since Sun Microsystems Inc is going with the Viking part it has jointly developed with Texas Instruments Inc. But in reality, the complexity of the super-pipelined chip may have strained LSI's fabrication techniques. Metaflow Technology, which, backed by Hyundai Electronic's financing, authored the Lightning design, is now busy on a next-generation approach code named Thunder. Again it's being bank-rolled by Hyundai and is apparently destined for a line of Hyundai Sparc boxes - but the part won't be made by LSI.

That last issue of *The Microprocessor Report* also makes several other interesting observations in its survey of high-end processors, which comes recommended. Pinnacle Sparc, the Cypress Semiconductor/Ross Technology competitor to Viking (UX No 316), is slipping even faster than that part, it says. "Once ahead of Viking, it's now six months behind it, with production unlikely much before the end of the year."

Meanwhile, Intel Corp is reckoned to have scaled back its 80860 RISC programme, having failed to make that part a convincing workstation contender, with the level of future investment in it looking decidedly unclear. Although other architectures are only now beginning to catch up with the i860's floating-point performance and level of integration, for developers, creating optimised software to run on it was a tortuous struggle. Report editor, Michael Slater, observes that "the i860 missed its greatest opportunity - being the first RISC port of Windows NT - because the Microsoft Corp software engineers attempting to use the chip came to hate it with a passion."

SUN'S SITKA GETS INTO PEN-BASED NETWORKING

Sun Microsystems Inc's Alameda, California-based Sitka Corp is now into networking software for pen-based computers and reports that IBM Corp has licensed its PenCentral software technology. PenCentral is claimed to be the first networking server technology to connect pen computers with MS-DOS-based personal computers via parallel port, serial port or modem. Sitka and Go Corp jointly developed PenTOPS, the client version of the pen-based network offering, which is bundled with every copy of the PenPoint operating system. Sitka Corp also has a developer's programme to provide networking tools and support for people building pen-based applications, based on the PenTOPS family. Phase two of Sitka's pen networking products will include a full implementation of the OpenTOPS architecture, and an implementation of deferred input-output for PenPoint document transfer. PenTOPS will support notepad-to-notepad file sharing.

BUT SERIOUS "HUMAN ANTENNA" PROBLEM BEDEVILS DESIGN OF PEN-BASED COMPUTERS

A potentially serious threat to the emerging pen-based computing business has arisen from an unexpected quarter - radio frequency interference, *Microbytes Daily* reports, adding that the Federal Communications Commission is having to re-think its testing procedures and that the problem has held up availability of at least one pen-based system. The problem is the effectiveness of the human body as a radio aerial: when the user's hand moves close to the screen of a pen-based computer, the radio frequency interference generated increases enormously - by as much as 15dB. The radiation poses no particular danger - but it can wreck the neighbours' television sound and picture. The problem occurs both with capacitance-sensing and resistance-sensing screens, too. The Commission's current test standards don't take into account the effect of a user on the level of radio frequency interference, and it may now have to add an artificial hand near the screen to the standard test procedures. The newswire says that the first company to get caught was NCR Corp - it had to redesign its 3125 pen system after discovering excessive emissions - but since the redesigned computer didn't match the design documents, the FCC rejected the application. NCR hopes for clearance this month.

GP MIMD AT SUPERCOMPUTING EUROPE - PARTICIPANTS, PRODUCTS & PROFITS

by Sue Norris

London-based Parsys Ltd was perhaps justified in its annoyance at being shoved to the far right corner of the Supercomputing Europe '92 exhibition hall at the CNIT trade centre, La Defense, Paris earlier this month. A small company, not scheduled to be profitable for another two years and currently turning over only £2.5m, Parsys needed the publicity, but of course it was the likes of Intel Corp and IBM Corp, with their big glitzy stands, that dominated the main isles while the lesser known but arguably more interesting companies found themselves tucked away at the back by the fire exits.

Parsys Ltd spun off from Thorn EMI Plc two years ago backed by venture capital company Electra Invotec Ltd, which owns 52% of the company; Thorn EMI retained 33% and the management and staff own 15%. Parsys first began working with its now GP MIMD partner Telmat Informatique SA, of Soultz, France in 1985, initially under the auspices of Thorn EMI, building "SuperNode" parallel machines around the Transputer, to further the European chip's acceptance. First prototypes of the SuperNode machine, based on the T800 Transputer, began appearing in 1988. Then, as Parsys flew the parental nest and began to market the SuperNode, Telmat SA's Telmat Informatique started to push the machine itself, but badged as the Telmat T.Node and running Shepton Mallet, Somerset-based Perihelion Software Ltd's Helios operating system (Parsys has its own Unix-like operating system, Idris, under which Oracle Parallel Server has now implemented). Telmat's general manager, Jean Cholley, thinks in retrospect that this move - to go off and sell the SuperNode machine independently - was a mistake, the implication being that the T.Node did not make the company much money - the system accounts for only 10% of Telmat's revenues, Telmat's main business being in telecommunications measurement devices and, more recently, optical disk-based data storage management systems. It was 1989 when \$25m-a-year Telmat, which employs 250 staff, met up again with Inmos Ltd and Parsys, and with Bristol-based Meiko Scientific and Aachen, Germany-based Parsytec GmbH, to work on the Esprit supercomputing project, which aims to build a general-purpose MIMD supercomputer around the T9000 Transputer, as well as a TeraFLOPS massively parallel supercomputer based on the 80860 and Sparc technology implemented in Concerto. The rules laid down on the table as "plan GP MIMD", launched into action in January of last year, however, bound each of the participants to restrict the development of their own proprietary lines to simple upgrades to the T9000 Transputer when it becomes available. Parsytec, the fifth partner in the early stages of the project, refused to adhere to this group policy and went ahead with the development of its proprietary GC Series. For its greed and disregard of the common goal, Parsytec was asked to leave the GP MIMD project.

Bitter

Parsytec, somewhat bitter after the event, says the Esprit programme is losing its European flavour anyway: two of the three sub-projects are based on US RISC chips - Sun's Sparc and Intel's 80860. Parsys's Ian Coburn dismisses such gripes, noting that it's only just been made public knowledge that the consortium would use the 80860 and Sparc chips.

The Transputer is present in the newly-launched Concerto machines but, as reported, only for internal communications. The actual GP MIMD general-purpose machine, however, which is due to arrive in beta version by the end of the year, will use the T9000 Transputer as its main ingredient. Coburn explains that the Transputer's merits are that it was designed fundamentally for massive parallelism, with its on-board RAM and message-passing capabilities, from which stem its ability to run commercial database code as well as scientific floating point code - the 80860 meanwhile is more or less restricted to running scientific code. Though the Transputer has had a tough time trying to compete with its US counterparts, which have been readily justified and taken up by fund-rich research organisations able to place orders for proposed machines built from them, the UK chip does according to Coburn have potential - with a growing on-chip RAM capacity (up to 64Mb with the next release) and a Unix-like operating system in the form of Parsys's Idris - among others. Back on the new Concerto offering, it is the marketing of the system which is perhaps the most interesting issue, for it turns out that Meiko, Parsys and Telmat will each sell the machine, badged as their own product. This puts Meiko in rather a strong position, having a reasonable presence in the UK, and - with an operation in Waltham, Massachusetts - being in the best position to attack the US. Indeed, Meiko has been responsible for all the pre-launch shipments of Concerto machines - some five systems. Naturally, neither Parsys nor Telmat have seen, or are likely to see anything from these sales.

Spain

Parsys expects to make some sales in the UK, but will be looking to Spain for business, since this has now become Parsys's strongest region outside the UK. Telmat will of course focus on France. For Telmat, having its corporate eggs in more than one basket, it was perhaps not such a sacrifice to give up its rights to build proprietary systems with the new T9000 Transputer but, as far as Parsys is concerned, it would seem that the company is risking its bread and butter in favour of a project which puts Meiko in the driving seat. One further point to note is that, outside their Esprit relationship, Parsys and Meiko are head-on competitors in the UK, particularly in the commercial parallel processing market, since both manufacturers offer the Oracle Parallel Server database system. But Coburn does not seem concerned. But then the GP MIMD programme is increasing Parsys's visibility as a player in the market for massive parallelism.

MARKET ROUNDUP

HP has released new server software for its X stations, including Shared X, which allows users to share X-Windows applications with other X stations and workstations in real-time: priced at £400, the software includes enhanced security and customisation features.

Alex Technologies Ltd, London, has teamed with Open Image Systems Ltd, Haslemere, Surrey, to develop and market document image display technology that will be supported under Alex's graphical user interface development tools: based upon OIS's Image-Gen optical disk subsystem, the stuff will run on Sun Microsystems workstations under Open Look.

Starting in March, Dell is going to factory-install SCO's System V/386 3.2 on its 386/486 machines in North America and Europe with prices beginning at \$1,300 for the unlimited-user version. Unix SVR4 will still be offered concurrently as will Solaris 2.0 when it becomes available for the 486.

With profits at Data General Corp sliding again, the company needs a boost to expand its business and prospects - but it is an expert at low-cost manufacturing while the only other substantial computer business using the Motorola Inc 88000 RISC is Motorola's own Computer Systems arm, which is bleeding increasing amounts of red ink: it would make a lot of sense for Motorola to dump its computer business off onto Data General in return for a stake of perhaps 30% in the enlarged company; Data General could almost certainly squeeze costs out of Motorola's computer arm, and would benefit from getting privileged access to Motorola's customers in its communications businesses.

Qualix Group has picked up a distribution deal with Quorum for its now-famous Mac-on-RISC package (UX No 368): it also intends acting as distributor on a "select basis" of Unix applications created using Quorum Latitude. Quorum also picked up Mac developers Quark, Cambridge Scientific Computing and Spyglass as supporters.

Spyglass Inc, famous for its visual data analysis on Macs, has delivered a shrinkwrapped version of Spyglass Transform for Silicon Graphics' Iris boxes. Using motif, it will let SGI users create colour raster images, line graphs, surface plots, contour plots and vector plots for 2D data arrays with a point-and-click interface at a cost of \$900.

Bill O'Shea, the highest ranking AT&T exec to make the jump to NCR, seems to be thriving in his environment: Last week NCR added to his domain making him senior VP of a newly constituted Network and Integrated Systems Group, a combination of his old Network Products Group and the Integrated Systems Group, responsible for Cooperation and formerly under Darrel Clark who retired.

Foster City, California-based nCUBE, supplier of massively parallel computing solutions has sold an nCUBE 2 parallel supercomputer to the California Institute of Technology (Caltech): the 64-processor nCUBE 2 system will replace the first generation nCUBE system: the firm says it has sold another nCUBE 2 Model 10 with 64 processors to Allison Gas Turbine, an Indianapolis-based division of General Motors Corp - meanwhile IMSL Inc, Sugar Land, Texas, says it will offer its Fortran libraries on the nCUBE machines.

Silicon Graphics Inc signed Procalculo SA of Colombia and Teknos Comunicaciones SA of Chile to distribute its entire line of Iris 4D systems and servers: it already has outlets in Brazil and Venezuela.

UK, Brighton-based ABS Computers will be competing against ICL with PCMS, a patient care management system, which has been designed for use in the National Health Service: PCMS was developed by Pembrokeshire Health Authority using the Dataflex 4GL and ported to ABS' Arix platform.

World famous cigarette paper manufacturer, Rizla Ltd, Pontypridd, Wales, is to use Corporate View, an executive information system from BCT Ltd, Lymm, Cheshire, on its Data General AViiON systems.

Fault-tolerant Unix systems manufacturer Sequoia Systems Inc has upgraded its sales operations here in the UK with the formation of a fully-fledged subsidiary with a customer service and support centre, under Guy Norgrove as UK country manager: he comes in from Siemens Nixdorf Informationssysteme AG.

Motorola Inc is to manufacture and market new SBus interface controllers designed by Sun Microsystems Inc: available from the fourth quarter, the two claim that SBus Goldchip and Sbus SLIC will alleviate the need for Sparc system and board developers to design the interface between their products and the system SBus controller.

Hewlett-Packard Co, which markets Sequoia Systems Inc's fault-tolerant Unix machines as the HP 9000 Series 1200, and has an exclusive agreement covering their sale into the telecommunications market, has expanded the relationship to cover the medical market: Hewlett-Packard's Healthcare Information Systems group will specifically target value-added resellers with the kit.

Unisys Corp is close to what would be a very encouraging new agreement with its banks, according to the Wall Street Journal: the first part of the agreement would extend the company's \$1,250m revolving credit line - of which \$1,050m has been drawn down, beyond the January 1993 termination date; the second part would give Unisys, which has \$800m of cash on its books, another \$200m to \$300m from the banks for seasonal working capital requirements.

Cray Computer Corp's plans to seek a partner to help it market smaller configurations of its Cray-3 (UX No 372) are seen as an effort to get some cash coming into the company while it pursues its top-end goals - it is thinking in terms of four- and eight- processor configurations of the Cray-3 rather than the fully-configured 16-processor configuration that it regards as its primary product; some observers say the company has begun design work on the Cray-4 and suggest that this may soon become the focus of the Colorado Springs company's efforts.

Marlborough, Massachusetts-based Sequoia Systems Inc has a \$1.2m order for a fault-tolerant Series 400 Unix multiprocessor from LMG Smith Brothers Ltd here in the UK: the machine is to improve the company's seven day, 24-hour flexible packaging manufacturing operation and provide sufficient growth potential for future needs; the Sequoia system replaces a Bull box.

Correction to early editions last week: Apple's secret Hobbit chip based on AT&T's CRISP design is in use at Bernie LaCroute's pen-based start-up Eo, along with Go Corp's operating system.

Sounds like NeXT Computer Inc will jilt Hewlett-Packard Co after a brief flirtation with its PA RISC chip (UX No 372): Motorola Inc is telling folks it has won back NeXT's affections and that Steve Jobs' next-generation machines will use the 88110 RISC.

Although Andy Heller's two year-old start-up, Hal Computer Systems, is playing its cards close to its chest (UX No 371), some of its suppliers are itching to tell the story: Legato Systems Inc, Palo Alto, California, for one, says Hal has signed up for its NetWorker backup and recovery product which the company will use in its as yet unannounced high-end Sparc-based machines.

NEC Corp has become the first Japanese company to adopt Pittsburgh-based Transarc Corp's Encina transaction processing system, for its FT-20s from Stratus Computer Inc.

Sounds like a front-page item with screaming headlines, but the company already has limited alliances with two or three Japanese companies in the field of office equipment, and it may just be another of those: Ing C Olivetti & C SpA has admitted that the company is in technology collaboration talks with a Japanese firm, but they will not reveal the name of that company.

The Open Software Foundation is planning to release Motif R1.2 in the second quarter: it'll be based on X11.5 from the X Consortium and include extended internationalisation, a drag and drop metaphor for data interchange, tear-off menus and geometry management improvements; snapshots are already out.

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IDC is now awarding the Sparc chip a 44% share of the 1991 workstation market, up almost 50% from the year before. Next in line but hardly a close second is Motorola's 680x0 with 21.7%, 10% less than in 1990, with MIPS a distant third at 12%.

It looks as though Cray Research Inc's Cray Research Superservers division - formerly Floating Point Systems (UX No 371) - won't be using ECL Sparc from Bipolar Integrated Technology that FPS was originally using in its high-end Sparc supercomputer.

Solbourne has jiggered around with its operating system and come up with an optional upgrade called OS/MP 4.1A.2 that it says - in a statement reminiscent of Sun's Galaxy claims - improves database performance by as much as 50% according to preliminary benchmarks: the software, tuned for symmetric multi-processing, was enhanced co-operatively with Oracle and is available immediately at no cost to customers under contract.

Scott Gibson, president and joint chief executive officer of Sequent Computer Systems Inc has resigned; he plans to spend more time with his family and pursue other interests, such as his work with the Oregon Institute of Technology (currently looking into parallel processing). Gibson left Intel Corp in 1983 to co-found Sequent with Casey Powell, Sequent's chairman and co-CEO, who will take over his responsibilities.

In the UK, David Thornley has left Pyramid Technology Ltd after six years as European vice president: he's surfaced at Stoke-on-Trent, Staffordshire-based ICL mainframe integration specialist, Boldon James Ltd, which has recently joined X/Open's independent software vendor council.

Meanwhile, Bernard Wobker, formerly in charge of Pyramid GmbH, replaces Thornley as European boss, but remains at the Munich site: as European marketing director, Martin Lambert is to concentrate on Pyramid's OEM relationships with Olivetti and Siemens-Nixdorf Informationssysteme, working from Pyramid's UK base in Farnborough, Hampshire base, whilst Ken Jacobsen takes over as UK managing director.

Still the management defections continue at Digital Equipment Corp: Kurt Friedrich, former vice-president and group engineering manager for the Open Software Group at DEC, has resurfaced at Hewlett-Packard Co as general manager of its Open Systems Software Division responsible for integrating HP-UX with the Open Software Foundation's OSF/1 operating system and he will be based in Chelmsford, Massachusetts.

Boland has hired Unify's VP of marketing Karan Eriksson as manager of its Interbase business unit.

IBM Corp and Apple Computer Inc are expected to name Joe Guglielmi as chief executive of their Taligent Inc operating environment joint venture, a likely appointment that has dismayed industry observers because of his involvement with two ill-starred IBM efforts, OS/2 and OfficeVision, according to the Wall Street Journal; Ed Birss from Apple is to be chief operating officer.

David Methvin's Davin Computer Corp is in a major unexplained patent dispute with IBM Corp and says it has been forced to suspend operations pending resolution of the litigation with IBM: it says it has received another patent on its parallel byte processing technology which involves "technology that is at the core of of the lawsuit Davin filed against IBM in November"; the company says it was severely damaged by IBM's action and is unable to continue even in development mode, maintaining only a small administrative staff; Methvin's previous creation, Computer Automation Inc, holds a key patent that is at the heart of IBM's Micro Channel bus, and on which IBM has been paying royalties for several years.

Microsoft's senior VP of systems software Paul Maritz is bragging how NT will gain 10% to 15% of the market in 1993 and something above 25% in 1994, a highly optimistic call considering Windows 3.0 for all its success is still only 8% of the installed base.

DEC Professional is looking for the first of the Digital Equipment Corp Alpha RISC machines in six months, claiming it is code-named Cobra and describing it as a 104-VAX Units of Performance RISC/VMS workstation.

Ingres Ltd has announced support for Digital Equipment Corp's OSF/1 - the company's first outing into the Open Software Foundation OSF/1 market - and will incorporate the recently launched Ingres 6.4 Intelligent database, applications development tools and open communications products, set for release after DEC's first customer shipments.

Anglo-Dutch manufacturing giant Unilever Plc NV has chosen Sybase Inc, Emeryville, California, as a strategic technical partner to support its corporate move to an open systems policy. The relational database management system will be one of two, the other is from Oracle Corp, recommended by the company for use in its systems development. And Unilever is also thought to be evaluating Hewlett-Packard's Visual User Environment graphical front-end as part of its open systems strategy. Apparently VUE would make a better fit with its existing Windows-based technology than other Unix GUIs, and because Windows and VUE are so similar, Unilever, it is thought, would not stump up the money to re-train some 20,000 users of its Windows-based system for a foreign Unix GUI.

Connectathon was held last week and SunSoft was there testing out its brand new transport-independent RPC: Netwise has adopted its compiler technology to the thing at the expense of its own RPC technology.

We've finally seen a list of who is paying \$50,000 for the privilege of sitting on the newly formed ACE Advisory Board: in addition to USL, Sony, Silicon Graphics and MIPS itself who holds the chair (UX No 370), they've also got Acer, Compaq, CDC, DEC, Epson, Microsoft, NEC, Olivetti, Siemens-Nixdorf, Tandem, SCO and Toshiba. By our tally that's a cool \$80,000.

OMG's ObjectWorld expo, set for this July, is starting to attract the heavy hitters: OMG has so far lined up Paul Maritz of Microsoft, Steve Jobs of NeXT, Phillippe Kahn of Borland, John Landry of Lotus and hopefully someone from Taligent for the opening session, sharing their visions of objects with the crowd.

Frame Technology has gone public, selling 2 million shares at \$14 a share.

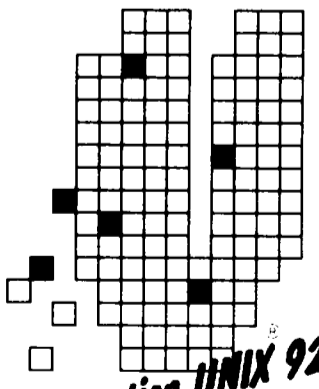
Hands One Learning and Unix System Labs are going into the video business together co-marketing self-paced Unix-related video training and jointly developing new courses.

Star Technologies has enticed Solbourne's European distribution and OEM sales manager Paul Robinson away to be its general manager of European operations for distributed computing products, overseeing Star's direct sales in Britain and France and establishing indirect channels elsewhere in Europe and the Middle East for Star's 910/VP Sparc-based computer server.war eng

The X Journal, one of the newly spawned publications circling Unix, is going to try to muscle in on X Windows turf with XWorld, an East Coast conference-cum-exhibition set for New York April 27-May 1 at the Sheraton Hotel.

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PEACE PROCESS FALTERS AT THE FIRST, BUT AGREEMENT "IS SOUGHT"

Whilst there is now, at least in public, one initiative underway which could eventually lead to much of the bitter rivalry between Unix International and the Open Software Foundation being laid to rest, the industry, it seems, will have to wait longer than the CeBit Hannover Fair later this month to breath its collective sigh of relief (UX No 373). Far from being just a furlong out, the latest peace effort - now being billed by some as Unity II, son of the original Unity peace talks that stalled two years ago (UX No 278) - is now just about coming under starters orders. Although Unix International president Peter Cunningham duly delivered his clarion call for peace in our time at last week's UI members meet in San Diego, and re-iterated UI's traditional view of itself, Open Software Foundation chief David Tory says he is still awaiting UI's promised set of proposals for Unity II to arrive on his desk. Nevertheless, a window of opportunity certainly exists, and the prospects for concluding a negotiated peace settlement, are good: even Tory concedes that there is room for manoeuvre. "There is no real conflict between what Unix International and Open Software Foundation does... and there is value in UI and OSF getting together, but only on very specific terms," he told Unigram.X last week.

"Political problem" must be overcome

But, and it is as old as the hills, "there is a political problem." For a start, "UI has one definition of open systems and OSF has another," says Tory. Furthermore, he is adamant that before any Unity II talks can begin, there has to be basic agreement "on what UI and OSF are." UI, Tory says, "has a model of OSF, and it is the wrong model. UI has to accept that OSF is an industry-funded research and development organisation. We are not Unix-centric like UI. OSF is committed to interoperability, between all platforms, MVS, VMS and V.4 alike." UI, he maintains, "is paid for by SVR4 licencees. It is supposed to represent a collective viewpoint to Unix System Labs about what to put in SVR4. And to market SVR4. That's its charter. But UI is trying to drive the Unix platform suppliers, and it can't anymore, because USL is independent. So it is trying to broaden its effort. But at the same time it still says you must have Unix SVR4, Tuxedo and Atlas etc. That restricts what users can implement." It is UI's principle members, voting through their wallets, that will fuel any fire for change, Tory believes. "It's up to them to decide in what direction it goes. UI will continue to follow its own way as long as it continues to be funded," he says, darkly. There is also, in OSF's eyes, the sticky issue of UI, USL and its Distributed Computing Environment technology "which would have to be resolved before we could come together." UI endorsed DCE as "the fundamental technology for interoperability" in its distributed vision of the future, Atlas, back in September last year (UX No 352). Since then, Tory says, "Atlas has been presented to look nothing like DCE." Moreover, "UI has confused the industry about what interoperability is. It has suggested that Atlas is a completely different development from DCE, yet everyone knows USL is taking on DCE and that it is the basis of Atlas." The negotiations with USL over licensing terms for DCE are still proceeding (UX No 372), and promisingly, the two have "a very clean, non-political relationship," according to Tory. However, OSF and USL are, by nature, very different organisations, with different aims and agendas: "and that's why the original Unity talks would never have worked," he says.

NEW OSF EXECUTIVE MEMBERS GROUP - "COULD INCLUDE UNIX INTERNATIONAL"

Meanwhile, a post-war industry map may not look exactly like what UI had in mind if OSF's own plans bear the right kind of fruit. While the former might have envisaged, at one time, some kind of tripartite arrangement, with OSF cast in the role of software developer, UI the sheriff of the Unix vendor community and X/Open as the vanguard of open systems, OSF has its own plot. It wants to be standing on its own feet - we're talking self-sufficient here - within a couple of years. And, candidly speaking, Tory warns the latest peace pipe smokers, that "there is less and less need for OSF to make a political gesture as we move towards self-sufficiency." As well as trying to derive maximum benefits from its various technologies, which probably explains the thorny problems that some prospective licencees are currently experiencing, OSF hopes to spread its contributed funding - which currently stands at \$4.5m a year from each of its remaining six founder members - across a broader base by creating a new form of membership. The way OSF sees it, organisations (and presumably individual companies too) will be invited to participate in an executive members group, and contribute to OSF coffers accordingly. OSF isn't expecting to be crushed in the rush, in fact it modestly hopes for just one or two volunteers to step forward initially, but that "could include Unix International," it says.

DEC PLANS ITS FIRST ALPHA SYSTEMS - MAY OR JUNE LAUNCH?

Despite DEC's efforts to keep the Alpha announcements at chip level last week (see page four), details of at least five Alpha machines in the pipeline are already starting to emerge. According to our associate newsletter *Unix Update*, published by Sidney-based Computer Magazine Publications Pty, the codenames are Flamingo, Cobra, Laser Box and Blazer, with one additional box, codename uncertain. Flamingo will be a single processor desktop with three TurboChannel slots, and a performance range between 80 and 120 SPECmarks. With up to 512Mb memory and I/O capacity of 93Mbytes-per-second, the machine will include a graphics subsystem with smart frame buffer, delivering 500 2D vectors-per-second - and room for an optional 3D graphics co-processor and geometry processor. It's big brother, unnamed as yet, is a floorstanding version that will take up to 1Gb memory, designed to deliver up to 140 SPECmarks. It will have six slots. Both will offer the OSF/1 operating system. For the VAX market, the products in DEC's plan start with single or dual-processor Cobra, described as an open office system pitched at the VAX 4000 market. With up to 2Gb memory, it will run at 140 or 280 SPECmarks and use Futurebus+, with I/O of 130Mbytes-per-second or more. For the VAX 6000 market is Laser Box, with 1-4 processors. This may appear before the Alpha is ready, being designed to take either a VAX or Alpha CPU - Neon for VAX, Ruby for Alpha seems to be the code. Target performance is 180 to a whopping 720 SPECmarks, with I/O from 100 to 400Mbytes-per-second. It will take up to 14Gb memory, with Futurebus+ and XMI bus options. To take over from the VAX 9000 will be Blazer, again with 1-4 processors and the same specs as Laser, but designed for high availability with integrated uninterruptible power supply. Long-term DEC watcher Terry Shannon of Gander Resources, Ashland, Massachusetts, has also heard about Flamingo, Cobra and Laser, and has prices - \$17,500 for Flamingo, \$200,000 for Cobra and between \$300,000 and \$600,000 for Laser. He thinks Flamingo could be out as early as May or June, and predicts under \$5,000 Alpha-based PC and workstations by the end of 1993.

INTERLEAF ADDS WORLDVIEW FOR DOCUMENT PORTABILITY

Waltham, Massachusetts-based Interleaf Inc, which explained its ideas for adding a degree of intelligence to dumb documents with its Active Documents concept last year, has taken the idea a stage or two further with Interleaf WorldView, designed to enable organisations to take text and graphic documents from virtually any source and look at them on virtually any computer - with advanced techniques for finding specific information. WorldView Press takes documents from all major word processors, desktop publishing packages, computer-aided design software and so forth, reformats them for on-line viewing; compresses them, and adds hyperlinks and a full text index. This results, it says, in a set of documents ready to be viewed on any of the computers WorldView supports - MS-DOS boxes, Macintoshes, workstations and mainframes. An end-user can view a document, attach electronic "sticky notes," use the hyperlinks and full text retrieval capabilities, zoom in, and print a copy on any standard printer. The company wants to get the product widely adopted, so WorldViewer costs manufacturers just \$10 in volume. An end-user licence costs \$200. The WorldView Press, designed for document producers, costs \$10,000. It takes input in PostScript, WordPerfect, Microsoft Word RTF, WordStar, HPGL, PICT, MacDraw, MacPaint, TIFF, CGM and SGML formats, and others. It prints hard copy on PostScript, PCL and Epson-compatible printers. Interleaf will also support Adobe Systems Inc's planned format for electronic distribution when it is available. WorldView will view those files, and Interleaf 5 document creation product will output files in that format. Next quarter, World View Press will be available on RISC-based workstations, and WorldViewer will be available on MS Windows, and on Unix workstations under Motif and Open Look. After mid-year, WorldViewer will also be up on the Macintosh and under MS-DOS, with the IBM MVS version to follow. Supported workstations will include Hewlett-Packard and Apollo, Data General, Digital Equipment Corp, IBM Corp, Silicon Graphics Inc and Sun Microsystems Inc.

SYBASE SQL SERVER 4.8 NOW UP ON AT&T STARSERVICES, SUN-4s; STRATUS VOS NEXT

Emeryville, California-based Sybase Inc says that Release 4.8 of the Sybase SQL Server with support for symmetric multiprocessor systems is now available on three more machines - AT&T Co's NCR StarServerE series computers, the Sun Microsystems Inc Sun-4/400, and the Sun-4/600MP series. It was already available on Digital Equipment Corp VAX machines under VMS, Pyramid Technology Inc's MIServers and Sequent Computer Systems Inc Symmetrys. It will also be available on Stratus Computer Inc machines under VOS before the end of the quarter. Sun Microsystems Inc says a Sparcserver 690MP system running Sybase SQL Server 4.8 achieved 95.41 transactions per-second running the TPC-A benchmark suite: \$8,836 per transaction.

POPLOG HAS INTEGRAL LISP/PROLOG ON UNIX

Basingstoke, Hampshire-based Integral Solutions Ltd has its Poplog program development environment and the Poplog-based Integral toolset up on personal computers running Unix. Poplog is a multi-language environment that integrates Prolog, Common Lisp, Pop-11 and Standard ML at a high level, all the compilers are incremental and share Poplog's interactive mode of working; source libraries, supplied as standard with the system, support object-oriented programming, rule-based programming, natural language processing, simulation and other advanced paradigms; the Integral toolset includes three higher level tools, Poplog-Rules, Poplog-Neural and Poplog-Flex; Poplog is marketed under licence from the University of Sussex; available now, Poplog on a Unix personal computer is £4,500, and academic licences cost £675.

NCR EXPLAINS HOW TERADATA WILL BE ABSORBED; TERADATA ADDS MAC LINK

NCR Corp has now announced plans for the integration of its Teradata Corp acquisition into its own operations, saying that the Teradata name will be retained for the relational database, but that Teradata development and manufacturing will be absorbed into the Large Computer Products Division, and US marketing will fall into a new NCR Large Computer Systems Division, and there will be a similar arrangement in the rest of the world. The joint development unit formed two years ago becomes NCR Torrey Pines Development Centre. Separately, Teradata, whose acquisition by NCR is not yet complete, announced the latest version of Teradata Client for Macintosh. The host interface enables Apple Macintosh users to access data stored in Teradata's DBC/1012 Data Base Computer and the new version adds software development support for HyperCard, Excel and Think C, in addition to MPW C. The Run-time version is \$125, the Developer's Kit is \$500, and both are ready now.

MIDDLESEX, UNIVERSITY COLLEGE HOSPITALS USE TRANSPUTER IN REVOLUTIONARY SYSTEM

It seems Dr Bill Lees and his team of researchers at the Medical Physics department of Middlesex Hospital and the London University College Hospital have been inundated with enquiries since an item appeared on the UK's Independent Television News recently, reporting that the team has a £50,000 Transputer-based workstation for interpreting X-rays and ultra-sound images as three-dimensional images that can be rotated and viewed from all angles, achieving a startling improvement in clarity and interpretability. The hospital researchers have built the machine and written all the software in-house, having bought in its Transputer boards from a third party. What has been developed is an eight-Transputer system with an MS-DOS personal computer host. Dr Lees describes it as a very simple, standard hardware configuration, which can easily be turned out on customer demand. Many other products exist, Lees says, which perform the same function as this machine, though most are Sparc-based workstations which run much, much slower. The new system, which has been in development for four years, processes at 200 MIPS - this performance is expected to improve five-fold with the new T9000 Transputer, which is finally due later this year. The software has all been written in Occam for MS-DOS. For other customers to be able to use the system, a lot of conversion work needs to be done to interface to the many various proprietary scan data formats. Dr Lees and his team are prepared to make up these systems for other university research divisions and also for commercial customers - the development team is currently talking to a third party with a view to having it sell turnkey system on a commercial basis. The hardware costs between £20,000 and £30,000 - with software, a system would cost £50,000. Dr Lees says that his team has sold a couple of the innovatory systems already.

PRIME ADDS PI/open PICK DATABASE

The UK arm of Prime Computer Inc in Camberley, Surrey, has launched PI/open, a Pick-based database, as part of its Prime Information software bundle. PI/open ships in March for the firm's own EXL 7000 systems as well as on Hewlett-Packard 9000 Series 800 servers and MIPS Computer Systems Inc boxes. DECsystem 5000, Sun Sparc and IBM RS/6000 ports arrive in June, with an implementation for Santa Cruz Operation Inc Unix due in August. PI/open is priced at from £300 per user, which, the firm claims, is comparable the rival Unidata and Universe offerings.

INTEL "TO HAVE 80686 IN THE MARKET BY LATE NEXT YEAR"...

The semiconductor industry is having to run ever faster just to stand still, and the challenge posed to its complex instruction set business by parts like Digital Equipment Corp's new Alpha RISC has persuaded Intel Corp that it has to shorten the generations in its iAPX-86 family. The 80586 is not yet announced, but already, reports the *Wall Street Journal*, the company is saying that deliveries of the 80686 - code-named P6 - are planned to start late next year - and the company is already talking about the features it is designing into the P7, destined to appear as the 80786. The 80586 is expected to represent a fairly modest advance on the 80486, but the 80686, with many RISC features designed in, is expected to represent another leap forward.

...AS ADVANCED MICRO WINS A MAJOR ROUND AGAINST INTEL

Once all the inflated claims of both sides are swept out of the way, Advanced Micro Devices Inc seems to have won pretty much all it wanted from Intel Corp in the arbitration decision handed down by retired Superior Court Judge Barton Phelps. He granted Advanced Micro permanent worldwide royalty-free rights to manufacture and sell its Am386 line of microprocessors, and \$15.3m damages from Intel for its failure to deliver masks of some parts covered by the second source agreement between the two - a very long way from the \$2,270m that Advanced Micro had been demanding. The cash award was low because the judge had also decided that Advanced Micro did indeed fail to deliver parts of equal value to Intel as was required in the original agreement. Judge Phelps restricted the rights granted to Advanced Micro to a permanent royalty-free non-exclusive non-transferable world wide right, under any and all Intel copyrights, patents, trade secrets, and maskwork rights contained in the current versions of its reverse engineered 80386 family of microprocessors. Intel won nothing on the counterclaims against Advanced Micro that it raised during the arbitration. The award is subject to confirmation by the superior court and Intel will try to get parts of the arbitration decision rejected. It will also pursue its microcode copyright infringement lawsuit against Advanced Micro and will argue that the Federal Court should not allow the arbitration ruling to be used as a defence.

OBJECTS: JAMES MARTIN MAKES "MAJOR" INVESTMENT IN VERSANT

The proponents of object-oriented technology contend that once it is established, it will sweep about 90% of today's software engineering technology into the dustbin of history - after all, not many hand-built cars are sold in this era of mass production - and so we are likely to see a lot of betting among the software engineering fraternity. Last week it was announced that James Martin has made a "major investment" in Menlo Park, California-based Versant Object Technology Corp and will become a contributing member to the Versant Advisory Board. The additional funding will be used to expand Versant's current object-oriented database management systems family. Meanwhile, Versant has also signed a joint development agreement with IBM to work on future products for the RS/6000 AIX CASE repository, which is based upon Hewlett-Packard's Soft-Bench environment (UX No 369). Versant's object technology already supports the repository, and new tools and integration services are expected to debut later this year.

SUN "LOOKS TO PINNACLE" AS VIKING STRUGGLES TO REACH 50MHZ

The reasons behind Sun's increasing interest in Pinnacle, the Cypress/Ross superscalar Sparc chip (UX No 373), may be starting to surface. In the wake of the International Solid State Circuits Conference in California the week before last, it seems that Sun and TI can produce 40MHz versions of Viking "with a high degree of confidence," but that a reliable run of the 50MHz chips they were aiming for is more problematical. However, Sun spokesmen, perhaps intent on defusing as much negative press as they can, claimed that Viking had yet to reach the "go-no-go" point, and that since the project was still within targeted deadlines the company was "confident it could get to 50MHz." One in fact said the chip was "meeting expectations and running well in some applications," though what these circumstances were she did not know. As presently delineated, the Viking effort, so key to Sun's future performance capabilities, is expected to cause the company some degree of discomfort since even a 50MHz Viking looks awfully puny next to a DEC Alpha or a HP 7100. Sun is of course already in the market with boxes built out of 40MHz chips.

...AS SOLID FROM GERMANY CHALLENGES SUN WITH SOLIDSTATION SPARC

Latest company to enlist in the battle to wrest market share from Sun Microsystems Inc with supersets of its Sparcstations comes from Munich in Germany, although it has a subsidiary in Atlanta, Georgia called Solid Computer Corp, from where the announcement comes. The company claims its Solidstation provides complete functionality of Sun workstations with more features for a price 30% to 40% lower. The Solidstation 40 and Solidstation 25 are positioned to compete against the Sparcstation and IPC respectively. They have 8Mb to 64Mb memory, and up to 1Gb internal disk, 20.8Gb external disk. The basic configuration with 207Mb disk, 19" colour monitor, three package slots, and 40MHz Sparc costs \$10,000; either is available for \$1,000 less with 15" colour monitor. Solaris 1.0 and/or Motif, X11R4 and X.desktop come bundled.

BILL JOY STARTS OBJECT-ORIENTED SMALL-WORKS PROJECT

Sun's famous co-founder and chief technologist Bill Joy dropped a little bombshell of his own last week in Tucson, Arizona at Esther Dyson's PC Forum: It seems he's starting a new company inside of Sun. The entity, which is not believed to have been incorporated yet, will be called Sun Aspen Small Works. Its job will be to develop system software and application products that will not reach the market for another five years. The technology used will apparently be object-orientation and its descendants. Small Work designs will not be married to any single platform and will be written to be used by a handheld as easily as a server. Small Works is currently conceived of as a subsidiary of Sun's Aspen, Colorado-based think tank, Sun Microsystems Labs Inc, nicknamed Smiley International, which Joy set up as a place to retreat to think and create programs, staffed with a small six-man crew. Despite the move, and his impending marriage, Joy will continue to function as Sun's chief technologist.

PEACE TALKS GET THE GREEN LIGHT FROM IBM

Contrary to its reportedly entrenched political position on any kind of peace settlement in the Unix industry (UX No 373), Nick Temple, general manager and chief executive officer of IBM UK, told Unigram.X during last week's IBM '92 show at Birmingham's National Exhibition Centre, that any possibility of Unix International and the Open Software Foundation coming together in some form would make "a huge amount of sense, if it would further standardisation within the industry." He said that IBM "hadn't really had the understanding of open systems in the past - but we do now."

DEC UNVEILS ITS ALPHA RISC STRATEGY

by John Abbott

DEC has been selectively leaking details of its Alpha project since last October (UX No 361), so it was no surprise that little new came from the official announcements last week. In Europe, DEC hosted an event at its South Queensferry fabrication plant, nestling under the shadow of the Forth Bridge in Scotland - which along with the Hudson, Massachusetts facility will be producing the chips. The announcements covered three areas. First, the Alpha architecture, which is full 64-bit, open to any operating system or language (including "Open" VMS, OSF/1, and in the future NT and real-time operating systems), and scalable to 1,000 times its initial iteration (with the help of multi-processing). Second, the initial product, the 21064 running at 150MHz, sampling immediately and shipping by mid-year. Third, a newly inaugurated "open business practice", described as "fundamental departures" from DEC's conventional ways of doing business - namely; the licensing of Alpha to other semiconductor partners; the licensing of the manufacturing and design of the chip, allowing copies of Alpha built in accordance to DEC's design rules, the licensing of DEC software to any Alpha partner; sales at chip, board and system-level; and customer and OEM support from DEC to Alpha users.

DEC maps out Alpha's future

with advanced CMOS, GA versions

Following the VAX is no easy task - and DEC has pulled out all the stops to come out with a technological solution it hopes will last it for the next 25 years. The path was not easy - DEC has been researching RISC since 1982, and first showed off a 32-bit processor running at 50MHz in 1989. This project was shelved, only to bounce back as the 64-bit Alpha. Implemented in DEC's fourth-generation, 0.75 micron CMOS, the chip has a transistor count of 1.68m devices, using three layers of metal and a 3.3 volt power supply. DEC says it is running 200MHz versions in the labs - which, according to senior consulting engineer Dan Dobberpuhl is "six to 18 months ahead of the industry in working at this level of complexity with today's technology". DEC has a 10 year roadmap set out for the chip, which includes 4 million plus transistor CMOS 5 and CMOS 6 versions running at 275MHz plus, with CMOS 6 and 7 versions towards the end of the decade. Aside from the main design team there are two more groups, one thought to be working on a gallium arsenide version running at up to 1,000 MIPS, and the other working on lower price, lower power/performance designs. Some are also apparently working on embedded versions of Alpha. In all, there are 500 people in the semiconductor engineering group. Dobberpuhl claims to have learnt lessons from the other RISC chips on the market, which are now on average ten years old or so. "They carry artifacts to the technology of the day, which are becoming big liabilities", he said. Branch delay slots, for instance, are a liability for superscalar operation, and DEC does not have to rely on the condition codes that appear in other RISCs. The single chip 21064 is a full 64-bit, super-scalar and super-pipelined implementation, with 64-bit integer and floating point units and related addressing units. There are 8Kbyte instruction and data caches with cache bandwidth of 3.2 Gigabytes/second. External cache extends to 8Mb. The major problem with Alpha at the moment is price - "you can get a whole Hewlett-Packard workstation for the price of the chip" said one observer. Prices are \$3,375 each in units of 1 to 100; \$1,650 in units of 101 to 1,000; and \$1559 for over 1,000.

Alpha adds third hardware platform to ACE's kitchen sink

Is ACE strengthened or wrecked by the Alpha announcement? DEC doggedly insisted on the former, while the 100 plus European journalists shipped out to Queensferry mostly thought the latter. The "independent" industry analysts, caught between a rock and a hard place, reluctantly agreed that it looked bad for ACE, and also said they expected to see DEC offering incentives and migration-aids for its current MIPS users as well as VAX users - something that didn't quite square with DEC's insistence that the MIPS-line would not be affected by the new machines. Pier Carlo Falotti said that the addition of Alpha as an ACE platform would increase the options for ACE users - and he hinted heavily that Microsoft's NT would be included in forthcoming Alpha announcements.

When asked if DEC had effectively hijacked ACE for its own ends, Falotti said "if you adhere to the standard, you are part of ACE - you don't have to ask permission. Alpha adheres to ACE". At the US side of the press conference, DEC said it had every intention of making Alpha available to ACE members but that it did not intend to make any formal request to the Initiative to embrace it. Presumably they realise the move would only weaken ACE more. Once a means of extending a PC-like architecture to new-generation technology, ACE now has two 64-bit RISC chips competing for that business, along with a newly-aggressive Intel Corp keen on keeping its existing business, plus at least three operating systems (it did not emerge whether VMS would be offered as an alternative ACE operating system - but why not?). As for MIPS itself, Falotti said that DEC would be keeping its 5% stake, and insisted that DEC would be in trouble if MIPS, currently struggling, did not survive the increased competition. Kubota's Japanese masters in the US thought it unlikely that DEC would take over MIPS in the situation there-worsened. Presumably DEC could act on its manufacturing rights. Kubota ironically owns 17% of MIPS.

Cray, Kubota are first in the queue for Alpha

Cray Research did little to elucidate its reasoning for choosing the Alpha chip for its first-generation massively-parallel computer, saying only that its 64-bit architecture and high clock speed made it very suitable for the purpose. Cray spokesman John Fleming pointed out that the chip was of similar power to the fifteen year-old Cray-1, and that, due to the large numbers of chips per system, Cray was likely to be the first to get volume discounts from DEC. The Sparc project, based on the assets of acquired Floating Point Systems, would address a different market, he insisted. Kubota Corp, the second vendor partnership to be announced, says it plans to use Alpha for its next-generation Titan graphics multi-processors, which come from the now-defunct Stardent Computer Corp. These currently use the MIPS chip. The company is already well underway with a new modular graphics and imaging sub-system that can be field-installed in the existing 1,000 or so Titans installed, or used with the new Alpha systems. They will run the OSF/1 operating system. Kubota hopes to show the first results of its Alpha and graphics work, being done by Kubota Pacific in Santa Clara, California, at the Siggraph show this July, and is promising customer shipments by the end of this year. However, it is yet to see any chips from DEC, according to US CEO Ben Wegbreit. Kubota was attracted to Alpha by the performance claims, by its "durability", and its support for Turbo-Channel. It says it will continue to offer and develop MIPS-based Titans, and will provide migration and integration services for customers using both or migrating from one to the other. Santa-Clara-based Kubota Pacific, which has responsibilities for marketing the Titan range outside the Far East, last month pre-announced a MIPS R-4000-based workstation.

ALPHA SHOTS

In Europe, Pier Carlo Falotti insisted that other announcements will be following over the next few weeks, although, he said, there are still details to work out over the (probably two) semiconductor partners - a key hurdle before it gets the chip accepted by other system vendors. In the US, DEC claimed to be in active negotiations with one unidentified semiconductor house. Speculation pointed to NEC as being a suitable candidate. On the systems front, International Data Corp says that DEC has discussed selling the chip to such unlikely partners as Data General Corp, Tandem Computers Inc and Stratus Computer Inc. To prevent its VAX business stalling altogether, DEC is expected to come out with new VAX models that will be able to be upgraded with Alphas next year.

Contrary to what we've heard elsewhere, DEC was bragging last week about how its first pass fabricating Alpha produced a chip that was fully functional and ran at full speed: It also said it currently had the capability to produce in volume, just no need to before the summer. It declined to discuss what the volume was, certainly Kubota and Cray wouldn't account for many. The company had achieved a 100MHz Alpha in 1990, a 150MHz last summer and now has the 200MHz. Analyst Terry Shannon (see front) also commented on rumours in the industry that none of the many Alpha prototypes DEC has running are using a fully functional chip (UX No 373). Such a situation, he says, was true last year when the EV3 model of Alpha didn't support the floating point. Now that DEC has advanced to EV4 the problem has cleared up.

DEC is setting up 30 centres where end users and software houses can go to recompile their software for Alpha. Software written for the MIPS and VAX machines will of course not run at the same speed as stuff written specifically for Alpha. DEC estimated they would be 30% to 50% of their former selves. The centres are also anxious to service new applications, particularly those in such new markets as multimedia and imaging. DEC claimed 300 third parties are prepared to move their software to Alpha and that next month a series of announcements will begin.

DEC was acting odd and mysterious last week issuing a two-line press release about having serious discussions with Microsoft about supplying NT on Alpha but not being "at liberty" to say more. What gives here, guys, everyone else thinks it's a done deal? (UX No 361).

Our sources are betting it's a case of DEC trying to get better pricing out of Microsoft. After all DEC will doubtless be licensing NT to its Alpha licensees and that makes for a complicated royalty structure.

UBS Securities VP Marc Schulman, probably the first analyst of any description to detail DEC's Alpha strategy to the outside world, found the bit about Privileged Architecture Library Code (PALcode) and the chip's being OS-independent really interesting: "It's NAS in hardware," he claimed.

We hear DEC wants to get 70% of its revenues from Alpha machines in 1997.

MONEY AND IDEOLOGY BEDEVIL OSF, X/OPEN RELATIONS

In a candid interview with Unigram.X last week, Open Software Foundation chief, David Tory, last week explained some of the ideological incompatibilities - and straightforward cost reasons - why it decided to relinquish membership of the X/Open Co Ltd standards group at the end of last year (UX No 356). In Tory's view, X/Open "was created on the back of Unix, and is still Unix-oriented - it therefore focuses on less than 10% of the market." Tory says X/Open has always been about portability, bringing together the different flavours of Unix such as OSF/1, AIX and SVR4 and the rest via its XPG guides. But, at the end of the day, "IBM isn't going to support XPG4 on its MVS operating system." Open systems, he argues, "has to be about interoperability, and X/Open is only now beginning to realise that. X/Open is still focused on compatibility issues between Unix applications and platforms. OSF's agenda is more than that, it is about interoperability, allowing everything from mainframes to personal computers to work with each other."

No room at the inn

"Why did we pull out? We just couldn't afford it, and X/Open was so focused on Unix." Tory says OSF asked X/Open if it could establish some kind of special membership for it. X/Open "said no." He says OSF then asked how it could remain part of X/Open's overall process. "X/Open said talk to our ISV council. We did that and the ISV council said that's not possible, you're not an ISV. So we asked whether any kind of special relationship would be possible. We asked them to send us something. We have heard nothing." Nevertheless, in a more reconciliatory tone, Tory admits, X/Open provides "an important function. It is moving in the right direction and we want to deal with them." For its part, X/Open says it is still looking at ways to maintain some kind of a relationship with OSF.

DCE terms under negotiation

Meantime, X/Open, much like Unix System Labs (see front page), says it is still negotiating with OSF over terms for Distributed Computing Environment technology, parts of which X/Open is likely to adopt in its standard for distributed computing, due to be announced "very soon" (UX No 364).

ADDAMAX IS BEHIND CANAC TELECOM'S NATO SECURE OFFICE SYSTEM

Illinois-based trusted Unix vendor Addamax chalked up a coup when Toronto's Canac Telecom, a Canadian National subsidiary, was picked as prime contractor to deliver a secure networked management information and office automation system for NATO's Supreme Headquarters of Allied Powers Europe (SHAPE) near Mons, Belgium. Addamax's B1-level SVR4 Compartmented Mode Workstation (CMW) operating system is the basis of Canac's winning design. Under the contract, Addamax will deliver the secure OS integrated with OSI networking applications including X.400 mail services. Canac will integrate the OA applications and database management system. The SHAPE Management Information System (SMIS) will be installed in the second quarter. It consists of a high-speed FDDI network interconnecting several secure Fibre-Optic LAN-based Common User Networks extending throughout SHAPE. A high-capacity server will provide centralised system and security management facilities. The current procurement covers the first phase of a planned three-phase systems for SHAPE and could be used as an implementation model for other NATO headquarters. Addamax claims the SHAPE system will set a new standard for networked computing.

MARKET ROUNDUP

Systems integrator Basis Inc reportedly has some bar code software programming products to allow Unix systems to interface with bar code technology: Scanned bar code data can be transported without intermediary devices to networked databases for manipulation, filing and printing. The software supports a maximum 140 Intermec scanners and/or printers per host and is supported on Sparcs, Tandems and SCO-based Intel platforms.

California-based, Micro Technology Inc has acquired its French distributor, SCR Technologies; renamed Micro Technology France, it will sell DEC VAX/VMS and Unix systems developed by Micro Technology and software packages from its subsidiary company Lexcel.

HalCAD Ingenjorssirmka, Danderyd, Sweden, has struck an exclusive deal to distribute all Softsource Swedish Language CAD drawing management products. HalCAD will translate Drawing Librarian and its Unix and Windows versions, all which can be used for CAD drawing viewing, translating, management and printing.

Hummingbird Communications Ltd, Markham, Ontario, has opened a wholly-owned sales and marketing office in Geneva, Switzerland: headed-up by Albert Covo, it's the company's first venture outside its Canadian headquarters.

Quality Software Products has signed distribution agreements with companies in Germany and Mexico, and an OEM deal with Pyramid Technology Corp: the deals give Magirus Camp GmbH of Munich, Germany, and MMC Multisistemas SA of Mexico City the exclusive marketing rights to QSP's eXclaim! spreadsheet in Germany and Mexico respectively; the OEM deal gives Pyramid the right to distribute eXclaim! worldwide across all Pyramid platforms.

Xylogics International Ltd, based in Milton Keynes has won a £3m contract from Siemens Nixdorf Informationssysteme AG for 1,200 Annex Three and 2,800 Micro Annex Unix communications servers.

Arrow Computer Enhancements Ltd, a Surrey-based DEC OEM and HP and Sun VAR, says it can deliver two 32Mb Sbus expansion boards for the Sun Microsystems Inc's Sparcstation 2 at £2,500: half the Sun's list price, it claims. Arrow, a distributor of Clearpoint Corp's DEC, IBM, HP and Apple memory products, says Sun isn't interested in this market - its own add-on memory products work out very expensive for users.

ICL has struck a £1m deal in Italy with Ospedale Martini, for a resource management system at the hospital's headquarters in Turin: modelled on ICL's VME-based CASEmix management system developed for the UK's National Health Service, it will run on ICL DRS6000s.

Motorola Inc has won a long-term agreement, estimated to be worth \$50m dollars, for Delta Series 8000 multiuser systems from ADP Dealer Services Inc, based in Hoffman Estates, Illinois: the 88000based Unix kit will be fitted with applications for automotive, heavy equipment and truck dealership markets.

Encore Computer Corp, Fort Lauderdale, Florida, has appointed Thomas Nelms to take charge of all its operations outside of the US: his post - director of international operations - is a newly created one.

Gold Mine Technologies AG, Zug, Switzerland, has signed to distribute Colorado Springs, Colorado-based Open Inc's Aspect graphical user interface development system across Europe, the Middle East, Africa and India.

Tiger Media is giving the Cats Meow, its multimedia authoring tool, full-motion video and digital audio capabilities by supporting Parallax Graphics' XVideo Sbus-based videographic controller which allows users to display two live full-sized video inputs simultaneously in separate windows. The Parallax tool will add another \$700 on to the \$1,650 price of the Cats Meow.

Xcelerated's Mac-on-RISC product Liken has picked up its first VAR, seven-month-old San Diego-based integrator Sunburst Computers, which also sells RDI's BriteLite laptop, a version of the Proxima overhead display kit Ovation especially configured for Sun workstations, Shinko colour printers and Sun-based executive information system tying Aster*x to Autoplan and databases like Unify, Informix, Oracle and Sybase. Sunburst says it's already moving Likens.

Although Andy Heller's two year-old start-up, Hal Computer Systems, is playing its cards close to its chest (UX No 371), some of its suppliers are itching to tell the story: Legato Systems Inc, Palo Alto, California, for one, says Hal has signed up for its NetWorker backup and recovery product which the company will use in its as yet unannounced high-end Sparc-based machines.

South Korea's electronics companies look for a 14.9% increase in exports to \$22,110m this year, with exports of industrial products including computers rising 11.4% to \$4,250m, exports of components, subassemblies and peripherals climbing 20% at \$11,560m, and exports of consumer electronics products rising 8.7% to reach \$6,300m.

Ingres Ltd has announced support for Digital Equipment Corp's OSF/1 - the company's first outing into the Open Software Foundation OSF/1 market - and will incorporate the recently launched Ingres 6.4 Intelligent database, applications development tools and open communications products, set for release after DEC's first customer shipments.

The Santa Cruz Operation Inc has released new graphics and networking enhancements for release 1.1 of its Open Desktop product bundle, including X-Windows version 11 release 4, shared run-time libraries for X11R4 and OSF/Motif 1.1, a new network administration tool, an NFS lock manager, a link-level interface which supports the latest networking cards and improvements to the C2 security administration system: the add-ons cost £75. SCO has also put together a server version of Open Desktop which it is selling for £2,300.

Autodesk Inc says it is readying Motif and Open Look versions of its AutoCAD product: in the UK the company says sales of its Unix-based software packages now account for more than 10% of its business.

In the UK, Information Builders Inc's client software, enterprise data access tool - EDA/SQL - has been ported to three Unix platforms: IBM's RS/6000, Hewlett-Packard's 9000 Series 800/700 and Sun Microsystems Inc Sparcstations. EDA/SQL allows languages and SQL tools on Unix platforms to access DB2, IMS, Vsam, Rdb, RMS and Sybase over TCP/IP. EDA/SQL client software is available now - EDA/SQL server software will ship in the second quarter.

Pericom Technology Plc, Milton Keynes, is to upgrade its AMD 29,000 RISC-based X-terminals, X-Line 150 and 200 to support NFS and SNMP protocols for TCP/IP, and SGSnet for DECnet environment - X-Line 150 is priced at £2,000 and the X-Line 200 £3,000, optional SGSnet is available for £180.

Meanwhile, its Pericom Software Ltd arm has implemented its team-X emulation product, at the Nanyang Technological University Singapore: installed on the university's DECstations, team-X allows X-terminal users to display existing applications under X-Windows, enabling students at the University to access Tektronix and Westward graphics software packages on VAX 9000 systems.

In the UK, Frontline Distribution Ltd, Hampshire, is to distribute Aurora Technologies', Firstscan software on Sun Microsystems Inc workstations: Firstscan, which supports HP Scanjet scanners, allows graphical images to be imported into Frame, Interleaf, Avalon and Island Draw and Paint running under SunOS 4.1 - prices start at £695.

Misys plc's TIS Software subsidiary has launched its Global 3000 accountancy package for up to 300 users, which sits between the entry-level 2000 and top-end Strategix products it offers for Unix and MS-DOS environments: the UK firm is on the lookout for value-added resellers interested in taking on the package.

TRIFOX CLAIMS DATABASE BREAKTHROUGH

San Mateo, California-based Trifox Inc, has introduced Vortex, claiming it to be a breakthrough in database-independent technology. Vortex is intended to address the performance and integration problems associated with client-server and host-based applications - the family of products is claimed to enable users to achieve interoperability and portability among heterogeneous applications - with no additional programming and up to 10-fold gains in performance. Available now for most major relational databases and legacy data managers, it consists of the Vortex Accelerator performance optimiser; Vortex Interface to multiple databases and network protocols; and Vortex Compilers, a set of standard high-level and proprietary language compilers. The Accelerator is claimed to increase the number of concurrent application users by up to 10 times, through "a highly effective method of managing database cursors": it transparently maintains open cursors and enables them to remain open, eliminating the need to repeat the first five functions of creating a cursor to reduce the amount of work the database kernel has to do to exercise each SQL query; it caches all cursors automatically into shared memory, freeing up memory for each application. Vortex Channel is a virtual database interface that is the core of the architecture and enables read and write access to multiple data managers: users can access and change data stored in applications on disparate databases. Vortex Interface also includes Vortex Client and Vortex Server interfaces to network protocols, making applications network-transparent, enabling access to multiple databases via protocols such as TCP/IP, NetBIOS, DECnet, RS232 and X25. The Compilers consist of third generation pre-compilers and fourth generation compilers that enable applications to access Vortex Interface and Vortex Accelerator. Trifox says it is currently completing development of a Vortex Compiler for Oracle's SQL*Forms applications, which will "dramatically increase transaction throughput and increase the number of Oracle application users", for announcement next month. Vortex supports Oracle, Ultrix/SQL, Ingres, Sybase, Informix, Allbase and Rdb, and VMS, HP-UX, SunOS, Santa Cruz Unix and Ultrix. Legacy data managers supported include TurboImage and RMS flat files, and the company plans to support IBM's DB2 relational database under MVS, IMS and IDMS hierarchical databases and some object-oriented databases later this year. Prices go from \$5,000 to \$100,000, depending on number of users and systems, and on components purchased.

IBM CHIEFS TO TAKE 40% PAY HIT THIS YEAR, ANNUAL REPORT SAYS

In the most explicit statement yet that the policy of full employment at IBM Corp is on its last legs, in the company's annual report, due to be mailed to shareholders next week, the company says that employment is intrinsically connected to individual performance and business success, and that if further significant reductions are required, "we will reassess full employment and do what is best for IBM." The PS/2 business fell 11.8% to \$8,505m; disks died, with storage products down 20% to \$7,284m. And, making it clear that John Akers is beginning to feel embarrassed by all the negative comment about his salary and benefits in the present state of the company, he notes that as a result of the rotten performance of the company, he expects the performance-related element of his pay to fall such that his overall package declines by 40%.

MARKET ROUNDUP

Happy Birthday: Sun, a company which has changed the industry as much as anyone, blew out the candles on its tenth birthday cake and downed a lot of beer last week on the anniversary of the firm's incorporation.

Unsubstantiated rumours claim IBM has both MVS and VM running on its RISC platform a la DEC with Alpha.

CalComps's Digitizer Products Group has begun shipping a Sun version of its Drawing board II Model 3300 digitizer claiming price/performance leadership: the unit is the company's first Unix machine and will work with Sun 4.0.1 or higher. CalComp intends going to SCO-Unix, IBM, HP, SGI and DEC.

ParcPlace Systems is putting its Objectworks/Smalltalk object-oriented development environment on the HP Apollo 9000 Series 700, saying that the software runs 100 times faster on the HP 710 than the original commercial Smalltalk systems, making it the fastest Smalltalk system for under \$10,000.

Cambridge, Massachusetts-based Brixton systems has released BrxBSC, integrating Sun workstations and IBM mainframes over the bisynchronous protocol and allowing users to transmit data between the two vehicles: The company's BrxTR/SNA product now also supports Sun's 4/16MB Sbus Token Ring cards.

Nineteen companies last week announced that they are opening the first PEC Interoperability Centre at Convex headquarters outside of Dallas, Texas. PEX, an extension of the X-Window System, allows 3D graphics to be distributed over networks of heterogeneous platforms. The involved parties include: Advanced Visual Systems, DG, DEC, Evans & Sutherland, Fujitsu, HP, IBM, Ithaca Software, Kubota, Liant, Media Metrix, MIT X Consortium, NCD, Oki Electric, Omron, Shographics, Sun and Tektronix.

You know the code names stuck on computer widgetry during development are a lot more fun and easier to say than the designations the marketing people finally come up with: for instance, isn't Thunderbird a heck of a lot better name than calling the poor thing the HP PA RISC 7100 chip?

InterOp pulled off its own little coup: General Norman Schwarzkopf, hero of the Gulf War, will be featured speaker and big draw at InterOp Spirng in Washington, DC, May 18-22. He's to speak on "Desert Storm: Lessons Learned for All Of Us."

Motorola has scrapped the 88304, the 88k iteration it was working on for future Apple laptops, because Apple won't be using it, according to Electronic Buyers' news: the US paper, which figures the 88000 may be facing "the beginning of the end," also claims Ford Motor Company, which pledged itself to using the 88300 last year, is considering decommitting itself and switching to the PowerPC.

In its race to stay alive - and maybe even actually succeed at Sparc cloning - Tatung Science and Technology has announced plans to ship Solaris 1.0.1 by late March, hoping to be among the first to offer strategic components of the upcoming Solaris 2.0 operating system: Open Windows version 3 and Deskset version 3. Tatung has been a SunSoft beta site for Solaris 1.0.1.

Tera Microsystems Inc president Perry Considine resigned from the company: insiders say it was a mutual parting of the ways with the firm's venture capitalists. No replacement has been named.

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Sequent Computer Systems Inc, Beaverton, Oregon, is to implement Oracle Corp's next generation CASE software on its Symmetry 2000 systems. The new software is claimed to enable users to write large applications without the need to use workstations as an intermediate development step. Ships are set for March.

And Sequent has announced an Open/Pick initiative to introduce open systems solutions to the proprietary-based Pick market: Open/Pick will offer marketing and maintenance services in joint ventures with existing third party Pick partners, focusing on the US, UK and Australian markets. Sequent will market two Unix-based Pick environments on its Symmetry 2000 range and says that it expects the effort to generate 15% of its total revenues by 1995.

Object Expo Europe, formerly Scoop-Europe, the object-oriented technology exhibition, will be held at the Church Conference Centre, Westminster, London, between July 14th and 17th: the conference is organised by SIGS Publications, New York.

Delbert Yocam, erstwhile Apple chief operating officer, has joined Oracle's board of directors to lend his expertise in the desktop market.

Seattle, Washington, FourGen Software Inc has moved its headquarters from Edmonds, Washington to larger offices in Seattle: it claims the growth of its Unix business has been a significant factor in the relocation.

The French National Office of Forestry has picked VMark's universe software as its relational database for use by up to 1,200 users at 121 Unix sites around France being equipped with Data General's AViion servers.

Tandem Computers Inc and Alliance Technologies will jointly market Alliance's Textmachine database software on Tandem's Unix-based fault-tolerant Integrity series under NonStop-UX.

Solbourne Computer Europe has appointed London-based Primeservice, a subsidiary of Prime Computer Inc, as its Sparc system maintenance organisation. Primeservice will handle end-user support for Solbourne's entire range of systems throughout Europe.

Pink America, a Time Warner Inc company, is to bundle Sun Sparc systems in with its electronic publishing solution, Pink Press. Pink Press says it has signed \$1.5m worth of contracts: Europe Pink Software Engineering, Hamburg, Germany, is handling European sales.

Uniras AS, Copenhagen, has appointed Paul Sloane as European vice president: formerly north European managing director of Ashton-Tate, Sloane will be responsible for Uniras in UK, France, Germany and Italy.

In the UK, Oxford Molecular Ltd, the molecular modelling software company has established a US subsidiary, Oxford Molecular Inc, in Palo Alto, California: heading-up the outfit is Dr Stefan Unger, former Silicon Graphics Inc vice president.

Calcomp Inc, Scottsdale, Arizona, has begun shipping the latest version of its DrawingBoard II 3300 for Sun Sparcstations: DrawingBoard II allows users to control digitisers and mouse functions from AutoCAD - available in seven different sizes, prices go from \$400 to \$3,000.

Stratus Computer Inc, Marlborough, Massachusetts, has ported Lambertville, New Jersey-based Systems Design Associates' Datasafe disaster protection software on to its transaction processing systems: Datasafe 1.0 supports applications running under Stratus' VOS operating system, release 2.0 will add transaction protection next quarter, a Unix release, 3.0, is set for the fourth quarter.

In the UK, the Rank Organisation Plc's famous holiday camp outfit, Butlins, is installing Ingres software that will link marketing databases at its camps around the country.

Correction: last week we reported that Sun Microsystem Inc's Solaris 2.0 for Intel platforms would be released in June: it's the Sparc version of Solaris that's scheduled for the second quarter - the Intel version is now set for the third.

Sun is dropping the list price on two high-end graphics systems: A base configuration of a Sparcstation 2GS, formerly \$26,995, will be \$22,495 and the Sparcstation 2GT will go from \$49,995. Ditto with add-on memory and monochrome monitors, effecting most desktop configurations within certain ranges. For example, 4Mb of memory will go from \$1,000 to \$400 and 16Mb from \$3,500 to \$1,300.

Microsoft reportedly hopes to have 50 applications on NT by Spring Comdex in April.

There's a change in the guard taking place over at Unix System Labs: vice president of marketing, Stan Dohlberg, is out, the new incumbent is Joe Menard, a once unthinkable recruit considering his last job was as DEC's Unix marketing group manager.

RISC Management editor, Andrew Allison, in reacting to the Alpha announcement notes that DCE has invented some pretty esoteric processes to produce the chip, yet anybody can have it. "Just how easily will it be", he wonders, for other semiconductor houses to replicate it? Then again how good will DEC's yield be? Allison is also cautious about keeping a weather eye cocked on all these competitive leadtimes. DEC, which he claims is being cagey with when any Alpha boxes will really be available, only has a paper performance lead right now. By the fourth quarter, MIPS, HP and IBM will have chips in the same 150MHz neighbourhood.

The Los Alamos National Laboratory in the US has been hit with a rash of attempted break-ins over the Internet that galvanised their Emergency response teams: despite God knows what secrets they have stored on their system, the boys at the Advanced Computing Lab were cavalier about passwords, making it a piece of cake for crackers. Now they're back tightening up security.

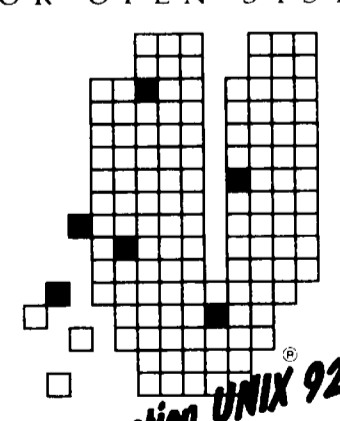
HP is putting in place a workstation interface programme designed to recruit, qualify and support third-party hardware and software vendors whose products are currently used to primarily in PC environments. The idea is to get EISA and SCSI developers to port their stuff to HP Apollo 900 RISC and Motorola-based series 400 workstations. HP will provide technical, consulting and promotional support including direct mail campaigns. The Workstation Interface Lab in Chelmsford, Massachusetts will provide equipment.

Unisys Corp last week announced that it has joined the Open Software Foundation and hopes that it will be able influence technology directions at the Foundation: it was already a licensee of the Motif user interface on its U 6000 Unix machines; after a brief flirtation with the 88000 RISC, Unisys has not looked beyond the iAPX-86 family for its Unix processors, and is likely to be wooed assiduously by Digital Equipment Corp with the Alpha, IBM Corp with the Rios and Hewlett-Packard Co with the Precision Architecture RISC processors; Unisys was one of the earliest to join rival Unix International Inc.

Scott McNealy, president of Sun Microsystems Inc painted a gloomy picture of the international computer scene in a talk in Tokyo to celebrate the thrusting company's tenth birthday, Computerwoche reports: consolidation, mergers, bankruptcy filings and restructuring were among the measures he forecast for the future of the IT industry; in several years, he predicted, only two or three computer conglomerates will remain in the US, following a huge consolidation process. As for Sun itself, McNealy said that the company is "armed" for the future, being 100% RISC-orientated, 100% open, 100% committed to the client-server model and 100% committed to Unix System V.4.

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DOWNIZING TO UNIX "LARGELY A MYTH" SAY ANALYSTS

With a new Downsizing Expo show due to open its doors in Chicago this week, the transition from mainframes to open systems is a hot topic of industry conversation right now, but is the phenomenon real, or just a myth put about by wishful-thinking Unix sales executives? According to new figures from market analyst Spikes Cavell in the UK - revealed this month in our sister publication, IBM System User - the widely reported erosion of IBM's mainframe base has so far been slight - with the overall reduction in numbers of mainframe sites largely accounted for by other factors, such as datacentre consolidation. The total number of UK mainframe sites fell from 1,221 to 1,102 between January and December 1991, a 10% reduction. Flagship MVS sites dropped from 537 to 517, an erosion of 4%. Spikes Cavell found that just 1.5% of the mainframe base is downsizing in the first quarter of this year. Of these, two thirds will move to the AS/400, 16% to the DEC VAX, 10% to IBM's RS/6000 Unix box and just 10% to "other" systems. It appears that Unix suppliers such as Pyramid Technology Corp and Sequent Computer Systems Inc have not followed up a few isolated successes among large IBM users with a string of migrations. And, paradoxically, those "traditional" suppliers that have most enthusiastically embraced open systems are those that could lose the most business. 55% of ICL mainframe users, for instance, also have Unix, but most are not buying ICL's DRS/6000 Unix systems. ICL appears to be more vulnerable than IBM because its customers are clustered in the public sector. The figures suggest that it will be many years before Unix computers are commonly used to run mission-critical applications in large corporations which previously used IBM mainframes. However, the research does not mean that most corporates are not interested in smaller machines or Unix. Rather, they are developing new and distributed applications on these machines, and maintaining core applications on the mainframe. US analyst Bob Djurdjevic said the fall in mainframe sites was not a serious problem. The shrinkage in the UK "was very moderate" and could be accounted for by consolidation. It would not necessarily mean a drop in revenues for IBM, as users were moving onto larger processors. Of 30,000 IBM 370 sites worldwide, he said, there are less than 100 clear cases of downsizing. However, he said, downsizing could become a trend in the future.

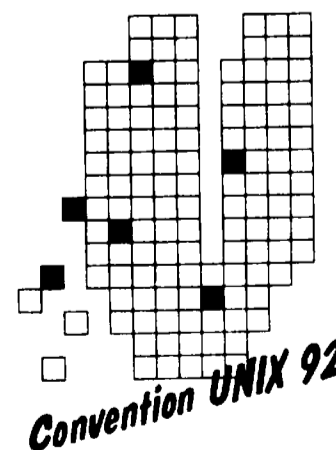
SOLBOURNE SPINS OUT SOFTWARE UNIT

Solbourne Computer Inc, Longmont, Colorado, is this week expected to announce that it has formed a Software Business Unit, which will be hived off soon into a separate company. The unit, which became operational on the first day of the year, is focused on developing and distributing software for building X-Windows-based C++ applications. Initially, it will sell the company's new User Interface Builder (UIB) and Object Interface (OI) Library version 3, originally developed by Solbourne's User Interface and Applications Group from which the business unit sprang. Previously, the products were only available bundled on Solbourne hardware or through Unix System Labs, which attempted to sell OI source code (UX No 302). This relationship, which covered OI 2.0, ended a few weeks ago. USL did not do particularly well selling source, perhaps distracted by its own C++ product with which it was paired, and was not a good fit, according to George Kakatsakis, who led the original Solbourne development work as engineering manager and now heads the business unit. It needs to be handled as a binary product, he says. Distribution will now extend to other third parties including Qualix Group Inc, San Mateo, California; ParcPlace Systems Inc, Mountain View, California and CenterLine Software, Dallas, Texas, the former Saber Software Corp, to start. CenterLine, an enthusiastic OEM which will initially private label the two pieces of software and sell them as is, has also committed to a licensing deal. It intends to integrate UIB with its own ObjectCenter environment for the next major release of ObjectCenter, expected to start delivering early in the Autumn. CenterLine's vice president of marketing, Bob Cramer, is convinced the integration will result in software along the lines of the interface builder in NeXT Computer Inc's NextStep environment, but hardened and more standardised, and fit for the professional developer, a path NeXT itself may not be treading. Companies like CenterLine, as well as Solbourne itself, will also move UIB and OI on to other major Unix platforms such as HP, IBM and DEC. Solbourne points out that 200,000-line libraries based on C++ rather than C are scarce and notes that the what-you-see-is-what-you-get UIB, which uses drag-and-drop techniques to select OI objects, is dynamically switchable between Open Look and Motif by the user at runtime. Once the Software Business Unit, which is currently telemarketing its stuff, proves its viability, it is expected to spin out as an independent company. Such a launch is envisioned in a short three to six months, preferably financed by the unit's own revenue stream. If not, the venture capitalist community will be tapped. Plans call for the unit to go public eventually. UIB lists for \$3,000 with the library; OI binary is also separately available for \$1,000. OI source sells for \$25,000. The unit will also sell C++ Release 3 from USL and a Process Debugger.

SLIMMED-DOWN CONCURRENT SEEKS HARDWARE PARTNERS

Concurrent Computer, Corp, Oceanport, New Jersey, after fighting off threats of Chapter 11 last year (UX No 335), is staging a comeback with a newly streamlined organisation. Concurrent admits its troubles stemmed from the takeover of Masscomp (UX No 193), which it says it paid too much for. With \$75m stripped from its cost margins, it claims to have repaid \$10.2m of its bank debts and rationalised its domestic structure, cutting personnel and simplifying inherited bureaucratic channels from the Perkin-Elmer Corp. Part of its recapitalisation plan is to cut R&D costs, cultivating partnerships to develop complete boxes. Ideally, the company is looking for a complete box to buy-in. According to Joe Sicilian, vice president international marketing and sales, the company is very happy with MIPS "and would welcome MIPS-hosted products that provide the technology we need". Concurrent will be using the MIPS R4000 for its new high performance Unix 9000 series, adding to its MIPS R3000-based 8000 family of fault-tolerant real-time Unix multi-processors and the Motorola 68040-based 7000 family. Selling the two systems side by side, Concurrent says it has no plans to phase out the 7000s, as they serve the specific market of data acquisition more effectively than the MIPS systems. The proprietary 3200 series will also be maintained, as it has five to 15 year contractual obligations in various government and military installations. Concurrent is now focusing on its core simulation and (in Europe, where Concurrent has 45% of its business) healthcare markets.

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NETWISE INTERNATIONAL IN RECEIVERSHIP, EUROPEAN, UK UNITS RISE FROM ASHES...

In the UK, Netwise Inc's Netwise International Ltd subsidiary, was put into liquidation last week - the firm ceased trading on Valentines Day - owing "substantial" amounts to its Boulder, Colorado-based parent, and to other UK creditors. Meanwhile, Netwise Inc is to continue operations in Europe, re-opening in Crowthorne, Buckinghamshire, as Netwise UK Ltd, with five employees, which will be a country arm of Netwise Europe BV, Amsterdam, Holland. Rob Rietveld, who took over from Don Taylor (now at Sun Microsystems Inc - see page four) as European general manager of Netwise International Ltd last August, assumes the same role in the new formation, heading-up both the European and UK operations. Other Netwise country units have been set up in Germany and France. This latest affair is another chapter in the history of the firm, which has some widely acclaimed distributed computing Unix technology, but has generally lacked a coherent marketing strategy and identity. Indeed, after turning over three sets of marketing and sales teams in as many years in the US, Bob Brannon was hired from Intel Corp to head-up and sort out the Netwise Inc business, "a hard-nosed tough guy," according to Rietveld, who says that prior to the appointment the company "wasn't a well run organisation." Brannon took over from David Andras, co-founder of Netwise, who remains chief technology architect and is chairman of the board. Netwise International Ltd was set up around three years ago to handle all Netwise business outside of North America, but "had a big problem with overheads and expenditure," according to Rietveld, who claims "its marketing and advertising strategy was a joke." He says the UK-based unit had to go, although he admits that "it hurts peoples' pride and maybe their wallets." Netwise Inc developed the distributed computing technology - RPC Tool - which is used by Sun Microsystems Inc, amongst others, in its Open Networking Computing platform. Rietveld says the company originally tried "to do an Oracle or Ingres on RPC Tool, which didn't work. It's too technical a product." It will now concentrate, he says, on commercialising the stuff for the mainframe market - a release is expected later in the year - whilst technical development will be concentrated at the Unix and personal computer level.

...BUT CREDITORS SEE ONLY A PHOENIX

However, some creditors of Netwise International Ltd, owed thousands of pounds, are less than pleased with the latest turn of events and see the liquidation as a cynical device to evade debts. They say that Netwise Inc's plans to continue operations in Europe as Netwise UK Ltd and Netwise Europe BV are "in apparent breach of Section 312 of the UK's Insolvency Act of 1986," which bans so-called "Phoenix" operations. They say that Netwise Inc and its chief executive officer, Bob Brannon, were shadow directors of Netwise International Ltd, and have pressed the liquidator, London firm Geoffery Pollard & Co, to make a report to the Department of Trade and Industry. Rietveld's two partners at Netwise UK Ltd and Netwise Europe BV are Bo Ridden and Brian Cassidy. Their investment firm, Westward, based in Holland, has a piece of privately-held Netwise Inc, whose last round of funding was heavily subscribed by it, and Westward sits on its board. Westward's involvement in the software industry goes back more than a decade to when the three individuals worked for Tom Petersen International, headquartered in the Danish city of Alborg (which coincidentally, situated on the Jutland peninsula, is regarded as the geographical centre of Europe). Tom Petersen held the European distribution rights for Oracle Corp's earliest products, when the database firm was no more than Larry Ellison plus half a dozen others. Ellison got the European distribution rights back from Denmark in return for a lucrative chunk of Oracle equity, which the Danish firm subsequently sold for a mint.

UNIPLEX CHOOSES IBM AND ONE OTHER FOR MAIN MEDLEY PARTNERS

IBM is to be one of two "preferred platforms" for the new generation of Uniplex client/server office automation software products due out at the end of this year. Uniplex is using the IBM RS/6000 as the major development platform for its Medley software (UX No 372). "There is no longer a need to port our software to such a wide range of platforms", said Uniplex managing director Patrick Regester, speaking at IBM's South Bank centre in London last week. IBM, and the other, unrevealed partner, will have a significant lead-time with the new product, he said. Speculation has it that Hewlett-Packard, already working with Uniplex on Open Mail, could be the other supplier, but DEC and even Sun Microsystems might also be in the running.

KUBOTA SEES ALPHA AS KEY TO GRAPHICS MARKET

Making waves in the CPU arena last week, DEC's Alpha chip has already attracted a number of eager partners, Kubota Pacific Computer Inc, Santa Clara, California, being one of the first (UX No 374). Kubota plans to use Digital's Alpha processor for its next generation multi-processor 3D graphics supercomputer, Titan 2.0, aimed at scientific research and engineering markets. Surprisingly, Kubota still intends to sell the MIPS R3000 Titan 1.0, claiming that the two workstations will be made compatible with a series of migratory and integration services. Upgrades of the existing 1,000-strong Titan user base will also be carried out. However, the decision to upgrade, stay with existing machines or mix the two, will be left to the confused user. Kubota believes that the intended migration services will work well. According to Gregory Hopwood, vice president of marketing the intention is "for any program written on Titan 1.0 to be taken and then re-compiled to run on the back-end of Titan 2.0". Kubota also intends to port Titan 1.0 libraries and the Dore graphics software - a remnant from the now defunct Stardent Co - along with all third party programmes written for Titan 1.0. Kubota is also set to launch a new graphic subsystem - its name not as yet disclosed - at Siggraph in July, saying that it will be an independent box which will plug into compatible hardware hosts: the first release will be available on Titan 1.0 and later in the year Titan 2.0.

Appropriate partners

In its first outing with DEC, Kubota says the Alpha processor is equal to any other chip in its league, and believes the Alpha-age will create a new untapped graphics market, which it wants a stake of: "We want to make our presence felt early on, selling as many boxes as we can." says Hopwood. Kubota is also keen to nurture partnerships in the development of its software and its graphics box. Kubota Pacific CEO Ben Wegbreit said the company would license the graphics subsystem "broadly and pervasively with appropriate partners", saying it would gladly talk to Cray Research Inc and Convex Computer Corp as possible partners. Kubota is now meeting the likes of Hewlett Packard and Silicon Graphics at most bids, and says that has caused it to look very hard for suitable partners to anchor itself with. Part of this strategy is its alliance with DEC and the Open Software Foundation: it believes an alliance with OSF will be far more significant than its present membership with Unix International, migrating from running Unix 3.2 on Titan 1.0 to OSF/1 on Titan 2.0: "OSF has a broader market... and we have very strong technological reasons for staying with it" said Wegbreit, who could see Kubota joining OSF's proposed Executive Members Group in the future.

SOFTWARE TRANSFORMATION HAS PORTABLE CODE SYSTEM

Cupertino, California-based Software Transformation Inc seems to have come up with an object-oriented development system for creating highly portable applications - but is shy about using the term "object-oriented" in case it puts anyone off. The product, called the Universal Component System, is described as a software development system that enables software vendors to develop applications on a single master source code base that can be recompiled to run on multiple heterogeneous systems. The Universal Component System comprises 25 software component families, reusable software modules that are scalable and extensible. The system is designed to enable the developer to optimise applications by choosing the appropriate software component families and then configuring each component so that it includes just the features needed for the target application - Software Transformation rather dubiously describes this as a unique technology and says it calls it application-driven scalability. The Universal Component System is now out for Microsoft Corp Windows and the Macintosh, with Unix versions planned for later in the year. The company markets directly to software developers and says that licensing terms are set by what technology and services are provided and the structure that's most appropriate for the licensee.

APPLE ANNOUNCES PLANS FOR SYSTEM 7

Apple Computer Inc has made a string of announcements on its Macintosh System 7 operating software. It says it will migrate the system to future PowerPC RISCs over the next two years and that RISC systems will be offered beside current 68000-based Macs. Future versions of System 7 designed to exploit RISC performance will enable applications such as speech input and output, improved telephony capabilities and three-dimensional graphics manipulation. Apple will also have a worldwide multi-lingual version of System 7 in the second half, and plans to add RSA Data Security Inc's encryption software to its Open Collaborative Environment extension to System 7, and will support Adobe Systems Inc's Carousel system for exchanging documents between disparate kit.

DEC'S SECOND PARALLEL PARTNER THOUGHT TO BE INTEL

Digital Equipment Corp, already reselling MasPar Computer Corp's single-instruction-multiple-data parallel machines and Cray Research Inc's entry-level supercomputers, will in three or four weeks' time, announce a collaboration with a multiple-instruction, multiple-data parallel system vendor. DEC's marketing and sales director for massively parallel processing systems in Massachusetts, Bob Nillson, says DEC has long realised that it needed to offer both types of parallel architectures, since SIMD is good for data-intensive applications, yet MIMD is necessary for non-homogeneous data sets. Nillson says DEC in the short term has no plans to build a parallel system from its Alpha RISC - DEC does not want to wait until the Alpha RISC is ready, he explains; the firm plans to bring a MIMD machine to market by "late spring, early summer". Nillson maintains that DEC is not after the TeraFLOPS arena, and says its MIMD offerings will range in price from \$500,000 to \$3m, parallel to the MasPar SIMD line. Nillson wouldn't say what processor the new machines use, but the company was reportedly in negotiations with Intel Corp over its 80860 RISC-based iPSC family of machines. He noted that DEC will be concentrating on compiler technology, so that its SIMD software can also be run on the new machines.

SAMSUNG READIES SHRINK-WRAPPED UNIX APPS

Samsung Software America, the Andover, Massachusetts entity recently given subsidiary status by its Korean parent, is gearing up to go into the shrink-wrapped Unix applications business late next month. The company has built programs from scratch in the areas of multimedia, voice processing, fax and E-mail to run under all the major Unix flavours, including HP-UX, AIX, Sun Solaris, SCO Unix and Unix SVR4. The first one should be announced in April.

INTEL UNIX APPS WILL RUN ON OSF/1 WITH NEW EMULATION SOFTWARE

Open Services Ltd the Isleworth, Middlesex-based UK company that is marketing Liant Software's LPI Unix RPG II compiler, allowing IBM System 36 users to migrate applications to the AIX Unix environment (UX No 367), is now readying an Intel Corp iAPX-86 software emulator compatible with the Open Software Foundation's AES Application Environment Specification. Open Services' says its Silicon Emulation Executive will allow Intel/Unix applications which comply with the Intel Binary Compatibility Specification Issue 2 - IBCS 2 - for example those that run on Santa Cruz Operation Inc's Unix, to execute on AES-compliant systems, such as IBM's RS/6000 and Hewlett-Packard's 9000 series systems, without re-compilation. Open Services originally developed the emulator as a way of offering its own software on a wider variety of platforms, but had so much interest that it decided to productise the thing. Beta versions of the emulator should be around by May, with a full product release set for August. It'll be priced from around £850.

MIPS' ACE GURU JOINS SUNSOFT

In what can only be described as a comic turn of affairs, MIPS Computer Systems Inc vice president of systems software, Jim Billmaier, the man who has been running the Advanced Computing Environment initiative, has up and joined SunSoft Inc as vice president of product marketing and management, reporting directly to SunSoft president Ed Zander. Zander, who shrugged off the irony of the situation when contacted about it last week, explained that the position Billmaier was recruited for is a senior one and "there are only so many people in the industry" who can fill it. SunSoft searched for three months both internally and on the outside before lighting on Billmaier, Zander said, because "he knows the methodology and the business and the structure we want to put in place." Zander allowed, however, that Billmaier will have to "earn credibility. He can't talk to ACE customers" right off the bat. He'll have to start by focusing internally on the traditional aspects of the job, getting the right stuff from engineering and interfacing with Sun Microsystems Inc. Billmaier is the latest in a string of senior evacuees fleeing MIPS, including president Chuck Boesenberg, vice president and general manager of the system products group, Bill Jobe, and vice president of sales, Mike Paul. MIPS' vice president of software and technology, Larry Webber, has picked up the ACE reins dropped by Billmaier in his flight.

MIPS PUTS ITS WEIGHT BEHIND APACHE GROUP UNIX SVR4 ABI

The old Apache Group, now less fetchingly styled the MIPS/SVR4 Special Interest Group or M/SIG, can start breathing a little easier now that fears of MIPS Computer Systems Inc kidnapping its application binary interface and defining it to its own advantage (UX No 370), are beginning to subside. In fact, you might say it has MIPS right where it wants it - laying on its back and purring like a kitten. In the wake of the last M/SIG meeting in Phoenix, Arizona, MIPS is promising to make its Risc/OS operating system Unix SVR4. What is more, it is promising to put its back into getting the group's ABI accepted outside the world. It is putting together an independent software vendor programme, valued at between \$1m and \$2m, supplying some 160 MIPS machines and technical support to software houses. Furthermore, it is guaranteeing porting of the ABI across all MIPS platforms, so that if any M/SIG member finds fault with application software developed on the pledged MIPS boxes the responsibility and cost of fixing it will rest with MIPS. This week M/SIG is expected to announce that it has unanimously accepted the MIPS/SVR4 source code reference ports to Sony, NEC and Pyramid hardware engineered by Unix System Laboratories together with those companies. It has believed MIPS sudden tractability, which some M/SIG members still suspect, may be motivated by the hot breath of an unpolished Microsoft NT on its neck, despite its unholy alliance with Microsoft.

SOFTWARE MARKETING SPECIALIST MERISEL IS ORGANISING SALES SEMINARS FOR COMTEK '92

Merisel Inc has organised a series of software seminars to coincide with Russia's largest annual computer show, Comtek '92, in April. The aim is to give Western vendors the opportunity to train local dealers directly. Called Soft Teach, the event will be open to all bone fide dealers able to get to Moscow. So far, about 12 Western vendors have signed up including American Power Conversion, Intel Corp, Lotus Development Corp, Dynamic Pathways, Symantec Corp, Borland International Inc, Wordperfect Corp, Cyrix Corp, and Microsoft Corp. The motivation behind Soft Teach is partly to counter the widespread disillusionment felt by Russian professionals with most Moscow trade shows attended by Westerners. Usually exhibitors will display equipment that is not for sale in Russia and stands are manned by sales staff simply drafted to Moscow without any real understanding of trading conditions here. The week-long event is also being promoted as an attempt to "cascade" down specific expertise in a market that is starved of product information.

SUN SET TO OPEN MOSCOW OFFICE TO WIN NAME RECOGNITION...

Sun Microsystems Inc is to open a representative office in Moscow this spring and it now has a regional sales manager dedicated to the former Soviet Union. Following the recent reorganisation of Sun's international business (UX No 367), Andrew Rattigan has been appointed regional sales manager. He will spend about half of his time here and will have the support of a full time service engineer in Moscow. The company's initial plan was to sell solely through distributors. The decision to open a full representative office indicates that the Russian market has been given a higher priority in the new Sun set-up. So far, only the Moscow-German reseller, Jet, has generated paid-for sales. "Our greatest problem is that Sun is virtually unknown in this market," says managing director Eugene Schablygin. "Sun appeared in 1982 after the Soviet invasion of Afghanistan so it has always been CoCom-restricted". To counter this problem, Jet has organised an advertising campaign - Sun advertisements are currently appearing in the technical press. A series of basic educational pieces on Sun, RISC, and workstations are scheduled to appear in Computer World magazine in coming weeks.

...SIGNS UP RUSSIAN TEAM

Sun Microsystems Inc has also scored the biggest computer industry coup so far in the former Soviet Union, hiring the man that developed the supercomputer used in the Soviet space programme, Boris Babayan, and his 50-strong team of hardware and software engineers and having them work for the company from Moscow. Sun will also get their services for a song, paying only the sorts of salaries that the members of the team were earning before the collapse of the Soviet Union. According to the New York Times, the big attraction for Sun is that while Mr Babayan's latest machine, the 16-processor Elbrus III, is built of primitive Soviet circuitry, architectural and software advances mean it should run at up to 10 GFLOPS. Sun hopes to apply the skills of the Russian team to developing more powerful versions of Sparc RISCs.

...EX-NETWISE GENERAL MANAGER NOW

SUN'S NORTH EUROPE MARKETING DIRECTOR

As part of the re-organisation now taking place at Sun Microsystems Inc's European operations (UX No 367), former vice president and European general manager of Netwise International Ltd, Don Taylor (see page two), has been appointed director of marketing for the Northern Europe area, responsible for the UK, the Nordic countries, Netherlands and Belgium. With a team of 28, he reports to Bill Passmore, Sun's vice president of Northern Europe. Taylor expects Sun's UK server to grow 50% a year over the next three years.

...SAYS IT WON'T INTEGRATE FOUNDATION'S DISTRIBUTED ENVIRONMENT IN SOLARIS

Although Unix International has endorsed the Open Software Foundation's Distributed Computing Environment technology in its own distributed vision of the future, Atlas, (licensing terms for which, SVR4 developer Unix System Labs, is currently negotiating with OSF (UX No 374)) - Sun, a principle member of UI, says it does not plan to integrate a DCE environment into its own Unix SVR4 Solaris implementation, but will offer a third party product where required. "The world has gone DCE," says Taylor, "if we have customers that want DCE, we will supply a DCE product," though he declined to say from who that might be. Despite recent moves towards a peace settlement in the Unix industry, Taylor says that "some of the dream of 1988/89, for Unix coherence, has gone: it's survival of the fittest now."

X/OPEN REFUTES UNIX BIAS, BUT AWAITS

SVID 3 PROPOSAL FROM UNIX INTERNATIONAL

An irked X/Open Group Co Ltd has taken exception to the reasons advanced last week by the Open Software Foundation as to why it quit X/Open, as well as the way it now characterises X/Open as almost completely Unix-centric and portability-proud and hence less than useful to OSF members (UX No 374). Contrasting himself to OSF president David Tory, who confided his reasons to Unigram.X last week, X/Open's chief operations officer, George Shaffner, says he'd like to just "stick to the facts." X/Open, he says, is "probably the last bastion of product independent specifications in the industry" - far more concerned with open systems than with Unix. In fact, X/Open says it has twice refused a proposal to standardise on the Unix System V Interface Definition, SVID. When X/Open was formed back in 1984, it took some bits and pieces of the then SVID 2 for its embryonic X/Open System Interface and added other stuff of its own, such as internationalisation. X/Open admits it is awaiting a further proposal from Unix International which deals with a possible future alignment between SVID 3 and the X/Open System Interface, but it hasn't seen the thing yet - the proposal would need a 75% majority board vote to be adopted.

OSF "not independent enough" for ISV council but could join System Vendor Council

In 1991, Shaffner said, X/Open issued 28 specifications, 16 of them concerning interoperability. It spends more than half its time and money on interoperability and OSF was an important part of that strategy. Indeed, OSF had pledged to make "OSF/2" compatible with XPG. For that reason, he says he doesn't understand Tory's "retroactive comments... They are inconsistent with the record and with the trend." As for OSF's decision to give up its million-dollar seat on the X/Open board and seek a \$10,000 slot on the ISV Council instead, Shaffner said, the council turned the consortium down not because OSF isn't a software vendor but because it's not an independent software vendor. Alternatively then - rather than failing to come up with some kind of a way for the two organisations to maintain a relationship as OSF suggested last week - representations were made for OSF to join the \$20,000-a-company System Vendors Council, which is not concerned with the same niceties that motivate ISV. This week it's X/Open's turn to complain that it's had no answer. All of this talk has raised suspicions that - in addition to the money it was costing them and could little afford - OSF may have been anxious to drop out of X/Open because its Distributed Computing Environment interfaces would not conform to standards.

...WHILST SUNSOFT LAUNCHES CLIENT/SERVER RPC TOOLKIT

SunSoft last week announced the industry's first general-purpose Transport-Independent Remote Procedure Call toolkit for client-server application development. TI-RPC, combined with source code generation technology from Netwise, is part of ONC for which SunSoft claims 1.8 million seats. Called the ONC RPC Application Toolkit, the platform enables software developers to create a single version of client-server app that runs unmodified across a range of operating systems, hardware bases and networks such as TCP/IP, OSI and Netware's IPX/SPX. Novell, Borland, Lotus and AST Research have endorsed it. SunSoft called it part of a comprehensive networking strategy to be announced in the next few months. The toolkit is currently available on Solaris 1.0 at a list price of \$1,000 a unit. The company says all applications developed with it will migrate easily to Solaris 2.0 and interoperate with existing products built using SunSoft's first generation RPC.

UI MEETING ATTEMPTS TO PUT UNIX V.4 ON THE MAP

Unix International president Peter Cunningham reports that 205 people representing 150 companies turned up at its members meeting in San Diego last month, but that the really encouraging thing "was how many business meetings were set up during and around the sessions". UI wheeled in a number of MVS and VMS applications vendors to survey the assembled masses in an attempt to get them interested in the Unix V.4 marketplace.

"Capable" Destiny will outperform NT for serious use

As talk of Microsoft's NT technology gathers pace, and the likelihood that it will eventually be scalable to server technology and available across multiple platforms, Unix International is keen to demonstrate that Destiny - its new desktop technology demonstrated in private rooms at the meeting - is already offering the sort of functionality that NT might never achieve. Destiny, says Cunningham, is "extremely capable technology for those who need to have more than one application running on the desktop". By this he means multi-tasking in X- Windows without impacting the rest of the system. At the demo, a fax was sent from one window while full-motion video ran in another. Cunningham estimates that 10% to 15% of corporate users need this level of multi-tasking.

Roadmap highlights client/server evolution of Unix

The UI Roadmap (UX No 373) has been duly published. Cunningham points out that work on establishing standard systems management components is progressing faster than expected. The Tivoli-based object framework level - compatible with OSF's DME effort - was agreed upon last September, and the first two reference applications - print management from Siemens-Nixdorf and network management from Netlabs - are now in place. Other applications, in such areas as backup and restore, user, host and licensing management, upgrade and journaling will soon be announced, with three more to be sorted out by the final quarter. On transaction processing, the main problem has been making Unix suitable for both on-line and batch processing. To this end, a stored requests facility will be included, along with the ability to share a CICS transaction with an IBM mainframe, allowing a Unix server to participate in some of the mainframe's workload. In general, the roadmap shows Unix V.4 splitting into client and server components over the next few years, with Destiny as the client and the merge of V.4ES (extended security) and MP (multi-processing), due next year, as the main server portion. This release, 4.2, can handle up to 30 processors, and includes an API to help software developers, such as database vendors, parallelise their products.

Vision 2000 plots technological trends in IT

Vision 2000 is an additional document to the roadmap - it looks at developments in IT on more general terms, and tries to evaluate what effect this will have on operating system development in the future. The document looks at the effects that more MIPS, memory and bandwidth, plus new trends such as software reuse and objects, will have on the UI roadmap. The 60-page document was put together with the help of academics, research and advanced development people, and has as its foundation UI's technology trend survey of semiconductor and networking companies.

LSI LOGIC LISTS THE FIRST STANDARD CELL CORES IN ITS COREWARE PROGRAMME

Unveiling its new CoreWare service, LSI Logic Corp, Milpitas, California, claims that it brings the dream of building a complete computer system-on-a-chip to reality, enabling designers to use the most advanced standard building blocks RISC microprocessors, video compression and signal processing products. The initial CoreWare Library comprises the CW33000 Embedded CPU, CW3230 Read Write Buffer from the MIPS Computer Systems Inc R-series RISC family, the Sparc-based CW900 Embedded CPU and the CWBIL Multi-processor Bus Interface, CW853 SBus DMA Controller. Military Products include the CW1750A CPU and IEEE Floating-Point Processors include the Non-pipelined 32-bit ALU, Non-pipelined 32-bit Multiplier, Pipelined 32-bit ALU, Pipelined 32-bit Multiplier, Pipelined 32-bit Divider, Non-pipelined 64-bit ALU, Non-pipelined 54-bit Multiplier. CoreWare design support is available now. Pricing is based on an access fee with a minimum of \$25,000 and an engineering charge, which starts at \$30,000, and associated production costs.

OSF/1 FOR ALPHA DUE "LATE 1993"

Besides the Alpha chip and the Alpha hardware (UX No 374), DEC has to come up with some Alpha operating systems too. According to an informed source, the current DEC schedule, which the company may already be tinkering with to make it more aggressive, doesn't call for anything to be ready until the late fourth quarter and then it's on the VMS side - a software developers' environment. The promised OSF/1 software doesn't follow until sometime in early 1993 beginning with an initial version that includes C, C++, graphics options, DECnet, X.25, CASE tools and bundled TCP/IP. Even that, it is reported, will not be commercial quality. The market will supposedly have to wait around until late 1993 at the earliest for a more robust system that begins to resemble what Hewlett-Packard Co and Sun Microsystems Inc already have today and that can do symmetric multi-processing. Before this point is reached, however, supposedly in the late first half of 1993, DEC is scheduled to announce Microsoft NT, the third Alpha operating system. However, observers think that according to what is currently known about DEC's perspective Alpha hardware it looks to be too expensive for the Microsoft operating system. The lowest cost Alpha box on the horizon is rumoured to be the Sandpiper desktop at \$15,000 - see below. Of course DEC is planning to finish design work on a scaled-down lower cost version of the Alpha chip late this summer but when that will wend its way into a marketable platform remains to be seen. Even the VMS side of Alpha doesn't bespeak the company getting to the market any sooner. In the first quarter of 1993, DEC is supposed to have a version of VMS that includes a CASE software developers environment, TCP/IP, X.25, a relational database, ADA and networking. However, it won't be until the third stage of the VMS rollout in the second quarter of 1993 that Alpha gets symmetric multi-processing. Hence, the schedule seems to imply that DEC won't be able to ship any multi-processor hardware before this point. This "stage three" VMS software also includes Posix compatibility, distributed computing and full clustering. What is still lacking is the horsepower needed for transaction processing. That apparently makes its debut in the third quarter of 1993 with an enterprise system that includes SNA connectivity and volume shadowing. Software being software of course raises the innate scepticism that these deadlines can be met let alone moved forward.

Sable is last out of the stalls

The missing DEC Alpha machine (UX No 374), is thought to be a \$50,000 box called Sable. Meanwhile, our sources say the Flamingo Alpha box is a desk side or floor standing model and that Sandpiper is the desktop. On the basis only that a Sandpiper is a tiny little bird and a Flamingo isn't, that sounds reasonable. The source has Sandpiper coming at around \$15,000 and Flamingo at \$25,000, but hears that Flamingo may get killed off before it has a chance to get out the door. He also has Laser in uniprocessor configurations staring at \$175,000.

IBM's TECHNOLOGY PRODUCTS ARM PICKS OBJECTSTORE FOR DESIGN TOOLS

IBM Corp is furiously hedging its bets in the object database world, and having signed agreements with Servio Corp and Ontologic Inc (UX No 374), it has now taken on board the offering from a third of the six leading object database developers, Burlington, Massachusetts-based Object Design Inc. IBM's Technology Products group will use Object Design's ObjectStore database in its electronic design automation systems, using it to build RS/6000-based electronic design framework applications, as well as a suite of integrated applications for use by IBM's own designers. The resulting applications will be used for storing and managing IBM design data. Object Design will also provide the group with on-site technical support. ObjectStore for IBM AIX running on the RS/6000 began shipping last month and is installed at several IBM sites. ObjectStore supports C++ and provides a migration path for existing C and C++ applications.

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The perils of navigating through all these recent superchip announcements and sizing them up right have driven us to take counsel with Michael Slater, editor of the esteemed **Microprocessor Report**: according to Mr Slater, Sun may not be in too bad a competitive position with a 50MHz Viking after all. He says a 50MHz Viking should be faster than a 100MHz Alpha and that a 150MHz Alpha would be faster than a 50MHz Sparc but not by a factor of 3:1. He is not convinced Alpha is ahead of the game at the price points Sun is aiming at. Both DEC and HP with Thunderbird are shooting at a higher end of the spectrum, he says, and won't meet Viking head-to-head.

OTR-Pedder's DP Expenditure Analysis Report 1990-96, forecasts that IT budget share on software packages and maintenance is to rise from 7% to 13% by 1996; over the same period, continuing trends to downsize and the decreasing costs of hardware will reduce the mainframe share of IT budgets by at least 50%.

Paris-based distribution company Metrologie International SA is no longer looking for a buyer for its TopLog business, according to new managing director Alain Fraiberger: not only that, but the final date for discussions to hand over SMO Bureautique to Ricoh Co has been and gone. Last year, Metrologie - which turned in a loss of some £20m for 1991 - underwent a restructuring programme and cut 500 jobs from a total 2,500; these measures, coupled with the debt restructuring initiated by the board in January, according to the new managing director, began to make a positive impact on fortunes in the first quarter of 1992.

Computer Associates International Inc has struck a deal with ADP Dealer Services to implement its Unix CA-DB database on ADP's Motorola 88000 RISC hardware: it'll replace the company's existing Pick implementation.

UK market research firm, Input, claims the market for systems integration is growing by 19% annually: in its report, **Systems Integration Market in Western Europe 1991-1996**, it estimates that revenues in Europe are expected to grow from \$3.3bn to \$7.6bn by 1996.

The first fruits from the ICL/Nokia Data merger were announced last week: a range of PCs to be produced in Europe by ICL Personal Systems, the name given to the merged European operation. The so-called "92 Collection" will run SCO Unix and Unix V.4 as well as MS-DOS, supplied by ICL, with a Windows 3 interface and have seamless integration with Unix servers. It comprises 13 PCs and seven monitors. All will be available from April for volume shipment.

Motorola Inc's latest RISC iteration, the 88110, gets a public showing at this week's CeBIT Hannover Fair, where Dolphin Server Technology AS will be showing-off upgrade boards for its multi-processor 88100 System 300 and 500 models. With one or two 88110s, each board comes with 256Mb memory and will be available later in the year - System 100 users will have to wait until 1993 for the part.

Quadratron Systems Ltd, London, says it'll get a cut of between £3m and £5m for supplying its Cliq office automation software to the consortium, headed by Siemens Nixdorf Informationssysteme, which is putting together a Unix-based information system which will link the 220 offices of the UK's Ministry for Agriculture Fisheries and Food. The contract is thought to be worth up to £40m in total (UX No 368).

R Squared and Andataco have fallen out of bed and the promised merger of the two systems integrators, heralded only a few weeks ago as producing the largest Unix value-added reseller (UX No 366), has been called off, with their differences being described as mutually irreconcilable: the merger was to be completed this month.

IBM Technology Products Group has licensed Object Design's ObjectStore database management system to build RS/6000-based electronic design framework applications used to store and manage design data as well as a suite of integrated applications for use by IBM designers: Object Design thinks it's the largest deployment of an ODBMS in a single company to date.

The window closed on the Object Management Group's Object Services Request for Information on Friday February 28 with 17 responses from 22 companies making the deadline. The next step is getting recommendations from the appropriate OMB subcommittee later this month at the technical meeting in Belfast about whether to do another RFI or proceed directly to a Request for Technology. Since this RFI was better delineated than its predecessor and the technology requested doesn't expect this round to be quite the political quagmire its Object Request Broker RFT was.

Rumblings in the states already have DEC looking to train its people on NT-on-Alpha.

Even San Jose, California research outfit Dataquest is not immune from recession - there aren't enough people out there to read its upbeat forecasts about downsizing any more, and has restructured, laying off about 100 staff. "We evaluated each functional area with the goal of matching our customers' needs to our cost base," the Dun & Bradstreet Corp subsidiary commented.

The Meta Group is hosting its second annual Desktop Computing Strategies Conference with the spotlight this year on "Building and Managing the Client/Server Environment" and filled with little goodies about upsizing, downsizing and rightsizing: It's at the Loews Santa Monica Beach Hotel in California on April 6-8.

There's going to be an Executive InterOp running on May 18 and 19 at the Ramada Renaissance in Washington, DC sponsored by InterOp and Open Systems Advisors: It's the same week as InterOp Spring so you can just stay over.

We suddenly seem to be awash in object shows: the latest one on the calendar is Object Expo set for the Sheraton in New York 1-4 June sponsored by The Journal of Object-Orientated Programming and Object Magazine. It replaces Scoop.

Concurrent Computer, for one, feels that the Motorola Inc 88000 does not have long to live: Motorola denies the claim, saying that it has a long term commitment to the architecture - the 88120 is now at definition stage, and should surface by the end of 1993.

Glockenspiel Ltd, Dublin, Ireland has announced that its application framework and C++ library, Glockenspiel Common View, is now available for developing GUI applications on the OSF/Motif platform. It is already shipping on SunSparc, DecStation, IBM RS/6000, SCO and HP 9000 Series.

Unisys Espana and ISC SA, a Unisys subsidiary handling systems integration, are to provide the Galician Regional Government, Spain with a network of Unix systems using Open/OLTP transaction management software costing \$12 million. The network will have 11 Unisys U 6000/65 multiprocessor Unix systems and 36 U 6000/35 Unix systems linked to 711 Unisys PW2 Advantage PCs and 500 laser printers.

SoftGen Technology Ltd, Antrim claims that US software house FourGen Software Inc, Edmonds, Washington, intends to form FourGen Europe in the next six months to co-ordinate European distribution operations: SoftGen is currently its only overseas distributor covering Ireland and the UK.

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MIPS COMPUTER TO GO TO SILICON GRAPHICS IN SHARE-EXCHANGE MERGER

It has appeared for months that MIPS Computer Systems Inc needed to be acquired by one of its partners in order to secure the company's future and that of its R-series RISC family, however Mountain View, California-based Silicon Graphics Inc surprised nearly everyone last week by signing a definitive agreement to merge with MIPS in a stock swap deal. The market gave the proposed merger an emphatic thumbs-down on the day, marking Silicon Graphics shares down \$4.75 at \$21.875, reducing the value of the deal to \$334m from the \$406m at the time of the announcement. After rising at first, MIPS shares fell back (MIPS stockholders end up with about 23.5% of the enlarged company), and Silicon Graphics says it will have to take a substantial charge against its fiscal fourth quarter to June on the acquisition. After the merger, the companies, which will have combined turnover approaching \$1,000m a year, plan to create a new wholly-owned subsidiary, MIPS Technologies Inc. It'll be run by MIPS chairman and chief executive Robert Miller, and will focus exclusively on leading-edge RISC technologies. Three seats will be added to Silicon Graphics' board for MIPS representation, one of which will be occupied by Miller. There is not likely to be much opposition to the deal because of the relatively small size and specialised nature of Silicon Graphics, although Kubota Corp with a 17% stake in MIPS - which translates into just under 4% of the enlarged company - is a direct competitor, with its Kubota Computer Corp graphics workstations. But many other MIPS RISC users would have been unhappy had the company gone to another minority shareholder, Digital Equipment Corp (with 1.175% or so of the new company) or to its Japanese licensee, NEC Corp.

Combined product line

MIPS' vice president of finance, sales and marketing, David Ludvigson, says the firms' respective system products will be combined into a single line as soon as possible, with MIPS' commercial boxes being absorbed into SGI's technical range. It gives SGI, largely a direct sales operation, some new OEM business, but not necessarily any really new markets, but at least a window into the commercial marketplace. Because of their ties to the ACE initiative, the move effectively changes the complexion of the industry, but no one knows yet whether it will be pox-marked or clear skinned. An immediate effect is to thrust a small niche player like SGI on to the same stage as industry demigods IBM, DEC, Hewlett-Packard Co and Sun Microsystems Inc, vendors with their own chip operations. The new twosome is trying to position the merger as a perfectly normal evolution of their long and intimate supplier-client relationship, uninfluenced in any way by the dire straits MIPS has been swimming in or the commercial roadblock SGI encountered when its deal with Compaq Computer Corp fell apart, and say it will enhance the strength of the now waning eleven-month old Advanced Computing Environment initiative.

More headaches for ACE

Such a conclusion, however, is neither as obvious nor as universally shared as they might like. Because of the inherent weakness of its system business, the pre-merger MIPS could at least argue that it was independent. With Silicon Graphics at its back, such neutrality evaporates, leaving ACE members to wonder whether, for all the avowals made to the contrary, the MIPS chips they are designing into their systems are actually optimised for SGI's use. Indeed, SGI senior vice president Mike Ramsey admitted last week that SGI intends tightly coupling the processor to its own machines, claiming this will improve systems performance and benefit the whole Initiative. The test for bias, one participant reckoned, will have to be made down the road inside the ARC subcommittees that have been set up. However, HP's vice president, Wim Roelands, claims the Initiative is already dead, its passing marked by the flight of Compaq back to the low-end, Santa Cruz Inc back to Intel Corp and DEC to Alpha. He voices the rumours long-heard in the industry of MIPS "sinking fast" and concludes SGI's intervention only "delays execution." He deems it unlikely a third-tier company such as SGI, faced with limited resources, the demands of the market for a new silicon family every 12 to 18 months, and MIPS' dependence on outside fab lines, will be able to salvage - let alone improve - the MIPS chip business. The R4000 was a leader a year ago, he says, but isn't even out yet and will soon be overshadowed by competitors. Others, as expectant as the rest of the industry that someone would eventually move to pick up MIPS' architecture, maintain that SGI basically had no choice, because as MIPS' first customer seven years ago it was too tightly tied to MIPS' architecture and needed to preserve its chip supply. Such dependence makes the couple's argument of strong synergy more compelling. More details, new MIPS systems, page three.

IBM "WANTS SUN FOR TALIGENT"

Last month IBM apparently asked Sun Microsystems Inc to join Taligent Inc, the joint venture established with Apple Computer Inc, which is charged with developing the object-oriented Pink operating system environment as part of the joint alliance between the two. IBM's overtures have been confirmed, according to a report in *The New York Times*, though Sun wouldn't comment. The paper positions IBM's approach as an attempt to group together industry forces to meet the coming threat from Microsoft Corp's New Technology.

UNIX LABS TAPS ICL FOR CORE OSI TRANSACTION PROCESSING TECHNOLOGY

ICL Plc has quietly become one of the most frequently called-on technology partners for Unix System Laboratories Inc, and in the latest partnership Unix Labs has retained ICL to supply it with the core Open Systems Interconnection transaction processing engine for incorporation into Unix Labs' OSI Open Networking Platform product family. The International Standards Organisation is set to ratify the open systems transaction processing standard shortly. Unix Labs will be enhancing its Tuxedo System/T transaction processing manager to work with the enhanced Open Networking Platform, to create what is claimed will be the first completely standards-compliant transaction processing system, including Application Programming Interface and protocol conformance; ICL will in turn build the OSI TP product into its Tuxedo-based system for Unix, and its TPMS for VME mainframes.

HEWLETT-PACKARD SETS A DATE FOR THE LAUNCH OF ITS OWN RISC CONSORTIUM

PRO, that oft-heralded supporters club for Hewlett-Packard Co's PA-RISC processor, finally has an official launch date, March 24 (UX No 357). Expect Samsung Electronics Co, Hitachi Ltd and Sequoia Systems Inc, the companies already pledged to the chip, to be there with a few others. HP is going the Sparc International route with PRO, setting up a separate entity with its own director and various levels of membership to accommodate prospects like software houses. Unlike Sparc International, HP maintains that it does not want a bunch of clonemakers, and will limit principle membership to around a dozen firms, all implementing PA-RISC in different segments of the market.

HEWLETT-PACKARD PUZZLES DEC's ALPHA OPERATING SYSTEM STRATEGY...

For all Hewlett-Packard Co's support of the Open Software Foundation it is still highly leery of OSF/1 since it is still years away from commercialisation and hasn't won the backing of the independent software vendor community, leaving room to speculate on how HP's operating system strategy will really evolve. Even DEC president Ken Olsen has noticed that his OSF team mates seem less than hell bent on moving to OSF/1. HP, on the other hand, appears to be tickled that DEC has taken the point with OSF/1. It's even more tickled with DEC's whole Alpha/MIPS/VMS/OSF/1 strategy. According to the general manager of HP's commercial Unix business, Bernard Guidon, "DEC doesn't know what it's doing," adding that Ken Olsen is HP's best friend and wishing him more many more years in the job. Obviously, HP figures it has a golden opportunity to corral DEC's customers. HP estimates DEC will have little luck changing itself into a software company and if it foregoes its hardware bases that only leaves systems integration.

...AND COSIES UP TO IBM...

If there is any company HP feels comraderie with right now it is IBM. Guidon speaks of a "common HP/IBM vision," hammered out over the course of many meetings. It consists of a common approach to the market made up of XPG, DCE and common libraries, shared SoftBench CASE tools and a shared systems management approach composed of Openview and probably DME, culminating in apparently shared applications and Motif. Guidon says the "common vision" makes the customer feel secure - if this is the way IBM is going too, the user thinks to himself, then everything's alright. And if there is one thing that discomfits HP it's the spectre of Microsoft NT gobbling the world. A Microsoft hegemony doesn't sit well with HP and so Guidon promises that for all HP's association with the high end, it is putting together a desktop strategy and boxes to try to best Microsoft at its own game.

...WHILST DEC SAYS OSF/1 "MAY HIT ALPHA BEFORE VMS"

Speaking to DEC last week, it appears the company has gone and done just the kind of aggressive tinkering to bring its Alpha operating system schedules more into line with its hardware timescales (UX No 375). Far from not knowing what it is doing on the operating system side of the equation, it says "there is an embarrassing danger of OSF/1 hitting it [Alpha] before VMS does." It will have Alpha machines running both OSF/1 and VMS by the time of DECworld in May, it claims, and development machines for the ISV community thereafter, though no word on earlier commercial versions of the system software.

PYRAMID MUST "CHANGE TO MEET THE CHALLENGE"

To meet the challenge coming from the likes of Hewlett-Packard Co and Sequent Computer Systems Inc in the commercial Unix marketplace, Pyramid Technology Corp needs to make "substantial changes" to its business, according to insiders. In the long-term, the firm will be too small to carry on doing its own hardware research and development, the same sources say, and is sure to buy-in and bolt together components that it previously manufactured for its proprietary RISC-based T Series and MIPS Computer Systems Inc-based S Series server systems. Claims that the firm is experiencing "severe difficulties" may be somewhat overstated, with Pyramid UK having recently sold five systems to the UK's Nottingham City Hospital, supporting 4,000 users on an Oracle-based hospital information support service, making it the largest Pyramid user site in Europe. Pyramid is expected to make a transition to what observers regard as its main asset and area of expertise, the Unix SVR4 system software implementation it offers.

88open ROUNDUP

With RISC microprocessors now commanding between 4%-5% of the chip market, Tom Mace, president of 88open Consortium Ltd - the Motorola Inc RISC supporters club - reckons that'll be up to 30% by 1995/96 and 50% by 1997. Those predictions depend mostly, he believes, on the kind of success that Intel Corp has with its next-generation iAPX-86 iterations, the 80586 (P5) and 80686. He doesn't expect the rank of RISC design companies to swell beyond its present number, indeed he's hoping that Intel's i860 RISC business "will melt away into the 88000." Other factors in the equation, Mace says, concern the ability of Hewlett-Packard Co to spread its PA RISC "beyond itself," and whether MIPS Technologies Inc "can resuscitate itself," (now via Silicon Graphics). Although the latest iteration of Motorola's RISC, the 88110, is not out of the door yet, the company has already firmed-up late next year as a release date for its successor, the 88120.

88open will publish a second volume of its "World of Standards" guide around mid-summer. It's expected to include more widely used "standard" technologies, such as Network File System, but not specific products such as Novell Inc NetWare.

The group is also launching an end-user mail service for its certified independent software vendors. For between \$4,000-\$5,000 - or around the cost of a two-page advertisement - 88open ISVs will be able to directly mailshot some 15,000-20,000 Motorola 88000 users. Around 100 ISVs are thought to have signed-up for the programme so far.

Mace believes 88open represents around 80% of the installed base of 88000 users, and says to expect 88000-based graphics products coming down the at this year's Siggraph graphics show in Chicago, between 28-30 July, which is expecting 250 exhibitors and 25,000-30,000 participants. Remember, IBM is thought to be working on graphics modules incorporating multiple 88000s for future RS/6000s (UX No 371).

The jury is still out on what RISC, if any, Steve Jobs actually plans to implement in a new version of his company's NeXT "cube" workstation, though no more bets on a dual-processor, 88110-based, 150 MIPS, "Nextbrick" announcement in September are being taken.

HEWLETT-PACKARD WINS CINCOM, SOFTWARE AG SUPPORT ON HP-UX

Hewlett-Packard Co has won Cincom Systems Inc and Software AG applications for its HP 9000 Series 800 business servers, which run the HP-UX version of Unix. Cincom will convert its manufacturing and financial software, Control: Manufacturing to the RISC-based machines in what the Cincinnati, Ohio company describes as a major milestone in Cincom's migration to an open-systems architecture. Cincom's entire product suite, the Mantis automated toolset for application development and Supra relational database are available on the Series 800. The manufacturing suite is designed for multinational manufacturers in the discrete, repetitive, project-oriented and batch-process industries, and will start appearing at the end of the year on the Series 800. And Software AG's Unix products - the Unix versions of Adabas, Natural and Network are to go on the machines from the fourth quarter. And Hewlett-Packard announced a 33% increase in performance of its 900 Series HP 3000 business systems at the Downsizing Expo in Chicago. The performance boost was achieved as a result of enhancements to the MPE/iX 3.0 operating system and the Allbase/SQL relational database. The performance increase was confirmed in a TPC-A benchmark that listed 65.5 TPS for the HP 3000 Series 957LX and a 17% decrease in cost-of-ownership to \$11,354/TPS, the company says. Enhancements to MPE/iX 3.0 include the addition of pseudo-mapped input-output, which enables data to bypass the mapped file and transfer directly from the buffer to the hard disk. Timers on the operating system were also improved to keep the various computer processes active and available for quick call-up. Allbase/SQL was enhanced with the addition of stored procedures and triggers, reducing interactions.

TEKTRONIX LAUNCHES ITS FIRST RISC X-TERMINALS USING MIPS R3000

Tektronix Inc has added its first line of RISC-based X-terminals using the MIPS R3000, despite its old allegiance to the Motorola 88000 chip from its workstation days. The XP330 line, aimed at design automation, mapping and process control users, uses the 20MHz R3000 for managing network I/O, with an additional 40MHz Texas Instruments 34020 chip to handle the graphics. There are four models: the XP334 (19" 1280 x 1024 greyscale) 336 (17" 1152 x 900 colour) 337 (19" 1152 x 900 colour) and 338 (19" 1280 x 1024 colour). Tektronix offers from 5Mb to 52Mb memory using standard SIMMS, ruggedised, rack or dust/water protected models, different language keyboard options and graphics tablet, touch screen and trackball options. Software includes support for Motif and Open Look GUIs, with Motif hosted locally within the terminal for better performance. Native DEC and Sun fonts allow screens to appear exactly the same as DEC or Sun workstations on the same network. Pricing was claimed to be between 10% and 25% lower than competitive offerings, translating (in UK pricing) to £2750 for the 334, £3,550 for the 336, £3,750 for the 337 and £4,450 for the 338, including three-year warranty. Shipments begin in April. The move means that the existing top-end line, the Motorola 68030-based XP20s, will not be upgraded to 68040 systems. Tektronix said that the Motorola 88000 chip was not widely used, and did not have a comparable future in terms of performance or cost. Market research figures place Tektronix fourth in the X-terminal league, after NCD, HP and DEC, and it claims to have the largest range of X-terminals available, starting with the low-end XP10 range aimed at commercial users. The company has ambitions to be the largest independent X-terminal player by 1994.

...BUT CONVEX "DROPS R4000 FOR PRECISION ARCHITECTURE"

Convex Computer Corp is believed to have delivered the first blow Silicon Graphics' MIPS Technologies Inc, deciding to shift its Medusa project to build a 64-processor super-computer, and its separate effort to do a massively parallel machine, over to Hewlett-Packard Co's Precision Architecture RISC. The Richardson, Texas company had been planning to use the 64-bit MIPS R4000 in both projects. Electronic News hears that the decision was made because of concern that in implementing a 64-bit RISC, MIPS had used so much of the available real estate on the chip to implement 64-bit addressing, making it necessary to design a skimpier and less powerful floating point processor. And delays in getting the part out enabled Hewlett and IBM Corp to catch up with the floating point performance vital to Convex. The paper suggests that some Convex people leaned towards adopting the IBM chip but that it was ultimately rejected because Convex might have found itself competing with similar scientifically-oriented machines from IBM, whereas Hewlett-Packard is a less significant player in the scientific market. The Digital Equipment Corp Alpha was ruled out by the fact that Cray Research Inc wants it.

HITACHI DEBUTS PROMISED LAPTOP

Last week in Japan Hitachi Ltd announced the laptop workstation that it showed at the UniForum Show in San Francisco in January. The 3050LT incorporates a 25MHz 68040 processor with 16Mb memory standard, rising to 48Mb, and runs two Hitachi Unix implementations, HI-UXC/WE2 and HI-UX/W. The models feature a eight grey-scale monochrome thin-film transistor LCD display with a resolution of 1,120 by 780 pixels. The machines also incorporate 16M-bit memory chips - eat your heart out, IBM - that world lead with the AS/400 didn't last long! They have a 50% smaller footprint than the 3050 desktop type workstation, and cost \$10,900.

MIPS TO GO AHEAD WITH PLANNED R4000 ARC SYSTEMS

MIPS Computer Systems Inc is hoping to return some of the industry fire it has been drawing of late when it delivers a range of systems based upon its own R4000 RISC part in the second week of April (UX No 372). As we went to press the launch was, by all accounts, still scheduled to go ahead, despite MIPS' proposed acquisition by Silicon Graphics Inc - see front page. The launch will see at least four, and possibly up to half a dozen machines aimed at the commercial market, including low-end workstations and servers. Prices have not yet been firmed up, but the boxes are believed to have been positioned above the entry-level price points of the low-end offerings from Sun, IBM, DEC and HP, but with greater performance and more commercially attractive design features. MIPS says it has spent considerable time on ASIC integration to bring the final chip tally of the systems down as much as possible. The Advanced Computing Environment ARC-compliant desktide and desktops will include "all the bells and whistles" that the R4000 architecture allows. They'll run MIPS' Risc/OS Unix, but being ARC systems they'll also support Santa Cruz Operation Inc Open Desktop, Unix System Labs Unix SVR4 and Microsoft Corp NT, along with a choice of desktop managers. In the UK, MIPS will aptly debut its ARC boxes at a roll-out being staged in the near-complete London Ark, a green, high-tech Noah's Ark-like building which has sprung up alongside the A4 Great West road into central London at Hammersmith. MIPS' Swedish European boss, Kristoffer Sygel is understood to be a friend of the well-known Swedish architect, Ralph Erskine, who designed the Ark, which is being built by Ake Larson.

...BUT ANALYST SAYS ACE "WILL DIE" UNLESS MEMBERS CAN BE CONVINCED OF MIPS' NEUTRALITY

The proposed merger of MIPS with Silicon Graphics, which is expected to close by the end of June after it is approved by stockholders, puts shareholders like DEC and Kubota Corp, in the odd position of sanctioning the possible strengthening of a competitor. A DEC spokesman said last week the company was still trying to figure out the fine points of the deal and what their ramifications would be, indicating that DEC has yet to formulate a clear position. MIPS vice president, Joe DeNucci, on the other hand, said they had run the deal past DEC, Microsoft Corp and Compaq and claimed the threesome pronounced it "just what the doctor ordered" for the ACE Initiative in terms of insuring MIPS' long-term RISC leadership. Meta Group analyst Kate Fessenden, the only outsider known to have anticipated the merge, believes that sounding the death knell for the ACE Initiative may be too obvious a reaction, leaving the door open for whatever may happen in the next few weeks. "They may have to redefine ACE," she says, or at least resell it to the ACE membership. They certainly are facing the challenge, she says, of making the membership comfortable with the merger and gaining their support while they figure out how to push what they have and make it viable. If they don't persuade them of MIPS' vendor neutrality, "then ACE is dead" she said.

DIVISION'S VIRTUAL REALITY GOES ONTO IBM'S RS/6000 IN THE UK

Iann Barron's new company, virtual reality pioneer Division Ltd, profiled here last September has won a powerful ally in the shape of IBM UK Ltd. The Chipping Sodbury, Bristol company has implemented its software on IBM's RS/6000 Unix box to create the RS/UniVRS, designed to enable real-time interaction between the user and three-dimensional computer-generated images - and IBM is busy distancing the technology from its fun-and-games origins, pushing the workstation for use in computer-aided design, mechanical engineering design and chemical research. It says that users of Dassault Systemes SA's Catia design suite will be able to access their existing Catia database, and produce virtual worlds based on their data, enter these worlds, and interact with them. The partners also have an AIX-based dVS/UniVRS distributed virtual reality software system for third party developers, and a Catia virtual reality demonstrator, CAT/UniVRS. No prices were given for the products. Although Division is happy to trade on Ian Barron's name, he is actually non-executive chairman: the founders come from Inmos Ltd and Perihelion Ltd.

OLIVETTI "AIMS TO DO DEC ALPHA PROTOTYPE IN 1992"

Given its long history of doing business with the Maynard minimaker, Ing Co Olivetti & Co SpA, Ivrea, Italy has always appeared the most likely of the big European computer manufacturers to license Digital Equipment Corp's Alpha RISC, and now the company's operations director Elserino Piol has confirmed that Olivetti hopes to build a prototype computer around the RISC by the end of the year - despite the fact that it does not actually have a licence agreement with DEC. Piol told the *Wall Street Journal* that Olivetti was not actively seeking a broad relationship with any other company at present, and that any tie would not necessarily involve an equity investment; in any event, Olivetti would have to retain its independence. DEC in Geneva welcomed the idea that Olivetti might license Alpha; the two have been trading partners for years, with Olivetti building PDP-11s into its banking terminal equipment in the 1970s; today, DEC buys personal computers for the European market from Olivetti, as well as portable computers for the world market. Olivetti insists that it is still committed to building RISC-based personal computers to the Advanced Computing Environment standard using the MIPS Technologies Inc R4000 RISC. Piol said that he saw the Alpha as "the most logical evolution" for people committing to building machines to the ACE standard. It showed a prototype ACE machine at last week's Hannover Fair.

TOSHIBA SAMPLES R4000s

Irvine, California-based Toshiba America Electronic Components Inc reports that its parent is now offering samples of three versions of the of the MIPS Computer Systems Inc R4000 RISC, with volume set to reach 10,000 parts a month by June (UX No 372). All have a 50MHz clock and the three are the TR85R4000PC, at \$1,100, rated at 45 SPECmarks, with 64-bit CPU and on-chip 64-bit floating point and an integrated 16Kb cache. The \$1,500 85R4000SC adds secondary cache function and it is claimed to do 70 SPECmarks with 1Mb external cache. The 85R4000MC is the multiprocessing version of the SC cache version, and it is \$2,200 in sample quantities.

SANTA CRUZ FRANCE DECIDES AGAINST GARMHAUSEN & PARTNER FOR BELGIUM

Santa Cruz Operation France SA, which last September took control of distribution of Santa Cruz Unix products in Belgium from the UK division, will not be adding the new Garmhausen und Partner GmbH subsidiary in Belgium to the list of existing authorised distributors, the company confirmed. GUP Belgium, which started trading at the start of this year, had been hoping for an extension of territory clause to be added to the full distribution agreement Santa Cruz already has with its parent company in Germany; a spokesperson for Santa Cruz France said that with the appointment of A-Line Technologies SA last September, "there was never any question of appointing another". GUP Belgium boss Hans de Lange was putting a brave face on the decision last week after clinching a separate deal to offer Unix SVR4 through the Canadian company Consensys Computers Inc, which is currently setting up an office in the UK. Toronto-based Consensys, a privately-owned consultancy and supplier of serial input-output boards, bought the rights to offer systems built around System V.4 code last year, and since November claims some 600 installations in the US and Canada, and a further 100 in Europe largely through an existing reseller deal in Germany. The package that Consensys will be offering through Garmhausen und Partner and other distributors is built around the Unix SVR4 operating system, including a full installation package, TCP/IP and Network File System code; in Belgium, Garmhausen und Partner is putting an introductory price tag equivalent to \$950 on the whole package, which will rise to \$1,800 to \$1,900 on May 1. Roger Chalke, who for the moment is Consensys UK, confirmed that the end-user price in the UK will also be "well under \$1,000 for the whole package". Meanwhile in the Netherlands, Foundation Software, Santa Cruz Operation reseller in that country, says it has signed with Informix Software Benelux giving it exclusive rights to supply the Informix database and proprietary development language to Dutch Santa Cruz Operation clients. Two year old Foundation Software, Amsterdam, claims it now accounts for 40% of the Dutch market for Santa Cruz Unix products.

ICL AND COMPUTER SYSTEMS AMALGAMATION MAKE JOINT VENTURE PACT OFFICIAL

Following the preliminary joint venture agreement signed last year, the Computer Systems Research and Industrial Amalgamation in Kazan, Russia and UK-based ICL Plc have registered their joint venture. Called ICL-KPOVS, the Kazan-based Tatarstan-UK company has an authorised capital of \$8m. It was officially set up on January 28. The attracting government is investing \$50m, earned from oil exports in the first three years of the project. The joint venture will localise, manufacture, sell, and service ICL Unix-based servers with a full range of software and development tools. A spokesman for the new venture says it aims to sell into the health care, transport, local government, banking markets. Despite success in Poland, Czechoslovakia, ICL has not been overly successful in Russia.

ENCORE COMPUTER'S JAPANESE LENDERS TO BAIL IT OUT

Fort Lauderdale, Florida-based Encore Computer Corp has been financially overstretched ever since it acquired Gould Computer Systems, and it is discussing with its lenders a financial restructuring of the company that calls for Japanese firms to refinance its debt. The Gould Inc subsidiary of Nippon Mining Co will refinance on a two-year term basis Encore's \$80m loan from the Industrial Bank of Japan and will finance the existing revolving credit facility of \$50m for two years, running out in March 1994. A more comprehensive capitalisation should be in place by this June. Meanwhile, According to *Electronic News*, Encore's plan to shut its Marlborough, Massachusetts engineering operation was abandoned after workers refused to move to its Fort Lauderdale facility: apparently Encore has transferred its R&D unit there to nearby Worcester Polytechnic Institute which is planning a high-performance computing research centre that will be sponsored by a range of manufacturers.

PRIME HAS A PORTABLE PI/OPEN VERSION OF PRIME INFORMATION

Prime Computer UK Ltd has announced PI/Open, which builds on Prime Information, the Pick-derived database management and applications development system, and will be available on a range of Unix machines. It is supplied complete with a suite of integrated development tools. These include the Info/Basic compiler and source-level debugger, the Inform report generator and Sort/Select processor, Perform command language and menus, on-line help and built-in editors. There is also object code compatibility between PI/open applications. It is available now on Prime's EXL 7000, the MIPS Computer Systems Inc RC range with RISC/os and Hewlett-Packard Co's 9000 Series 800 servers with HP-UX. June will see its arrival on the Digital Equipment Corp line under Ultrix, all Sun Microsystems Inc machines under SunOS and IBM Corp's RS/6000 under AIX. In August it will be out on iAPX-86 machines running the Unices from Santa Cruz Operation Inc and Interactive Systems Corp. Nigel Davis, vice-president for Prime Europe, says that PI/open will fit into the Pick marketplace, the database central ground as he termed it, alongside competitors such as Universe and Unidata. PI/Open is priced at £300 to £325 per terminal, depending on the number of layers. Prime claims 350,000 users for Prime Information and is confident that a large number will migrate to PI/open. Prime launched the product in the US this week.

CETIA SIGNS FOR LynxOS

CETIA, Toulon, France, the Thomson-CSF subsidiary, has agreed to bundle Campbell, California-based Lynx Real-Time Systems Inc's operating system with its real-time boards and graphics-based workstations. CETIA is porting the real-time LynxOS from source code obtained under license from Lynx and expects the product to ship at the end of this quarter. The pact covers the entire Thomson-CSF/CETIA product line. The pair will also collaborate on porting a Lynx kernel capable of supporting tightly-coupled and snugly-coupled multi-processor modes to CETIA's Motorola Inc 88000-based RISC platforms.

SUN SPOTS

Forget about a 64-bit Sparc chip from Sun Microsystems Inc for the next three years: Sun says it's going to do one eventually but not until it makes sense to Sun and that in fact may not be for another four or five years.

A few months from now Sun will start putting a microphone in every box.

As part of what it calls "Operation Commitment," Sun last week sent out Solaris 2.0-on-Sparc beta code, otherwise described as an early production release, to 750 early access customers: Not beta site, these guys represent most of Sun's revenues.

The first of Sun's low-cost Tsunami boxes are scheduled towards the end of the year - previous expectations of imminence having been a tad exaggerated - Tsunami Plus boxes (UX No 373) come a year later: Things happen in threes so you'd be safe in figuring Sun is currently spec'ing out a "Tsunami 3" part for a machine that should appear towards the end of 1995.

Ditto with the high-performance SuperSparc chip Viking: There are reportedly three increasingly sexy iterations of the thing. The one currently being tuned; its successor slated for late 1993 and then a third generation due in late 1994.

Sun had this notion of getting 5,000 Viking boxes out the door by the end of June (UX NO 367). Now it's saying that's going to be a tough schedule to meet: It's concerned about channel readiness, getting the operating system tuned and - most especially - getting volume yield on the chips. It figures to have production in the thousands-per-month this summer. Reportedly no name or date's been picked yet for the "SparcStation 3" announcement but May is a nice month. Sun, by the way, figures Viking will be competitive with HP's 720, may be even the 730.

We hate to say this of our US team's home town newspaper but **The New York Times** was wrong and we just went along with what they said: however, it's not true that Sun hired Boris Babayan, the man who developed the supercomputer for the Soviet space programme, and his team (UX No 375). Even the Russians know a thing or two about brain drain and - concerned they'll be eaten alive by a hungry American company like Sun - Boris and his people have struck a joint technology exchange with the Californian.

Sun apparently has a multi-team "Nomadic Technology" project underway and rather than selling silicon to the Sedoin the idea is to figure out the requirements of optimising the laptop in a network environment: software is key and they're also looking at stuff like infra-red.

ROGUE C++ LIBRARIES FOR MOTIF, GRAPHICS

Rogue Wave Software has two new C++ libraries: View.h++, reportedly the first commercial library based on Motif, and the fetchingly named MouseWrapper.h++, a system for simplifying interactive graphics. Rogue Wave says the \$800-a-seat View.h++ encapsulates 100% of Motif's functionality in a C++ library, adding that details such as memory management are taken care of for the programmer resulting in fewer errors and more robust code. It also offers a Model-View-Controller architecture with more abstraction ensuring data is refreshed and up-to-date whenever the data changes. Complex objects can be created with a single function call and pre-canned views have been provided. The \$500-a-seat MouseWrapper is a system for managing object picks, drags, rubber banding and interactive graphics. Any object it creates contains mouse sensitivity. Grabbers are also included for interactive construction of complex graphical composite objects. Both products are built on top of the company's Tools.h++ library making all objects persistent. Graphical views can be recreated in a new application even on a different operating system. Availability is first quarter beginning with versions for the RS/6000, Sparcstation and SCO Unix.

UNIX SYSTEM SALES HAVE SURPASSED PC REVENUES, SAYS UK REPORT...

The latest report from London market research company, Wharton Information Systems, on the fortunes of the UK IT industry says that in 1991, Unix hardware revenues outstripped the personal computer market for the first time, generating £1,383m in sales. System shipments were up 34%, whilst revenues rose by 25%. In contrast, personal computer unit sales rose by 1.5% to 799,550 - of which 72,710 were of Apple Computer Inc Macintosh systems - whilst revenues slumped 27% to £1,276m compared with the previous year. Nevertheless, Microsoft Corp maintained its strong growth, with Windows-based systems representing 50% of all MS-DOS-based shipments. Compaq Computer Corp again led the portable market, followed by Amstrad Plc and Toshiba Corp. Nearly 30% of personal computers shipped last year were networked - compared with 18% in 1990. Wharton observes that Intel Corp's 80486 part seems to have had little impact in the UK market thus far. System ships were dominated by the 80386, which now commands 50% of the market, up from 22% in 1990. 18% of MS-DOS and Apple machines were sold through retail or catalogue outlets, 16% were sold direct, whilst the dealer channel now represents a declining 66% of total sales. In the Unix marketplace, the workstation sector was again dominated by Sun Microsystems Inc, whilst ICL took the the major portion of the server sector. Sales of server systems now account for 85% of Unix system revenues, the report says.

...AS DEALERS MOVE TO OFFER MULTIPLE SOLUTIONS

Wharton's analysis goes on to argue that the UK recession has forced dealers to adopt multiple platform strategies to survive. In 1989, 60% of dealers were dedicated MS-DOS dealers - now that figure is down to 20% as dealers move to joint Unix/MS-DOS solutions. "The first reason for this change is survival," says research director, Andrea Wharton. "The anatomy of the sale is very different in the Unix environment. In the MS-DOS market, 85% of the sale is hardware, and post sales revenue generating activities are virtually nil. A Unix sale is 35% hardware, 25% software, plus training, implementation and maintenance to make up the total. The other major difference is that over the average six year life of the system, the Unix VAR will invoice an additional 120% of the original purchase price from the sale of additional hardware and software. It is therefore not surprising that dealers are becoming more enthusiastic about open systems." For the coming year, Wharton sees "fewer and fewer organisations increasingly taking a greater share of the market. The major pressure will be to reduce marketing costs. Hence the move towards off-the-page and telephone sales."

EUROPEAN UNIX HARDWARE SALES CONTINUE TO RISE, SAYS IDC

In the wider European market, Unix hardware sales rose by 16% in 1991, compared to 14% in 1990, says a new International Data Corp report. Workstation and personal computer markets again experienced high rates of growth, however, the move by many hardware vendors into the desktop arena - growing at a lower rate - has, IDC says, left users confused about which environment to choose. Small multi-user systems now represent 50% of the total Unix market in 1991, with Hewlett-Packard, IBM, ICL and Sun RISC, and Olivetti, Unisys and NCR Intel Corp CISC platforms preferred over Motorola Inc 680X0-based solutions. The market for high-end multi-user Unix systems remained mostly static in 1991, IDC says.

BSD's UNIX ARRIVES IN UK

The beta release of Berkeley Software Design Inc's BSD/386 Unix-compatible operating system, which has no AT&T code, is available in Europe this week from BSD International Europe Ltd, in Canterbury, Kent (UX No 370). Minimum configuration required is an Intel Corp 80386 or 80486-based ISA system (EISA and MCA versions coming), with 4Mb RAM (or 8Mb with X-Windows), 100Mb disk, a 3.5" floppy drive, monitor and local or remote tape cartridge. Beta source code is priced at £625 - £125 per additional CPU - with 60 days support. A final production release of the stuff is set for June. Future versions will include an MS-DOS emulator and support for SCO Unix V3.3 binaries

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NAT-SEMI TALKS

MORE OF SWORDFISH

National Semiconductor revealed more details of its 64-bit 50-100 MIPS Swordfish core processor with built-in Digital Signal Processor at Hannover, saying that the chip would "be the basis of a new high-end family of processors to be introduced during the decade." Swordfish, disclosed back in February 1991, (UX Nos 315, 321), a 0.8 Micron CMOS superscalar part, is likely to be used in high-performance network servers, colour Postscript print and fax servers, real-time systems, multi-media and interactive databases. It promises two independent integer units, floating point unit, instruction and data caches, DSP, bus arbiter, dynamic bus sizing and interrupt controllers. To support it, Nat Semi has introduced the SF641 vector board, built on an AT motherboard so that developers can experiment on PC-compatible boards.

SNI LAUNCHES SILICON GRAPHICS WORKSTATIONS

Siemens/Nixdorf Informationssysteme AG launched its new RW family of MIPS-based workstations at Hannover, a result of its OEM deal with Silicon Graphics last November (UX No 361). The R3000/R4000-based systems start at the low-end RW320 for CAD, desktop publishing and simple design jobs to the top-end RW460-VGXT workstation for 3D work. There are five models and five graphics sub-system options. The company also announced the availability of its Sigrph CAE software on the new workstations, and on hardware from HP, Sun and DEC. Previously, the software was only available on its WS workstations.

Reports coming out on Windows NT running on Ing C Olivetti & Co SpA's prototype R4000-based workstation - demonstrated at Hannover last week as the PWS4000, also running SCO's Open Desktop - are very encouraging: we hear of a software developer in New York that loaded the thing on the Olivetti workstation himself rather than receiving it pre-loaded, and the thing really works - and it goes like the wind: Olivetti was also demonstrating an Intel-based workstation dubbed as an ACE platform.

The Petrotechnical Open Software Corporation (POSC), the consortium founded by the five oil companies BP, Chevron, Elf Aquitaine, Mobil and Texaco, has joined the Object Management Group as a corporate member, signalling heightened user interest in OMG's activities. POSC wants to ensure input into OMG and smooth compatibility to meet its special technology needs.

And OMG has gotten 35 companies to promise their support for the Common Object Request Broker Architecture (CORBA) OMG adopted last fall: In addition to DEC, Hyperdesk, HP, SunSoft, NCR and Object Design, all of whom contributed to the specification, they include Whitehead Institute, Centerline Software, Unify, Suite Software, Data Access, Gain Technology, Unix International, OSF, X/Open, APM Ltd, Intel, Genesis Development, NTT Software Labs, Norwegian Institute of Technology, Olivetti, Tivoli, Software AG, Novell, Lotus, Intellicorp and IXI.

One step ahead: before news arrived of MIPS' acquisition by Silicon Graphics Inc - see front page - in the UK, MIPS UK technology products group's Andy Pinkard had already decided, quite co-incidentally he says, to take himself off to Silicon Graphics UK, where he becomes sales support manager.

Remember Intergraph Corp buying out the Clipper chip from National Semiconductor, after that company's acquisition of Fairchild Semiconductor (UX No 147)?: like SGI and MIPS, Intergraph was dependent on a continuing supply of the chip, and really had little choice, but despite its grand plans to push the Clipper to the rest of the industry, all the other users gradually faded away, and now even Intergraph itself its putting more emphasis on other platforms, such as the Sparc business it acquired with Dazix.

Nigel Seed, managing director of SGI UK, said its engineers were "cock-a-hoop" at the news. Quite apart from the product lines, merging the infrastructures of the two companies will be approached on a country-by-country basis, he says, though there may be some problems over here, where MIPS has both its UK offices and European headquarters.

Remember that unannounced low-end R4000 box codenamed Jazz (UX No 366), that's been kicking around MIPS? Turns out the thing was designed by Microsoft in Dave Cutler's lab.

Microsoft, we're told, has taken a sizeable piece of real estate at Comdex Spring to show off NT, and MIPS has moved in next door between Microsoft and Intel for its first Comdex outing.

Long-term DEC watcher Terry Shannon of Gander Resources says that a year ago DEC had Sandpiper, its perspective Alpha desktop (UX No 375), spec'd out as a \$6,000 50 Specmark machine slated to debut six months after Flamingo, its first Alpha workstation (UX No 374) made its debut. Although he admits the status of both machines is uncertain, he thinks DEC may have decided to boost both price and performance, and could elect to introduce the systems concurrently. Cobra, he adds, will be priced between \$200,000 and \$400,000.

Rumour has it that DEC has a \$3,500, 50 SpecMark Alpha PC in the works codenamed Triumph that it could pop in less than 18 months - maybe even a year: presumably it's for NT.

Cortex Corp is readying a version of its VAX/VMS-based CorVision fourth generation language code generator for Unix: CorVision 5.0 will be out in June for SCO Unix, DEC Ultrix and USL's Unix SVR4.

Locus Computing Corp Ltd, Hemel Hempstead, Hertfordshire, has announced version 4.1 of its PC-Interface for DOS package: including MS-DOS 5.0 and NDIS driver support and co-existence with Novell Inc NetWare, PC-Interface allows DOS, Windows and Macintosh systems to share files, applications and printers on Unix servers.

VisionWare Ltd, Leeds, is another UK firm sharing in the spoils of DEC's deal with Norwegian Telecom (UX No 370): by the end of the year, 3,000 copies of its Windows-to-Unix XVision integration software will have been delivered to the Norwegian outfit via VisionWare distributor, Sphinx Level V.

As reported (UX No 375), SunSoft Inc says it does not plan to incorporate OSF's DCE technology into Solaris: however, it will offer the Transarc Corp DCE package as a third party product where required.

In the UK, Knowledge Software Ltd, Farnborough, Hampshire, is peddling what it calls an Open Systems Portability Checker to developers and OEMs, which can check software applications for adherence to open systems standards, including X/Open's XPG, Posix .1, .4, .16 and ANSIC: available initially for Sun Microsystems Inc workstations, the checker is priced at £6,000 per single user licence.

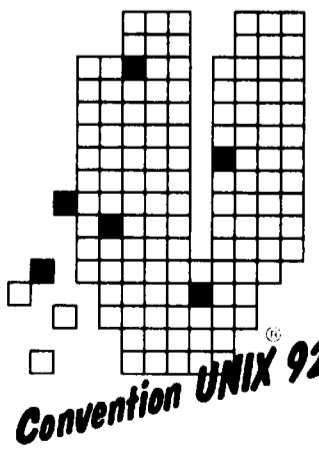
Olivetti was showing both Intel-based and MIPS-based ACE workstations on its stand at Hannover: the MIPS-based R4000 machine was labelled PWS 4000, and was running Microsoft NT and SCO's Open Desktop.

The annual Executive Uniforum, sponsored by Uniforum, X/Open and Seybold, is set to return again this year to Santa Barbara, California May 5-7 focusing on "Migrating to Integrated Open Systems: Tools, Tactics and Tradeoffs."

Dolphin Server Technology AS says the single CPU version of its Motorola Inc 88110 upgrade board running at 40MHz is rated at 53.8 SPECmarks (UX No 375).

Correction: Kubota Pacific Computer Inc points out that is not offering the MIPS R4000 product in its Titan 2.0 systems in America or Europe; Kubota Computer Inc, Tokyo, Japan, has sole rights to sell and manufacture the R4000 workstations in the Far East only (UX No 374).

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MIPS SHOWS NEXT-GENERATION R10000 RISC SPECS...

MIPS Computer Systems Inc has quietly completed a set of specifications which outline the look of its next generation RISC part, and has been touting them round its licencees for approval. Called the R10000, the part is scheduled for 1994 delivery, and will follow the as-yet unannounced R5000, which is due next year. Like the R2000 and R4000 before it, MIPS will put together a completely new development environment or "design database" as it calls it, for this next generation microprocessor. The database strategy enables MIPS to produce subsequent iterations of a chip design requiring only 10% of the effort and resources that go into developing the core technology. That's how the R3000 grew out of the R2000, and how the R5000 is being parented by the R4000. MIPS has undertaken to double the performance of successive iterations of its R series RISCs, and the R10000 will be no exception, according to MIPS' chairman and chief executive, Bob Miller, who says "my job is to maintain a two-to-one (better) price performance advantage over Intel." The R4000 is rated at 75 SPECmarks now and is expected to hit 110 SPECmarks by the end of the year. The R5000, due mid-1993, will clock at 100MHz and do around 160 SPECmarks in its initial guise, Miller claims. Given these performance marks, the R10000 should, by MIPS' own estimations, reach at least 320 SPECmarks. Miller says only that it will be "an interesting number." MIPS' troubled R6000 ECL part gets no such treatment - there will be no R8000 - though enhancements to the existing chip are planned.

...READIES LOW-COST, LOW-POWER R4000

With the half-a-dozen R4000 fabs making aggressive noises about the R4000 - \$300 by the end of the year, \$100 by mid-1993 - MIPS is set to spur the trend with a new iteration of the R4000 it is readying. The R4000LC/LP is a low-cost, low-power version, which has also been shrunk in size, to make it attractive to the embedded and laptop market. Operating at one watt, but with the same performance as the standard part R4000, the chip part will see the light of day late next year, according to Miller, and will be priced "substantially lower than \$100."

SUN WORKS ON OBJECT-ORIENTED SPRING FOR UNIX

Sun's research outfit down in Aspen, Colorado, Sun Microsystems Labs Inc, is working on future object-oriented technology for its platforms, called Spring, along with a whole bunch of other stuff. But it's definitely not, as *The New York Times* recently reported, a replacement for its Unix software. Spring is a collection of core object technology projects which Sun hopes it will be able to use to "short circuit" the evolution of operating system and software development environments. Some of the work is already going forward into DOE, the object-oriented Distributed Object Everywhere environment on which Sun is working with Hewlett-Packard Co. That's still a year or more out. Other stuff will roll into the future releases of SunSoft's Solaris Unix over the next few years. Much of the work is being targeted for use on the kind of hardware platforms that Sun expects to be around in several years' time. Another of the dozen or so projects going on down there is one, part funded by DARPA, to investigate the infrastructure required for designing and developing multi-media workstations that combine high-resolution video with real-time response. For the record, both IBM and Sun have denied the same US paper's claim that Sun had been invited to join its Taligent joint-venture with Apple Computer Inc, which is also developing a future object-oriented operating system. Sun says it traced the report to an employee's "speculative" comments which were completely misconstrued.

HP TAKES A STAKE IN CONVEX: CORE TECHNOLOGIES EXCHANGED

Convex Computer Corp finally showed its hand last week by jumping into bed with Hewlett-Packard Co, adopting the company's PA-RISC architecture and securing a lucrative OEM deal in return for a 5% stake sold to HP. Story on page 3.

TERA, OUT OF CASH, SHUTS

DOWN AND SEARCHES FOR BUYER

Tera Microsystems Inc, the two-year-old Sparc semiconductor house, shut down last week for want of money. Tera's closure leaves the reported handful of Sparc cloners it won as design-wins without 40MHz and 50MHz chips for their respective machines. Moreover, Tera claims its 50MHz MircoCore is the only 50MHz Sparc chip to be "production worthy" right now. Tera founder, Henri Uehara, re-installed as president a few weeks ago after a management restructuring ousted the incumbent, Perry Considine (UX No 374), says he was faced with a shortfall of funds and no time to "develop a story" to take to the investment community. He was unable to secure even bridge financing from existing underwriters Philips Signetics, Sequoia Capital, Mitsubishi and Vertex Management, the Silicon Valley-based VC arm of Singapore Technology. Together they have put at least \$6.48m in the firm over two rounds. Empty pockets dash Tera's hopes of bringing out and shipping in April an unannounced MicroServer, a \$3,000 two-slot Sbus card developed over the last two quarters, that it was convinced could generate \$20m to \$30m by the end of 1993. Its 50MHz chips were reportedly also just coming out of fab and its operating system port is finished. More details on page five.

HP PUTS OSF/1 ON HOLD:

WILL MERGE APOLLO DOMAIN WITH HP-UX

Hewlett-Packard is delaying porting OSF/1 to its machines, objecting that the 1.0 version of the Consortium's operating system is too immature and has no following among software houses (UX No 376). So, to improve revenue management and customer satisfaction, it will try to move its DomainOS base, inherited from its Apollo acquisition, over to its own version of Unix, HP-UX, under a programme it is due to launch called Open Migration. Domain customers will also be offered PA-RISC boards this summer, based on the current version of the PA RISC chip found in the company's Snake workstations, to upgrade the performance of their machines. Tools are planned to improve communications and interoperability between the HP/Apollo 400 boxes and the HP 700 Series. Finding fault with at least OSF 1.0's memory management, the company has distributed only limited quantities of what it considers a technical release of the OS on 720 machines to companies interested in becoming familiar with it. HP continues to import pieces of OSF technology such as Motif into both HP/UX and DomainOS, and plans to do the same with DCE and DME when they arrive. The DomainOS is being upgraded to an OSF AES-compliant version designated 1.4 and Apollo boxes to 33MHz versions of the 68040 chip. HP is supposed to move from HP-UX onto OSF.

SOUTH AFRICA GETS ITS FIRST BLACK DATA PROCESSING MANAGER

On the road to democracy, South Africa's white minority last week gave a resounding "yes" vote to President FW de Klerk's referendum for continuing the road towards abolishing apartheid. The sooner the better, we say. Information technology, just one of South Africa's rapidly growing industries, is crying out for skilled black employees, but the lack of State funds for training and education has prevented such advancement. Some IT companies have campaigned for equal opportunities in the work place, and have set up sponsorship schemes to train black students in computer technologies - going some way towards solving their skill shortages. UK company, VisionWare Ltd, Leeds, has sponsored training courses for black students through its South African distributor, Uniskills Ltd, Durban. One student who went through the programme, Sylvia Cele, is set to become the country's first black data processing manager with the National Building Society in Durban. It's just the very tip of the iceberg, we hope.

BULL LAUNCHES INTEGRATED MANAGEMENT, HERALDS POWER RISC LAUNCH NEXT MONTH

As part of its continuing effort to fill out the Distributed Computing Model, Groupe Bull SA introduced new elements including integrated management software, at CeBIT '92. Also, Michel Bloch, president of Bull's systems division, announced that new workstations based on IBM Corp's Power RISC architecture will be introduced over the next month. Don Callahan, director of advanced technical communication, says that the new computers will be more than a repackaging of IBM technology, and that they will offer additional software and tools when they go out bearing Bull's oak tree logo. Bull outlined the framework for its Integrated System Management software, saying that it includes Open Software Foundation technologies like the Consolidated Management Application Interface. This supports multiple management protocols like the Integrated System Management Protocol, Bull's AEP protocol for open systems integration Distributed Systems Architecture networks and the justly-maligned International Standards Organisation Common Management Information Protocol. Also, the Integrated Management Protocol has a development environment for creating management applications, and it uses both object management and software distribution technologies. Bull used Hannover to preview new functionality for its GCOS mainframes, due to ship in April. The company says that the new features will enhance the systems as transaction processing and database servers. The 32-bit GCOS 7 family will get new features for Oracle users in a transaction processing environment, while top end 36-bit GCOS 8 users are to see price-performance improvements on their NEC Corp-built mainframes.

ENCORE IN \$80m DEAL WITH McDONNELL

Fort Lauderdale, Florida-based Encore Computer Corp is stepping up the amount of business that it does with McDonnell Douglas Corp's McDonnell Douglas Information Systems International, the overseas computer arm of the planemaker that will be floated when market conditions improve. It has won a new agreement under which it grants McDonnell distribution rights to all Encore products in the UK, Australia and New Zealand for three years with the option to extend for an additional two years. This deal is expected to generate over \$80m of business for Encore, and adds to the 150 systems that have so far been ordered by McDonnell.

SUN DONATES SPARCSTATION TO USER GROUP

Sun Microsystems Inc donated a Sparcstation 4/330M-8-P36 to the Soviet Unix Systems User Group. It will be used by the Demos cooperative to replace its aging MicroVAX II electronic-mail server, KremVAX, based at Ovchinnikovskaya Nab in down-town Moscow. Demos administers the Relcom network, the largest domestic electronic mail network in Russia. A spokesman for Sun said the donation is worth some \$100,000, while the Demos says the much-loved Kremvax is due for a name change - Kremlsun perhaps?

FUJITSU'S PROPRIETARY LAPTOP GETS THE UNIX TREATMENT

Fujitsu Ltd has equipped its proprietary line of 68030-based G-series workstations with a thin film transistor liquid crystal diode colour screen, launching the new laptop model as the FM G-150IILX Model 10/30. The screen can display 16 colours from a palette of 512, and supports MS-DOS packaged software as well as running Unix System V.4 and Unix-based packages such as Unify (Japanese version) and Empress relational databases. For the first time, the company says, remote database access and remote installation are possible, enabling the installation of workstation software via links with M-series mainframes. The G-series workstations, which have been shipping since 1987, have sold a total 89,000 units, according to Fujitsu; the new laptop models are priced from about \$8,600.

INTEL MAY TAKE STAKE IN VLSI IN TECHNOLOGY EXCHANGE AGREEMENT

Intel Corp and VLSI Technology Inc say they have signed a letter of intent to discuss a technology-sharing agreement under which Intel would acquire a minority equity stake in VLSI as part of the proposed deal. They declined to give further details until an agreement is reached. VLSI is a partner alongside Apple Computer Inc in Acorn Computers Plc's Advanced RISC Machines Ltd company in Cambridge, which was formed to exploit Acorn's low-cost ARM family of RISCs.

AST SHOWS 80486 MP BOX

AST Research Inc, showed its Intel Corp 80486-based symmetric multi-processor at Downsizing Expo a couple of weeks ago. Microframe comes with up to four 50MHz 80486 parts, supporting a maximum 256Mb RAM and 30Gb disk, running SCO Unix 3.2 presently, though Sun's Solaris 2.0 will follow. Prices go from \$30,000, ships are set for early Autumn. AST is just the latest firm to be bandied as a possible suitor for Sequent Computer Systems Inc (UX No 371): AST's European product support manager, Oliver Comins, says Sequent "could have strategic benefits for us in the future, but we are not looking at that at the moment."

CASE MESSAGING STANDARDS TO ENTER PUBLIC DOMAIN

Case Communique, the international organisation of Case vendors and users, expects to put Case tool messaging operation specifications in the public domain by July. The operation specifications include analysis and design, DBMS/4GL, configuration management, metrics and test, project management, external interfaces, construction/reverse and re-engineering, common operations, documentation/editors and user interface management systems. The specs are due June 1. Members will vote to determine which move from a proposed to a draft state. They will then be tested by members and non-members in real application environments.

VAN CUYLENBURG JUMPS CABLE & WIRELESS SHIP FOR NEXT

In a surprise announcement, Cable & Wireless Plc and NeXT Computer Inc yesterday stepped up to say that Cables group director Peter van Cuylenburg was leaving the company for the newly-created post of president and chief operating officer of NeXT. Steve Jobs notes that van Cuylenburg "discovered" object-oriented software and mission-critical custom applications independently several years ago, while working at Texas Instruments Inc on Lisp computers, "so he has a deep understanding of NeXT's core strategy and technology vision". Van Cuylenburg says the computer industry has always been his overriding interest.

USL DENIES REPORTS OF DESTINY ON APPLE, IBM, HP AND DEC

Unix Systems Laboratories is apparently targeting any hardware with a significant enough volume as a possible platform for Destiny, its anticipated desktop version of SVR4 - at least according to a report in the US publication **Systems & Network Integration**, the old CSN. Such systems - or at least the chips they embody - would include Apple's Macintosh, IBM's RS/6000, HP's Snakes and even DEC's upcoming Alpha boxes, though that possibility is obviously more remote. However, the report, suggesting that such ports are imminent, was roundly denied by USL. No work is currently underway to move the software to any of those machines, the firm said, and there aren't even any definitive plans. In fact, USL does not have the internal resources to do such work alone and would need at least the cooperation of the owners of those boxes to port Destiny over. Some level of discussion has apparently taken place between USL, IBM, HP and more distantly Apple, but DEC has reportedly not been approached yet. Besides the Alpha chip is not out yet or proved itself a volume contender - the ideal volume (shades of Bill Gates!) being a million units. USL's game plan and timetable depend on how those talks fare and how well any of the chips penetrate the market. There are reportedly no technical reasons why any of the ports can't be done. As previously revealed, USL is currently putting Destiny on Intel, Sparc and MIPS, the latter in both big and little endian versions.

...PUTS BACK DESTINY LAUNCH UNTIL JUNE

USL's official announcement of Destiny, meanwhile, has been put back to June. Insiders say the software, now in early beta (UX No 373), could have been announced with a big bang in April but that USL together with public relations house Regis McKenna, hired especially for the launch, have opted to ease it out instead, smoothing the way with one-on-ones with analysts. USL is also said to have set its Destiny royalties at a level that will allow its customers to retail the stuff for under \$500. What their pricing in turn will be depends on how much margin they want and whether they will price it against NT.

SGI "PAYED DEARLY FOR MIPS", SAYS SCHULMAN

Wonder why the stock market sheared the top off of Silicon Graphics' stock price the minute the MIPS deal was announced? We'll repeat what UBS Securities VP Marc Schulman told his salesmen the morning after: "at \$406m, they're paying dearly." According to Schulman, SGI's terms indicate it placed a higher value on MIPS revenues (a mere \$169m in calendar '91) than the market put on SGI's. The question for him then becomes why? Obviously the answer is SGI's complete dependence on the MIPS chip for all its products. But coming only three weeks after DEC's Alpha announcement, the news leads Schulman to believe Alpha - and the implicit migration of MIPS minority owners DEC and Kubota from MIPS to Alpha - made the SGI/MIPS deal imperative. (SGI admits Alpha was "stimulating.") SGI faced the alternative, he thinks, of either buying MIPS or adopting Alpha. (Interestingly enough, other sources have claimed to Unigram that SGI talked to DEC about Alpha as, they say, has Data General, Motorola's account.) Schulman figures SGI's move on MIPS is "very probably the death of ACE" - and this from the author of 'ACE - The Winning Hand' less than a year ago (UX No 330). In his view MIPS has been one of the few companies to "play the open systems game fairly." It was never the first company to introduce a product based on its own technology. Instead that role was filled by Silicon Graphics. The industry will doubtless have trouble believing all that's going to change now.

HP BUYS 5% OF CONVEX, OUSTS MIPS R4000 AS CONVEX RISC

Minisupercomputer maker Convex Computer Corp has thrown in its lot with Hewlett-Packard Co in a big way: not only is it, as expected (UX No 376), adopting the Precision Architecture RISC for its massively parallel systems development, but has invited the Palo Alto firm to take a 5% shareholding to seal an OEM agreement under which each company will take on the other's products. HP's 5% stake in the 10-year-old, Richardson, Texas-based has set it back around \$18m, and its ownership may increase over time in a stepped fashion. The companies declined to reveal how incremental the steps could be, but apparently nothing would hinder a complete takeover eventually, a la NCR and Teradata. HP recently persuaded Convex, which is just transitioning to RISC for future generations, to throw over the R4000 MIPS chips it was using in both a new megaprocessor, the C4 continuation of its C series, and in a new MPP massively parallel project it is doing, in favour of its own HP PA-RISC. HP's win represents a loss not only to MIPS, believed to be related to a skimpy MIPS floating point performance, but also for DEC's Alpha. Convex faulted Alpha on time to market grounds, insufficient floating-point performance, and its little-endian bias in the face of a market that is 80% big endian, a compatibility issue for Convex. The pair will now exchange core technologies including compilers: HP's RISC compilers for Convex's supercomputer compilers. Other technology exchanges are anticipated. They also intend signing a still unfinished bilateral OEM agreement for Convex to resell PA-RISC products and HP workstations, while HP could sell Convex machines. Convex will be setting up a systems integration group to meet customer demands for workstations to front-end its supercomputers. They will not be necessary with the general purpose MPP machines, not due to be productised for the next two years. HP was more diffident about whether it would actually sell Convex machines, pleading that it hadn't tested the market and just didn't know yet. Saying publicly that it didn't intend getting into either the supercomputer or massively parallel business, HP attributed its interest in Convex to know-how that might be employed in HP's own multiprocessors. Convex's formidable MPP project will run OSF's Mach kernel, Convex chairman Bob Paluck said, giving it compatibility down the road with HP machines. HP, however, has recently voiced skepticism over the viability of the OSF operating system (UX No 376) and in fact has decided to delay porting it (see story, page five). The Convex design win gives HP bragging rights about the scalability of its RISC chip.

USL RELEASES UNIX SVR4 FOR ACE APACHE GROUP

Good news for the Apache group - rather, the MIPS SVR4 Interest Group in ACE as it now is. Unix System Labs says the reference port of Unix SVR4 for the MIPS RISC processor is now complete. Developed for it by Pyramid Technology Corp, Sony Microsystems Inc's News 3200 series MIPS-based laptop is the reference port. The port is compatible with MIPS's big-endian SVR4 Binary Applications Interface.

THE NEW WORLD, ACCORDING TO MIPS

On the subject of the ubiquitous desktop manager - also see opposite - MIPS chief executive officer, Bob Miller, told Unigram.X last week that the MIPS Special Interest Group in ACE, formerly the Apache Group, is working on an Application Binary Interface, ABI, that will allow vendors to implement either IXI Ltd's X.desktop or Visix Software Inc's rival Looking Glass manager on their ACE Unix platforms. No room here for Hewlett-Packard's Visual User Environment though. "I'm very optimistic that we can do an ABI for IXI and Visix. I'm not confident that we can do it for IXI, Visix and VUE though," he said.

MIPS, which already sells its system-level designs on to third parties, is likely to step up that effort when its merger with Silicon Graphics Inc is complete. Miller says that over the next couple of years, MIPS will begin to offer three-dimensional workstation designs based on SGI technology, something that MIPS doesn't presently have in its portfolio. MIPS expects to sell around 6,000 systems this year - it currently supplies around 5% of DEC's R3000-based machines. Miller forecasts an installed base of some one million MIPS-based systems by 1994.

Integration of the Silicon Graphics and MIPS system product lines will begin with the multi-processing R4000 systems that both firms are due to have in place by the end of this year or the beginning of next, technology which Control Data Corp - a MIPS and SGI OEM - has worked on extensively with the multi-processing R6000 machines it co-developed. In the long term, "one product line will be manufactured for the commercial and technical markets," says Miller, but the machines will keep their respective SGI and MIPS badges.

Miller believes "the key alliance in ACE is between MIPS and Microsoft." Indeed ACE's total dependence "is on Microsoft," he says. "If it were to pull out then ACE is just a MIPS interest group for Unix." MIPS needs Microsoft's support to attack the Intel Corp and Apple Computer Inc personal computer market at the low-end. He believes the price/performance advantage of the R4000 over Intel's iAPX-86 line, the aggressive backing of the six R4000 fabs - see front page - combined with the Far East's low-cost, volume manufacturing capability, will prove to be a potent force.

MIPS' relationship with Microsoft Corp goes back some three years, when a joint team began work on system-level stuff (probably accounting for many of the rumours that the two were up to something over that period). The 30-strong unit has some half a dozen full-time Microsoft staffers.

Miller's IT world is divided into three continents. First, the \$70bn personal computer market that in his estimation is growing at 9% a year. Second the client/server (Unix) sector, growing at 20% CAGR. Third the mini/mainframe market that is shrinking 9% a year. "Client/server is the real battleground of the future," he believes. "If you are going to try to shift units of CPUs in the personal computer sector, you must have Microsoft's support." The client/server battleground is open to all-comers because "it is going to be quite a while before anyone is going to run their business on NT, and certainly it will be a long time before NT has a significant share of the client/server sector." The only difference between the growth curves of Microsoft and Unix when they are put next to each other "is a binary standard," says Miller. He's still awaiting the day when the Unix companies will "wake up and create a binary standard," and is bitter that who had the chance to do it didn't go for it at the time. That's in the past, but they know who they are.

Although Compaq Computer Corp's RISC intentions seem to have gone off the boil of late - other fish to fry at the moment - it has been at pains to prove to ACE partners that the will remains: DEC says it was invited down to the company's labs to see the R4000 box it's got there: MIPS admits to having seen the thing too. We know that fellas, but what's its heritage? "Can't say," both reply. But remember that unannounced low-end R4000 box code-named Jazz that's been kicking around at MIPS, which was designed by Microsoft Corp? (UX No 375).

MIPS' European boss, Kristoffer Sygel, says MIPS had been looking for a potential partner for a year or more, and "if it had been DEC or NEC or Toshiba (as opposed to Silicon Graphics), it would have been the start of the death of ACE," he admits. Nigel Seed, managing director of SGI's UK operation says the deal was run past all the major ACE players and Silicon Graphics was the "least contentious choice of partner for MIPS," he says. Strange, when Bill Gates, as we understand it, was away from the US at the time: Kubota didn't seem to know much about the merger even after it had been announced. What happens to its stake in the new firm has "yet to be decided."

From April 1, MIPS UK will be headed-up by Brian Griffiths, who until eighteen months ago, worked alongside DEC UK managing director, Geoff Shingles: April 8 is the date set for MIPS' R4000 system launch (UX No 376).

Sygel, expects no job losses or lay-offs as a result of the merger. SGI UK is a \$40m outfit with 60 staff - MIPS, which does around \$12-15m over here, has 10 employees at its UK offices, plus a further six staff on its European operation, which is also based in Marlow, Buckinghamshire.

Nigel Seed, managing director of Silicon Graphics Inc's UK operation, in Reading, Berkshire, says the two firms will continue to operate separately in the UK. "Business as usual, for at least the next 12 months," says Seed.

Comparisons with Intergraph Corp, which bought the Clipper RISC chip from National Semiconductor after that company's acquisition of Fairchild Semiconductor, are unwarranted, Seed says, adding that if "in three years' time SGI has done an Intergraph, then we should shoot ourselves."

THE OLD WORLD, ACCORDING TO 88open

No doubt how it assesses the situation though: in light of the SGI-MIPS merger 88open says it's planning a full-scale, New Orleans-style funeral for MIPS and the ACE Initiative complete with coffin, keening women in black shawls and jazz bands.

Meanwhile, the campaign to argue Motorola Inc's 88000 RISC out of the market appears to be based on specious arguments - with Motorola not having to do much design work on the PowerPC RISC itself, it can well afford to keep 88000 up to speed, and Data General Corp thinks so too. While it admits to having looked at other RISCs, it says it was only for information, adding that it reckons that the multiprocessing capabilities of the 88000 still give its machines an edge. Texas Instruments Inc is expected to add a 33MHz Motorola 68040 model to its Server/1500 series of multi-processors this month.

INVESTORS' RETHINK FORCES TERA CLOSURE

Last week Tera Microsystems Inc CEO, Henri Uehara, was working with only a skeleton staff hoping to find a buyer for the company's MicroServer technology as well as the MicroCore chip sets more commonly associated with the company - see front page. The rest of Tera's 30-man employee roster was laid off. Uehara said "too many investors are questioning the Sparc marketplace" because Sparc cloners are dropping out. Observers, however, attribute Tera's demise to flaws in its basic design which eschewed using either Sun's Sbus or Mbus, but went for a proprietary bus instead. They argue that this factor limited Tera's utility, making its chip appropriate only for laptops. Round about Comdex last October, Uehara said, the company started to re-evaluate the marketplace, realizing that just selling chips wasn't enough to make it successful. That epiphany led Tera to a strategy that would also take it into board and subsystems products beginning with the MicroServer and followed by two or three others this year. The MicroServer would also have been the basis of a line of systems Tera put out itself, adding to the \$20m-\$30m in revenues Tera was projecting for the board alone. Tera's re-evaluation of the market also apparently led it to conclude that Considine, with his semiconductor background, was not the right person at the helm. Although he admits he needed a major round of financing, Uehara estimates he could have brought out MicroServer with \$500,000. He describes it as two times faster in I/O transactions than Sun's existing SparcStation 2s but four times cheaper and reckons he could have produced full-flown MicroServer systems at the same low overheads as the MicroServer boards.

NINE MEMBERS EXPECTED TO JOIN HP'S RISC CLUB

Hewlett-Packard's new PA-RISC supporters club PRO, due to be detailed this Tuesday (UX No 376), looks to have nine members other than HP itself. Reports say to count Prime, Hughes Aircraft, Mitsubishi, Oki Electric, Convex and another obscure PacRim firm among the newly recruited. Samsung Electronics, Hitachi and Sequoia Systems were already pledged. HP seems to be keeping the organisation pretty much under its thumb. Reportedly its own Jim Bell, director of integrated information management, will be named PRO's director. Someone we talked to likened PRO to a Japanese kiritsu complete with interlocking directorates and cross-investments.

IXI WINS ICL FOR DESKTERM, PICKS UP US DEFENCE BUSINESS

Following ICL's adoption of its X.desktop manager, IXI Ltd, Cambridge, has now persuaded the firm to take a licence to its Deskterm tool which allows character-based applications to run in a windowing environment. ICL will provide Deskterm to its ISVs, VARs and corporate customers as part of its Desk Power graphical user interface portfolio. IXI says it has also picked up a chunk of business from Computer Sciences Corp, which back in January won a US Department of Defense (and US Navy too) joint Computer-Aided Acquisition & Logistics Support contract to link 245 military sites across the US - some 60,000 seats - worth some \$744m in total over 12 years. IXI says X.desktop will figure on the DECstations that Computer Sciences bid.

JET PROJECT OPTS FOR SPARCSERVERS AND X-TERMINALS

The Joint European Torus Project, based near Abingdon in Oxfordshire, where research into nuclear fusion as an energy source has been in progress for the last eight years, is replacing its 38 Norsk Data minicomputers with 45 SparcServer 2s and 45 X-terminals from Network Computing Devices, supplied by Xanadu Computing Systems of Watford, Herts. 12 of the SparcServers will be used as servers for the X-terminals, said to be a cheaper and faster alternative to buying all workstations. Using the OSF/Motif user interface, the new systems will run in-house control and data acquisition software written in Fortran and ported over from the Norsk Data machines - a 200 man-year task to be carried out over the next two years. The Torus, a doughnut-shaped magnetic container inside of which plasma is heated to massively high temperatures for a fraction of a second, is fired up four times an hour and produces 30Mb of data for analysis each time. The proprietary Norsk Data machines, which have been in place since the start of the project, are becoming uneconomical to maintain. The JET project was recently extended to run until the end of 1996.

DEC STILL CAN'T DECIDE BETWEEN X.desktop AND VUE

According to Digital Equipment Corp's Unix-based software & systems, marketing & planning group manager, Matt Kochan, the company is still in the throes of trying to settle on a desktop manager strategy for its platforms. X.desktop, from UK, Cambridge-based firm IXI Ltd, is available across DEC's entire range of existing machines, but has no agreement for DEC to market the stuff. DEC Europe has convinced Kochan that users want X.desktop, "IXI has won that battle," he says. However the DEC fraternity back at Maynard, Massachusetts, is still hankering for Hewlett-Packard's Visual User Environment, VUE, which it regards as a better product from an engineering point of view. "VUE is really good, better than IXI," Kochan concurs. "We're still working on a deal that will suit both the US and Europe, and whilst IXI is winning the battle, it's a battle that has been going on for the last six months and is still going on. Two months ago we thought it was going to be IXI, but our US engineers prefer VUE." The way the company eventually leans is important, says Kochan, because it "is testing the new Digital," - testing the power of DEC's internal forces over the wishes of its customers perhaps? Kochan said he still couldn't put a timescale on a decision, but "my guess is that we will offer both," he says.

SVID 3 COMPLIANCE FOR ACE/UNIX NEXT YEAR

Kochan says DEC will have end-user versions of vanilla OSF/1 available for its MIPS/ACE platforms by the Autumn. The OSF/1/Ultrix/Open Desktop melange, on which the Santa Cruz Operation Inc is working with DEC, will ship at the beginning of 1993. Initially this will be compatible with Unix System Labs' SVID 2, System V Interface Definition. Only in 1993 will SVID 3 compatibility be added: SVID 3 includes most of the hooks, whistles and bells required for compliance with USL's latest Unix SVR4 implementation. 90% of that effort is OSF/1 work that DEC is doing. SCO is doing the other 10%, mostly the Intel Corp integration work. Is SCO really becoming less and less involved in all of this stuff, or is that just the perception we get? "Well, SCO is getting lean and mean for going public," says Kochan.

...COMMERCIAL OSF/1 FOR ALPHA DUE MID-1993

DEC maintains that the future of its MIPS Computer Systems Inc line of ACE-compatible machines is not jeopardised by Alpha. "If you want to go for price then you will go for ACE. If you want performance then you'll go for Alpha," Kochan says. "They'll run the same software." The commercial implementation of OSF/1 for Alpha will follow the Autumn release of the operating system on its ACE platforms by up to two quarters - though it is shooting for one - that puts it at around mid-1993.

UNISYS ON TARGET FOR FIRST QUARTER PROFIT

Confounding the sceptics, which included most analysts, Unisys Corp looks set to make a modest profit for the quarter to the end of this month, chairman and chief executive officer James Unruh told the New York Society of Security Analysts. Unisys returned to profitability in the fourth quarter of 1991 and said in January that it expected to be profitable for full year 1992, but did not comment on the first quarter. But Unruh said "We expect a small profit in the seasonally weak first quarter compared to a loss of \$98m or 79 cents a share in the first quarter last year. Clearly, we consider a first quarter profit another significant milestone in our recovery. Given the environment, a profit was not a sure thing. We remain very cautious about global economic conditions, particularly in the first half... We anticipate a positive impact from volume shipments of new large-scale computers as the year progresses." Unruh said that Unisys is succeeding in its tough strategy to create a cost structure that would sustain profitability even in a weak business environment while building the foundation for growth as the economy improves. Unisys hopes to increase market share on a global basis over time in financial institutions, airlines, communications carriers, and government agencies worldwide - these account for more than 70% of current commercial business. It hopes to build off the systems integration and services expertise in the government market to revamp and grow its professional services business - education, systems integration, consulting, facilities management - in the commercial market. In Japan, affiliate Nippon Unisys Ltd plans to double sales in its software and service division over the next three years, to \$1,170m in 1994. Unix sales are expected to rise 400% to \$1,000m.

Upgrades Intel-based product line

Unisys Corp has introduced upgrades to its Intel-based U6000 line, including a new entry-level system - the U6000/15 - and 50MHz versions of its top-end U6000/75 and 85 systems, rebadged from Sequent. The U6000/15 is a departmental, workgroup server, supporting up to 15 users. Using the 33MHz i486 and an EISA bus, the machine is a replacement for the existing two 80386 models, the 6000/10 and 6000/31. Standard memory is 8Mb, expandable to 32Mb, with storage of 168Mb to 680Mb internal. Prices start from £6,500. There is also a 50MHz version of the U6000/35 (currently 33MHz). At the top-end, Unisys has introduced 50MHz versions of the U6000/75 and 85 multi-processors, which it re-badges from Sequent, expanding memory options by four-fold. The machines run Unisys' Value Added Platform (VAP) software range, a set of 50 open systems products tested to work together and subject to harmonised releases, supported by Unisys in combination. VAP options include Portable NetWare, LAN Manager/X, PC Interface and Merge software.

Plans to boost top-end systems with new architecture

Unisys is cautious over detailing too much of its future product plans, but UK Unix Systems programming manager Peter Lobl said that the company had plans underway to offer top-end Unix-based machines that would be capable of replacing full-sized mainframes, not just the small mainframes that the Sequent machines target. Lobl says that a year ago, Unisys had been under pressure from RISC vendors offering a better price/performance, but since the advent of the 486 had caught up again. Unisys recently had another look at RISC chips, he said, but decided to stick with an all-Intel policy, like rivals NCR Corp. Unisys "remains committed to Intel for the short and medium term - and possibly long-term future", he said. But in the works are some new systems - expected to be Unisys-own designed - aimed at large scale mainframe users, aimed at putting Unisys into the sort of power range that NCR is pushing through its Teradata acquisition. A key component in the equation is the Chorus micro-kernel operating system which Unisys signed up for last year (UX No 302). What part the Motorola 88000-based systems running Chorus, currently marketed only in Japan, are to play in this remains unclear. Unisys says that its line of Intel machines will have full binary compatibility once Unix ESMP is implemented on the full range around the turn of the year. Currently the five processor U6000/65 runs the multi-processing version of Unix V.4, while the 75 and 85 machines run Dynix, Sequent's own multi-processing Unix implementation, based on V.3.2.

In a related move, Unisys is offering its MassCab-2 storage system to provide mainframe-class disk storage for the U6000, adding four SCSI channels to the base SCSI channel in a U6000 system, and supporting up to 43Gb of disk storage, even in the entry-level model.

Sets up marketing strategy in UK

Unisys predicts that Unix will account for 50% of its business by 1996 at the latest, and accordingly it has been attempting to boost that side of its business with a new series of marketing campaigns. The UK subsidiary claims to be one of the earliest to get things started with its "Make It Happen" strategy. This includes the provision of guidelines to its sales force on the various "open" options it provides, and an open account manager for each one of its major customers, to discuss the various options available - these options range from complete migration, interoperability between proprietary and Unix platforms, to the gradual drift of Unisys proprietary systems towards low-level standards such as Posix. Unisys has also set up a series of Unix initiatives - these include a rental option with no obligation to choose Unisys Unix hardware at the exchange point, investment in four Open Systems Centres (at Birmingham, Leeds and two in London), and an offer to prototype systems for a fixed fee, refundable if it is unsuccessful. Other Unisys locations around the world are instigating similar strategies, claimed Peter Lobl, Unix systems programme manager.

UNILEVER ADDS TO ITS OPEN SYSTEMS JIGSAW

Anglo-Dutch manufacturing giant Unilever Plc NV has added another piece to its open system jigsaw, this time it has called on Maidenhead, Berkshire-based Information Resources to provide all its executive information and decision support applications on a worldwide basis. Unilever is composed of 500 different companies spread around the world - it's adding to that total at a rate of one a week - and has some 30,000 managers. Information Resources, a subsidiary of US market research firm IRI Inc, will supply its Express range of applications on Unilever's DEC, Hewlett-Packard and IBM Unix platforms, for a three year period. DEC, HP and IBM are Unilever's chosen open systems hardware suppliers: it has told its siblings that they can buy whatever they like for their IT requirements as long as they buy open systems from its preferred suppliers. Unilever recently standardised on the Sybase and Oracle databases as part of its strategy (UX No 373), and it is thought that the mix of open systems hardware it has already procured is split evenly between the three suppliers.

OPUS GAINS NEW BACKING, NEW PRESIDENT AND MOVES TOWARDS SOFTWARE

While Tera Microsystems gives up the ghost, Sparcette house Opus Systems has picked up a heavyweight new president, Tandem co-founder Jim Katzman, and raised \$4m in a fifth round of venture capital from previous investors including Venture Partners, Merrill Pickard Anderson Eyre, Glenwood Management, Bryan and Edwards and OSCCO Ventures. It says the money, brought in by the company's new CFO David Garret armed with its new business plan, will be used to fuel growth and new product development. Katzman, a 45-year-old TVI venture capitalist, who also helped start Amdahl and launch HP into computers, has been acting as a full-time consultant to the Opus board for the last six months. He says the new Opus business plan seeks to avoid meeting Sun head-to-head in the hardware arena and will instead exploit the firm's hidden software talents. The new plan, reportedly still somewhat rough, calls for Opus to start unbundling and building system software products such as tools that will allow the sea of Windows 3.0 seats to use any Unix application. Katzman, still secretive about the exact nature of the software, is expecting to announce the first suite next quarter. The new direction for Opus, its third in the last year, does not imply that it is abandoning Sun clone or Sparc board business, currently its only revenue source. In fact, last week it announced and started shipping the Personal Mainframe 5124, a 29-MIPS 40MHz Sparc workstation, with pricing beginning at \$7,205. Opus is the second Sparcette company in as many weeks - Solbourne being the other (UX No 375) - to head off into software on finding the Sparc business merciless. Katzman, Garret and the plan must be convincing if they have managed to draw another \$4m from VCs already burned by Opus "squandering millions," as Katzman himself admits. In fact, he declined to tally the amount Opus had secured in its preceding four rounds.

TOSHIBA TO SAMPLE RAMBUS MEMORY CHIP IN OCTOBER

Underlining how seriously it takes Rambus Inc's new technique for increasing the speed of processor access to memory 10-fold Toshiba Corp says that it has already developed a 4M-bit dynamic memory chip using the Mountain View, California company's technology, and says that it will start sample shipments in October. Toshiba says it is also developing a 16M-bit Rambus DRAM, for introduction in 1993 and that it initially plans to use the technology in laptops to provide high graphics performance. The Rambus system replaces the control signals and multiplexed address of a conventional RAM with a packet-oriented bus, and **Microprocessor Report** notes that the founders of the company were key participants in the design of the R6000-based ECL systems at MIPS Computer Systems Inc, and that the Rambus is based on the system bus used in MIPS' RC6280. The Rambus Channel operates with a 250MHz clock, transferring a 9-bit byte at each extremity of the clock cycle - or one every 2nS. There are no address lines - instead, addressing is performed by packets transmitted on the data lines. Although for maximum performance, the microprocessor should have the Rambus interface designed in, early designs are expected to use an application-specific circuit that translates the microprocessor's native bus to the Rambus protocol. Fujitsu and NEC have, as reported, also licensed the Rambus technology and Fujitsu is expected to provide Rambus support for its Sparc microprocessors, and NEC is to develop an R4000-to-Rambus interface chip.

SIEMENS NIXDORF FOLLOWS BULL AND SIGNS BIG OEM DEAL WITH ORACLE CORP

In detailing its open systems strategy at CeBIT, Siemens Nixdorf Informationssysteme AG made public an OEM agreement with Oracle Corp, signed in November. Marketing director Eberhard Reichert claims that the deal cost tens of millions of dollars, but Siemens Nixdorf will now provide Oracle's database management system on all its computers, and it expects to garner a great deal of additional business, especially in the international arena. The company says that it will not abandon its other database suppliers - which includes Informix Software Inc - but it does acknowledge that Oracle could become its mainstay product in the next five to 10 years. Siemens Nixdorf says that its new line of systems, due to ship in September, 1993, will integrate the inherited Nixdorf architectures, which should enable the company to cut back on development overheads.

SEQUENT, ORACLE HAVE NEXT GENERATION CASE PRODUCTS FOR SYMMETRY 2000

Beaverton, Oregon-based Sequent Computer Systems Inc and Oracle Corp have announced the availability of Oracle's next generation of computer-aided systems engineering products for Sequent Symmetry 2000 systems. Shipping this month, the new products are claimed to offer open repository functionality, design utilities and system generation facilities. They are based on a new version of Oracle's repository, CASE*Dictionary V5.0, and two new generators, CASE*Generator for SQL*Forms SQL*Menu V2.0 and CASE*Generator for SQL*Reportwriter/SQL*Plus V1.0. The generators create screen- and menu-based applications and report directly from definitions held in the repository. Layout and applications logic are automatically created, taking into consideration those design preferences which define the development standards. Some features of the internal architecture have been externalised, and this enables users to tailor the repository to meet specific development needs. Automated system design tools have been extended by the addition of a default application design facility, which takes analysis definitions and produces system designs ready for generation. Oracle says this facility speeds systems development through the use of rapid development techniques but also provides prototyping capabilities, enabling developers to verify user requirements early in the system's lifecycle.

ONTOS CEO INGARI RETURNS TO LOTUS

Ontos chairman and CEO Frank Ingari is heading back to Lotus, his old stomping grounds, as VP of marketing, an opportunity he reportedly couldn't resist. His place at Ontos will be filled by the firm's former vice president of sales and marketing Jim Cannon. Ingari remains on the board. Ontos, which used to call itself Ontologic, has been trying to reposition itself into a production-oriented firm with its object database over the last year. This week it is expected to announce a front-end tool for Ontos DB for developing graphical interfaces.

INTERGRAPH BUYS ALL RIGHTS TO NORSK DATA'S TECHNOVISION LINE

Huntsville, Alabama-based Intergraph Corp reports that its German subsidiary signed a letter of intent to buy exclusive rights to the Technovision mechanical computer-aided design product, and the related sales, support and service operations of Norsk Data GmbH for about \$15.7m. Technovision is a two-dimensional drafting package that is widely used in the German mechanical design market. A definitive purchase agreement should be signed by May 1, and should add \$12m to \$15m to Intergraph's 1992 revenues.

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Texas Instruments Inc is expected to add a 33MHz Motorola 68040 model to its Server/1500 series of multi-processors this month.

Apple Computer Inc says it sees Macintosh System remaining the company's personal computer operating system, while whatever comes out of Taligent Inc will be aimed at large companies wanting to develop their own software for networked users.

NCR Corp and Unix System Laboratories Inc both deny a report in *Datamation* that they haven't been able to agree on how to make Tuxedo and TopEnd interoperate and have broken off talks: according to Dick Connally, product manager for NCR's TopEnd, the reverse is true - they have decided to make the competing transaction processing monitors follow the evolving OSI-TP standards as they unfurl and expect to start getting the effort under way later on this year or early next.

Gerard Guyod, the man who did the due intelligence on Novell for Safeguard in the early 80's, says he's found another winner - Raptor systems, a start-up he believes will grow to be the size of Tandem (UX No 361): he's setting up a fund to get the thing off the ground and is taking a piece for himself. Others interested in subscribing can reach him at the Balboa Bay Club, Newport Beach, California.

UBS Securities vice president, Marc Schulman, in his latest take on DEC, notes that the company has a "cohabitation" plan to allow users to order Alpha systems for future delivery, take delivery of VAX now and use both systems for up to six months before returning the VAXes: the idea is to build user confidence in Alphas, he says.

Computer Associates International Inc has struck a deal with ADP Dealer Services Inc to implement its Unix CA-DB database on ADP's Motorola 88000 RISC hardware, replacing its Pick implementation.

Versant Object Technology has signed Manchester-based K2 Software Developments Ltd, to distribute its object database technology in the UK.

Canadian firm, Elsid Software Systems Ltd, Ottawa, Ontario, says it has ported version 2 of its Ripcam real-time spreadsheet to Sun Microsystems Inc platforms - no prices given.

MasPar Computer Corp, the SIMD parallel computer manufacturer in which Digital Equipment Corp has a 5% stake in return for marketing rights to the Sunnyvale, California company's products, has cut prices of its entry-level computers by up to 35%: £100,000 will now buy the MP 1101 1,024-processor system, plus a high-performance graphics workstation, graphics programming environment, C compiler and 1,600 MIPS and 75 MFLOPS. A high-end 4,096-processor MP 1101, delivering 6,400 MIPS and 300 MFLOPS is now £200,000 in the UK. MasPar claims over 80 systems installed in 10 countries since the company's first launch in 1990.

Burlington, Massachusetts-based Object Design Inc has established a worldwide network of distributors for its ObjectStore object database: they are Apscore International Pty Ltd, Neutral Bay, Australia; DyM SA in Madrid, Spain; Elsa Software SA, Paris; Enea Data AB, Malmo, Sweden; Patzschke und Rasp GmbH, in Wiesbaden, Germany; Sema Software Technology Ltd, Chippenham, England; and Toyo Information Systems Co Ltd, in Tokyo, Japan.

Intel Corp's 1991 sales in the former USSR were four times higher than the company had predicted, says Dimitri Rotow, Intel regional manager: Intel hopes to build a distributor and dealer network throughout the former Soviet Union and Rotow says up to \$2m will be invested in marketing this year; currently, some Intel products are available for roubles from six domestic distributors, the four largest being Kvazar of Kiev, JV Dialogue, Moscow, Komelplus, Zelenograd, and Nevis, St Petersburg.

UK computer manufacturer, Research Machines, Oxford, is offering a turnkey PC-based Unix system for £6,600: that buys one of its an Intel Corp 80486 box with 16Mb RAM, 300Mb disk, Ethernet card, monitor, mouse, NFS or TCP/IP, X-Windows, cabling, installation and consultation.

Three former Metrologie UK employees, Lisa Hammond, Howard Sayles and Paul Milligan, have formed a new company that will focus on providing X-Windows technology for City corporations: eXplain Solutions is based in London, EC1.

SCO Forum has its dates together: it's set for August 17-21 at its usual venue at the University of California in Santa Cruz.

Usenix has scheduled a workshop on "Microkernels & Other Kernel Architectures" on April 27-28 at the Sheraton Seattle Hotel on the west coast: they'll be chatting up Amoeba, Mach, AT&T's Plan 9, Chrous, NT and Birlx. Sounds interesting.

No kidding, Carl: Unix World quotes Microsoft's NT business development director Carl Stork as saying, "our strategy, and the one we're pursuing, is the customers don't need to use Unix on the desktop."

Intel will reportedly use PC Expo in New York in June to preview the so-called 586 or P5 in a technology demo perhaps showing off three models: one running at 33MHz, another at 50MHz and something at 33/66, according to InfoWorld, with on-chip cache ranging from 32KB to 54KB. The 50MHz is said to be capable of 100 MIPS. Formal announcement is believed to be scheduled for September, with volumes deliverable around November.

Boeing's internal flirtation with object orientation has caused it to form a group called Corporate Facilitators of Object-Orientation Technology in hopes other users will stand shoulder-to-shoulder with it while they figure out how best to use and deploy the stuff.

Donal O'Shea, the Irishman who left the number two slot at the Open Software Foundation to head up Servio has president, has now left there, his place being filled by Lacey Edwards.

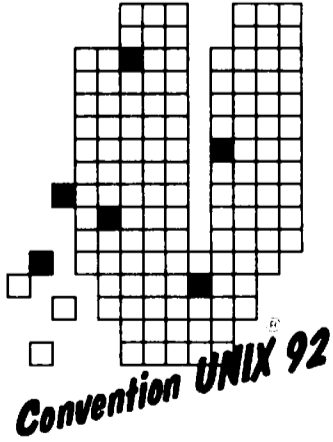
After three years of existence, Arum Software finally got its first president and CEO, Peter Mork, formerly VP of North American sales at Sybase.

Sun Microsystems would dearly love NT on its Sparc chip but it can't do it - if for no other reason than resources - and Microsoft won't.

NCR this week will pick OSI/TP as its strategic direction for achieving Top End interoperability: Unix International has endorsed Top End as Atlas-compliant, apparently putting it on a par with UI reference technology Tuxedo which AT&T willed to its Unix System Laboratory subsidiary when it merged with NCR.

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TIVOLI ADDS OBJECT STANDARDS TO WISDOM FOR SUNSOFT

Sun Microsystems Inc is finally coming through with its long-awaited deal with Tivoli Systems, giving the little Austin, Texas start-up the third and final leg it needs to proclaim itself the systems management standard of the Unix industry. SunSoft Inc will this week announce that it too, like the Open Software Foundation and the Unix International/Unix System Labs camp before it, will be using WisDom, Tivoli's distributed systems management software. Putting a special Sun spin on things, Tivoli will promise to make WisDom compliant with Object Management Group standards before SunSoft incorporates the technology into future versions of the Solaris operating system, both the Intel Corp and Sparc iterations. Effectively that means WisDom will be made consistent with the CDL or Class Definition Language that underlies the joint Sun/Hewlett-Packard Co DOMF submission accepted by OMG last year as part of its Object Request Broker selection (UX No 358). The CDL is the first step on the road to a Common Development Application Environment that gives developers a single interface to write to and irons out Remote Procedure Call inconsistencies. Interestingly, unlike OSF and UI, SunSoft is not expected to pledge to use all of the WisDom framework, but exactly what parts it will and will not use is still unknown. Sun will play the Tivoli card as the first acknowledged component of Project DOE, the otherwise mysterious Distributed Objects Everywhere strategy that is its object vision of computing in the future. DOE, which SunSoft should begin detailing in the next few months (UX No 376), has been broadly described as a paradigm where modular applications are created out of distributed objects that can interoperate across multiple platforms. With WisDom, systems management will be one of the first areas to benefit from Sun's approach to object orientation. With SunSoft the last leg on Tivoli's three-legged stool, it has effectively gotten its technology adopted by all the majors in the industry, a situation it will doubtless leverage to convince end users to buy its current applications.

GRADIENT BEATS USL TO PUT OSF DCE ON UNIX SVR4

Gradient Technologies Inc, one of the Open Software Foundation's handy little helpers and source of some of its Distributed Computing Environment technology (UX No 352), has up and put DCE on Unix SVR4-based Intel Corp boxes. The surprise move steals thunder from OSF rival Unix Systems Laboratories Inc, which had hoped to be out first with an SVR4 version of DCE, but is still hung up in licensing discussions with OSF (UX No 372). The Gradient product, SysV-DCE, is initially targeted at other independent software developers interested in creating or porting distributed applications and is described as an application developer's kit based on DCE version 1.0, including all the "secure core" technologies found in the DCE Executive including the remote procedure call, threads, Call Directory Service, Security Service and Distributed Time Service. Gradient president Len Halio said the code, due to ship the end of April, will run on the SVR4 software from UHC Inc, Microport Inc and the old Interactive Unix and provide full compatibility with other DCE-compliant implementations. He anticipates versions for Sun's Solaris 2.0, USL's Destiny and SCO Unix, the latter based on System V 3.2, further down the line. Halio said the software is fully interoperable with Gradient's port of DCE to personal computers running Microsoft Windows 3.X, called PC-DCE, now in early beta testing. Gradient is expecting to sell hundreds of copies the first year. Pricing is \$13,500 which provides for one Name Server, one Security Server and up to ten DCE clients, plus a year's free support, documentation and upgrade to DCE release 1.0.1. Additional servers start at \$2,000 each and additional clients at \$575 each. Volume discounts are available.

ORACLE VERSION 8 WILL BE FULLY OBJECT-ORIENTED

Oracle Corp's chairman and founder, Larry Ellison, has committed to delivering an object-oriented version of the Oracle database in Release 8. Ellison promises that users won't have to change a single line of code in an apparently seamless integration, and while he has said formerly that Release 7 - still to be delivered - will contain some object-oriented functionality he has now nailed his colours to mast by asserting that relational technology is incapable of handling the information needs of the 1990s. Those needs, claims Ellison, will revolve around massively parallel architecture, which is propitious given his stake in Foster City, California-based nCube Inc, one of the several gran'daddies of massively parallel architecture.

TOLERANCE LAUNCHES

FAULT-TOLERANT 80486 BOXES

After two years of research and development effort, French company, Tolerance Computer, Paris, announced a series of fault-tolerant systems based on Intel Corp's 80486 at last week's Convention Unix 92 show in Paris - see page two. The TC 1000 symmetric multi-processors run Chorus Systemes SA's Unix SVR4-based Chorus/Mix operating system on top of SCO Unix 3.2, and come with two, four, eight or 64 CPUs, using Tolerance's own directly connected fault-tolerant architecture, DCA. Emilio Dalle, vice president of sales and marketing, says the firm is aiming the hardware at the Tandem Computers Inc and Stratus Computer Inc marketplace, and believes it can offer a low-end TC 1000 system at one third of the cost of competitive systems. Dalle says Tolerance is looking for a lucrative OEM deal with a big industry name to push its technology into the market. Ships are scheduled for June in, limited quantities, with the TC1020 priced at \$60,000, the TC1040 starts at \$150,000, the TC1080 at \$290,000 and the TC1640 at \$1,850,000.

TATA IS TWELFTH MAN AT USL: DESTINY TO BE RE-NAMED

Remember way back when when Unigram.X insisted that thirteen companies had in fact bought into Unix System Labs but only eleven names were ever made public? (UX No 327) Well, we are gratified to note that number 12 has at long last identified itself as Tata Consultancy Services. It seems the Indian government is very wary about letting money out of the country and that it has taken over a year to get the bureaucrats in Delhi to approve the deal that was cut. That leaves one more Unix co-owner, reportedly in a similar fix, still behind the curtain: it's thought to be a Korean outfit which will declare itself in June. The others are Amdahl, Motorola, Novell, Sun, ICL, Olivetti, Fujitsu, NEC, Oki, Toshiba, the Institute for Information Industry in Taiwan and of course AT&T. Meanwhile, USL has taken on another board member, Scott Morton, a strategic planning specialist and Jay W Forrester Professor of Management at MIP's Sloan School of Management. Meanwhile, USL has discovered that the name Destiny is trademarked by another software company so it looks like it's going to have to call its desktop operating system something else.

SHOW REPORT: CONVENTION UNIX 92, PARIS

The French government is taking open systems seriously these days: it sent along its Minister for Industry and Commerce, Dominique Strauss-Kahn, to open the Convention Unix 92 exhibition which took place at the world trade centre building in Paris' La Defense high-tech business district last week. William Fellows and Alison Hawkings report.

Bull considers licensing its Distributed Computing Model

At the show, Groupe Bull SA was showing off the latest developments in its Distributed Computing Model, announced at last year's CeBit event (UX No 325). DCM allows networks of heterogeneous systems to be managed over TCP/IP and ISO protocols, as well as under DSA, (Bull's proprietary communications architecture which runs on its GCOS mainframe series) via X.25. DCM presents an integrated, single-view display of networks using graphical object-oriented presentation techniques for the administrator. TCP/IP, ISO and DSA's network management tools - SNMP, CMIS and DSAC respectively - are all supported under ISO's CMIS interface layer, on top of which Bull has implemented SML, its system management language. SML allows different network topologies to be administered from a single view, using the same tools. In addition applications written that conform to SML will run over each of the networking environments supported. DCM includes an additional toolkit which facilitates support for other network management systems, such as IBM SNA. DCM version 1 - what Bull calls its Integrated System Management framework - runs on a dedicated Zenith Data Systems Intel Corp 80486-based machine running Santa Cruz Operation Inc Unix: out in July, prices are expected to be in the \$8,000 to \$10,000 range. DCM includes the Open Software Foundation's Distributed Computing Environment technology and will support OSF's Distributed Management Environment when it arrives. DCM version 2, expected by the end of the year, will include an automatic recognition and display system - now in testing - which automatically redraws network views to include or delete systems as they come on and off-line. Unofficially, Bull is thought to be preparing to license DCM to other vendors, and says the stuff is portable between different versions of Unix. IBM is said to be looking closely at the technology.

NSL readies toolkit independent interface builder for September

Paris-based interface specialist, Non Standard Logics, was demonstrating version 1.1.1 of its XFaceMaker graphical interface builder. A new release is planned for September, with an extended feature set, which will also include the ability to create widgets within widgets. The idea of this, says NSL's Jean Manuel de Noronha, is to reduce the amount of resources dedicated to running a GUI, so that, for example, a certain configuration of windows, which can include the clock and all the other widgets, can be stored within another widget that can be re-activated without having to load up the appropriate code all over again. The new release will also - a first for NSL's product - offer toolkit independence. Previously limited to using its proprietary interface layer, this version will generate C and User Interface Language code for Motif, Open Look and other toolkits. NSL says this will bridge the gap between other interface builders. At the high-end of the market, developers using TeleSoft's powerful GUI builder must learn both TeleSoft's proprietary intermediate language, as well as the interface toolkit language itself (Motif, Open Look etc). At the other end of the scale, NSL believes much-publicised, interface independent toolkits from the likes of XVT, Neuron Data and Tiger Media are not extensible enough for the workstation market. De Noronha admits those solutions are relatively inexpensive, but argues that because they span such a range of GUIs, they are too dependent on a minimum or common denominator toolkit. With these, he says, developers can create widgets, but not manipulate them dynamically in a prototyping environment, for example. NSL says XFaceMaker will also automatically scale the interface to whatever size screen is being used so that if, for example, a bigger monitor is being used for development, the end result will also run on smaller target screens. NSL's main competitor is Visual Edge's UIMX software - it has taken the OEM route, NSL only sells direct. NSL won't admit to how many customers are using its XFaceMaker stuff, saying only that it has an average of 2.2 licences per client - up from 1.8 last year. NSL is also hoping to reap some royalties from its Wish graphical user interface that Atari Corp is supposed to be bundling with its TT Unix workstation - "when it starts selling it," muses NSL.

Futurix carries French Sparc banner

France now has its own Sparcbuilder, in the form of Gennevillers, Paris-based Futurix. It is to begin offering a workstation which houses a Sparc 2 board alongside a 50MHz Intel Corp 80486 CPU part. The Mbus board comprises an LSI Logic 40MHz Sparc chip set with 32Mb RAM, delivering 31 MIPS and 4.2 MFLOPS. The box runs SunOS 4.1.2, comes with 520Mb disk, SCSI 2, Ethernet, two Sbus slots and one Mbus slots, with a 17", 19" or 21" colour monitor. Futurix, also a Tatung and Twinhead Sparcette reseller, is apparently a joint venture between Eurocenter, Paris, and Australian firm Ash PC.

Visual debuts new X network terminal

Further fruits from the coupling of Gipsi SA, France and Visual Technology Inc, Westborough, Massachusetts, now officially known as Visual, were displayed at the show. The colour TX800C is a new open network terminal combining features associated with X terminals, networked PCs and graphics workstations, and is being marketed as a client/server workstation. The key to implementing this is the Unix V.4-based microkernel offered by Chorus Systemes SA, France. Based on a 25Mhz 68040 processor from Motorola, the TX800C has two custom graphics ASICs from Visual Europe (Gipsi), 4Mb of memory expanding to 16Mb and runs API-software. Visual claims the terminal's S bus slot means it can front end with databases and image decompression as well as downloading to run other terminal services. Pricing has yet to be determined but sources say it will be between \$5,500 to \$6,500. Already on European release, it will begin US shipping in June. Visual claims that the TX800C is the start of an expansion into the network terminal market.

DEC breaks OSF/1 compatibility with R4000 Ultrix

DEC says it is readying another release of Ultrix, this time tailored for the MIPS Computer Systems Inc R4000 part which it is using in its DECstation and DECsystem lines. However, this latest Unix release won't be compatible with its OSF/1-based offering: DEC says it "had to break Ultrix compatibility [with OSF/1] to maintain compatibility with other OSF/1 implementations." There is no OSF/1 port to its Intel Corp-based platforms yet, and DEC does not expect that effort to be particularly successful, it said at the show.

SCO plans some SVID 3 features

For some time, Unix International has been going round telling people that it doesn't really matter if developers are not writing specifically to Unix System Labs' Unix SVR4, arguing that as long as applications, operating systems and other Unix technology adhere to the System V Interface Definition version 3, SVID 3, then that's just as good as complying to Unix SVR4 itself. That cuts no ice with Santa Cruz Operation Inc, which says "SVR4 has dynamic-linking, SVID 3 doesn't." SVID 2-compliant at present, SCO says there is an intention to move to include SVID 3 functionality over time.

DEC TP monitor for MIPS/Ultrix, but no SVID 3

After its people revealed that ACE Open Desktop will only move to accommodate SVID 3 functionality some time next year (UX No 376), DEC says that only through the OSF/1-SVR4 Application Binary Interfaces established under the auspices of ACE will it offer full Unix SVR4 compatibility. Its SVID 2 Ultrix will get some SVID 3 enhancements, but DEC won't be going for the full rubber stamp. Meanwhile, its AT&T Tuxedo-based transaction processing monitor is now being readied for the MIPS/Ultrix system combinations it offers - OSF/1 ports will follow on later.

Interactive Unix is "SunSoft's Xenix"

SunSoft Inc, which has recently blitzed Europe with a \$750,000 ad campaign for its products, says it will continue with releases of Interactive Unix - which it took over when it acquired the company from Eastman Kodak - for the next two or three years. "It'll be our Xenix," says SunSoft's European managing director, Doug Millar, who hails from the Interactive side of the equation. He's currently looking for a marketing manager - Tony Westray, his right-hand man when the two were at Interactive Europe, has left the company.

NOVELL TAKES ITS VP BACK FROM UNIVEL...

Univel Inc, the start-up Novell Inc/Unix System Laboratories Inc desktop joint venture that's barely off the ground, lost Greg Fallon, the executive it took from Novell to define its distribution strategy. In reorganizing its international operations earlier this month, Novell found his services too critical and took him back, naming him its vice president of international sales. Apparently he will still dabble with Univel activities, being responsible for selling Univel's Destiny operating system through Novell channels outside North America. Univel will be looking for a replacement intimate with Novell resellers.

...AS UNIVEL JOINS OMG, OSF AND UI

Meanwhile, Novell, the largest outside investor in Unix System Labs, last week even handedly joined the Open Software Foundation, Unix International and the Object Management Group. Novell said it joined OSF at the instigation of Open User Recommended Solutions (OURS), the user group, with an eye to getting early access to OSF technologies such as DCE and taking an active role in defining protocol standards. It said its participation in UI insures interoperability between Unix SVR4 products and NetWare. It is also expected to develop networking products that utilize object orientation, hence its OMG membership. However, Novell did not disclose plans for specific NetWare products utilizing any of the technologies near and dear to the hearts of the three organizations.

MACRONIX BUYS LICENCE TO DERIVE NEW PARTS FROM MIPS R3000 RISC

MIPS Computer Systems Inc has a new licensee for its R3000 RISC technology, this time from Taiwan: Macronix International Co Ltd will receive register transfer logic-level descriptions of the R3000 to modify the design, with the right to make and sell enhanced components worldwide. Based in the Hsinchu Science Industrial Park, Macronix does non-volatile memory and logic components for use in facsimile machines, modems, display devices and network controllers.

CHARLES RIVER ADDS TCP/IP TO ITS ORACLE ACCELERATOR

Charles River Data Systems Inc, Framingham, Massachusetts, has added a TCP/IP option, RA/InterNet, for its Relational Accelerator line of database server products, which is designed to provide a cost effective means of improving overall performance of the Oracle Corp relational database on Digital Equipment Corp's VAX/VMS systems, sold direct and by System Industries Inc. By adding RA/InterNet communications, non-VAX client systems such as personal computers and Unix systems can access Relational Accelerator Oracle databases concurrently with users connected through the VAX. It's \$3,000 on RA/System Model 30 and \$5,500 on the Model 40.

ONTOS ADDS OBJECT GUI BUILDER

Ontos Inc, Burlington, Massachusetts, has announced Ontos Studio, an interactive front-end development tool so Ontos developers can build graphical user interfaces and store the interface components for re-use directly in the Ontos database, now up to release 2.2. The tool introduces new High Concurrency Object (HCO) technology to support the demands of workgroup applications with high levels of concurrent users. HCO allows many users to access and update specific objects such as name directories simultaneously. The company says Studio streamlines application development by using a single object model shared by the database, application code and user interface. Studio supports X11R4 with Motif. Ontos plans to provide support for 386/486 PCs running SCO Unix in April. It will hit the RS/6000 and HP 9000/7000 at a later date. Ontos Release 2.2 now supports the ObjectCenter development environment for C++ from CenterLine and ObjectworksC++ from ParcPlace. Ontos will provide a Smalltalk V/PM interface to its database on OS/2 this summer with Smalltalk-80 support for Unix following later on. The price of Studio plus the Ontos DB, tools, training and consulting ranges from \$25,000 to \$150,000, depending on the number of users and type of server. A single-user Studio licence begins at \$5,500.

HEWLETT-PACKARD'S RISC CLUB STARTS LIFE WITH NINE MEMBERS

Hewlett-Packard Co trotted out its chip consortium, the Precision RISC Organisation (PRO) at last week, but for all the preparation, found itself shy a member: Samsung Electronics, an early PA-RISC adherent, was a no-show. Apparently Samsung doesn't like the notion, fundamental to PRO's charter, of sharing its technology via cross licences with other PRO members. HP says it's still working on them. It also expects to sign additional semiconductor partners in the coming months. PRO is also obviously missing any European members, having lost Bull to IBM, a situation it claims set back the whole PRO roll-out originally set for last September. It aimed to adjust the European deficit by supposedly signing a secret European member last week, a company whose identity won't be known for months and whose signature on the dotted line will mean its renegeing on another chip. There aren't too many companies to choose from. Care to start a pool? What HP did come up with were nine companies including itself all of whom are already bound together in PRO by one or more cross-licensing deals that PRO is reluctant to detail. PRO itself, though still lodged in HP offices, is said to be an independent entity a la Sparc International with control over the API and ABI. Like others that have gone before it, HP is pledged to license all technology "on competitive terms" including the chips, daughter boards, subsystems and software to its fellow members. The whole idea of the consortium is to attract ISVs to write software but so far no steps have been taken to get them motivated. As anticipated, founding members include Convex, Hitachi, Hughes, Mitsubishi, Oki, Prime, Sequoia and HP's Japanese partner Yokogawa Electric, all of them with interests in either the workstation, multiuser system or embedded markets. Membership for a sponsor costs \$100,000, a senior member \$10,000, a general member \$1,000 and an associate \$100.

IBM TO OPEN UP ON NETWORKING

IBM Corp's plan to convert SNA networks from hierarchical to peer-to-peer took a step forward yesterday with the announcement of Advanced Peer-to-Peer Networking for MVS/ESA mainframes. No shipping dates though, with the company saying only that it will appear sometime next year, as will a promised upgrade to AIX SNA Services/6000, said to improve APPN support for the RS/6000. A few customers are receiving advance copies of VTAM v4, which embodies the mainframe implementation, and IBM is awaiting their comments. An impassioned statement of openness and commitment to local area networks by Ellen Hancock, IBM's vice-president and general manager of networking systems, was accompanied by the announcement that the company is indeed licensing its APPN network node specifications to manufacturers that want to include their routers in APPN networks. Novell Inc, 3Com Corp and Network Equipment Technologies Inc are the first to take the bait and get the OEM pack which includes 110,000 lines of code. Cisco Systems Inc is a notable absentee, but IBM claims that they are in discussions. The openness theme was carried further with a promise to support SNA, OSI, TCP/IP, NetBIOS and IPX traffic transparently on networks by interposing yet another layer of software, the Common Transport Semantics Layer, between the network and the application. TCP/IP is now formally part of Systems Application Architecture. On the network management front, IBM plans to enhance NetView version 2, to expand its scope to managing APPN resources. It says that the APPN management tools will be based on OSI and CCITT .700 management specifications - the first time that IBM has mentioned letting OSI into NetView. Though the mainframe, RS/6000 and Netview announcements were fairly nebulous, some product shipment dates were announced. The 3174 cluster controller will support TCP/IP over Token Ring by August, and the third quarter should see Network Services/DOS Version 1, enabling MS-DOS micros to act as low entry nodes in APPN networks. By using CPI-C, the SAA common programming interface for Communications, users can develop distributed applications. IBM reckons that version 1 cuts memory requirement for APPC support to between 90Kb and 140Kb.

WORKSTATION TECHNOLOGY TO SELL USED SUN MICROSYSTEMS KIT

Sun has quietly authorized Salem, New Hampshire-based Workstation Technology, a little-known reseller of used computers, to resell refurbished Sun boxes - the first such deal it has ever cut. Workstation's agreement, however, is non-exclusive though Sun is not currently anticipating signing other third-party deals like it, it says. Until now, only Sun has sold used Sun equipment. Sun will refurbish end-of-life products for the reseller and Workstation equipment will carry Sun's typical 90-day warranty. Workstation will be restricted from selling upgrades that would effectively modernize the iron and allow it to compete with current product. The goods Workstation will sell are discontinued configurations that have been removed from the reseller price list with the exception of spare parts and peripherals. Workstation cannot sell outside the US or to other resellers.

HP ADDS DIRECT ETHERNET CONNECTION TO LASERJET PRINTERS

Hewlett-Packard Co has introduced three network-peripheral interface cards designed to slot into its LaserJet printers, allowing them to be connected directly to a Unix Ethernet network, and eliminating the need for connection via serial and parallel ports. The Jet-Direct cards, says HP, allow peripherals to be distributed anywhere on the network, and cuts out performance problems associated with external boxes and additional client workstation software - the LaserJet II, for example, can accept data at 160 Kbytes/sec. Also, server loading is supposedly reduced because data is transferred in a block rather than in single bytes. The cards are linked to TCP/IP networks running HP-UX, SunOS (Sparc only) or SCO Unix. HP is licensing the product to DEC, amongst others, and hopes to have the interface card available for PCs as well. Price is \$900 or \$1,000 for HP-UX and SunOS because they require a cartridge or digital audio tape.

COMMAND CORP ADDS VOICE INTERFACE TO SCO OPEN DESKTOP

Seen at Hannover last month was a version of SCO's Open Desktop with voice input facilities provided by US company Command Corp Inc, based at Duluth, near Atlanta, Georgia. The company has been shipping voice products to the DOS market since 1986, and would have entered the Unix market earlier had it not picked as its first platforms two short-lived products - IBM's RT and Sun's 386i! Now it's trying again, and views its Bug Voice Interface System for SCO ODT as its first real Unix product. Including a digital signal processing board, microphone and speaker, the software is integrated at kernel level within Unix, simulating the keystroke events at that level for X11 and OSF/Motif commands such as raising and lowering a window. At the application level, users can create a lexicon of voice commands set up by speaking each command three times and assigning the keystrokes to carry them out. Applications most suitable are those where users are required to frequently stop the main task to go to menus - particularly designers working on CAD or publishing applications - such as circle, line, endpoint, zoom for AutoCAD. A FrameMaker user entering footnoted text could do so by saying RfootnoteS, then continuing to type. More complex interactive voice applications, such as prompting an operator through the stages of an industrial inspection, require some C programming. The Bug Voice Interface developers kit costs \$2,000 direct from Command. The company promises ports to the main Unix workstation platforms by year-end. Such products add some of the functionality to Open Desktop already available on Steve Jobs' NeXT machines.

HDS HAS POINT-TO-POINT AND SECURE VERSIONS OF ITS X-TERMINALS

Human Design Systems, King of Prussia, Pennsylvania, has added PPP or Point-to-Point Protocol to its Intel i960-based ViewStation FX Series of X-terminals so they can run over serial lines. The boxes are believed to be the first X-Windows terminals to incorporate the emerging protocol. HDS will also offer host-based PPP software for Sparcstations, RS/6000s, HP workstations and SCO ODT-based iron. PPP is a compressed serial protocol that allows machines connected by serial lines to communicate as if they were connected by a network - (see Visual story on page two). Unlike XRemote, PPP is in the public domain and can be run with data compression modems. It does not require an X-server to run on the host. HDS has also come out with Compartmented Mode Workstation (CMW) secure versions of the FX series of X-terminals - prices go from \$1,700 to \$5,600.

NATIONAL GRID IS FIRST UK SITE FOR SEQUENT RUNNING NETWARE...

National Grid is to be the first UK site to install a Sequent Unix server running Novell Inc's Parallel Enabled Netware. As reported (UX No 356), Sequent developed the parallelised version of NetWare jointly with Novell last October, to support as many as 1000 PCs. Another UK site is also to be announced soon, claimed Sequent. The seven Unix-based file and application servers are to be managed by Data Sciences UK Ltd, Hampshire, who will also be providing support for National Grid's 500 PCs on its distributed systems network. The contract is valued at £1m over two years. Data Sciences is a computing services company which also services hardware provided by ICL, IBM and NCR. The National Grid is currently evaluating its IT strategy after consultants BIS Systems advised them that a relocation of their IBM mainframes would not be economical.

..AS SEQUENT SPENDS \$30m ON GOLD

Sequent will be spending \$30m over the next five years to provide Red Brick Systems' Gold Mine Relational Query System (RQS) technology on its Symmetry servers and create decision support systems that address demands for complex on-line query processing. It is Red Brick's first OEM deal. By putting Gold Mine on Symmetry, Sequent says it becomes the first open systems vendor to offer a RQS with fast cost-effective access to the critical corporate data used in business decision-making. Gold Mine is said to accelerate the query processing speed of the traditional DBMS an average of ten times. Red Brick also enhances the query expression capabilities of SQL with its own extensions called RISQL. Gold Mine can be accessed using SQL or RISQL. First shipments are planned for the fourth quarter at prices ranging from \$40,000 to \$180,000.

TRICORD LAUNCHES FAULT-TOLERANT NETWORK SERVERS IN UK

Network server builder Tricord Systems Inc of Minneapolis is preparing to ship its fault-tolerant PowerFrame network super servers in the UK from June. Including fault-tolerant software that provides support for RAID, disk mirroring and data striping for users of Novell NetWare, Interactive Unix, OS2, LAN Manager, SCO Unix and Banyan Vines, there are two basic modes, the 30 and 40, with a choice of single or dual processor 25Mhz, 33Mhz and 50Mhz 486 chips. Both use the EISA bus. Tricord is also beta testing its fault tolerant super server with SCO Unix MPX, SCO's multi-processor operating system. Introduced in the US last November, PowerFrame sales are expected to reach \$40m this year. Kubota, which has a 5.2% stake in Tricord markets the PowerFrame in Japan where Tricord claims it has reached its target of \$4.5m for 1991. The products run head-to-head with Compaq's SystemPro and the NetFrame system, but Tricord claims it has a better architecture than Compaq's, and is cheaper and more open than NetFrame's proprietary technology.

OS-9 NOW HAS SUPPORT FOR X-WINDOWS, OSF/MOTIF

Users of the OS-9 real-time Unix-alike operating system produced by Des Moines, Iowa-based Microware Systems Corp, can now take advantage of X-Windows and the OSF/Motif graphical user interface. The company is offering OS-9/X Client development and run-time packages, and X-server port package for existing OS-9 systems, and a Motif GUI developers kit. Aimed at OEMs and end-users, the products run on Motorola 68000-based platforms, with cross-developers kits for Sun, HP and DEC VAX systems.

EX-UNIPALM DIRECTOR SETS UP SOFTWARE MARKETING HOUSE

In the UK, ex-Unipalm marketing director Caroline Bowden has formed Single Market Strategies Ltd, Cambridge to provide a business strategy service aimed at software companies. She claims that US software houses are especially keen to establish themselves in Europe with the advent of a single European Community and to compete with Japan. The company, which claims to show no loyalty to a particular hardware or software vendor, will advise small US and European software houses on the latest technology trends, competitive factors and marketing strategies so they can maximise opportunities in the EEC.

JAPANESE ROUNDUP

Tomen has Japanese X.desktop 3

Tomen Electronics Co, the Japanese distributor for IXI Ltd of Cambridge, UK, has announced the release of Japanese version of X.desktop 3.0 for Sparc, Sony Corp NEWS, Hewlett-Packard Co's HP9000, and the Digital Equipment Corp DECstations. X.desktop is already supplied under OEM agreements on NEC Corp's EWS4800 workstation and PC-9800 Japanese Open Desktop, IBM Corp RS/6000, Kubota Computer Corp Titan, Omron Corp's Lunas and Unisys Corp's U6000. Last year Tomen announced the formation of a joint venture with IXI, which does research and development on the product for Japan.

Unix business association born out of software research centre

A new Unix business group, the Unix Business Association, has been inaugurated in Tokyo: with an initial membership of 73 companies, mainly small to medium software houses already, or planning to be, involved in application development in a Unix environment, the group also includes Unix International, and hardware vendors such as Yokogawa Hewlett-Packard, Nippon Sun Microsystems and Omron Corp. The organisers of the group, who come out of the Personal Computer Software Research Centre - a research arm of the Personal Computer Software Association, indicate that they expect membership to rise to 150 companies by September. The main function of the group is as a forum for exchange of information, for the promotion of open system applications developed by members, joint marketing, training of Unix technical staff, lobbying of government, and surveys of the market.

Fujitsu and PFU debut ICL Sparc boxes

Fujitsu Ltd and its PFU Ltd affiliate, jointly owned with Matsushita Electric Industrial Co, has announced a series of 11 models of a Sparc-based Unix machine, the DS/90 7000 series: in sizes ranging from laptop to a high-performance server, the line spans a Sparc chip range of 25MHz to 40MHz, with a performance range of 18 MIPS to 58 MIPS. The four server models take 16Mb to 512Mb memory and up to 29.5Gb disk; they are based on models developed by Fujitsu's UK affiliate, ICL Plc. The three workstation models range from 18 MIPS to 29 MIPS with a maximum of 3.6Gb. Over three years, the firms look to sell 45,000 units, with shipment already under way. Fujitsu and PFU have jointly worked on a number of Unix computers over the years, including the A series of industrial control and communications Unix computers, launched in 1986. Meanwhile, Fujitsu president Tadashi Sekizawa is on record as saying that ICL and Fujitsu will cooperate on developing a high-end server - presumably incorporating the work at HAL Computer, which Fujitsu is bankrolling.

New 68040 Unix box from Mitsubishi

Mitsubishi Electric Corp has released a 68040-based workstation in its Melcom ME series of engineering workstations: the new workstation is called the ME520 and is configured with 8Mb memory, 200Mb hard disk and 256-colour 16" colour monitor; with its 25MHz 68040 microprocessor, it has a maximum processing speed of 20 MIPS; software is 100% compatible with the current non-RISC ME lines, which consist of nine models based on the MC68030 and three based on the 68040; Mitsubishi Electric last year became an OEM reseller of Hewlett-Packard Co RISC stations.

DATA GENERAL DATA ACCESS LANGUAGE TO WOO MAC USERS

Data General Corp has Apple Computer Inc's Data Access Language Server Software for its AViiON Unix server family and claims it is the first implementation with AppleTalk support available for Unix. Data Access Language for AViiON enables MS-DOS and AppleTalk Macintosh users to access SQL databases on AViiON servers, and transparently presents the data in what is claimed to be an easy-to-use format. This includes access and translation of information from Oracle, Informix and Ingres databases on the AViiON server. With the language and OpenMAC support, AViiON can provide complete Apple file and print server functionality to Macintoshes over TCP/IP, asynchronous, Ethernet, Token Ring, and AppleTalk networks. Data Access Language for AViiON is \$1,000 to \$6,000, depending on the AViiON server being used, "compared with prices of \$4,000 to \$12,000 from comparable competitive products." It is set to ship next month.

SPARC WORLD

The latest issue of SunWorld magazine claims the SPEC benchmark test suite is being misused by Sun Microsystems Inc and other manufacturers via their use of unpublished and unavailable precompilers and compiler options. The report says SPECmark figures quoted by firms cannot be independently confirmed, and that in its own tests, a Sparcstation 2 performed at 20.8 SPECmarks and did not reach the 25 SPECmarks claimed by Sun for the box.

Matsushita Electric Industrial Co, through its subsidiary Matsushita Computer Systems, will next month launch, initially in Japan only, a luggable version of the Solbourne Computer Inc 64-bit workstation with a 15" full colour thin-film transistor screen. It will weigh 15 lbs and cost \$15,000 to \$23,000.

Hal Computer Systems will be using Lucid's Sparc-based C, C++ and Fortran compiler technology to help build performance and speed into compilers for its own anticipated Sparc machines.

Tatung Science & Technology has started shipping new colour monitors as part of its Sparc-based turnkey solutions: the things offer 1280 x 1024 resolution adjustable to 1152 x 900 and are priced at \$2,500 for the 17-inch and \$3,300 for the 19-inch.

Megatek has announced the Esprix, a one-slot S-bus board promising Sparc user graphics performance comparable to high-end HP stations or a million vectors a second. Esprix accelerates supported X11R5, Motif, OpenWindows and SunView application and windows managers. It includes a graphics rendering processor, hardware cursor, keyboard/mouse port and 8-bit colour frame buffer for \$2,500. It supports 32 user-selectable video resolutions.

Berkeley, California-based Vividata said its new ScanShop brings complete image capture to Sparc systems. The \$700 software supports a variety of scanner devices and provides a consistent user interface. It can be used stand-alone or as an imbedded image capture utility within other applications. The firm thinks it's the first broad-based application for image acquisition which supports scanners from multiple manufacturers.

SEMA SOFTWARE ON SUN MACHINES

Sema Group Plc, the Anglo-French software house, and Sun Microsystems France have announced an agreement to do a version of Principia Co-operatif, Sema's software engineering workbench, for the entire Sun Microsystems Inc range. Both companies say that they will be able to offer their clients a Unix-based client-server product for information management applications. This agreement marks Sun's first product partner in the management applications market, according to Alain Pechon, director general of Sun France. Pechon noted that three years ago, Sun realised no revenues from management applications, but they accounted for 25% of revenues by the end of 1991. Although the agreement is between the French subsidiaries, the product will be made available worldwide. The conversion work will be done in France, and Sun says that it postponed the announcement from January in order to determine how much worldwide support would be required for the product. Neither company is prepared to divulge how much money is involved in the conversion agreement, but Sun plans to devote a staff of 20 in France, which will rise to over 100 worldwide. Pechon says that the agreement is not exclusive in the conventional sense, and that in an open systems world, vendors have to be able to supply anything that their customers demand. Sema says it plans to integrate some technology from its Eureka Software Factory into Principia Co-operatif.

KOBIL LAUNCHES SPARC MACHINES FOR EASTERN EUROPE

German computer firm Kobil, Worms, Germany, was displaying its Tower1 Kobil Sparc II station at CeBit '92 recently. Using SunUs Solaris Unix operating system, the Tower1 runs at 28 mips with its own KOS security system using three passwords to lock the network. The Eizo screens use the Triniton tube from Sony, like Sun. Kobil begins shipment in two weeks to Southern Germany then to the rest of Germany via Kobil dealers. Tower1 will be priced between £6000 to £8000. KobilUs technical manager, Peter Kraus, said that Kobil would be targeting Eastern Europe - Poland, Czechoslovakia, Lithuania - rather than the US where competition would be too strong. He also claimed that Kobil was hoping to launch a RSparc IIS version of Tower in 1993 using four CPUs and running at 200 mips.

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MOTOROLA COMPUTER SYSTEMS FIGHTS WITH INGRES OVER 88000 PORT

Motorola Computer Systems Inc reportedly sued Ingres Corp last month over the non-delivery of software for the company's 88000-based systems. A Motorola spokesperson confirmed that a lawsuit - through Los Angeles-based lawyers Irell and Manella - had been served, but that a verbal agreement had been reached last week following an arbitration meeting, and was waiting to be signed. Motorola is thought to have been offered an early port of Ingres 6.4, which failed to materialise. There are already ports of Ingres to the 88000 architecture, and as Ingres conforms to 88Open portability standards, there should be few porting difficulties - although optimisations to specific platforms are still required. Indeed, Ingres has a close association with another 88000-architecture vendor, Data General, smoothed by some major contracts such as the \$127m US Department of Internal Water Resources deal last year. Data General received its port of Ingres 6.4 a few weeks ago, and is already offering it to customers. Industry sources accused Ingres of wanting to limit the number of platforms it supports to higher-volume, higher-profit platforms only.

HP is now promising a desktop PA-RISC box doing 500 SpecMarks before 1995.

Olivetti's topmost management is now calling NT "the cornerstone" of the company's "future computer strategy."

Data General sealed an OEM pact to resell VisionWare's Windows-based X-server, XVision, worldwide as part of its Aviiion offering as a PC-based solution: the UK firm now has XVision in Kanji.

Pacific Semiconductor, Sydney, Australia, has developed a gallium arsenide RISC microprocessor for the embedded marketplace: the PS 90111 has 100,000 gates and is claimed to perform at 100 MIPS running at 125MHz - a 250MHz version is under development.

For the record, Electronic News reports that Control Data Corp may be evaluating a move away from the MIPS Computer Systems Inc RISC following the acquisition of its chip and system supplier by Silicon Graphics Inc.

SoftGen Technology Ltd, Antrim, County Down claims that US software house FourGen Software Inc, Edmonds, Washington, intends to form FourGen Europe in the next six months to co-ordinate European distribution operations: SoftGen is currently its only overseas distributor covering Ireland and the UK.

Microsoft Corp has long been expected to start making substantial acquisitions to plug holes in its product line, and last week it announced the first move, making an agreed offer, amounting to \$175m, for Fox Software Inc, the Perrysburg, Ohio company that develops the FoxPro database management systems that are compatible with dBase.

Sun Microsystems Inc has cut prices on both its Sparcserver 600MP Series and its graphics workstations: on the servers, it claims that the price cuts - of up to \$7,000 - make the servers the least expensive such systems available; it cut the cost of all configurations except the base configurations of the three models - in the 690MP system, it also added two 1.3Gb IPI disk drives at no additional cost; add-on memory is cut as much as 48% and the 1.3Gb drives are cut \$1,000; the system administrator's configuration of the 630Mb is cut \$2,300; on the Sparcstation 2GS and 2GT by close to 30% - the Sparcstation 2GS to \$22,500, and the 2GT to \$36,500.

California-based, Dolphin Scientific Inc's Desktop Signal Processor now supports Ethernet, and it is bundling the system with development software and an Ethernet interface: it supports up to 10 simultaneous connections.

Dynetics Inc, Huntsville, Alabama, has released Dynet-X/ACSL - a graphical user interface for Fortran ACSL programmes: running under Sun Open Windows it costs \$220 - a Motif version is underway for the summer.

Six firms - Mechanical Dynamics Inc, Ann Arbor, Michigan; Flomerics Ltd, Surrey UK; OptRam Ltd, Ra'anana, Israel; Control Data Corp, Minneapolis, Minnesota; Thomson Digital Image, Paris and Racal-Redac Inc, Mahwah, New Jersey - have signed for Waltham, Massachusetts-based Parametric Technology Corp's Pro/Engineer mechanical design automation software.

Micro Technology Inc's Fullerton, California-based Lexcel has joined OSF and is to implement OSF's Distributed Management Environment in its SNMP-based software management system, Lance+.

Uniplex Ltd, based in Hemel Hempstead, has launched HP's Open Mail X400 electronic mail server for non-Hewlett Unix environments and is to integrate OpenMail with its family of products: the news follows an agreement back in February 1990: in return, HP agreed to market Uniplex worldwide. The additional environments are the IBM RS/6000, DEC Ultrix and Sequent PTX with others later in the year.

David Liddle, co-founder of Metaphor Computer Systems Inc and an alumnus of Xerox Corp's Palo Alto Research Centre, has resigned from IBM Corp, which he joined when IBM acquired Metaphor: he had been the front-runner to head IBM's Taligent Inc joint venture with Apple Computer Inc but withdrew his name earlier this year when according to the Wall Street Journal, Apple engineers made it clear he would not have the degree of control he thought he needed; IBM is believed to have tried to persuade him to stay on in some other capacity, but he says he wants to branch out in a new technology direction with a new - presumably start-up - company.

Digital Equipment Corp employees are abusing the company's expenses system to the tune of \$30m a year and it's got to stop, according to a memo first publicised by the Washington Post: DEC blames poor judgement by managers for abuses such as bar bills totalling \$1,000.

Better known as a PC manufacturer servicing the education markets, UK systems manufacturer Research Machines Plc of Oxford is broadening its outlook with a turnkey based Unix system for business customers, including hardware, software, installation and consultancy service. Using the company's Intel 33Mhz and 50Mhz 486 QE desktop and tower machines, launched earlier this year, the package includes SCO Unix and MS-DOS 5.0, X-Windows and NFS. Prices start from £6,600.

Sun Microsystem subsidiary, Sitka Europe, Bagshot, Surrey (formerly Tops) has launched 10NET 5.0, a peer to peer LAN network operating system for PCs running on Windows and DOS. Sitka hopes the product, to be called OpenTops, will be available on Unix by the end of the year, giving cross-platform capability. Aimed at workgroups, the product begins at £245 for the 3-node Starter Pack.

Relational database management software developer, Fox Software - see above - has yet to achieve its aim of having its FoxPro relational database manager on Windows 3.1 and Unix: latest estimates are the end of the year. FoxPro, already operating on DOS, will run on SCO, Interactive and V.4 when it is released for Unix.

Application development tools provider, AL-Corp Inc, Berkshire has made its KBMS Helpdesk application available for IBM and compatible PCs running OS/2. KBMS Helpdesk has been developed using ALCorp's KBMS Knowledge Base Management System and is used worldwide to develop mission critical applications. The source code licence costs £45,000. Windows, VAX and Unix versions will be released later this year.

According to Tektronix UK Ltd, Marlow, Bucks commercially available X applications are increasing at a rate of 40% per annum. Under the company's validation programme, over 60 new applications have been approved after testing on Tektronix TekXpress X terminals.

Seems one of the concerns Silicon Graphics laid to rest in buying MIPS was the fact that it had rights only to the R4000 and maybe its follow-on, leaving them exposed a couple years from now.

We hear the Sparc chip Hal is working on is a 300 MIPer: we also hear that its investor Fujitsu is watching things closely and requiring a weekly brain dump.

Rumour has it Novell Inc may be interested in buying Netwise Inc, the RPC house, to counter moves expected by Microsoft Corp.

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MIPS UNCORKS MAGNUM AND MILLENIUM SERIES

MIPS this week is due to announce the imminent arrival of its ARC-compliant R4000 family, pre-emptively named the ARCSYSTEM, a designation that might make a few of its fellow ACE members squirm considering their technology source is about to fall under the hegemony of Silicon Graphics. The anticipated new MIPS PCs and servers, built around the 64-bit 50MHz R4000 chip (UX No 376), seem clearly positioned against the Intel 486, further leveling the price premium once demanded for RISC over CISC, a process already put in play by DEC, HP and IBM. An entry level colour R4000 desktop, named the Magnum 4000 PC-50, will sell for \$6,000 to the only market it currently has available to it, the software community. An actual end-user would reportedly have to pay \$10,000. The money will buy them MIPS' usual RISC/OS but apparently not the unfinished Microsoft NT, SCO ODT or ACE SVR4 intended for the boxes. That software isn't due for general release for months even if they keep to their schedules. By then of course MIPS competitors will have made their countermoves. The low-end Magnum includes a 15-inch colour screen, XGA and 1024 x 768 resolution, CD ROM and floppy, 200MB drive and the paltry 8MB internal so typical these days. MIPS will claim Magnum, apparently simulated to produce 40 SpecMarks, will outperform a 50MHz 486 by a factor of two or three times. In addition, there is a simulated 65 SpecMark Magnum 4000 SC-50, based on the 4000 SC chip with cache but disabled MP, 50% faster?, that will apparently sell for \$5,000 more at least to the end user. The MIPS server configurations, ostensibly more interesting to the developer, is called the Millennium series, divided into the 4000 PC-50 and SC-50 desksides. Apparently sell for \$1,000 over their desktop counterparts. Again the specifications repeat the 8MB internal disk adding four EISA and eight memory slots. However, it appears from our sources can ascertain that the extra money will cost the buyer the disk that comes with the Magnum. Systems will be available in 60 days for the Magnum; 90 days for the Millennium.

SUNSOFT SETS UP ISV DEVELOPER PROGRAMME FOR SOLARIS 2.0

Sunsoft this week is kicking off a new programme called the Master Developer Series. Tools already ported over to Solaris 2.0 -on-Sparc are going to be brought to the attention of other ISV's to streamline their porting efforts. The Master Developer Series represents about 35 products from 18 companies including object databases from Objectivity and Object Design, license managers from Highland, user interface tools from XVT and Solbourne, and programming environments from Centreline and Sun-Pro. Interested ISV's will be able to get early access to the tools, perhaps under special arrangements. The tools, half of which are now under Solaris 2.0, were brought over under the first wave of Solaris early access programmes, officially begun a few months ago but actually starting with the release of OpenWindows some time ago, which focused on getting roughly 150-200 of Sun's top applications over to Sun's SVR4 iteration. Last week Sunsoft began the second wave of the early access which aims to get 500-550 companies, each with one or two key programs, onto the new software. Once the final product is out this summer the early access programme will begin all over again for Solaris on Intel, according to Sunsoft's director of strategic development marketing Peter Watkins.

..SUNSOFT PLAYS DOWN REPORTS OF DCE SUPPORT

Sun Microsystems Inc is denying reports circulating on Wall Street that it has been playing footsie with its arch-enemy, the Open Software Foundation, over how it could support OSF's DCE without jeopardising its opposing and well established NFS/ONC base.

USL CUTS A DEAL WITH SIEMENS NIXDORF FOR DCE

Failing to come to terms with the Open Software Foundation over the issue of distributing DCE to its licensees (UX No 372), Unix System Labs is going to play its trump card. As we went to press it was believed to be dusting off an announcement it was supposed to make at Cbit to distribute DCE to SVR4 made by OSF founder Siemens Nixdorf. The indirect arrangement spoils USL's hopes of one stop shopping for its customers who will now have to cut a license with both OSF and USL. Reports indicate that OSF was reluctant to embroil itself in the special arrangements it has to effectively set USL up as a master distributor, unless of course there is sufficient political payback. USL on the other hand, is reportedly equally reluctant to join OSF because of DCE and be seen as admitting the errors of its ways, rather than simply as USL taking on DCE. Discussions between the two arch-enemies are said to continue, with progress in other areas such as the nature of their relationship reportedly being made. Apparently there is still some hope of an eventual pact. Availability of the SNI port is thought to be almost immediate. No word of pricing yet.

NEXT TAKES ON 88110 CPU FOR NEW RISC WORKSTATION

NeXT Computer Inc has decided to go ahead and adopt the Motorola Inc 88000 RISC according to **Microbytes Daily**, which hears from "a source that wished to remain anonymous" that NeXT is planning to announce in October a workstation based on two 88110 RISCs. The machine is said to be code-named NRW - NeXT RISC Workstation presumably - and will include real-time video compression to disk and may also support FDDI. The 88110 combines the functionality of the 88100 CPU and the 88200 cache and memory management units on a single chip and includes a high degree of parallelism; Motorola rates it at 63 SPEC marks. It says the chip will support three-dimensional colour graphics in addition to parallel operation, and the Mach operating system used in the NeXT can support multiple processes via threads. The box is to be about \$100 per MIPS.

LOTUS IS TO SUPPORT REAL-TIME 1-2- ON HP

Cambridge, Massachusetts-based, Lotus Development Corp is to support Hewlett-Packard's HP Apollo 700 PA-RISC workstations, with its real-time version of Lotus 1-2-3. HP's RISC workstation will also be the development platform for Lotus Realtime 2.1. Available on Digital's and Sun SPARC workstations since last year, Lotus confirmed that Realtime will also be on IBM RISC workstations, after shrinkwrapping has been completed for HP, and on other platforms later in the year. With Lotus Realtime, data is immediately fed into Lotus 1-2-3 to update existing information but the interface appears to the user as Lotus 1-2-3. Parading the Lotus Realtime system as its product for the 90s, along with its Groupware e-mail and Lotus Notes products, Lotus is focusing on European financial services as a key market. In the second quarter last year, the company claims to have provided 61% of the world-wide spreadsheet market. Last week, Lotus signed a worldwide distribution deal with Teknetron Software Systems as well as recruiting Kapiti Ltd, Slough, Berkshire, as a new VAR. To lure in customers, Lotus is offering a free copy of Lotus 1-2-3 and Lotus Realtime when users trade in their current realtime spreadsheet as well as reducing the list price of the Lotus Realtime system (i.e Lotus Realtime and 1-2-3) to £1,195 per user. Lotus says it will be shipping in the third quarter.

DIVISION LTD EXPANDS ON ITS VIRTUAL REALITY AGREEMENT WITH IBM FOR THE RS/6000

Division Ltd's Clive Jones says IBM Corp in the UK will begin shipping its virtual reality-equipped RS/6000 machines at the end of the third quarter this year, through its value-added reseller chain. Basically, the RS/6000 will be available with an optional plug-in board, comprising what Jones cagily describes as an equivalent of Division's ProVision compute engine, which is made up of Intel 80860 processors, Toshiba Polygon chips and Inmos Transputers. The board will be a plug-in-and-go device, running with easily-installed software. It is expected that users will buy the peripherals too - at the very least a headset or boom-mounted display will be required to benefit from the three-dimensional experience - a bundled package is expected to cost between £63,000 and £65,000, the price of a Division ProVision system today. The project is initially restricted to the UK - presumably IBM wants to dip its toe in the water before it makes for the big time. The package is aimed at the aerospace, automotive and ship-building industries where, it is claimed, IBM has a strong RS/6000 base of customers, using Dassault Systemes SA's Catia industrial design suite. By the summer, it is expected that other IBM third party software vendors will begin to convert their products for the dVS/UniVRS environment. Jones notes that there are AutoCAD-like applications up and running on the RS/6000, so there's no reason why IBM couldn't spread its wings and get into virtual reality in a big way. As to whether Division will implement its virtual reality environment for other RISCs, again Jones says there is no reason why not. Currently, ProVision can be front-ended by an MS-DOS personal computer or a Sun Microsystems Inc Sparcstation, into which the board-engine could feasibly be integrated. Jones says Division is doing very well out of ProVision, and is excited about the IBM RS/6000 deal, the figures for which will begin to show in its financial results for the second half.

CYRIX'S Cx486SLC CHIP PREPARES TO DO BATTLE WITH INTEL

Making it clear once again that the challengers for Intel Corp's iAPX-86 crown can do a whole lot more than simply clone Intel's microprocessor, Cyrix Corp has released details of its first pass at a microprocessor that is instruction set-compatible with the 80486, yet is a part Intel does not have in its armoury. Intel in retaliation promptly slapped a lawsuit against the Richardson, Texas company claiming infringement of four of its patents and at the same time Intel is seeking to get an injunction preventing Cyrix from marketing the chips. Cyrix meanwhile says SGS Thomson Microelectronics NV is making the chips, which incidentally has a cross-licence agreement with Intel.

..CYRIX GOES AHEAD

However, this has not stopped Cyrix from planning to announce the Cx486SLC, a 25MHz microprocessor at Comdex Spring on April 6. Compatible with the 80486 yet with a 16-bit bus and the same pinout as Intel's own 80386SX, so that manufacturers can build it into their existing 80386SX designs, and deliver a claimed 2.5 times improvement in performance over 25MHz 80386SX and 80386SL portable computers. It is also an original design, implementing a single-cycle pipeline with 16-bit hardware multiplier, optimised five-stage pipeline and tightly-coupled 1Kb instruction and data cache which uses two-way set associative, four byte line size architecture with 32-bit internal interface. This enables the cache to be accessed in parallel with other pipeline activity so that whenever a cache hit is made, it is two clock cycles faster than zero wait state external bus accesses. Internal memory is accessed with a 32-bit bus rather than the 16-bit external bus. The hardware multiplier is claimed to speed applications like graphics and handwriting recognition compared with the shift-add multiply function of other 80486 designs. The 5V Cx486SLC-25 will start deliveries next quarter, although samples are already out with designers. The price is expected to fall to below \$100 in the third quarter, when a 33MHz version is planned to be available. Cyrix also says that it will soon announce a "significant" second-source agreement for fabrication of the part to meet the evident demand.

HP ANNOUNCES UPGRADE PRICES FOR 400 MODEL

Hewlett-Packard is saying it will cost around \$6,000 to upgrade an Apollo series 400 model 425e to an HP PA RISC-based series 700 model 710 under its new Open Migration programme (UX No 377). Available this summer, other upgrades will follow in early 1993, probably all for under \$8,000. HP will also provide Domain/OS and HP-UX users with tools to increase their communications and interoperability including a common user interface, windowing and editing environment and an improved version of NFS. They will be able to share information on Apollo Token-Ring-based LAN (ATR) through ATR connectivity.

OPUS STARTS TO SHIP ITS SPARCCARD 2

Opus Systems has started shipping SparcCard 2, a 40MHz 28.5 MIPS Sparc co-processor board for PCs reportedly offering the performance of a Sparcstation 2, with a list price of \$4,145: the SparcCard 2 kit, which includes everything needed to upgrade a PC, goes for \$6,265 for the board, 8MB RAM, a 213MB pre-installed hard disk, Solaris 1.0 and a colour buffer.

IBM LICENSING PLAN FOR APPN HAS NETWORK COMPANIES QUEUING

RS/6000 users wanting to get hold of the improved APPN facilities offered by the promised enhanced AIX SNA Services/6000, part of IBM's major networking announcements last month (UX No 378), look like having to wait until some time next year, according to IBM. Similarly, apart from four chosen partners, other companies will have to wait until the first quarter of next year before they see the APPN network node specifications, which the company has agreed to license. On the positive side, TCP/IP is now part of IBM's Systems Applications Architecture (SAA) making it strategic. Such is the company's desire to press the theme of openness that it now says that, despite its belief that APPN is the best bet for the networking future, it plans to support TCP/IP, OSI, SNA-APPN, NetBios and IPX networking protocols transparently. To do this the company is imposing yet another layer between the network and application: this is one called Common Transport Semantics. Probably the biggest surprise, though, is the news that in order to manage the peer to peer network, future versions of Netview - the network management system that put the P into proprietary - will be extended to include SNMP, CMIP and CMIS managers and agents, the former now acknowledged as the de facto industry standard, the latter two, the OSI equivalents. To be precise, the company committed itself to management systems based around the CCITT X.700 series of recommendations, which encompasses CMIS and CMIP. 3Com Corp, Novell Inc and Network Equipment Technologies are the three companies chosen to get advanced delivery of the APPN network node licence pack, in order to help test out the code before its general release in the first quarter next year according to IBM. Coincidentally, the delay in widespread availability means that developers will not get hold of the goods until around about the same time that IBM's own 6611 router will have APPN support added to it. The delay has irked Cisco Systems for one - the router company says that it will be continuing a two-pronged attack on the problem, negotiating with IBM for the OEM pack, but at the same time continuing its own reverse engineered implementation of the protocol, an implementation, moreover that it says will be better than the original. Novell is saying only that the protocol will appear in future versions of Netware for SAA - the software designed to link the worlds of SNA and Netware. Meanwhile 3Com says that APPN code will appear in future versions of its Netbuilder bridge/routers and Linkbuilder hubs. Redwood City, California-based Network Equipment Technologies has pledged to incorporate the code into its IDNX LAN/WAN exchange. The lure of the APPN licence is made explicit by Systems Strategies Inc, which specialises in selling SNA software to Unix vendors who want to link their systems to IBMs. The New York-based company has just licensed the end node specs, but is negotiating for the network node code too. Why? President Stan Adelman says that his OEM customers each want their machines to be at the heart of the network and for that they need APPN. Adelman is not saying how much he will have to pay for the privilege, but it will, he believes be "very expensive" - Chris Rose

DATAPOINT UK TARGETS UTILITIES WITH ORACLE-BASED SOFTWARE

Datapoint UK Ltd has launched a software range for utility supply industries developed by power distribution company, Prospect Systems, Sydney. Running under the Oracle relational database management system, the software is on over 80 platforms including Unix and VMS. The software is designed to enhance applications like payment processing, and is provided as an alternative to in-house solutions which Datapoint says are more expensive to produce. Working closely in the UK with Prospect, Datapoint has approached the National Grid and regional electricity companies, but thinks it will be from three to nine months before implementation occurs. The software has been running for nine months in Australia and Malaysia with government-owned electricity companies: Datapoint is also targeting water, gas, telecommunications and transport. The company reports that the last six quarters have been profitable and that it intends to continue with its Unix multi-processor distribution agreement with Wyse Technology.

IBM'S FIRST OSF/1 UNIX

EMERGES ON ESA MAINFRAMES

IBM has announced its first OSF/1 derived version of Unix, AIX/ESA 2.1. Running native on any ESA mainframe, in a PR/SM partition, or under VM, the software will be supported on all models up to the ES/9000 model 900 from June 26th, with multi-processor configurations by September, and everything else by year-end. As well as being OSF/1-derived, it is compatible with the Unix System V Interface Definition 2 Base and Kernel Extensions, making it easier to develop applications that can be converted for a wide range of other Unix systems. Compatibles include Posix, X/Open XPG3 Base and transport interface, and BSD 4.3. A second release of AIX/ESA 2 will be out by the second half of 1992, adding data striping, file system (over 2Gb) support and asynchronous input-output so that an application can handle processing and input-output concurrently. Currently C2 secure, IBM claims that AIX/ESA will meet B1 level security, which the OSF/1 kernel was designed to meet, at a later stage. AIX/ESA is intended as a data and compute server for scientific and technical computing users running numerically intensive applications, and as an interactive campus server. As a data server, AIX/ESA can provide a central data repository or back-up site for Unix workstations as well as acting as a front-end for a Unix supercomputer, suggests IBM. It also contains an ANSI-compliant C compiler AIX/ESA costs \$63,120 or \$1,315 a month on Model Group 18 machines to \$1.3m, or \$27,090 a month on Model Group 80s (ES/9000-900s).

LOCUS WINS OSF TEST CONTRACT, SETS UP DISTRIBUTED COMPUTING ARM

Locus Computing Corp, which has had a long-term presence in the UK through the product side of its business, especially PC-Interface, is now hoping to capitalise on its distributed computing expertise, following the appointment of ex-Uniplex director Tony Heywood to the post of managing director at the end of last year. Since then Locus has also employed long-term Uniplex employee Ann Purton as marketing director, and Carl Chilley from X-Open as principal consultant, along with a team of five technicians from Kernel Technology, thought to have been disaffected by that company's take-over by the FI Group last year. Locus will offer software development and consultancy services to large users, software and hardware companies looking to implement distributed computing technologies, such as those based on the Open Software Foundation's Distributed Computing Environment. Locus recently won a contract from OSF to develop a software test suite for DCE, to check whether products conform to the remote procedure component. As well as working with third party products and on strategic issues, Locus is keen to push its own-developed technology into the market, including the TCF transparent computing, remote execution facility joint-developed with IBM - called by Locus TCM. A few years back, TCM was to be offered to the general marketplace - it was later pushed out of the Decorum proposal that became the basis of DCE (UX No 280, 290). Now, hints Locus, there are negotiations afoot that will put the technology back on the map, to be completed over the next six months.

OBJECT ORIENTED TECHNOLOGY IS GAINING GROUND IN THE DATABASE RACE AS ORACLE ADDS OBJECT CAPABILITIES TO ITS SOFTWARE.

by Gary Flood

Imagine for a moment that you're the head of the market leading database management system company: you're a charismatic industry figure; the future's so bright you've got to wear shades, as the song says. Then along comes a new software technology pitched aggressively against yours. Academics, journalists, users - they all start giving you needle about how old-fashioned your engine is. You fight it off as long as you can, secure in the knowledge that your market share is unassailable. Then one day it all comes to a grinding halt: you ring up the Wang brothers at Computer Associates and say, "My name is John Cullinane and I think we need to make a deal." That's what happened to Cullinane's company Cullinet, whose IDMS Codasyl dbms was IBM mainframe (and ICL) superno until the rising tide of relational theory swept companies like Oracle, Ingres and Sybase to their current supremacy. In the early 1980s Cullinane led a hopeless fight against relational theorists like Ted Codd and upstarts like Oracle, arguing first that relational was too slow, then the companies offering the software were too small to support users, and most humiliating of all, and too late, his software could become born-again relational. Then in 1984 IBM launched DB2, Oracle overtook Cullinet in size and by 1988 it was all over. That was history first time round, played, as Marx said, as tragedy. Larry Ellison, head of Redwood City, California, based Oracle, has a nightmare that history will repeat itself.

Oracle tiptoes into object technology

Ellison took stage at the European Oracle User Group in Cannes last month to reassure his users that the same wasn't going to happen to Oracle. "The real challenge to our industry isn't architectures, GUIs, or networks - it's fundamental changes in database technology itself. To get all of data onto the large scale, massively parallel servers which will become the mainframes of the 1990s is beyond what the relational model can cope with. So starting with version 7 of the Oracle database management system and in a process which will be largely over by version 8, we will offer support for the complex objects, engineering diagrams and full motion video users will need. Note that I didn't say relational," he added. Just what is Ellison offering here? Oracle will add object capabilities to the relational database but users will not have to change a single line of code - therefore it cannot be a radical rearchitecting of the underlying engine and must be some sort of extra layer. Ellison argues that users need their investment protected, and that there is much that is valuable in the relational model that must be preserved. "The new generation of object database companies have forgotten all the wonderful things about relational - like non-procedural languages, database independence, ad hoc enquiry, schemas. Our job as a vendor is to make the technology as accessible to customers but preserve their investment and transparently move to objects without changing a single line of code."

Object or relational?

So Oracle will somehow extend or evolve from relational to objects but remain largely relational? This begs two questions - one, why bother at all, and two, how can this paradigm shift happen so painlessly? Ellison's answer to the first is that a new class of problems which are difficult to solve in the relational model, like multimedia, provides an "excellent opportunity to move the model on". Ellison's well known fascination with massively parallel computing rears its head here: he told users that the future (mid-90s) computing model will be based on hand held and pen based clients accessing huge public information databases by radio. He neglected to mention his investment in parallel manufacturer nCube and Oracle's recent alignment with cellular communications McCaw, and that relational can't cope in such a universe. To the second, Ellison promises users will have two "views" into data, relational and object. "90% of code is common between relational and object, and in terms of disk management and networking needs they're very similar.

Cullinet could have beaten us in the marketplace if they'd evolved their technology and taken relational seriously. IBM has had 30 years of evolving technology like this, as Intel has moved gracefully from the 8086 and will soon be the at 586," he says. There will be one company and one database, with common transaction management and security features, but two windows into that data, relational and object, with another schema based on the object extensions to SQL Oracle has been working on for the last two years, he claims. The long delayed version 7 of the rdbms will have some object-like features, such as stored procedures which will act like object messages and some means of providing "encapsulation". In strict object-oriented terms encapsulation means a form of information hiding, or how the internals of a piece of code or part of a system are made invisible to other parts of a system and are only accessible via a defined interface. It will also hold large bit streams, Binary Large Objects, the so-called poor man's objects offered by some other vendors such as Ingres and Informix. Users are still on version 6: Ellison now admits he made a mistake by holding onto version 7 for so long, and that it should have been released in two chunks - "We had cracked referential integrity two years ago." Anyway, version 7 will finally be released sometime this summer - Oracle says you can have a beta version now if you ring them up - and in 7.1 users will have a "very fast access method for storing a high level OSQL API"; by version 8, which on past form may be as released as much as two years after 7 goes into production, developers will be offered inheritance and class hierarchies, as well as a separate object level schema and an API at a higher level than SQL, Object SQL (OSQL).

Playing with fire

Ellison also sees Oracle getting the world to accept his OSQL as the industry leader in the same way that IBM got the world to buy into SQL itself, which had many technologically superior rivals such as Ingres' query language at the time but which became de facto standard. This may be somewhat of a surprise to the Object Management Group, which tends to the democratic, never a political style Ellison has been particularly over-enamoured of, and which seems unlikely to roll over so easily and agree to this. So objects uber alles, Larry? Not that simple, it turns out. Actually Ellison sees object oriented as at the same stage as Oracle was in 1979 when it started - a neat tool but not for grown ups. "Before 4GLs and report writers rdbms were just a nifty little bit of software. Without an object database and an object report writer and all the other tools objects are the same. Users should not mess around with this very immature technology. It's not for little children. Anyone who wants to build mission critical applications in C++ is on drugs."

The future of object oriented technology

What is the world to make of all this? On the one hand, a company as big as Oracle coming out for objects is a fantastic boost to the take-up of the technology, and to the efforts of bodies like the Object management Group. On the other, Oracle is one of the greatest exponents of software marketing nous: Ellison is jumping on the right bandwagon at about the right time with the simultaneous message - Objects are great and we'll offer them/Objects are scary so don't dump relational. There again, it's the old game of technology leapfrog: it's funny how Sybase's triggers and stored procedures became Ingres' knowledge manager and business rules and now Oracle's "messages" and "stored procedures". But in terms of software development, Oracle going objects can't be a bad thing. Just remember two things. Only seven per cent of the world's computerised data is even held on relational yet - the rest is still on IDMS and IMS. And Larry doesn't want history to repeat itself as farce - a farce we could all enjoy at his expense. Imagine for a moment that you're the head of the market leading database company...

IBM LENDS A HAND TO PUT PROGRESS' TOOLS ON AS/400

Progress Software Corp has reportedly got its tools up and running on IBM's AS/400 proprietary system - offering AS/400 users distributed client-server applications in a heterogeneous environment. Working closely with IBM, Progress admits that it would never have succeeded without IBM co-operation: those with their ears to the ground will also have heard rumours flying around that Progress is to have an IBM-approved role in the speculated revamp of the AD/Cycle. There are two main phases to the Progress AS/400 product roll out: there is the Progress/400 Server available now through which Progress client applications on Windows, OS/2 and RS/6000 can directly access the OS/400 database and then there is the Progress/400 that is the full implementation of the Progress language supporting 5250 terminals. With Progress/400 Server all existing Progress applications can run as clients with the AS/400 today and can work with existing AS/400 applications. Progress/400 Server code runs on the AS/400 using the APPC LU 6.2 protocol and takes requests in internal formats, executing them against the AS/400 database. A Progress client can access the AS/400 database, Oracle, Progress or VAX Rdb and update a record in one transaction. Converting existing applications so that they can do this is a relatively simple exercise, claims Progress. When it comes to Progress/400, scheduled to ship this summer, things are a little different - applications have to be recompiled to cope with language differences necessary for AS/400 quirks like its block mode data entry. Consequently, to convert Progress applications to run on the AS/400 will take considerably longer. The reason that Progress works at all on the AS/400 is because the company has been given access to System C - an internal IBM technology that enables low level OS/400 objects to mimic fourth generation language files. Progress also supports the AS/400 Control Language, enabling it to integrate with any existing AS/400 application language so that data held in RPG/400 or Cobol applications can be used. The company also claims to have extended the existing AS/400 dictionary to support referential integrity and all the capabilities of the Progress database are, it is said, supported in the built-in AS/400 database. It would seem that Progress stands to dominate the market in terms of Progress/400 Server, enabling front end applications to hang off the AS/400.

FUZZY PIONEER EXCALIBUR IN ORACLE, INFORMIX DEALS

Nothing has been heard for a very long time from Excalibur Technologies Inc, but it has now resurfaced with an end user document imaging system called PixTex/EFS and has agreements with the Oracle Federal arm of Oracle Corp and with Informix Software Inc. In the case of Oracle it is a joint marketing agreement aimed at the US Federal market and if successful, the two will evaluate further integration of PixTex/EFS with the Oracle database and application tools. In the case of Informix, the two will develop enhanced image processing systems and integrate the Informix-OnLine database server to Excalibur's document imaging system and will enable Informix-OnLine users to link PixTex/EFS directly into the database. The PixTex/EFS electronic filing system is an off-the-shelf document management control system that enables electronic text and images to be collected from disks, scanners or facsimile machines and automatically filed and indexed in a graphical user interface of a physical file room. Excalibur's products use pattern recognition technology, which enables users to store text and images in one way and retrieve them another, based on repeating patterns in the text, integrating image scanning, storage, fuzzy search, display, printing, and SQL relational database control.

ROUND UP

Nearly two months after launching the DRS 6000 series (UX No 371), ICL has at last released the prices for its new, existing, renumbered models: 420 £13,500 (was L20), 430 £15,500 (was L30), 440 £18,640 (new), 442 £22,500 (new), 630 £38,750 (was L50), 632 £58,750 (was L65), 640 £44,750 (was L60), 642 £70,750 (was L70), 644 £85,750 (new).

Sparc cloner Twinhead Corporation, Milpitas, California, has started shipping a 40MHz MP upgrade for its Mbus-based Twinstation desktop Sparcette. The company says the thing will do 31 MIPS per CPU, a 120% increase in processing power over a Sparcstation 2. Twinhead's custom AISC design is also said to affect performance. Upgrades to the MP module cost \$4,500. A Twinstation-MP box with graphics accelerator and 32MB goes for \$17,100 or \$1,000 less than a single processor Sparcstation 2.

SunExpress, Methuen, Massachusetts, a subsidiary of Sun Microsystems Inc, has extended its operations to Europe establishing SunExpress Europe: based in Bagshot, Surrey, UK, offices will also be opening in France and Germany. Operational by June this year, SunExpress aims to provide a local European channel of distribution to support users and resellers. Headed up by Paul Musson, general manager, sales and distribution will be based on the continent whilst the management team will remain in the UK.

They're going to try and bag a few ISVs and resellers for Unix this week at Comdex Spring: Sunsoft, SCO, Unix System Labs, Univel and Unix International are co-hosting an open house for attendees and exhibitors on Wednesday April 8 at the McCormick Centre Hotel from 5pm-7pm. Representatives from Oracle, Lotus, Novell and distributor Ingram Micro D will be there as cheerleaders.

Lexcel has joined the Open Software Foundation: it intends implementing DME in Lance+, its SNMP-based software management system designed to enhance network interoperability by monitoring and managing heterogeneous distributed networks from a single workstation. It handles bridges, routers, hubs, T1s and other types of SNMP-based agents.

New Jersey-based Unipress Software has gotten an exclusive to peddle iXView/SQL, the graphical query tool from Germany's iXOS Software GmbH.

NCR has done a little reorganising now that it has swallowed up Teradata. It has created a Large Computer Systems Division, headquartered in Los Angeles by Frank Trivolo, formerly Teradata's VP, worldwide marketing and North America sales operation. He reports directly to John Poole VP and group executive of NCR's US Group. Trivolo gets to bring some of his mates over from the old home-stand. Reporting to him are Tom Blischok, Teradata's former marketing director, marketing and sales support Paul Dehnert, Teradata's ex-VP US sales, product management and marketing Ben Barnes.

Lynx Real-Time Systems is offering core porting kits for Sun Sparc MIPS R3000 and Intel i860 CPUs so developers can make the necessary hardware-specific modifications to the LynxOS kernel and develop drivers required to port the operating system to their platforms. Previously, the porting kit was released concurrently with the binary of LynxOS for a reference platform. The new core porting kits effectively represent early access. Prices are between \$25,000 and \$50,000. Lynx has already done the 68030 and 386/486.

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Roswell, Georgia, Computone Corp has struck an OEM deal with Aurora technologies to market its multiplexer adapters for SunSparcstations and SBus-compatible workstations: supplying adapters for EISA, ISA and MicroChannel will market the SBus as part of its Inetlliport II series SBus series. Available now prices range from \$500 to \$2000 depending on the number of high-speed serial ports.

Softlab GmbH, Munich, Germany, the CASE software house, has joined forces with the Object Management Group - the organisation working to agree standards in object management.

Interactive Development Environments, Inc, has signed a VAR agreement with Sybase to distribute Sybase's SQL Server to be integrated through IDE's Picture software. Replacing its current Object Management Library with an Object Management System it will provide read and write access to the repository where tools will interface the tools and then be mapped to the underlying database. The upgrade to existing users will be transparent and IDE says it will start shipping at the end of 1992.

In the UK, Spea Graphics has launched Spea Fire its graphics workstation built on Intel Corp's 860 64-bit RISC processor: running under Windows it also supports AutoCAD and Studio and Spea's own toolkit SP3D to handle 3D real-time graphics. Fire performs at 1280x1024 and has the capacity to allow 256 on-screen colours from a palette of 16.7m, it has 2MB of Video Memory and 8MB program memory upgradeable to 16MB. Shipping in May it costs £2,500.

Open Systems Project, the conference organiser, is to hold a series of seminars in conjunction with Unix International: called Open Exchange the seminars will include topics such as EEC Legislation and Internetworking MS-DOS and Unix. Starting April 13th and running throughout 1992 to 1993, the seminars cost £150 per delegate.

Bull has sold 701 DPX 2/210 systems and printers along with over 3000 workstations and software to the Malaysia Ministry of education through Rangkaian Tenaga, a Malaysian business consortium. The deal is valued at \$23.5 million and the system will be used to computerise the secondary schools library systems in Malaysia. The contract is part of the Malaysian government's Vision 2020, a project to have the country fully industrialised by 2020.

Hewlett-Packard Co and Hitachi have signed a deal giving HP the rights to distribute ObjectIQ, Hitachi's object-orientated application development tool. Both will launch the product in the next few months. Hitachi is one of HP's new PRO recruits, their precision risc architecture club.

Mercury Interactive Corporation has announced support for automated testing of Macintosh applications using its TestRunner system. TestRunner already supports Unix and PC testing. The TestRunner performs test operations like as though a human operator were at the controls by translating keyboard and mouse inputs into programmable test scripts, claims Mercury.

GEJAC Incorporated has expanded its open systems accounting software, ARSAP, to support IBM RS/6000s, Intel 386 and 486-based SCO Unix platforms. This means that ARSAP can combine user and project accounting and resource information from RS/6000 and SCO platforms with similar data collected on VMS and other Unix or Ultrix platforms.

AI International, Berkhamstead, Herts has teamed up with Cosytec for the distribution of its CHIP Version 3 system in the UK. CHIP (Constraint Handling In Prolog), combining operations planning, logic programming, artificial intelligence and mathematics, helps express and solve problems by constrained search techniques. CHIP is available on a variety of hardware platforms including SUN3 and SPARC, IBM RS/6000, HP9000, DecStation and PCs.

SRS Imaging has gotten a co-marketing pact with Fujitsu Computer Products of America: SRS will integrate its SCSI controller and paper-handling features into Fujitsu's 300-dpi VM2200 laser printer engine to create the VM2200-SRS workstation PrintPartner. Sun distributor Arrow Commercial systems Group will carry both the \$10,000 Fujitsu machine and SRS' own \$12,000 600-dpi Imager 1200L, shipping each model with Sun Pics' NewsPrint 2.0.

With a new chief at the helm (UX No 377), Servio is now toying with the notion of porting Gemstone, its object oriented development environment over NT, though there's no firm decision as yet: It'll be adding sales and engineering resources over the next few months too.

IBM is abandoning all significant work on gallium arsenide, saying it can get everything it wants out of silicon for the next dozen years.

Unix International has a technical work group, established at the start of the year, surveying what SVR4 will require to go on to 64-bit chips from MIPS, Sun, Hal. DEC's Alpha isn't represented but there isn't any reason why it couldn't be.

People looking for a job at Interval might as well start with its phone number: (415) 903-2271.

Xcelerated Systems, developers of the Liken Mac-to-Sun software bridge has signed a value added reseller arrangement with Andataco.

Technology Forums and Andrew Allison, editor of The RISC Management Newsletter, are co-sponsoring the "RISC Systems & Applications Forum" May 12-14 at the Sunnyvale Hilton in Silicon Valley.

Microsoft is integrating Maynard Electronics' logical tape format into NT, making it the first time a high-end tape backup application featured as an integral part of a PC operating system: It will provide for sharing tapes among drives from different vendors.

Wholesale distributor Intelligent Electronics is going to start selling SCO's system software through its reseller locations in the US that SCO authorises.

SmartStar Corp of Goleta, California has created a UK subsidiary, Oxford based SmartSystems (UK) Ltd, to market and support version 6.0 of its SmartStar application development environment. Ed Holt, former UK managing director of IBM financial software supplier Management Science America until its takeover by Dun & Bradstreet Corp in 1989, and subsequent consultant at UK CASE outfit Software One Ltd of Marlow, has set up the operation with venture capital from London-based Chinon Investments Ltd. SmartStar, first developed in 1984 for the DEC VMS market, is based on the Rapid Application Development method for rapid prototyping; SmartStar plans an Ultrix version.

Via its newly-formed open systems group (UX No 369), UK distributor Specialist Computer Centres, Birmingham, has signed to resell Sun Microsystems Inc workstations through its 13 outlets and VARs.

X-terminal house Network Computing Devices has picked Arrow Electronics as its first national distributor in the US.

DEC told DEC Professional to expect an upgraded version of the Alpha chip every three years: that means a CMOS-5 in 1993, CMOS-6 in 1996, CMOS-7 in 1999 and CMOS-8 in 2002.

IBM is tapping into conventional distribution channels searching for incremental business for the RS/6000, signing MicroAge as the first national dealer organisation in the US to sell the boxes: MicroAge shops will have to qualify as IBM Value Added Installers to handle the machines.

Grid Systems has come up with two 50MHz, Intel 80486 desktops, one meant to be a client, the other a server: the \$2,600 MFP/450 and its three ISA slots is the client and the \$5,000 APT/450e with seven EISA slots and 4Gb capacity is for server applications. Both will run Unix, SCO Unix and Xenix as well as Microsoft NT.

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UNIX SYSTEM LABS CLAIMS ONE PORT OF AN APPLICATION TO DESTINY WILL SERVE FIVE ARCHITECTURES

In one of the most tantalising promises yet made in the computer industry, Unix System Laboratories Inc is claiming that independent software vendors who port their applications to its Destiny desktop implementation of Unix SVR4 will only have to do so once to have it run on the disparate architectures of Intel Corp, Sun Microsystems Inc Sparc RISC, MIPS Computer Systems Inc RISC, Hewlett-Packard Co PA RISC and IBM Corp's RS/6000 RISC. The claim, if proved, would of course, create tremendous market share and persuade many ISVs still hanging back from Unix to make the great leap forward. USL president Roel Pieper says the technology that would make such a move possible is not yet formalised, indicating that it will be either the Open Software Foundation's Architecture Neutral Distribution Format or a binary conversion. A decision will have to be made in short order if a technology is to be in place by November or December when the Sparc and MIPS/Advanced RISC Computing implementations of the Destiny desktop operating system are due, a timetable suggested by Pieper. Speaking at an analysts' breakfast in Chicago last week where Comdex Spring took place, Pieper alluded to such a breakthrough as "removing the firewalls" between the various microprocessors. ICL and Fujitsu Ltd are USL's porting partners for the Sparc version of Destiny; Ing C Olivetti & Co SpA for MIPS. USL, which is known to be interested in porting the desktop Unix to as many volume architectures as possible (UX No 377), says it is progressing its talks with HP and IBM to gain their cooperation in moving Destiny to their architectures. USL meanwhile, is anticipating expanding its Destiny distribution channels in Europe beyond Univel Inc and classic OEM arrangements, with the formation of as many as ten new joint ventures this year alone. Pieper, who declined to identify his potential partners, indicated he would be dealing with Europe on a country-by-country basis. Pieper is quite frank about buying customer base, the result he anticipates from these other joint ventures.

SPARC INTERNATIONAL TO REVEAL SUN LABS' 64-BIT SPARC SPECS

Within the next few weeks, Sparc International Inc is going to release the next iteration of its interface definition for the Sparc RISC architecture. Version 9 will include all the specifications that must be adhered to for those designing and implementing 64-bit Sparc technology. Version 9 is based upon work being done by a team headed by Dave Ditzel down at the Sun Labs Inc research and development outfit. Although Sun has re-iterated that it won't be doing a 64-bit Sparc implementation itself for at least the next three years - "there is no need for it yet" (UX No 376) - the company is seeking to define the space in which some are already working - Hal Computer Systems Inc for one. Anil Gadre, Sun Microsystems Computer Corp's vice president of systems product marketing, told Unigram last week that it has a 64-bit part that it is playing with, but there is no operating system or applications up and running on it, yet. Sparc International, which is currently at version 8 of the Sparc interface definition, said the 64-bit stuff in version 9 will be just "the tip of the iceberg," and that it would be putting out the new specifications "relatively soon:" it still has to go and dig up the stuff from down at Sun Labs.

MIPS GIVES MORE DETAILS OF FUTURE R-SERIES RISCs

MIPS Computer Systems Inc and its system and semiconductor partners have outlined the technology road map for its RISC architecture, previewed here last month (UX No 377). It appears that the high-end part we called the R10000 is code-named T5. It continues along the evolution path of the R series RISCs - 2000, 3000, 4000 and 5000 - and the single-chip superscalar part is slated to deliver around 500 MIPS performance by the end of next year. The R4000 will move up in clock rate to 75MHz by year-end from the present 50MHz, and to 100MHz in 1993. By mid-1993, the R4000 will be followed by an enhanced performance R5000, offering larger on-chip caches and more than 150 SPECmarks of balanced performance for commercial desktops and workstations. There are two parallel efforts that sit above and below the vanilla R series line. The first will result in a very high-performance processor code-named TFP, designed for technical computing. The CMOS TFP is designed to deliver Cray Research Inc Y-MP-class performance for floating-point scientific and multiprocessing applications and is being designed by MIPS' fiance Silicon Graphics Inc along with Toshiba Corp. It is to be commercially available in 1993. The second is a low-power, low-cost processor codenamed VRX, targeted at notebook and battery-powered computers. It's essentially a low-power version of the R4000 being developed by NEC Corp which will operate at less than 2W at 80MHz, but deliver up to 10 times the performance of competing low-cost personal computers and notebook-sized systems, the firm claims. VRX will be available in the second half of 1993, and will also be multiple-sourced, MIPS said.

SUN MICROSYSTEMS BOWS TO PRESSURE: SPARCMAKERS TO GET SUPPORT CHIPS

Sun Microsystems Inc has been under withering fire for the past year or so from companies seduced into trying to build machines compatible with Sun's own - and then finding that the company artfully withholds all the best bits for itself. Now the hardware side, Sun Microsystems Computer Corp has responded to the waves of criticism by saying that it will make its silicon designs available to some semiconductor fabricators so that they can make, sell and support chips based on those designs worldwide. The designs include Sparc CPU and logic chips found in the Sparcstation 1 and 2, ASICs and other system support chips. The company states openly that the aim is to earn greater returns on its silicon design investments by making the designs available early to the broadest possible customer base. Licensed semiconductor partners will be able to involve their customers at the beginning of the design process and Sun says its current intention is to facilitate early design adoption and volume sales as soon as silicon is production ready, independent of its own system products becoming available. It will receive royalties from its semiconductor partners, who will use their existing distribution channels to market the chips. The first example of the new programme is an audio chip intended for future Sparcstations. Analog Devices Inc and Crystal Semiconductor Corp this week said that they have begun selling multimedia coder-decoder chips claimed to offer highly integrated single-chip advanced audio system functionality, designed in conjunction with Sun. Sun notes that it has "occasionally" licensed its designs in the past, such as those used in the Sparcstation 2. Sun - which admits its latest strategy is similar to the route trodden by MIPS Computer Systems Inc that now has half a dozen semiconductor companies selling its R series RISC designs - says it is just awaiting clearance to announce the names of several firms that have agreed to take on the Sparc.

ICL SHOWS UP CONTINENTAL SIBLINGS WITH £39m FOR 1991; LIKE-FOR-LIKE SALES UP 2%

ICL Plc has pushed back the timeframe for its stock market flotation, saying that it will most likely be towards the back end of the two to five year target it set when Fujitsu Ltd took its 80% stake. ICL, suffering under the recession like everyone else, last week reported a 30% drop in trading profits to £78m in 1991, after a 5 percentage points reduction in gross margins - attributed to higher sales of low-margin personal computers and Unix systems - and a £10m rationalisation charge above that of 1990. Sales of mainframe systems are still thought to be earning the biggest profit. Nokia Data, acquired last year and included in the 1991 figures from October 1, "made a small contribution to profits". Chairman Peter Bonfield pointed out that most of ICL's competitors are currently trading at a loss. Net earnings were down 40% at £39m. Revenues grew 16% to £1,870m, though 14% of this was related to acquisitions, most notably Nokia Data. Finance director Keith Todd announced that ICL has gained one point of market share in the UK, in a declining overall market - stealing back a little of the market share that IBM UK has won from ICL over the past 20 years. The results, he said, do not reflect any benefit from the £250m Corporate Headquarters Office Technology System UK Ministry of Defence contract, nor from the £200m British Gas Plc coup, both of which will be delivered over the next six years. ICL reiterates that its relationship with majority owner Fujitsu remains strictly at arm's length, and that the recent transactions between the two companies, such as ICL's acquisition of Fujitsu Systems Business-Europe were purely commercial. ICL has also swapped its retail systems business in Australia for Fujitsu's in North America. ICL's continental revenues rose by 71%, organic growth being particularly strong in Spain at 200%, Portugal at 47% and Italy at 37%. Software and services revenues grew 18%, to account for 50% of ICL's total turnover - an area in which further acquisitions are likely. OfficePower sales grew 65%, with over 50,000 licences sold in the year, bringing the total installed base to 300,000. On the hardware side of the business, personal computer revenues rose 92% - though only 15% of this growth was organic; Unix system revenues grew 28% organically. ICL hopes to ship 200,000 personal computers this year. Retail hardware shipments were down. ICL's rationalisation plan includes an annual 3% headcount reduction, which in 1991 involved between 600 and 700 redundancies - most of these took advantage of the company's early retirement programme. The current headcount, after acquisitions, stands at 26,000.

CLD SETS UP OPEN SYSTEMS CENTRE WITH CONSORTIUM'S HELP

In an attempt to convince users that vendors can work together, Pyramid Technology Ltd, Oracle UK, Sun Microsystems and Ingres UK have formed an interoperability consortium, resulting in the setting up of a client-server configuration at the newly opened Coopers & Lybrand Deloitte Open Systems Centre, London. Pyramid has supplied a MIServer 2S running Data Centre OSx, Pyramid's version of Unix SVR4, along with Oracle and Ingres database software. CLD is also installing Oracle CASE, Oracle financials and Ingres' Windows 4GL at the front end. Client platforms are PCs and Sun SPARCstation IPX's. CLD has integrated the new hardware and software with its IBM mainframe using its existing DecNET network. Set up at a cost of half a million pounds contributed by CLD and the consortium, this is seen as a long-term project to introduce CLD staff, clients and other interested parties to open systems. Pyramid said that it will continue to concentrate on high-end systems, claiming that the low-end market was now saturated by Siemens Nixdorf and Olivetti.

HARRIS PREVIEWES 88110-BASED NIGHT HAWK REAL-TIME UNIX BOX

Harris Corp's Fort Lauderdale, Florida-based Computer Systems Division has moved up to the second generation 88110 version of Motorola Inc's RISC family with the Night Hawk 5000 series - which can't be called Night Hawk in the UK. The company says that the machines are the first real-time multiprocessing computers to use the 88110 and represent a unique 88110 implementation with large caches, local memory, and high input-output throughput supporting multiple input-output buses making it a balanced system for real-time computing. Pitched at simulators, signal and radar processing and energy systems, the one- to eight-processor machines are available as field upgrades from other Night Hawks. Harris says the 88110 Symmetric Superscalar microprocessors are up to five times faster than the 88100/200 combinations in the Night Hawk 4000 and with secondary cache are expected to achieve 70 SPECmarks per microprocessor. A "unique" multi-level memory architecture incorporates local and global memory, a 16Kb cache inside each 88110, and secondary 256Kb cache dedicated to each 88110, attached by a 400M-bytes-per-second bus. Cache sizes will expand to 1Mb per processor with the next generation of memory chips. The local memory is attached via the 200Mbps processor bus. Each processor board can have up to 32Mb of local memory, to expand to 128Mb with next generation memory chips. Up to eight 16Mb or 32Mb modules can be used for global memory at \$12,000 for 16Mb, \$16,000 for 32Mb. The primary input-output bus of the Night Hawk 5000 is the 40Mbps Harris VME-64 bus, which offers enhanced performance over standard VME. Adding a second VME-64 bus provides up to 40Mbps additional input-output capacity. The first model is the Night Hawk 5800, set for the fourth quarter, upgradable from the 4800. Night Hawk 5800 single processor board is \$15,000 more than the comparable 4800 processor board, the dual-processor 5800 board \$20,000 more. The line does 20 to 800 MIPS and supports a real-time and multi-level secure Unix to Posix, System V Interface Definition and 88open standards.

GAIN TECHNOLOGY SNARES IBM IN PORT PACT

Remember back a few issues (UX No 363) when Gain Technology, the multimedia start-up that used to call itself Cayenne Systems, was talking about giving the IBM/Apple joint venture a run for its money and persuading IBM to adopt its technology? Well, Gain has reportedly just snared a porting pact with IBM to move its software to the RS/6000 and once it's ready IBM will apparently co-market the stuff worldwide especially to users with mission critical distributed applications. Meanwhile, Gain has cut an anticipated pact with Sun Microsystems Inc under which Sun will license Gain's object oriented hypermedia training technology and develop and distribute interactive multimedia training software combining text, graphics, sound and animation. The new software, developed by SMCC's Worldwide Customer Support Organisation, will give Sun users on-line information on how to use Sun hardware and software. First product is due this summer.

FRENCH UNIX GROUP CALLS FOR GUI USER ORGANISATION TO SOLVE STANDARDISATION PROBLEMS

In France, a working group at AFUU - L'Association Francaise des Utilisateurs d'Unix et des Systemes Ouverts - has been beavering away doing some research on how it might be possible to get a single graphical user interface (GUI) standard going. It thinks that a sensible way would be to standardise on windows, icons, menus, and command box style via agreement on specific languages - such as C, C++ - for all interfaces, with reusable source code modules, rather than on specific product-oriented solutions. Looking at the way the international bodies like IEEE and X/Open Co Ltd have failed to define even a basic set of standards due to the competitive nature of the marketplace, AFUU believes an international body of GUI users is what is needed to get some momentum going, a global organisation that can represent user requirements to the GUI providers.

SUN VIKINGS TO SAIL ON MAY 19th?

According to Anil Gadre, Sun Microsystems Computer Corp's vice president of systems product marketing, the new licensing strategy - see front page - should, for example, enable the Sparc compatible community to get its hands on the company's next-generation Viking, or SuperSparc technology - being co-developed with Texas Instruments Inc - much more quickly than the best part of a year that elapsed between the launch of the Sparcstation 2 (UX No 308), and the day Sun gave the green light for the LSI Logic Inc made 40MHz Sparc chip sets to be sold on to Sun wannabe's (UX No 356). Gadre claims there will be "zero difference in time" this time around. However Sun has been playing with the long overdue part for many months now, working closely with Texas Instruments Inc to get the thing up to scratch. Sparc builders will only get their first glimpse of the stuff when Sun finally rolls out its Sparcstation 3 Viking boxes. It's thought to have picked Tuesday May 19th to do that. Sun won't say if that is the case, or whether the Viking has actually hit the 50MHz mark yet.

SUN DROPS HINTS ON 80486 ACCELERATOR BOARD FOR MS-DOS APPLICATIONS

Gadre was also dropping heavy hints that Sun will soon likely move to offer a hardware-based solution for users wishing to run MS-DOS applications on its Sparc systems. Sun currently offers Insignia Solutions Inc's SoftPC emulator, but says it has "had demand for accelerated versions of that." It's thought to be preparing to market an Intel Corp 80486 (or alike)-based accelerator board that runs in an Sbus slot which would greatly improve the performance of personal computer applications. Component cost has foreclosed that route until now, but with with Intel being forced by competition to drive down the cost of its 80486 technology, the prospect of such an offering is becoming more realistically cost effective by the day. The watershed mark is thought to be the point at which a user could get hold of such a board at a couple of hundred dollars or more less than the cost of buying a complete PC solution.

SPARC INTERNATIONAL SETS SPARCBUILDERS PROGRAMME

Sparc International last week set in place a SparcBuilders programme which will include the licensing of a portfolio of designs, hardware and software interfaces, tools and implementations for designing and building Sparc systems and applications. Included in the programme are the SBus and MBus, and the Sparc architecture, to be offered through the \$99 Sparc licence from Sparc International, which gives licensees the right to design, make and distribute CPUs conforming to Sparc architecture.

MOTOROLA 68060 "COULD IMPACT PowerPC"

The latest **Microprocessor Report** says the cancelled Motorola Inc 68050, a minor upgrade of the 68040, fell prey to a resource battle with two next-generation implementations that were to follow the 68050: the LP040, a low-cost, low-power re-implementation of the 68040 in 0.5 micron technology due to sample in late 1993, and "Q", a fully static modular, superscalar, superpipelined part that borrows from the 88110 and will probably come out as the 68060. The newsletter speculates that if "Q" is good, "it could significantly delay the migration of Apple's customers to the PowerPC since the early PowerPC chips won't have spectacular performance."

QUARTERDECK SHIPS DESQVIEW/X X-WINDOWS FOR MS-DOS

Santa Monica, California-based Quarterdeck Office Systems Inc says it is now shipping its long-awaited MS-DOS version of the X-Window System. Desqview/X turns MS-DOS text-based programs into X-Window clients; the MS-DOS program can run locally or as a remote process with the actual application residing on a remote workstation. And an MS-DOS machine running Desqview/X can display X-Window applications. The program was originally supposed to ship in the autumn of 1990, **Microbytes Daily** notes; Myers told a BYTEweek reporter last August that Quarterdeck would ship Desqview/X in October 1991. Quarterdeck now says the delays were the result of adding new features requested by developers. Last August, it said it planned to incorporate scalable font technology from Adobe Systems Inc and support for shared MS-DOS extenders through an agreement with Rational Systems Inc. Getting Microsoft Windows to run remotely on a Sun Microsystems Inc workstation was seen as the last step in the development effort.

INTEL "TO PREVIEW THREE VERSIONS OF 80586 AT PC EXPO IN JUNE"

Intel Corp will reportedly use PC Expo in New York in June to preview the so-called 80586 or P5 microprocessor in a technology demo perhaps showing off three versions. One is tipped to run at 33MHz, another at 50MHz and a third at 33MHz external, 66MHz internal, according to InfoWorld, with the on-chip cache size ranging from 32Kb to 54Kb. The 50MHz version is said to be capable of 100 MIPS. The formal announcement is believed to be scheduled for September, with modest volumes to be deliverable around November time.

APPLE "TO DO COLOUR MACS, ARM600 ASSISTANT, FIRST DEDICATED SERVER"

Apple Computer Inc is to strip out the bits that won't be needed in its Quadra machines to create its first-ever dedicated server, **MacWeek** reports. The 68040-based machine is being designed for Apple's A/UX version of Unix and will inherit much of the Quadra 900's architecture, the paper says, and is expected to be announced in October for shipping as early as January 1993. It will be the first machine to emerge from Apple's Enterprise Systems Division, formed last year to develop high-end business systems. It will support client Macs running Systems 6 and 7. Bits to be eliminated from the Quadra are likely to include the on-board 24-bit-colour graphics. Apple also plans to introduce two low-cost colour Macs early next year, the paper says. One will have a built-in 8-bit, 10" colour display, 16MHz 68030 processor, 4Mb memory and 40Mb disk for under \$1,300. A more powerful colour Macintosh, using a 25MHz 68030 and aimed at the multimedia market with at least 4Mb memory, a 40Mb disk and 14" colour Trinitron display with 640 by 480 pixel resolution, is expected to cost under \$1,900. And Apple could introduce its first Personal Digital Assistant at the Consumer Electronics Show in Chicago next month, **MacWeek** says. The device uses an infra-red link to connect to a desktop computer or to other Personal Digital Assistants, and it will use a low-power RISC processor - Cambridge, UK-based Advanced RISC Machines Ltd's ARM600 presumably, a 3" by 5" supertwist but not backlit screen and will have no other input devices except a pen. It is said that it will be able to recognise cursive handwriting and gestures entered with the pen. It should cost less than \$700.

SPARC SPOTS

Replying to reports that it has published misleading SPECmark performance claims for its boxes by using unavailable compiler and pre-compiler technology in its testing (UX No 378), Anil Gadre, Sun Microsystems Computer Corp's vice president of systems product marketing, says the company will use shipped compilers for future SPECfp and SPECint performance benchmarking.

On the thorny question of support for the Open Software Foundation's Distributed Computing Environment on its kit (UX Nos 375, 379), Sun will now say only that if there is demand for it from customers, then "fine, why not? We won't stop shipping Open Network Computing (its own distributed solution), ONC is recommended, and we don't have an answer on whether DCE will be a third party or Sun offering."

Sun has appointed Dr Peter Deutsch to its research outfit Sun Labs Inc, naming him as a Sun Fellow, an honour bestowed only on two others: Ivan Sutherland (of Evans & Sutherland Computers) and Bob Sproulls. Deutsch worked at Xerox Palo Alto Research Centre's on the famous Alto system, a model which spawned many of today's workstation designs, and was most recently chief scientist at Smalltalk house, ParcPlace Systems.

In India, the Bombay Stock Exchange is to use 50 Sun servers to support some 3,000 personal computers running alongside an ICL mainframe to automate its trading floor - the deal is worth a total of some \$30m over the next 12 months: Sun's contribution is being handled by its distributor Wipro Infotech.

Sun Microsystems Inc says that henceforward it will ship a microphone with every Sparcstation desktop workstation: the machine already includes built-in speaker and bundled software for easily playing, recording and receiving audio; existing users can have it for \$30.

RDI Inc, San Diego, California, is offering a Helios-made Group III fax/modem option for its BriteLite Sparc laptop featuring V.32 for data connections up to 14.4 Kbps: it costs \$850 for the modem only; \$1,850 for the fax/modem.

Fujitsu Ltd sources say that the machine being developed by Hal Computer Systems Inc in the US will be significantly more powerful than the 300 MIPS that has been reported - but 300 MIPS was for one of its Sparc chips.

Arrow Electronics, already US-wide distributors of Sun workstations and servers, has picked up its SparcEngine 2 and SparcEngine IPX boards, marking their entrance into the reseller channel.

Santa Clara, California-based Nimbus Technology says it has a DMA controller chip for Sparc Sbus input/output devices, which at \$35, costs 30% less than LSI Logic's comparable part, it claims.

Californian start-up, Integrix Inc, has a metal enclosure for Sparc clones similar in footprint and design to the standard Sun Sparcstation 2 chassis with three externally accessible SBus slots and accessories like an LED, speaker, cabling and drive mounting hardware. Its 100-watt power supply is larger than Sun's.

The Ingen, Netherlands arm of MapInfo Corp, New York, says its desktop mapping software now runs under Open Look on Sun Microsystems Inc Sparcstations - out now, prices start at £1,360.

ANA Tech, the Intergraph division, has ported its Eagle scanners to Sparc and Open Look. Targeted largely to VARs, systems integrators and OEMs for engineering environments and building image management systems for technical documents, ANA Tech's new flagship, the large-format Eagle 3640 features 400DPI and interpolated 800 DPI resolution in a production-volume pinch roller scanner priced cost effectively at \$25,000. Sun will co-market.

Thinking Machines Corp, the Cambridge, Massachusetts manufacturer traditionally of custom chip-based SIMD supercomputers, but more recently of the Sparc-based SIMD/MIMD CM-5 "TeraFLOPS" machine, says it has opened a French office near Paris, to support business development and technical marketing activities; Thinking Machines also has offices in Guildford in Surrey, Munich in Germany, Camerano in Italy, and Driebergen in the Netherlands, from where the European offices are run.

MIPS WORLD

MIPS duly rolled out its Magnum and Millenium systems last week: in the UK, journalists from across Europe trundled in two-by-two as the company treated the press corps to a glimpse of the inside of Ake Larson's London Ark building in Hammersmith, which isn't due to be opened until next month. We got two presentations of most of the stuff too. UK prices go from £11,320 for an R4000PC Magnum workstation to £16,390 for the SC version. The Millenium server is £15,570 configured with the PC part - £32,800 for the SC version.

MIPS expects a number of its OEMs to pick up the new ARCsystems including CDC, Tandem and government integrator AT&T Federal Systems Advanced Technologies which will put its System V/Multi-Level Secure Unix on the boxes.

One of ACE's claims is that members will be able to develop systems based upon the same building blocks which are sufficiently differentiated to enable them to go after separate market niches. At Comdex Spring in Chicago last week Microsoft Corp gave a clean bill of health to the Hardware Abstraction Layer, HAL, which resides in the MIPS' ARC specification, and is designed to facilitate this differentiation, saying that running NT on the R4000, HAL does indeed meet its claimed potential.

San Diego-based TeleSoft Inc says its TeleAda-Exec Ada-oriented real-time executive, is now available for MIPS Computer Systems Inc R3000 target systems: up to now, it has been available only for Motorola 68000 and Intel 80386 targets, but it now works in conjunction with the TeleGen2 Ada VAX-host/R3000-target Cross Development System.

The University of Delft in the Netherlands has a VME-3000 adaptor card, with a transputer link, which allows users to interface a MIPS Computer Systems Inc R3000 chip to their VME system for, it claims, around a quarter of the cost of an R3000 VME card.

Sunnyvale-based MIPS Computer Systems Inc says that Control Data Corp and Tandem Computers Inc will be adding its new ARCSystems to their product lines, and that AT&T Co's AT&T Federal Systems Advanced Technologies has announced it will offer ARCSystems with System V/Multi-Level Secure Unix in its role as a large-scale integrator for the US Federal government.

Microsoft Corp says that more than 400 software developers are now armed with the NT development kit containing binary code for both ACE's Intel and MIPS R4000 platforms.

EUROPEAN COMMISSION SETS EPHOS GUIDELINES FOR GOVERNMENT OPEN SYSTEMS PROCUREMENT

The European Commission has launched a new Open Systems Interconnection product purchasing guide called EPHOS, European Procurement Handbook for Open Systems, which urges government procurement officers to buy OSI-compatible networking solutions based upon X.400, File Transfer Access and Management (FTAM) and X.25 standards. The European programme is, like the US Government Open Systems Interconnection Profile (GOSIP) effort, mandatory, and it is expected that most government buyers will follow the guidelines because they will have to give and explain reasons for non-standard purchases. However, EPHOS is not expected to impinge upon the UK's own GOSIP profile, "EPHOS is at a higher level," according to the UK's Central Computing and Telecommunications Agency, although it admits that "they may merge in the future, but we're talking about four or five years."

SPAG LAUNCHES PROCESS TO SUPPORT INTEROPERABILITY FOR INTERWORKING

The European standards promotion group SPAG took another crack at open systems interoperability last week with the launch of Process to Support Interoperability. The group is trying to avoid the cry of 'not another one' by pointing out that the scheme has one or two extras that we have not seen before. For example, the Process targets inter-working, rather than conformance testing, unlike the lacklustre Corporation for Open Systems COS Mark. More innovatively, companies signing up for the programme will be legally committed to going through a conciliation process to sort out unforeseen interoperability problems. SPAG's membership is currently working on getting 1984 X400 implementations certified, and on the horizon is work on X500 and network management.

IXI TRAWLS FOR DEC USER SUPPORT - READIES NEW DESKWORKS TOOLSET

Angling for the deal that it has sought for some time now, UK firm IXI Ltd, Cambridge, is starting to cast groundbait all over the water in an attempt to land its catch. It's offering all organisations using DECstations a free single-user copy of its X.desktop manager (which runs on all DEC operating system platforms). However, it looks like IXI may have to get down into the water to try and tickle this baby out of the flow, as DEC has its own problems to iron out. IXI sales and marketing director, Anil Malhotra rather cryptically observes that DEC is having difficulty "finding its centre of gravity." IXI, meanwhile, is to release the next iteration of its graphical user interface manager, X.desktop 3.5, in June. More interestingly, the company is also to begin casting its nets in other waters when it introduces a new range of productivity tools under the name of Deskworks, in June, something it has talked about for ages.

CASSONI LEAVES OLIVETTI FOR XEROX

Vittorio Cassoni, erstwhile head of AT&T's computer shop, and as such, the single individual most credited with giving the Open Software Foundation a reason to exist and dividing the Unix community into two opposing camps, has left Olivetti, who lent him to AT&T in the first place, to join Xerox Corp as executive vice president. He will be part of Xerox's newly constituted six-person corporate office charged with running the joint. Interestingly, Cassoni was recruited because Bill Lowe, who headed up development of the original IBM personal computer, left to join Gulfstream. Cassoni was recently shunted to one side by Olivetti. At Xerox he will be directly responsible for the company's Office Document Service and US Sales & Service. They are apparently interested in his network experience.

SEQUENT BEATS ICL TO NUCLEAR ELECTRIC

In the UK, Sequent Computer Systems Ltd, Weybridge, Surrey, has won a £1.2m contract from Nuclear Electric - the UK's state owned nuclear power generator - to supply 15 Symmetry 2000/200 systems, which replace the existing ICL mainframes. After trials with Sequent and ICL kit, Nuclear Electric said ICL's DRS6000 Unix based systems failed to meet the requirements it had set, including an open-ended, upgradable system, high application performance and a complete integration plan. Nuclear Electric's IT service manager, Mike Wall said "ICL didn't convince us they could provide the necessary integration requirements." The Symmetrys will be installed in 13 powerstations and seven administration sites around the UK, running Peterborough Software Ltd's, OpenDoor human resources management software. With one system up and running, Sequent says the rest will be installed by the end of April.

HP, INTEL TO DESIGN 80960 X CHIP SET

Hewlett-Packard Co last week announced an agreement with Intel Corp under which the two will develop a chip set designed specifically for the HP 700/RX family of Intel 80960 RISC processor-based X-Window System stations. The resulting devices will be used with Intel's 80960 Cx series of superscalar microprocessors to provide a complete building block chip set to reduce chip count by integrating most of the logic functions surrounding the CPU, which should lead to increased reliability and performance, and reduced board space requirements and cost. The HP 700/RX stations are claimed to deliver performance of up to 90,000 Xstones, and to be the most powerful X-stations available. The companies gave no indication of when the sets will be ready, but Hewlett claims that the 700/RXs used with its HP 9000 Series 700s already offer unrivalled price-performance.

SAIC PLANS MORE PLATFORMS FOR HP VUE, TASK BROKER SOFTWARE

Sun users in the UK that would like to take advantage of Hewlett-Packard's highly thought-of VUE Visual User Environment graphical user interface, can now get a copy from Loughborough, Leicestershire-based Tectonic Ltd, which is selling a Sun port of the software for £375, or bundled in with its £6,000 SDT 400 Sparc workstations from Trigem. VUE, which incorporates OSF/Motif, has been ported to the Sparc by San Diego-based Science Applications International Corp, which also has an IBM RS/6000 version out on beta test, and has plans for a DEC version. Compaq has shown great interest in VUE, a preference that put just one of the many spanners in the works of the ACE initiative. SAIC has also completed a port of HP's Task Broker network load balancer, and has just got the go-ahead for seven further ports, thought to include DEC, Silicon Graphics and IBM.

NETWORKING TOOL FROM NORWAY MERGES UNIX AND WINDOWS

Winix America, a Beaverton, Oregon start-up, is ready to ship Winix Network 1.2, modular networking software it says is not only compatible with both Windows 3.X and Unix, but blends the two environments into a single user-friendly operating system. The product, now Americanised, but originally developed in Norway for government use, was launched last week at Comdex in Chicago, not from the exhibit floor but out of an invitation-only suite. The company, which claims to have the product up and running smoothly in Norway at the Ministry of Defence and in Sweden in the educational administration, is dreaming of becoming the industry's new standard of connectivity. Winix described its breakthrough as making Unix services such as parallel processing, standardised e-mail and Unix news plus its own workgroup tools available simultaneously under the Windows interface. The software includes a terminal emulator that integrates Unix applications with Windows by supporting MS Windows Dynamic Data Exchange to transfer data from a Unix session directly to a running Windows application. It supports cut-and-paste between Unix and Windows applications using Windows Clipboard. PC users do not have to be connected by Ethernet to the server. Standard serial communication over telephone lines is sufficient for remote capabilities. Winix has already captured support from several computer firms and systems integrators including Tandem, Motorola, MicroAge and Science Applications International Corp (SAIC), and says it is negotiating with several OEMs. The network, which reportedly cost \$3.5m in R&D, will retail for \$5,000 for ten workstations, with discounts on bulk orders.

FOR COMDEX READ MICROSOFT

Comdex/Spring in Chicago last week was for all intents and purposes a Microsoft Corp event, all the energy and sparkle belonging to the Windows World side of the house, OS/2 being a footsore also-ran and Unix not even showing up for the race. NT had its own pavilion manned by a group of independent software vendors showing their wares. It might take them longer to get to market than they anticipated. Gossip has it that NT has slipped from summer to winter 1992 and now again to sometime in the first half of 1993. Among whatever problems it may be having, count memory management as one.

PARSYS ADDS VECTOR CAPABILITY USING 80860s ON NEW SN8000

Still waiting for the ever-imminent T9000 Transputer, London-based Parsys Ltd has announced details of a new interim range of parallel supercomputers, the SN8000 series, based on the latest 30MHz T805 Transputer and, for the first time, the Intel Corp 80860 RISC; the new vector-boosted machines follow the proposed architecture of the SN9000, which in turn reflects the design of the GP MIMD Esprit consortium's Concerto machine. They use the 80860 as a vector processor for complementary co-operative processing, explains Parsys's commercial director Ian Coburn, who goes on to stress that the company has no plans to use the Intel processor as a replacement for the delayed T9000. All newly-built Parsys machines are now shipping with the new 30MHz version of the T805 Transputer, which is rated at 4.3 MFLOPS and 30 MIPS peak - a 20% performance improvement over the previous Transputer. This is being passed on to customers at no extra cost. Meanwhile, existing Parsys SN1000 customers can upgrade their non-vector machines to the SN8000 - by adding in 80860 modules mounted on a Parsys TRAM board. Parsys provides software tools with the SN8000 range for 80860 integration and communication with the transputers. Multi-user access is enabled via Idris, Parsys's Unix-like parallel operating system, and optimising compilers are available for the 80860, as well as ANSI standard C and Fortran 77 compilers. Application development can be carried out on MS-DOS personal computers, the IBM RS/6000, and DEC, Hewlett-Packard and Sun Microsystems workstations. A new SN8000 is £45,420, delivering 240 MFLOPS peak, with three 80860 processors - each with 16Mb shared memory - 766Mb disk, 2.5Gb tape back-up, Ethernet connection and Idris. The incremental cost of adding three 80860s is £18,000. A big configuration with 24 Intel RISCs would be around £190,000. Parsys doesn't expect to have the SN9000 ready until "late 1992" - it will take three months or so to bed the new chip in when it does arrive. The SN9000 is likely to cost a lot more than the SN8000, so the latter is not necessarily just a transitional product.

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Oracle Corp says it is already working on VMS and OSF/1 ports of its relational database management system technology for DEC's Alpha RISC and says it'll be showing them off at DECWorld in Boston at the end of this month.

HEWLETT-PACKARD READIES MAINFRAME-LEVEL SERVER

The third week in May has been earmarked by Hewlett-Packard for the launch of a new addition to its top-end HP 9000 RISC server line that should boost its performance range up to the mainframe level. The multi-processor machine, dubbed Corporate Computing Server, is expected to support up to 3,000 users, and represents a performance boost of up to 7% on HP's top of the line 9000 Series 800 servers. HP's current implementation of symmetrical multi-processing HP/UX supports up to four CPUs, but this will be extended to support the new machines. The company claims that IBM is now the only competitor it comes up against on every deal.

X-terminal house Network Computing Devices has picked Arrow Electronics as its first national distributor in the US.

Fujitsu Ltd is to begin selling its VP 2000 Unix-based vector processors in the US, and is to target the commercial sector: the 10 models in the VP 2000 range run Fujitsu's UXP/M Unix SVR4 implementation, with around 100 applications available.

DEC specialist, \$100m-a-year Micro Technology Inc, has acquired five-year-old SF2 Corporation, the Sunnyvale, California-based firm that pioneered and commercially shipped the first fault tolerant disk array storage device known as RAID 5/6.

Lacking specific benchmark data, The Microprocessor Report extrapolates from DEC's 200MHz SPECmark claim and figures a 150MHz Alpha chip should perform at over 110 SPECmarks. It has also heard rumours that National Semiconductor, the major American semi house without a RISC design (aside from Swordfish), is in discussions to fabricate the silicon.

After purging its European and UK management teams last year (UX No 342), Sybase Inc has appointed Robert Albers as vice president of European operations. He replaces Dominic Gattuso who has held the post temporarily and returns to the database company's Emeryville, California-based headquarters as vice president of worldwide business operations. Albers, who will operate out of Holland, previously headed Stratus Computer Inc's international operations.

Unix System Laboratories Europe has appointed Irwan Owen as account manager for the UK and Ireland - for the past year he has been USL's account manager for Italy.

US airline operator, Northwest Airlines Inc, is moving to open systems and has issued a request for information on products that it can use to build an integrated distributed computing system.

Sequent Computer Systems Inc is to appoint former ICL boss, Rob Wilmot, to its board, replacing outgoing president, Scott Gibson: Sequent's six-strong board now has five outside directors.

A survey of the Japanese computer market in Nikkei group magazine Nikkei Computer estimates the Japanese domestic computer market at \$92,000m: a growth rate of 6% is expected over the new financial year that started on April 1; by sector the market grew last fiscal by 18% for Unix systems, compared with 8% for the data services market, 5% for mainframe computers and 3% for small business computers, while personal computers saw negative growth; Unix machines are expected to grow by 20% this year and personal computers to put on 7%; mainframes are again expected to be affected by the depressed economic conditions but will still manage 2% growth.

Marlborough, Massachusetts-based Sequoia Systems Inc has gone to Micro Focus Plc, Newbury, Berkshire for a Cobol compiler for its Series 400 fault-tolerant Unix multiprocessor: it has opted for the Micro Focus Cobol/2 optimised for the hardware architecture to produce high performance native code; no value was given for the agreement.

Menlo Park, California-based Informix Software Inc says it will do versions of its family of database information management software to Alpha, Digital Equipment Corp's new 64-bit computer architecture.

Mountain View, California-based Network Computing Devices Inc has been chosen to supply the X terminals for the US Department of Defence's Joint Computer-Aided Acquisition and Logistic Support system as part of the contract awarded in December to Computer Sciences Corp: it will supply 13,000 colour and monochrome X-stations worth \$30m.

Salomon Brothers has initiated coverage of 11 computer stocks, six of which analyst John Jones is recommending for purchase: the six are Amdahl Corp, Cray Research Inc, Hewlett-Packard Co, Sequoia Systems Inc, Stratus Computer Inc and Tandem Computers Inc, Dow Jones says.

The Unix Forum '92 expo and conference is being held May 26-27 at the Internationales Congress Centrum Berlin in what is now a united Germany.

Software AG last week announced Unix versions of core products Natural, Adabas and Network for Ultrix, HP-US, AIX, SunOS, Sinix, and Wang's AIX. The company is beta testing implementations for the NCR 3000 series, Bull DPX and SCO Unix 5.32 which are due this quarter.

People are starting to whisper that sales over at Sun have slowed, crediting IBM and HP with some of the impact: this has got the Wall Street crowd fretting about Sun's performance in the last quarter. Results are due in a couple of weeks but there are those who claim Sun's run rate can't possibly add up to a quarter of a million units a year.

It seems the boys from Sun Microsystems Inc, Santa Cruz Operation Inc and Unix System Laboratories Inc have had their heads together with Intel Corp for some months and must be getting close to agreeing an Application Binary Interface for Unix with the semiconductor house.

Univel Inc, the USL/Novell joint venture, should have its Destiny Unix desktop implementation ready for beta testing by August, with introduction scheduled for September.

Unix System Labs' published timetable suggests it will have a Unix SVR4 version of DCE (UX No 379), on the market by the fourth quarter.

The latest companies to join the Display Industry Association, the consortium backing AlphaWindows display terminals (UX No 365) are NCR, Specialix, Bull and Siemens Nixdorf.

Tata Consultancy Services, the Indian company, says it has done a lot of work for Unix System Labs on Unix device drivers and hopes to get more work now that it has bought into the firm (UX No 378).

Start-up Carrera Computers Inc, out of Laguna Hills, California, has licensed an ARCsystem design, the ARCsystem 100 Manufacturing Kit, from MIPS Computer Systems Inc to produce PC motherboards, expecting to be first out with a RISC-based PC motherboard later this year.

AT&T Federal Systems has signed a systems integration teaming agreement with MIPS which includes Bell Labs porting a MIPS SVR4 ABI-compatible version of B1-rated System V/Multi-Level Secure Unix to MIPS' new R4000 workstations and servers. AT&T intends selling the MIPS boxes into the federal government.

Comdex organisers had an independent survey done at the last mammoth fall show and discovered that 35% of the attendees were interested in Unix. However, the promised Unix showcase at Comdex/Spring last week never came to fruition. Interface, by the way, reckons the Comdex/Fall audience divides roughly into 50% Fortune 1000-type volume buyers and 50% resellers.

DEC was demonstrating a derivation of its C++ for Ultrix on NT in Chicago last week.

The long-sought "killer application" - aka the next Lotus - may have been born last week: Silicon Valley start-up Arbor Software was at the NT Pavilion at Comdex in Chicago showing off its multi-dimensional spreadsheet. But it needs some encouragement to port to Unix and substitute it for the server, rather than OS/2.

Is it a good idea for DEC to boast that its VAX 6310s were the "workhorses" of the British Broadcasting Corporation's electoral analysis machine when the BBC's predictions of the UK election result last week - along with just about the entire market research industry - turned out to be so wide of the mark?

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BULL TO EXTEND IBM'S RS/6000 LINE WITH MULTI-PROCESSING

Determined not to be viewed as another Wang, Groupe Bull SA took the time to clarify to journalists its position regarding IBM and the RS/6000 last week at its Les Clayes-sous-Bois research and development centre in Paris. Unveiling the new DPX/20 line of systems, currently just RS/6000s with a Bull badge on the front, the company revealed that it would begin adding its own design work to the systems by year-end. It also insisted that it was the lead partner working on multi-processing technology using IBM's Power RISC chip, and that IBM would more than likely OEM the Bull work for future versions of its own RS/6000s. Unlike Wang, which has effectively withdrawn from systems manufacturing and is little more than a reseller for the IBM line, Bull will be taking up both the manufacturing and design rights it negotiated with IBM back in February (UX No 370). It is already offering non-IBM peripherals for the DPX/20s, something that may allow it to undercut IBM's pricing, and intends to add bespoke features to the hardware, such as terminal support, before the end of the year. As for multi-processing, Bull says it has recently woken up to the fact that it has a lead over most of its competitors - the Motorola-based DPX/2 line has supported symmetrical multi-processing with up to four processors for years, and now claims to have cornered a leading 20% share of the symmetrical multi-processing market. It is working with IBM and Motorola Inc (helping IBM with the new PowerPC RISC implementation) on both hardware and AIX software, so that users of the new version of the Power RISC will all support compatible multi-processing implementations - something should emerge during the first half of next year. By giving it over to Bull, IBM has effectively said goodbye to the French market for the RS/6000. Details of DPX/20 line and new GCOS systems, page two.

SUN SPAWNS SUNSELECT, ITS PERSONAL COMPUTER SIBLING

Sun Microsystems Inc, Mountain View, California, last week rolled out SunSelect, its eighth free-standing business unit since it decided to fragment itself - this one aimed at gouging out a piece of the MS-DOS space for the company. Carl Ledbetter, SunSelect's general manager, perhaps best remembered by the industry as the erstwhile chief executive officer of ETA Systems, Control Data Corp's supercomputer subsidiary, calls his new charge "Sun's heretical sect." His business licenses him to fraternise with the enemy and casts him in the role of a Microsoft independent software developer-come-OEM, complete with an early access copy of Microsoft NT. What exactly SunSelect will do with NT remains to be seen, dependent in some ways on how well NT penetrates the market. SunSelect, however, is already toying with notions of porting Sun's network NFS to it and is in early discussions with Microsoft, which is currently looking to DEC to buck up its NT networking capabilities, exploring points of synergy. But all that is off in the future. What SunSelect is pushing immediately is PC-NFS 4.0 (details on page three), the latest version of PC-NFS now supporting Windows 3.1 as well as MS-DOS 5.0, the first networking product to do so it claims, as well as SunPC (UX No 380), the new MS-DOS/Windows emulator and NetWare SunLink, a Novell Inc-to-Sparc connection. NetWare SunLink puts Sun on a path already trodden it seems by almost everyone else in the industry. However, Ledbetter claims that SunSelect will make more of its relationship with Novell than most, promising additional products and distribution. Novell's relationship with Unix Systems Labs and their Univel Inc/Destiny joint venture for the desktop market has been a sore point for Sun, which wanted a Novell/Solaris-on-Intel distribution pact for itself.

IBM SETS 100 SPECMARK RS/6000 POWERSERVER 970

IBM Corp is tipped to attempt to rein back Hewlett-Packard Co's surging high-end business by coming out with a new top-end model of the RS/6000 in the next couple of weeks. The machine will reportedly do 100.3 SPECmarks courtesy of a new implementation of the processor in 0.5 micron CMOS. Expected to be called the Powerserver 970 and costing little more than the current 75.8 SPECmark Model 950, it is said to be a rack-mount machine costing around \$97,000 for an entry-level configuration with 64Mb memory and 2.2Gb disk. It is also expected to use the new 80Mbytes-per-second version of the Micro Channel and to have 16 slots against eight on the 950.

BELL ATLANTIC "TO RESURRECT VLIW TECHNOLOGY FOR SPARC"

Somewhere in the depths of Bell Atlantic Corp, Philadelphia, Pennsylvania, Very Long Instruction Word technology is making a resurgence, and this time around it's destined for use with Sun Microsystems Inc's Sparc RISC chip. Bell Atlantic acquired its VLIW technology from minisupercomputer builder Multiflow Computers Inc for an undisclosed fee after the pioneer of that particular brand of computing threw in the towel back in 1990 when it ran out of cash (UX No 276). Bell Atlantic is understood to be working on an implementation of Multiflow's ingenious Trace Scheduling Compilers for 64-bit Sparc architectures. The development work isn't thought to be linked to Sun in any formal way, but the news comes just a week after Sun revealed that it is playing with a 64-bit Sparc, and outlined its intent to define the ground rules for such environments through a new release of Sparc International's interface specification for 64-bit Sparc architectures (UX No 380). Unlike currently popular pipelining and superscalar techniques, VLIW technology uses Trace Scheduling to compile C and Fortran programmes into very long instruction words for simultaneous execution. The compilers keep all processes in a multi-processing system busy, and are adaptable to architectures that can execute more than one instruction per cycle - such as RISC. The technique requires the compiler to recognise which instructions are dependent on the results of the previous one and avoid scheduling parallel execution of such instructions, while letting others go. Sun says it is "not doing anything with VLIW, but the fact that Bell says it is, is great. VLIW technology running on Sparc will give us other markets to break into... and it'll be great for Solaris too, if it is binary compatible."

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BULL'S POWER RISC SYSTEMS MAY UNDERCUT IBM

Groupe Bull extended its line of Unix-based systems last week with the DPX/20 family, rebadging IBM RS/6000s to produce the DPX/20 Model 100 compacts, Model 400 desktops and Model 600 desktide systems - see front page. Prices start at around \$6,500, and Bull says they will be "very competitive with IBM's", and perhaps cheaper, as Bull will not use IBM peripherals. There are ten models, grouped into the 100, 400 and 600 Series. The 100s include the basic 110, diskless 115, mono 125 and colour 135 workstations, along with the 140 server, all using the 33MHz Power RISC. Then comes the 400 Series: the 25MHz 430 server and 42MHz 450 models; and three Series 600 desktide machines, including the 25MHz 610, 33MHz 620 and 50MHz 650, equivalent to IBM's Model 560, introduced at the beginning of the year. The operating system is AIX 3.2, IBM's Unix implementation, renamed Bull Open Software/X. Although it will compete against IBM with the boxes, Bull said it would also be working to configure the machines specifically for its own markets, and hope to be able to offer them to its banking customers for branch systems, for instance, in conjunction with its proprietary GCOS transaction processing servers (see below), tied together through the Bull Distributed Computing Model (based on OSF's DCE). To help customers make the transition from its Motorola-based DPX systems, Bull says it will make sure the same software environments (databases etc) are available on both lines, and says applications will be source-level compatible. Only small numbers of the short-lived MIPS-based product line were sold, and these have now been withdrawn. Bull also said that it was committed to maintain binary-level compatibility with IBM systems, including the future multi-processors - which means the establishment of an Applications Binary Interface that both will follow. The company is said to have an installed base of around 30,000 Unix servers in Europe.

Bull hangs back on Posix compliance for GCOS ranges

Despite its enthusiasm for Unix, Bull says it is committed to continue support for its proprietary GCOS6, GCOS7 and GCOS8 product lines, which are now positioned as specialised high-performance transaction processing servers, saving on costs by using as many common technologies to produce the three lines as possible. Unlike some of its competitors, Bull says it has yet to work out whether or not Posix compatibility for proprietary systems is anything more than a marketing gimmick, and so it has not yet embarked on the expensive process of adapting the GCOS operating systems to comply with Posix. Having re-vamped its DPS600, GCOS 6 line last November, Bull this time added two new ranges to its DPS 7000 (GCOS 7) and DPS 9000 (GCOS 8) lines. The DPS 7000 Model 400s, supporting up to 1,000 users, are housed in a small cabinet and are said to bring small systems price/performance advantages to the low-end of the GCOS 7 range. They include a co-processor "turbocharger" for database applications called the HRP (high relational performance) option, to double the speed of Oracle and later other relational databases. Available from June, priced from around \$180,000. The DPS 9000 Model 500s are also entry-level machines into Bull's most powerful range of systems, and like the new 7000s, use Bull's latest VLSI/CMOS chip technology. Available from year end, with prices starting around \$360,000.

Bull demos software technologies at Les Clays-sous-Bois

A quick whizz around the impressive Les Clays-sous-Bois research and development facility at Versailles, near Paris, France, where much of the multi-processing work on the RS/6000s will be carried out, revealed a number of interesting software projects afoot. Bull has already revealed details of its Integrated Systems Management effort, based around the Open Software Foundation's Distributed Management Environment, and is now working on some of the first practical applications to run on top. These are mostly being written with the aid of Egeria, a graphical user interface editor which cuts what would be a 200,000 line Motif application program down to 10,000 lines. Egeria also takes advantage of Bull's own library of graphics functions. Bull also has some multi-media projects on the boil in conjunction with Philips, through the Esprit MultiWorks project, and demonstrated an unannounced HyperPath authoring environment for multi-media applications, currently running on Intel-based SCO Unix systems, but also available for Windows, and soon for the IBM RS/6000.

Bull said it still continues to be part of ACE Consortium, but only as far as desktop Intel-based systems are concerned: it refused to be drawn over the question of whether its relationship with IBM would result in it favouring OS/2 over Windows 3, saying only that "Windows is what our customers are buying today".

DEC RE-POSITIONS VMS

TO COMPETE WITH UNIX LINES

With all of its efforts to establish itself in the Unix marketplace, DEC has sometimes been in danger of convincing its own VMS customers that the traditional VAX lines have not been keeping up with Unix in the price/performance race. But now it has revealed its plans for the next generation of VAXes to be built around the new Alpha RISC chip, DEC is again keen to push the advantages of staying with VAX. Accordingly it is no longer adding premium prices to the VAX Line - in the UK for instance, system prices for the VAX 4000 Model 500 have been reduced by between 14% and 21% across the range, with an unlimited open VMS user licence falling in price from £29,000 to £7000 - a 76% reduction. Micro-VAX 3100s, claims DEC, offer the best price/performance in the business for transaction processing, set at under \$8,000 per transaction using the TPS transactions per second benchmarking figures. VMS also offers the best clustering facilities and host functionality, and has at least a measure of openness with the addition of VMS Posix compliance. In the UK, the VMS and Unix sales and marketing teams have been integrated into one, an initiative that other parts of the company are watching carefully. As for the transition to Alpha, DEC's Chris Sarfas said the company would be shipping "a huge number of Alpha machines to application developers this year", and that, with at least 1,000 applications ready and running, would begin shipping Alpha systems to customers in 1993. Alpha as a transaction processing engine would begin to take off in 1994, he predicted, by which time 5,000 applications would be ready. But meanwhile, there will be new VAX products within every sector of the range within the next nine months, he promised.

IBM TAKES A HIT FROM NCR AT MEAD DATA CENTRAL

In one of the more dramatic examples of downsizing so far, Mead Corp's big Mead Data Central Inc, operator of the world-famous public Lexis and Nexis databases, is replacing one of its IBM Corp mainframes used for administration with members of the Intel Corp iAPX-86-based Unix family from AT&T Co's NCR Corp. Terms of the multi-million dollar contract were not disclosed. The first order of NCR System 3000 products included Model 3550 multiprocessors; 3450 desktide multiprocessors; 3445 departmental servers; and Co-operation software. All applications will be transferred onto the NCR 3450s and 3550s from the mainframe and will be accessible from all Mead Data Central field locations. Mead says that its mainframe was running at maximum capacity, but rather than upgrade, it searched for an alternative due to the rising costs of proprietary mainframe technology. NCR currently is helping Mead Data Central Information Systems to re-write core applications based on a pilot test that concluded recently in Dayton. Inventory, invoicing, order management and personnel tracking will be among the first applications modified. It seems likely that once the current project is complete, Mead will switch entirely to Unix systems.

SUN DEBUTS INTEL-BASED PC ACCELERATOR AND ENHANCED MS-DOS EMULATOR

SunSelect's SunPC - see front page - the \$700 software emulator, a replacement for the pre-existing MS-DOS Windows and SunIPC products, is described as a co-development with UK firm Insignia Solutions Ltd, High Wycombe, Buckinghamshire - also in Mountain View, California - partially owned by Microsoft Corp. Though reportedly not the widely used SoftPC, it is based, Ledbetter said, on SoftPC 3.0. Sun has added things like Open Look and internationalized keyboards. The software gives a Sparc workstation the performance of an Intel Corp 80286 box in protected mode. To increase Sparc's PC power, Sun has, as expected (UX No 380), also fashioned a \$1,500 SunPC Accelerator SX, an Sbus board with a 16MHz 80486sx chip and custom ASICs to achieve 80386 or better performance with SuperVGA graphics. There is a \$2,000 SunPC Accelerator DX equipped with a 25MHz 80486dx part to put Sparcs on a par with 80486 personal computers. The products become available at the end of this week with upgrades priced at \$250. PC-NFS 4.0, on the other hand, has been quietly shipping since March 19, but SunSelect, a beta site for Windows 3.1, couldn't announce it until Microsoft officially unveiled 3.1 at Comdex. The new version includes built-in console messaging, 4/16Mbps Token Ring drivers, simultaneous access to NetWare and Banyan Systems Inc Vines and easier administration. SunSelect says the new release of the PC-NFS Programmers' Toolkit is the first to enable developers to write TCP/IP network-based distributed Windows applications. The enhanced product is also first to join industry standard application programming interfaces (XTI and TIRC) with TCP/IP on the MS-DOS/Windows platform. SunSelect is pricing PC-NFS 4.0 at \$4,415 for one user, \$90 for an upgrade, but under a special 90-day promotion five seats will run to \$25 a seat, 25 seats to \$20 a seat and a site license at roughly \$13 a seat. Ledbetter, who was attracted to the subsidiary out of patriotic, America-first aspirations, believes the until will be worth \$100m in two years.

..SUNSOFT "TO OFFER WINDOWS SUPPORT"

SunSoft Inc is going to support Microsoft Corp Windows 3.0 applications under its Solaris 2.0 Unix SVR4 implementation, according to SunSoft president Ed Zander, speaking at SunWorld Expo a couple of weeks ago. However, the company hasn't decided whether support for the environment should be available as a third party solution or whether it should stick the technology into Solaris itself. Quorum Software Systems Inc, the Menlo Park, California outfit which has already done a version of its Compatibility Engine - allowing Apple Macintosh programmes to run on RISCs - for Solaris, is currently negotiating terms with SunSoft to do a similar Windows product, saying it would be an easier job than the Macintosh version.

TRASH! JUDGE CANS MOST OF APPLE SUIT AGAINST MICROSOFT, HEWLETT

Apple Computer Inc has been left with little more than a garbage can in its protracted suit against Microsoft Corp and Hewlett-Packard Co alleging that Windows infringes its copyright in the Macintosh user interface. In a surprise ruling late last Tuesday, Judge Vaughn Walker threw out almost all the elements of the case, including specific icons and general appearance, and told Apple's lawyers that their claim on grounds of general overall appearance represented a fundamental misunderstanding of the law. Apple is still expected to proceed with the tattered case on the few elements that were not thrown out, including the idea of using a picture of a dustbin to signify deletion of a file and the way Windows handles type fonts. Hewlett-Packard's lawyers reckon that the company can now seek summary judgement on the entire proceeding next month.

..AS BILL GATES PROMISES NT BY YEAR-END, OBJECT LINKING 2 IN 1993

Microsoft Corp's New Technology operating system, expected to go into beta test this month now not be put into the hands of end users until July, Bill Gates told information systems managers and journalists at a computing debate in London last week. NT, which Gates said conforms with Posix and X/Open Portability Guide 3 standards, will ship at the end of this year. At the symposium, "Are You Prepared for IT?", hosted by Zenith Data Systems, Gates spoke out on object programming, saying he thought the concept was just another hype that extends far beyond the reality available today - having said that, he said to look out for Microsoft's Object Linking and Embedding 2.0 "during 1993", saying he was all for any technology that will enable the economical re-use of parts of programs.

NETWORK COMPUTING DEVICES TO GO PUBLIC: ACQUIRES PERSONAL GRAPHICS DIVISION OF SPECTRAGRAPHICS CORP

Mountain View, California-based X-Window System terminal specialist Network Computing Devices Inc has made its first acquisition and has filed to go public with an initial offer of 2.5m shares at between \$12 and \$14 a share. The acquisition is Spectragraphics Corp's GSS Personal Graphics Division, which supplies software that enables MS-DOS personal computers to perform X terminal functions. Network Computing paid \$4.5m for the business; Spectragraphics acquired the business - then called Graphic Software Systems Inc, in June 1990 for up to \$12m. It now becomes the PC-X Division of Network Computing Devices, and its 44 employees remain in Beaverton, Oregon. It will continue to develop and market its PC-Xview line of X-Windows server software for MS-DOS- and Windows-based micros. The company developed the first graphics tools for MS-DOS, OS/2 and RS/6000 AIX, all under contract to IBM Corp. The PC-X product line will be sold through Network Computing's direct sales force and OEM customers, and via its own telemarketing and reseller programmes. Spectragraphics' newest development is PC-Xview for NT, claimed to be the first X-Windows server for Microsoft Corp's Windows NT - which doesn't actually exist as a product yet. PC-Xview for NT enables personal computer users to display X-Window applications from anywhere on the network alongside local NT ones. It is integrated with the NT environment, and enables users to access Unix applications "as easily as Windows applications", running both programs and cutting and pasting between the environments. Availability will coincide with first shipment of NT from Microsoft and will be about \$500 but pricing will be finalised when the product ships.

METAFLOW GENERATES THUNDER FROM LIGHTNING

In the same breath as admitting that Lightning, the high-end, super-pipelined Sparc chip that it was developing in conjunction with LSI Logic Corp and Hyundai Electronics, wasn't going to strike after all, Metaflow Technology also began to talk about a next-generation effort in design that would follow (UX No 273). Code-named Thunder, this latest Sparc effort is again being bankrolled by Hyundai and is being touted by the La Jolla, California-based firm at up to 200 SPECmarks. It's thought that LSI won't be the chosen foundry this time around. According to chitchat out at the recent SunWorld Expo in California, initial versions of the 32-bit superscalar part are expected produce 100 SPECmarks, and if everything goes well, then it'll reportedly be closer to the 200 SPECmark range. The first silicon is due in early 1993. Its developers are hoping to push it over 300 SPECmarks by 1995. The thing is said to handle instructions out of order and speculatively. It supposedly fetches four instructions per clock, executive five per clock and completes seven per clock.

..AS PINNACLE LAGS BEHIND VIKING

Meanwhile, the Microprocessor Report, is pegging the Cypress/Ross 1.2 million transistor superscalar Sparc chip Pinnacle as "well behind SuperSparc", also known as Viking. It is a clock slower than Viking and based on a different philosophy - it is CMOS versus Viking's BiCMOS. "Instead of pushing transistor count and die size to their limit, it divides the processor into a set of chips to keep the size of each one relatively modest. Its superscalar capabilities are not aggressive, but a higher clock rate is expected. Pinnacle-1 supports only two cache sizes and requires four chips for a minimum configuration. SuperSparc, on the other hand, can be used in a single chip configuration. Pinnacle-1 has only half as much first-level instruction cache as SuperSparc and the lack of an on-chip data cache means that it is one cycle slower on every load or store." Ross is keeping price and performance pretty much under cover, though there is talk of them shipping samples to Sun in July.

GEER ZOLOT TARGETS WALL STREET WITH WIZDOM-BASED REMOTE SYSTEMS MANAGEMENT
Tivoli Systems, Austin, Texas, is teaming with Boston-based, strategic consultant and systems integrator start-up, Geer Zolot Associates, to hit financial and Wall Street institutions, a Geer Zolot speciality. Geer Zolot was started earlier this year (UX No 370), by Project Athena mavens, Dan Geer and Ken Zolot, from Massachusetts Institute of Technology. Expectations are that, in addition to providing consulting services to Tivoli customers, Geer Zolot will develop WizDom-based applications in the area of remote systems management, enhanced security and network event tracking. It'll integrate them with Tivoli's WizDom applications and generate full-scale solutions. The results should pair WizDom with some of Athena's technologies, but specifics are still unavailable.

IGNORE THE SPIN DOCTORS: THE DESKTOP ELECTION WILL BE DECIDED BY THE DON'T KNOWS

Who will win the battle for the desktop? asks Tim Palmer.

Microsoft Corp currently owns the desktop with MS-DOS, and will do its darndest to hang on to it with Windows New Technology. IBM Corp reckons that it is so vital to its future to gain possession of it that it is betting the company on making a success of OS/2 2.0. However, it is far from certain that either of these two 32-bit contenders will be the ultimate victor. Unix - with the Unix System Laboratories Inc product code-named Destiny, currently the front-runner, is a very dark horse, and Novell Inc, whose success up to now has ridden on the back of that of MS-DOS, now appears to be an undemonstrative supporter of the Unix camp, with DR DOS as a place-holder that could turn out to be more important than most people currently imagine.

Mae West

Is history any guide? The 8-bit generation was won by CP/M with the Apple Computer Inc Apple II operating environment a very creditable second. The first 16-bit generation was won hands-down by MS-DOS with Macintosh System in second place - and winning a moral victory by setting the agenda for what should have been the 32-bit generation but in effect became the second 16-bit generation, which seems to have been won by Microsoft Windows, even though for the majority, MS-DOS is all most people want or use. The first thing that that litany reminds us of is that when it came to success, in the immortal words of Mae West (put into her mouth by scriptwriter Vincent Lawrence), goodness had nothing to do with it. CP/M was emphatically not the best desktop operating system available at the time, indeed it was not originally even written as a production operating system. Like Unix, it started life as a development environment, and like Unix, it had intrinsic features that made it unsuitable as a production operating system. MS-DOS did remarkably little to improve on CP/M so was equally inadequate as a production environment. In each case, the Apple offering was demonstrably superior, even though the Macintosh System is by no means everyone's cup of tea. The same strictures apply in spades to Unix, an environment that in its conception is quite unsuitable as a production operating system: its priorities were easy sharing of files and code and interaction between members of development teams and between teams working on different projects, where the priority for a business operating system is security and protection. Had IBM known back in the early 1980s what it knows now, it would have opened up its VM operating system, which also has its roots in development, but, coming from the button-down IBM world has many more security and management features than Unix started out with. Too late now because the Open Software Foundation in particular is pulling out all the stops to get Unix under control, dump its unpopular policies, rein in its unruly socialistic element and render it electable as a production operating system for mainstream business data processing.

Populists

And does anybody now doubt that, as our sister publication, Computergram International, has been arguing since its foundation in 1984, the inadequacies of Unix as a business operating system are irrelevant. The weight of development money from such a vast army of different interests behind it mean that it will dominate what used to be known as the data processing department however much the purists suck their teeth in fastidious disdain. It's called populism and we're all populists now. And if Unix is destined to dominate mainstream data processing, doesn't it make sense to run it at the desktop as well - why have two different - and ultimately competing - operating system worlds when the expressed ideal is to have everything working seamlessly together from desktop to the multiprocessor servers that threaten to supplant the monolithic mainframe?

With Windows NT still a gleam in Bill Gates' eye, OS/2 2.0 can lay claim to the goodness high ground, and it is difficult to see what more IBM could have done to make it electable - its erstwhile friends would say that it has cynically ditched all its principles - of closed systems, tight central control, the whole "nanny knows best and you'd better believe it" ethos that served the company so well for so long, and led to a string of successes at the ballot box in the 1960s and 1970s. But even back then in that golden age for the company, there were early forerunners of the devastating failures that have turned into a way of dismal life from the dawn of the 1980s. There was the Series/1 minicomputer, there was the 8100 distributed processor. The first was meant to unseat Digital Equipment Corp's PDP-11 on the glow of the IBM name alone, but was sent naked into the market with no software and became the ultimate dogsbody product, a computing resource for any whim that needed one, a computer without portfolio that never found a central role. The 8100 is the more compelling indicator of what might happen to OS/2 2.0: IBM spent so much money developing both the hardware and a completely new operating environment and set of compilers and utilities for the thing that it had to recoup its investment, come hell or high water, before it could be killed off, despite the fact that within a couple of years, it became clear that what users wanted as a distributed processor was the machine that eventually appeared - fatally too late - as the 9370. IBM has invested so much in the development of, and so much more in the marketing of, OS/2 2.0 that it has to plough on with it even if in 18 months' time it becomes clear that it is becoming at best a respectable also-ran in the desktop stakes. The problem there is that users that do adopt OS/2 2.0 whole heartedly run the risk of finding themselves in the same fate of neglect that 8100 users suffered after the first glow of perceived success began to fade. There seems little reason why Windows NT should fare much better: there is no unarguable reason why the average MS-DOS user that has Windows 3.0 but doesn't actually use it much, should decide to upgrade to Windows NT any time soon. One of the issues that has inexplicably failed to get even a whisper of an airing in the campaign wars of words is whether a graphical interface is the preferred environment for a large proportion of desktop users.

Don't know

Those that like the Macintosh System love it: those that don't like it detest the idea of that mass of graphical software between them and their applications, between them and the processor: like the nervous flyer, they hate the feeling that they are not in control, that if something goes wrong, there is absolutely nothing they can do to save themselves. They yearn for the feeling of security given by the alpha-numeric steering wheel and the clean, clear C: prompt. There is a very big market for graphical user interfaces but it is very far from being the whole market, and it seems highly likely that what the majority of today's dogged MS-DOS users want is simply a few further refinements to the operating system they are familiar with. In the mid-1990s, object-oriented programming promises to bring the next irresistible revolution, but until that happens, no-one should be too surprised if the mass of desktop users splits into two camps, one that goes down the Unix-with-everything route, the other that decides as a matter of policy to remain in the "don't know" came, judging MS-DOS with a touch of Windows here and there to be good enough for the next three or four years until the picture of the future becomes a bit clearer.

IBM BEATS WALL STREET FORECASTS - LIFTED BY A NEW ACCOUNTING CHANGE

IBM Corp enabled Wall Street to start last Tuesday with a smile on its face, reporting first quarter net profit of \$1.04 a share, significantly ahead of analysts' best estimates - but the figures are not quite as good as they looked, because a change in the basis of recognition of software revenues. Outright sales were down on what was a pretty dim quarter a year ago, but at least the headline figures enabled John Akers to make his characteristically jaunty statement with a little more justification than of late. He declared that "Our recently announced plan to reshape IBM into a spectrum of businesses is moving forward aggressively throughout the world, and a better focused IBM is emerging. We continued to take actions in the first quarter to strengthen our product line, consolidate manufacturing and development resources and reduce our overall workforce. Our expenses remain firmly under control. Although worldwide economic conditions remain unpredictable, we are encouraged by our improved performance, particularly in the US, and by the progress we're making in streamlining the company." For the first quarter of 1992, worldwide turnover was \$14,000m, up what is a very modest 3.3% for a company that not long ago was perceived as an engine of relentless growth. Net profits were \$595m, which compares with net profit from operations of \$556m in the 1991 first quarter, when the company of course reported a big loss because of the change in the method it used to account for employee benefits.

NCR CUTS 284 JOBS AS A RESULT OF TERADATA PURCHASE

One of the benefits of making an acquisition has to be that duplicated positions can be eliminated, and NCR Corp has had to tell a total of 284 employees at two Teradata and two NCR locations in Southern California that they are surplus to requirements. The cuts affect people in engineering, manufacturing and administrative support, the largest lay-off reportedly coming at Teradata's El Segundo base, where the payroll falls to 600 from 775. Also affected are NCR's Rancho Bernardo engineering and manufacturing base and its Torrey Pines development centre, and Teradata's Sharebase manufacturing site. Teradata chairman Kenneth Simonds, who joined from Amdahl Corp in 1984, handed in his resignation.

EUROPEAN COMMISSION'S OMI STARTS WORK ON 20 IT PROJECTS

After four years of discussion, the European Commission's Open Microsystems Initiative is reported to have finally set out on its five year mission to develop next generation microprocessor and software technology, which will utilise both new and existing architectures. Originally due to lift off last April with £200m funding (UX Nos 315, 317), OMI now gets a reported £40 for some 20 projects that span a 100m transistor chip to binary interfaces that will allow software to run across Sparc, MIPS R3000, Inmos Transputer and Acorn ARM RISC architectures - much like the Open Software Foundation's Architecture Neutral Distribution Format technology.

HITACHI'S "WORKSTATION ON A CHIP" FOR UNDER \$10

According to Electronic News, Hewlett-Packard Co's Sterling or PA10 project to do a single chip implementation of the processor and all the support circuitry of a low-end Precision Architecture RISC workstation is now being fabricated by Hitachi Ltd for use as an embedded processor - and the part is said to cost under \$10 in large quantities.

SUN VISUALISATION ACCELERATION BOARD RESELLER GOES CHAPTER 11

Towards the end of last year, Sun Microsystems Inc decided that the growth rate at the high-end of the graphics and visualisation market didn't warrant its continued investment. So it handed over its Intel Corp i860 RISC-based VX and MVX visualisation accelerators over to Fremont, California-based Vicom Systems Inc (UX No 357), which began to market the things exclusively on Sun workstations from the beginning of this year. The market, it seems, has proven too small even for Vicom, and that firm has now filed for Chapter 11 bankruptcy in the US federal courts. Vicom says it incurred massive debt during the development its own proprietary visualisation line whilst at the same time taking over Sun's products, and couldn't attract the new development capital it required. Vicom - a prominent partner in Sun's Open Graphics Initiative - and Sun, both expect the move to result in an improved focus on the VX and MVX lines as Vicom de-emphasises its proprietary technology.

OPEN SYSTEMS BANDWAGON SET TO ROLL IN UTRECHT WITH OPENFORUM IN NOVEMBER

Representatives of the UniForum open systems user group and its European counterpart, EurOpen, were in Utrecht this week to promote what is billed as the first pan-European open systems exhibition and conference. OpenForum '92, to be held in the Dutch town in November this year, includes keynote speeches from Open Software Foundation's Chuck Reilly, and AT&T Bell Laboratories vice-president of research and Nobel prize winner Arno Penzias. The aim, according to UniForum director Ed Borkovsky is to plug "a gap that still exists in executive education about open systems". Borkovsky accepts that doubt still lingers in data processing managers' minds about issues such as security, systems administration and difficulty of use when considering open systems, but believes that the message is gradually getting through. "An indication of this is Bill Gates courting Washington with claims of NT's Posix-compliance. Even some of the worst enemies of real openness now have to say they are open." US government spending on open systems is estimated at around \$4,000m, a figure he contends is reasonable to expect from European governments and one that should be enough to support the development of a European open systems industry. Michel Gien, chairman of EurOpen, points to recent examples of the private sector following government procurement policy as evidence that European business is showing interest: decisions such as that by a group of car manufacturers led by Peugeot and Renault to specify certain open systems criteria in contracts should in turn have knock-on effects for open systems take-up. OpenForum is in Utrecht November 25 to 27, preceded by two days of seminars.

HOBBIT CHIP IN "COMMUNICATORS"

More details have come to light about AT&T Microelectronics "Hobbit" RISC chip: last we heard (UX No 372) the hairy-footed little creature was being used by ex-Sun man Bernie La Croute at his pen-driven computer start-up Eo Corp. AT&T is now touting the chip round manufacturers interested in producing "communicators" with it. These hand-sized products will have a screen and an electronic pen and will be used to send electronic notes or postcards to people via digital signal processors transmitted over phone lines or radio networks. They differ from pen-based computers in that the handwriting will not have to be translated or recognised by CPU.

SOFTWARE AG OFFERS OLTP SOFTWARE ON THE RS/6000

Taking further tentative steps into the Unix arena, Software AG GmbH, Darmstadt, Germany, last week announced it will support IBM's RS/6000 with its fourth generation development language Natural, and Adabas, its relational database management system, which it is targeting at on-line transaction processing solutions. Natural, Software AG claims, is a complete replacement for third generation language environments, and although Software AG believes SQL restricts the performance of OLTP systems, its Adabas database supports an implementation of the industry-standard SQL inquiry language. It also allows applications written in Cobol, Fortran and PL/1 to be integrated into the environment. Software AG's technology joins Unify Corp's Accell and Unisys Corp's Ally development environment - which is already integrated with Unix System Labs' Tuxedo transaction processing monitor (UX No 371) - as one of a select breed of companies currently offering Unix-based OLTP software solutions. The company says it is currently in the process of evaluating a suitable transaction processing monitor for its stuff, and is looking at Transarc Corp's Encina, NCR Corp's Top End and USL's Tuxedo. Presently, Natural is partially compliant with X/Open Group Co Ltd's XA transaction processing interface, but the firm is working on that standard now. Moving cautiously into the Unix market, Software AG says it is not seeking to confront competitors at the moment. It hails from a strong mainframe background, which still represents 85% of its sales, though it says it is looking to downsize this commitment to 70% over the next two years. Software AG's managing director, Jeffrey Graham, says "our strategy for the 1990s is to move wholeheartedly into the client/server market." With ports to Digital Equipment Corp Ultrix, Hewlett-Packard Co's HP-UX and Sun Microsystems Inc's SunOS already complete, versions for Groupe Bull SA's DPX and Santa Cruz Operation Inc's Unix V.3.2 are now in beta test and due for release at the end of this quarter.

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Maybe one of the reasons Microsoft Corp's NT isn't pegged to go on Sparc is because it's little endian and Sparc is big endian: we've heard that it would mean a major rewrite, something Bill Gates hadn't figured on.

Motorola Inc is bundling the Software Components Group's real-time operating system pSOS+ with 68000-style multi-processing units bound for embedded control applications - A development kit will go for \$7,000.

Mac-on-RISC start up Quorum Software Systems is going to start delivering its first software developers product later this week, Quorum Latitude. It's only a month past schedule, not bad considering. Meanwhile, Unix System Labs, which has a good server story but may lack something on the desktop end like applications, is reportedly trying to get Quorum interested in Destiny.

Now that the Apple Computer Inc v Microsoft Corp lawsuit has been defanged and the only thing standing between Bill Gates and world domination is the Federal Trading Commission - see page three: there may be more truth than not in the observation that Microsoft wants IBM to have OS/2 so they can't be accused of being a monopoly.

With the name Kalieda sounding to some rude quipsters like a venereal disease, they're saying Taligent is the cure.

Roy, Utah-based, Iomega Corp is starting to break into the Sun market having signed Sun distributors Access graphics, Government Technology services and Sun Microsystems Federal to peddle its Bernoulli removable drives to the technical, commercial and government arenas. Meanwhile, Iomega has enhanced its products to the same drive to work with Unix, Apple Macintosh and personal computers machines, has also made its drives work with the NeXT Inc and Silicon Graphics Inc's boxes via interfaces.

Highland Software, Palo Alto, California, has signed Software Research Associates, Japan's largest independent software house, to distribute its Unix FlexIm network licence manager in Japan: it has also given its UK distributor, Productivity Through Software a charter for all of Europe.

Canon Inc, which markets the Apple Computer Inc Macintosh and the NeXT Computer System has VAR agreements with Digital Equipment Corp and IBM Japan Ltd, is adding the Hewlett-Packard Co's HP 9000 Unix workstations to its line-up.

According to insiders, sales of NeXT computers in Japan are proving difficult, despite a growing number of Japanese language applications for NeXT. Canon is now saying bravely that its huge \$100m investment in NeXT Inc will still bring it benefits in the long-term.

Anil Gadre, vice president of systems product marketing at Sun told Unigram a couple of weeks ago that a Sparc version of Novell's Portable NetWare would arrive soon: meanwhile it's thought the two will shortly announce NetWare SunLink to run on top of Sun's Solaris 2.0 for Intel Corp platforms, which is thought to be a key part of Sun's bid to capture a share of the Unix-on-Intel market.

Silicon Graphics Inc has taken a worldwide licence for San Rafael, California-based Z-Code Software Corp's Z-Mail electronic mail management software which runs under Motif: SGI is also to distribute Z-Mail on its entire hardware range - prices go from \$300 for a single-user licence.

Unix International is circulating a monstrously hefty tome cataloguing the 5,500-odd software applications under Unix SVR4, a compilation of products and services from over 2,400 companies: The Product Catalogue can be yours for \$15 plus shipping and handling.

Xhibition - the X-Windows show - calendared for June 15th to 19th in San Jose, California, is expecting to fetch more than 100 exhibitors: Microsoft Corp and DEC are citing it as one of the key technical conferences to explore NT and ACE applications development. Sessions begin on Monday June 14 and the exhibit starts Wednesday June 17. The show has an Applications Theatre showcasing business applications, imaging, multimedia, distributed computing and three-dimensional stuff and of course, X-Windows.

Following its fellow Motorola Inc 88000 travellers, Dolphin Server Technology AS (UX No 376) and Harris Corp's computer division (UX No 380), Data General Corp - which admits to having chewed the fat over alternative RISCs, but has decided to stick with the 88000 series (UX No 376) - is expected to announce its own plans for systems based upon the next generation 88110 shortly, likely to include a complete re-haul of its existing AViiON workstation and server series.

DEC has added two X-Windows terminals to its VXT 2000 line: a new version of the low-end 15" model does away with the separate cabinet and integrates all components into the monitor itself - that starts at \$1,700. A 17" colour model comes in at \$4,700: both ship next month.

Unisys Corp's French subsidiary has won a \$9.3m order from the Agricultural Bank of Algeria to automate its 250 branches and 36 agencies in competition with Groupe Bull SA and Siemens-Nixdorf Informationssysteme. 240 U6015 systems and 66 U6305 boxes running SYBU Arabic banking applications from French software house Steria, together with 600 AP series printers and other peripherals will hang off the bank's existing Unisys A6 and B5900 systems.

UK, Cambridge-based Tadpole Technology plc is touting its Sparcbook notebook as fetching 12.6 SPECmarks, 12.7 SPECint and 12.5 SPECfp, slightly faster than the IPC workstation from Sun Microsystems Inc, claiming it performs integer intensive applications equally as well as it does floating point applications: the Sparcbook is now on the GSA schedule being peddled to the US government by C3/Telos - Genstar Rentals in Palo Alto, California is renting it out.

Sparc wannabe, California start-up Integrix Inc, has a graphics accelerator board, the SGX 120, which it says is identical in resolution to Sun Microsystems Inc's 1280 x 1024 resolution GX+ board, but only requires one Sbus slot: it's priced at \$2,750 with availability later this month.

This year's Object World event from July 20 to 23 in San Francisco promises to be a "not-to-be-missed" diary date. The Object Management Group has organised a keynote panel session on July 21 that brings together Borland International Inc chief Philippe Kahn, Lotus Development Corp vice-president for software development John Landry, Microsoft Corp senior vice-president Paul Maritz, NeXT Inc chief Steve Jobs and head of Taligent Inc Joseph Guglielmi to discuss "the strategic role of object technology for the software industry."

Control Data Corp looks unstable again - the company is restructuring into a holding company and three operating companies of which only the computer group will retain the Control Data name. Names for the services and government subsidiaries have not yet been chosen, but the structure hints at plans to sell some or all of the businesses. A merger between the computer side and the proposed Silicon Graphics Inc-MIPS Computer Systems Inc still looks like a logical development.

It's all done with computers... US columnist William Buckley Jr has worked out that if Electronic Data Systems Corp founder Ross Perot does decide to run for President, his commitment to spend \$100m of his estimated \$3,000m fortune on his campaign, it represents about 3% of his capital worth, about half what his wealth generates in a year, so that by election day in November, he will still be richer than he was when he started out.

Expanding on the agreement that AT&T's Computer Systems Division forged with Banyan Systems Inc last year, NCR Corp has now sealed a pact with the Westborough, Massachusetts-based company, said to be worth \$25m over the next three years: NCR is to market and support Banyan's Unix-based Vines network operating system - in the US and Canada initially, worldwide at a later date - whilst Banyan distributors will be able to sell NCR products.

Ever thought the term "Fortune 500" attached to a company was a little silly and pretentious? A glance at the latest list published in Fortune magazine shows it to be not just silly but ludicrous: the list purports to show only US industrial companies - but it classifies AT&T Co as a service company and eliminates it altogether despite the fact that with NCR Corp added in, AT&T's non-service businesses alone would give the firm a ranking in the 50s.

Carol Bartz, Sun Microsystems Inc vice-president of worldwide field operations, has jumped ship to become chairman, president and chief executive of Autodesk Inc, Sausalito, replacing Alvar Green: she is succeeded at Sun by Joseph Roebuck who becomes vice-president of worldwide field operations for its Sun Microsystems Computer Corp arm.

Its official: Boris Yeltsin has gone object-oriented - he has ordered 2,500 NeXT workstations from Houston-based computer distributor Talus Corp. Talus president, Steve Sarich says "its like we've been dropped on a different planet and all the Martians love us" - surely sales of NeXT boxes aren't that rare, or are they?

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COMPAQ, DEC, INTEL AND SANTA CRUZ JEOPARDIZE MIPS COMPUTER SYSTEMS ACE EFFORT

Despite the continuing efforts of its best soothsayers, the Advanced Computing Environment initiative seems to be gathering unstoppable and irreversible entropic momentum. Two of ACE's founding fathers, Compaq Computer Corp and Santa Cruz Operation Inc are now being widely tipped to stymie their respective MIPS-based ACE development work; not just because MIPS is about to lose its independence to Silicon Graphics Inc, but also because the Intel Corp 80586 (P5) bandwagon is now gathering a full head of steam, whilst DEC is also doing its damndest to undermine the whole MIPS effort with its Alpha RISC (see below). If SCO lets its MIPS development ride, one reason is certainly Intel's efforts to pump up the performance - now reported at over 100 MIPS - and accelerate delivery schedules for the P5. Another is simply the lack of interest in Open Desktop on MIPS. Compaq, meanwhile, has been talking down its ACE role ever since Rod Canon left the bridge. None of this is good news for MIPS, whose chief executive, Bob Miller, recently told Unigram that his job "is to maintain a two-to-one [better] price performance advantage over Intel" (UX No 377). If SCO downgrades its commitment to MIPS, and if, as seems likely, Compaq shelves its MIPS/ACE plans, it throws the chipmaker's long term future further into doubt. Many are already sceptical of MIPS' independence, following its proposed acquisition by Silicon Graphics, and now it's drawing fire from all quarters, not least from shareholder DEC. MIPS' poor first quarter figures - see page three - will only add fuel to these fires. SCO's MIPS strategy - see page seven.

DEC-MICROSOFT ALPHA-NT PACT SEEN AS UNIX KILLER

DEC and Microsoft, neither of whom could ever be accused of being the least bit friendly to Unix, look for all the world like they're ganging up to try and kill it off once and for all, using NT-on-Alpha as the blunt instrument. The long-awaited announcement of the port was finally made last Friday, right before DECWorld '92 opens this week in Boston. The software is expected to be deliverable by the end of 1992 or the beginning of 1993. The announcement managed to elevate the NT import to the level of a strategic operating system for DEC, which is embracing it as a "corporate solution", language rarely heard from DEC's mouth unless it's talking about VAX/VMS. It has also pledged the pair to establishing NT-on-Alpha as "a premier RISC-based systems platform" and has them promising machines "that could fundamentally change the face of computing" as we know it. Both companies contend that their relationship is different from all the other strategic alliances and partnerships that are the rage in the industry, being distinguished by, among other things, a shared perspective and a growth path into the next century.

Ace in a hole

The limelight cast on NT-on-Alpha and the number of adjectives spent on it this week is expected to have a negative, if not fatal impact on the rickety ACE Initiative, whose founders, including Compaq and SCO, are perceived to be abandoning it for greener pastures, despite claims to the contrary. DEC, which continues to maintain an official fidelity to ACE, at least in the short term when MIPS RISC boxes are all it can deliver, last week also cast Alpha as an "evolution to ACE." It says it is in discussions with its ACE partners about Alpha, but continues to hesitate to formally offer it as still another hardware platform for ACE to absorb. DEC and Microsoft said that they expect NT-on-Alpha, which they are jointly engineering, to be a high-volume, multi-sourced platform for users, software developers, systems designers and chip manufacturers - exactly the same thing ACE was supposed to be.

OLIVETTI POPS ACE BOX

Inc C Olivetti & Co SpA last week rolled-out its first contribution to the ACE initiative, in the form of the Olivetti M700 Series, built around MIPS Computer's R4000 RISC. The first model in the series, the M700-10, is compliant with ACE's Advanced RISC Computing specification. Like other firms that have announced ACE boxes, there is no ACE operating system yet available for the box, though an early version of Microsoft's NT will be available in June - the complete offering from December - with Unix System Labs' SVR4 due at the beginning of 1993. Olivetti, a prominent member of the Apache splinter group of ACE companies that insisted on going the Unix SVR4 route, says it won't offer Santa Cruz Operation Inc's ACE Open Desktop implementation, except as an option if customers require it. Olivetti chief operating officer, Elserino Piol, said "we're betting on USL's SVR4 - SCO ODT is not for us." The EISA bus M700-10 uses a 50MHz R4000PC and is rated at 40 SPECmarks. It is the production version of the PWS 4000 porting platform which has been shown at all the major computer exhibitions since Comdex/Fall last October (UX No 357). Prices for the M700-10 start at \$14,231. Olivetti says it doesn't expect its newest machine, MIPS' ARCsystems or the rest of the ACE consortium's MIPS offerings to have any real impact on the market for the next two or three years, leaving Intel Corp's dynasty intact for some time to come. The next batch of M700 machines are due next spring.

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THUMBS DOWN FOR UNIX, NT IN FROM NOWHERE IN COMDEX POLL

People that go to Comdex don't rate Unix, the twice-yearly technology poll conducted by Byte magazine among attendees seems to suggest - and IBM Corp still has an uphill fight to win over the hearts and minds that are presently in the Microsoft Corp camp. The table shows the percentage of respondents that predicted dominance in five years' time for each of seven operating systems listed in the table. The results - reported in **Microbytes Daily** - demonstrate a growing interest in 32-bit operating systems: OS/2 more than doubled its vote, to 15% from 7% last autumn - but Windows NT, which wasn't even in the poll last autumn, won 16% of the votes despite the fact that most of the respondents have likely scarcely seen it. Unix slumped to 10% from 13%, the lowest it has ever scored in the Byte poll. Top choice was still MS-DOS with Windows, with 44%; the 18 percentage points it has lost in the past six months have all gone to Windows NT and OS/2. Some 9% still think that no single operating system will dominate. The poll also asked which of six technologies would have the greatest practical impact on the respondent's company in the next five years. Here multimedia got 38% of the votes, up four points from October, while portable systems held even at 20%. Object-oriented programming received 16%, up from 14% in the autumn, but wireless communications fell two points to 12%. The gathering perception that pen input has been over-hyped was reflected in the fact that it slipped two points to 8%, and speech technology doesn't have many friends either, dropping one point to just 7%.

Operating System	Spring 92	Autumn 91	Autumn 90
MS-DOS + Windows	44	62	39
Unix/Xenix	10	13	16
Mac System 7.0	2	n/a	n/a
MS-DOS alone	3	5	18
OS/2	15	7	12
Windows NT	16	n/a	n/a
Taligent/Pink	1	n/a	n/a
None will dominate	9	10	12
Mac OS	n/a	3	3

PLEXUS HAS NEW IMAGE-BASED WORKFLOW INFORMATION PRODUCTS

Plexus Software Inc, the image processing software specialist based in Swindon, Wiltshire in the UK, has announced two new workflow automation products ImageFlow and Case Management Application - CMA. According to European manager Rick Mellinger, ImageFlow isn't tightly-coupled to an application: instead, the client-server-based software links up to any application via an Application Programming Interface, enabling workflow processing to be separated from application processing. It's based on Windows 3.0 and the first implementation supports the Informix relational database running on Sun Microsystems Inc Sparcsystems, NCR Corp, Hewlett-Packard Co HP 9000, IBM Corp RS/6000 and Santa Cruz Operation Inc Unix servers. Case Management Application, has been developed using ImageFlow in combination with Plexus' flagship XDP image processing software and is claimed to offer 70% of the core functionality needed to develop most vertical market imaging applications. Both products are due to ship at the beginning of June. ImageFlow is \$7,500 for five users; \$250,000 for 500 users, plus \$2,800 for the development tools. CMA will cost in the region of \$115,000. In the UK, Plexus sells its products via Andersen Consulting, Hoskyns and British Telecom, through smaller organisations such as Altos distributor CST, and via hardware partners including Hewlett-Packard, NCR and DEC. ImageFlow is expected to support Oracle sometime next year. Plexus, which went bankrupt in 1989 following an unstable transition from hardware to software production, was subsequently rescued by Dallas, Texas-based Recognition Equipment Inc.

DEC'S POLYCENTER EMBRACES UNIX...

Digital Equipment Corp says it has added 20 new or enhanced products, services and partnerships to its Polycenter schema for enterprise computing management. There is a new version of the DECmcc family, version 1.2, which adds 12 management modules including autoconfiguration of TCP/IP, DECnet and FDDI nodes, full featured event notification and on-line documentation. DECmcc Unix Distributed Management software integrates system and network management on DEC's Ultrix and other Unix systems, and extends Network Application Support to Unix. The company has picked up Technically Elite Concepts Inc's Net/Pod, which enables DECmcc operators to determine local area network usage patterns and detect network problems before they lead to failures; the combination monitors local and remote segments simultaneously. There are new DECinspect network security management products for security analysis and reporting on a network of VMS, Ultrix and SunOS systems. The 2.2 release of DECinspect Compliance Manager is enhanced for VMS and adds Ultrix and SunOS support. There is a new DECinspect Intrusion Detector for VMS, release 1.0, which is designed to challenge hackers by detecting, tracking and invoking countermeasures against suspicious and hostile activities in real time. Additions to Polycenter include UIS-Archive Connection from UIS Inc, which archives data generated on Unix workstations onto VMS servers and UIS-PACS Connection for tracking and charging for use of system resources by Unix workstations on the VMS server. DEC says it plans a new DataCentre Monitor for Ultrix, a watchdog for SunOS, HP-UX and AIX Unix. It also plans a Unix-based distributed management application for performance, file system and user account management, designed to handle from five to 100 Unix systems.

...DISBANDS UNIT BORN IN FEBRUARY

Taking a bizarre leaf out of the Grand Old Duke of York manual of management, Digital Equipment Corp has disbanded the engineering group it created only in February, giving rise to perceptions that the company is in a deeper crisis than observers had previously realised. The company is also now expected to embark on a new round of lay-offs in addition to those already planned for, with the need for further provisions against its fourth quarter figures - despite still having \$694m of the \$1,100m reserves already taken that is not yet allocated. It is now down to 126,000 employees and is thought to want to get that down to 100,000 by December. The functions of the group created under chief engineer William Streckler will be distributed to the marketing groups for the separate product lines; the move also affects the heads of personal computers and peripherals operations, and of DEC's Unix business. The stated aim is to bring product engineering closer to customers; the **Wall Street Journal** quotes a senior DEC manager saying president Ken Olsen feels DEC is not getting an adequate return on its \$1,600m annual investment in product engineering.

ENCORE HAS CONCEPT/32, 88000 BOX - RSX 90 SYSTEM

Fort Lauderdale, Florida-based Encore Computer Corp has introduced a new machine that combines a Concept/32 processor with its 88000 RISC-based machine. The result is to create the RSX 90 System, which runs both real-time Unix and MPX-32. The RSX 90 System features a development and execution environment based on Encore's UMAX V Unix and MPX-32 operating systems. A windowing terminal interface is available and this uses Macintosh-like commands and functions in an icon-based screen. RSX 90 users get access to software engineering tools with graphical user interfaces, VME-based input-output options, along with incremental compute and graphics processing power for use in real-time applications. The RSX 90 also features Network File System, GOSIP, Fibre Distributed Data Interface and X25 interfaces. IEEE 754 floating point for data sharing with other RISC systems is available and, you will all be relieved to hear that UMAX V is fully Posix certified, or so the company says. The RSX 90 co-processors are interconnected via Encore's patented Reflective Memory System. Multiple RSX 90 systems can be connected via this Reflective Memory System to form a cluster. Multiple clusters, each one spanning distances of up to a mile, can be configured using Encore's Fibre Optic Reflective Memory Systems. Clusters also can include other members of the Encore 90 Family as well as Concept/32 systems which can be configured together to form scalable systems for complex application requirements. Entry-level prices for the RSX 90 system start at \$159,900.

SOLBOURNE FOUNDER QUILTS AFTER POOR RESULTS

Solbourne Computer Inc founder Doug MacGregor has been bounced as president and chief executive officer of the Sparc-compatible company he created, and is replaced by his vice president of international operations, Carl Herrmann. MacGregor turned in his "mutually agreed" resignation at a closed board meeting on April 17. The surprise move is believed to have been precipitated by the privately held company's unprofitable year-end results tallied as of March 31. A spokesman said the Longmont, Colorado-based firm ran in the black in the first two quarters but the colour turned blood red in the last half, particularly the third quarter. Souces indicated Matsushita Electric Industrial Co, Solbourne's major stakeholder with investments in the firm totaling more than \$50m, has been attempting to exert tighter controls of late. Herrmann, a Wharton MBA who has been with Solbourne for the better part of a year, has a components background, having previously run Amphenol in Hong Kong. MacGregor, who was taking his dismissal philosophically, admitted to loss of confidence in his leadership. He remains on the board, representing employee shareholders, and intends to take a thirty-day breather before looking for what to do next.

MIPS BUSINESS DRIES UP IN FIRST QUARTER...

Cataclysmic first quarter figures from MIPS Computer Systems Inc - a loss of \$12.7m on sales that plunged 46% to \$23.7m underline how much the company needs rescuing by Silicon Graphics Inc. Turnover was down 50% from the \$47.3m reported for the fourth quarter to December 31, with product revenue down 24% from a year ago at \$27.8m, and technology revenue dwindled to just \$2.5m from \$16.2m a year ago. The company says that while it expected somewhat lower revenue in the first quarter because of seasonal factors and a product transition to R4000-based systems, the revenue decline was principally down to deferrals in customer orders and licensing activity as a result of the announcement of the proposed merger deal.

...BUT SUN'S THIRD QUARTER SHOWS ONLY MODEST SLOWING OF GROWTH

Sun Microsystems Inc reported third quarter net profits up 4.6% at \$61.4m on turnover that rose 12.2% at \$952.1m last week. Net profit for the nine months rose 9.4% at \$135.6m on turnover that rose 14.8% at \$2,616m. Net earnings per share rose 7% to \$0.60 in the quarter and 11% to \$1.34 in the nine months. The figures show a modest slowing of growth - 12% in the quarter, 15% in the nine months, but the deceleration does not yet look serious, although the figures must include a contribution from the Interactive Systems Corp businesses bought by Sun that is not in the previous year's figures. The company says it shipped a record 52,000 units, including desktop computers and servers (exclusive of upgrades) during the quarter, and that SunSoft Inc distributed a record number of Unix licences, more than 70,000, to users of Sparc-based and iAPX-86-based kit, to manufacturers of Sparc-based machines and to other licensees. Sun notes that business in Japan and other Pacific Rim countries was robust, while the US and Europe turned in more modest growth rates. The company has a record cash and near-cash treasury of some \$928m.

THOMSON-CSF TO MAKE VERSIONS OF POWERPC FOR MILITARY WORK - CETIA TO BUILD REAL-TIME WORKSTATIONS

Thomson-CSF SA, which has already adopted the Motorola Inc 88000 RISC for embedded applications, announced agreement in principle with IBM Corp to use the PowerPC RISC in real-time applications for space, defence and professional electronics products in Europe. Under the terms of the initial agreement, Thomson-CSF will be able to use the PowerPC architecture to develop digital processing functions for its equipment and will be licensed to manufacture some microprocessors from the PowerPC family and customise them for defence and aerospace applications. Thomson's Cetia SA subsidiary is to build real-time workstations using the chip VMEbus, Futurebus+ and OSF/1. IBM would have marketing rights to any workstations it developed.

IBM UNLEASHES MARKET-LEADING RS/6000 MODEL 970

IBM Corp last week duly introduced the rack-mounted RS/6000 Powerserver 970 and the 970E model, which is what the thing is called when it is upgraded from a 930, 950 or 950E, killing off the 930 in the process. It comes with a new 0.5 micron four-level metallisation CMOS CPU clocked at 50MHz which has a 32Kb on-chip cache, four times the size of the existing one. The speed of the Micro Channel is doubled to 80M-bytes per second and the box has integrated SCSI port and supports an option of an additional eight full slots for a total of 16 Micro Channel slots. Base disk capacity is 2.7Gb using two 1.37Gb drives and maximum disk storage capacity increased to 132Gb with attachment of up to four 7202 Model 900 Expansion Racks. The 930, 950 and 950E can be field-upgraded with the new processor board and all the fixed disks and most other media devices can be carried across. A maximum of eight 64-Port Asynchronous Controllers are supported on each input-output board and up to eight four-port Multiprotocol Communications Controllers. Up to four sets of Fibre Distributed Data Interface Adaptors can be configured per system. The Powerserver 970E requires a minimum of 64Mb memory, so people upgrading may need to order more. Maximum is 512Mb. IBM reckons the 970 achieves a SPECmark rating of 100.3, making IBM the first to produce a RISC system which scores a century on the benchmark, and that it also does 100.9 transactions per second on the Transaction Processing Performance Council's TPC-A benchmark. The 970 costs \$94,500 and \$833 a month maintenance from June 26. Upgrades are \$51,500 from a 930 and \$34,500 from a 950 or 950E. IBM also has new 1Gb and 1.37Gb disk drives for the RS/6000, \$4,800 and \$5,480 respectively, as well as an M-Video Capture Adaptor at \$2,250, a new Ethernet transceiver converter for connection to twisted-pair cable networks at \$280. The 9333 disk subsystem is now available on the 340 and 350E. The machine is being pitched at banks and telephone companies; it also said it plans to make available ruggedised versions of the 340 and 350 systems and servers; and that it cut prices 17% on the Powerserver 950, and 14% on the 400Mb disk drive for the RS/6000. There is also a new release of AIX, 3.2.1, which consists of enhancements that are separately and optionally installed. The enhancements include support for new hardware, new printers and functional enhancements, which can be added without reinstalling 3.2.0. IBM also no longer intends to support NeXT Computer Inc's NeXTstep Release 2 on AIX/6000 or AIX PS/2 machines.

APPLE'S NEWTON DIGITAL ASSISTANT PREVIEWS IN MAY

Apple Computer Inc's personal digital assistant - now said to be code-named Newton - is being described as "one of the most exciting electronics products in years" according to sources that spoke to the Associated Press. Now expected late next month, the pen-driven handheld computer is said to be able to organise data such as an appointments diary and can communicate with other machines by dialling phone numbers and sending facsimile messages. Although the machine, which is designed to read hand print but not cursive writing, is expected to be at the Spring Consumer Electronics Show in Chicago, it is not expected to be available until early next year. Apple confirms that the machine will be built by Sharp Corp and will cost under \$1,000. The company has said that it will license the technology to others. Newton is said to be powered by a RISC microprocessor, presumably Acorn Computers Plc's ARM device, which is now owned by Advanced RISC Machines Ltd, the Cambridge, UK-based design company in which Apple, Acorn and VLSI Technology Inc are all investors. Sanyo Electric Co licensed the RISC for embedded applications.

DEC-MICROSOFT PACT

Microsoft, DEC will collaborate on software

To forward their shared aims - see front page - Microsoft Corp will move its own Windows applications, starting with Excel, to NT-on-Alpha, and the twosome will ensure that applications written for NT will recompile for Alpha as well as Intel and MIPS platforms. Microsoft, meanwhile, will provide a full set of Alpha development tools in the NT Software Developers kit starting in the fall. As expected, Microsoft is going to the DEC multi-vendor networking well: NT will be a strategic part of DEC's Network Application Support (NAS). The companies are writing common application programming interfaces (APIs) for both NAS and the Windows Open Systems Architecture, Microsoft's recently articulated blueprint for a single Windows API across heterogeneous networks in global enterprises. DEC will port its DECtp Desktop for the ACMS transaction processing client environment, a key NAS element, to all NT platforms so programs can interact, and both companies will market the product. Microsoft will put DEC's NAS-based eXcursion X-server on NT to enable interaction with X applications on Unix, VMS and other environments. DEC will also extend its Pathworks PC integration, another NAS service, to include support for NT clients and servers.

Low-end Alpha projects

DEC apparently has a number of low-end Alpha PC projects going on: add the code name Jenson, prospectively a \$5,000 box, to the \$3,500 50 SPECmark Triumph we've already heard about (UX No 376). Meanwhile, DEC is supposed to have Alpha boxes running on the floor at DECWorld '92 in Boston this week: expectations are that they may have a deskside Flamingo, and one to four processor Laser there. The Sandpiper desktop is of course another possibility, but DECwatchers wonder if that model will be delayed to get its \$12,000-\$15,000 price tag down to between \$6,000 and \$12,000. Meanwhile, there are rumours that the single or dual-processor Cobra, currently pegged at under \$100,000 rather than the previously estimated \$200,000 (UX No 374), may not ever make it out the door because of overlap problems. It was thought to be pitched at the VAX 4000 market.

Microsoft and DEC have been porting NT to Alpha for the last year: conveniently DEC has a facility just a mile away from the Microsoft campus in Bellevue, Washington. DEC says it delayed any announcement until now so there would be meat on the bones, not just promises.

The shared Windows Open Systems Architecture/Network Application Support APIs DEC and Microsoft are working on include standardising on SAG, the SQL Access Group Standard for database access. The mail API for Windows, Messaging Applications Programming Interface (MAPI) will be integrated with NAS X.4000. It will ship mid-1993. Both companies will adhere to the Remote Procedure Call API of OSF's DCE and DEC will support the WINsockets API providing transparent access to multiple transports such as DECnet/OSI and TCP/IP.

UBS Securities vice president Marc Schulman correctly forecast the massive NT-on-Alpha tie-up and the intimacy between DEC and Microsoft thirteen months ago (UX No 328), more on the basis of logic than sources.

DEC and Microsoft are jointly developing an SQL Server GateWay for Rdb/VMS so Windows users can access information residing in Rdb/VMS databases. Rdb will then be able to connect with the 125-odd existing applications designed for Microsoft's SQL Server. They expect to have the stuff ready in July.

DEC says its 21064 Alpha chip is capable of delivering 400 peak MIPS via dual instruction issue and claims Alpha architecture will eventually allow up to ten simultaneous instructions.

Not to say DEC is going whole hog for Microsoft, but it has cut a master license agreement to give Microsoft University courses and sell video products at its 145 training centres around the world.

Maybe DEC president Ken Olsen has finally found his ultimate successor in Bill Gates, and maybe one of these days Billy will just whip out his personal checkbook and buy DEC outright.

FRENCH IT INDUSTRY SCOURS SILICON VALLEY FOR FRIENDS

Touting France as the foremost software preserve in Europe, a bunch of French companies and research and development institutes under the aegis of the French Scientific Mission will be in Silicon Valley June 23-24 trolling for partnership opportunities including joint research and development agreements, joint patent development, licensing and strategic alliance. The Mission has corraled such personages as Sun Microsystems Inc's John Gage, Chorus Systemes SA's Hubert Zimmerman and ex-Apple Computer Inc honcho Jean Louis Gassses to speak. CASE, expert systems, neural networks, object-oriented databases, man/machine interfaces and information retrieval systems. It'll be at the Hotel Sofitel in Redwood City. Contact (415) 397-4440.

OSF LAUNCHES MOTIF 1.2, CLAIMS COMPATIBILITY WITH 1.1

The Open Software Foundation says version 1.2 of its Motif graphical user interface is now generally available. It's based upon X-Windows 11 release 5, and is binary compatible with Motif 1.1 applications, according to OSF. It has enhanced internationalisation features and the ability to work with a mixture of different fonts and character sets. OSF says it has increased consistency with Microsoft Corp Windows, Hewlett-Packard Co's Presentation Manager and IBM's Common User Access. The Foundation says there are now 1,500 applications available for Motif, and with over 1,000 licensees, it runs on some 145 hardware platforms and 47 different operating systems. A full re-distribution licence for version 1.2 costs \$15,000, source code with limited distribution rights is \$2,000.

SUMITOMO TO SELL OPUS SPARC PRODUCTS IN JAPAN

Opus Systems Inc has got itself an exclusive Japanese distributor, Sumitomo Corporation, the giant international trading concern. Sumitomo, which quietly started getting JLE-compatible Opus products four or five months ago to seed its large accounts, will be handling both the Opus Sparc workstations and add-in Sparc cards. It expects the bulk of its business to be in workstations. It forecasts moving volumes in the low thousands in three years and wants to represent 10% of Opus' business. Currently the company says about 45% of its business is offshore, including selling 25MHz add-in cards to the Chinese petroleum industry via Singapore.

VERSANT HAS INTERACTIVE GRAPHICAL C++ TOOL SET

Menlo Park, California-based Versant Object Technology Inc has come out with the Versant Interactive C++ Tool Set, the first C++ software system for developing graphical end-user business applications in object-oriented environments. The Interactive C++ Tool Set is also designed to add interactive graphical interfaces to existing C++ applications and to support multimedia, workgroup and second-generation client-server applications. The company claims that it is the first graphical tool set specifically designed to make C++ code re-use a practical reality. The Tool Set is tightly integrated with the Versant object database, providing a delivery environment and enabling developers to take full advantage of the client-server features in the database, including check-out and check-in to personal and group databases and versioning. It works with standard OSF/Motif and third party C++ class libraries. It includes an interpreted C++ subset that excludes the more complex features of C++ for initially defining classes. It consists of Versant Screen, a tool that enables users to create highly interactive applications; the Interactive Object SQL uses SQL-like statements to access and manipulate objects within the Versant database and Versant Report interactive report generator. Screen and Interactive Object SQL are currently available; Report will be out next quarter. No prices or details of the hardware environments that are supported were given by Versant.

TADPOLE DEBUTS SPARCBOOK 1 IN EUROPE - SPARCBOOK 2 TO FOLLOW

by William Fellows

As expected, Tadpole Technology plc, the UK company that took itself off to Austin, Texas, and came up with the first notebook computer based on Sun Microsystems Inc's Sparc RISC chip and Unix, has decided the time is right to bring its Sparcbook 1 back to Europe (UX No 371). Unable to wait, many European hopefuls have already tried to get thing direct from the US.

All 13 models of the notebook, from the monochrome S1-85G-8 with 8Mb RAM, 85Mb disk and floppy drive, to the colour S1-240C-32 with dual 120Mb disks and 32Mb RAM are available in the UK and France from this week through Tadpole's Cambridge- and Paris-based offices. Prices go from £3,640 to £11,545. The modem included in US models isn't approved by the British telecoms authorities - apparently its components are too close together and don't meet the required specification - so Tadpole is recommending another for use in its place.

Distributors for Benelux and Scandinavian markets are currently being finalised - they'll be announced in May, when a telemarketing campaign for Germany countries also begins. Italy will get its own distribution outlet in September and resellers for the Japanese and Asian markets will be announced in June. Tadpole is also lining up a couple of UK value-added resellers who will sell the Sparcbook into specific application markets, though the company says it definitely won't be putting a complete third distribution channel in place. The Sparcbook will - like it is in the US - be available for rent. Meanwhile, Tadpole has picked up a second firm, Isometrics, to peddle the Sparcbook to the US government, and says a second strategy to make it easier for US government bodies to buy its technology will be revealed in a couple of weeks (UX No 381). Also in the US, two unnamed systems integrators have agreed to take the notebook on-board - they'll also be announced in a few weeks' time.

US sales

US deliveries of the Sparcbook 1 began at the end of January, and according to Tadpole chairman, Robert Gilkes, there are already some 160 corporate customers, one of which has taken 40 of them. Gilkes says he will be happy if the firm can sell between 2,500 and 4,000 of the notebooks in the US by the end of this year, with European business expected to generate between a quarter and a third of the US total. Its main market area in all regions is the Sun user community - early users will be independent software developers, oil companies and others for on-site work, telecoms companys for remote diagnostics, and the financial services industry.

12 month lead

Gilkes says his firm hasn't run into the Sparc laptop builders like RDI Computer Corp and Toshiba Corp too often on its travels - for starters the Sparcbook has no Sbus or peripherals. Although it believes it has a technological lead of around a year in the RISC notebook market, Gilkes doesn't expect Tadpole to have the ground all to itself for much longer. Fujitsu Ltd and Toshiba are tipped as likely candidates for RISC/Unix notebook announcements, one possibly coming as soon as next month. Sharp Corp is also thought to be working on a similar tack, though not for this year.

40MHz Sparcbook 2 this year

Gilkes says a Sparcbook 2 will be on the market later this year that'll be based upon Sun's 40MHz Sparcstation 2 technology - though it won't replace the Sparcbook 1, which will live on. There may even be a 70 SPECmark, multi-processing Sparcbook on the horizon - Gilkes says Tadpole is committed to "closely tracking the performance of Sun's desktops," starting with the Sparcstation 2, then whatever follows.

Gilkes confirms he's happy to stick with Sun's Solaris Unix implementation, and although the firm took out much of the networking stuff obviously surplus to Sparcbook requirements, he's not much interested in the various cut-down Unix desktop implementations. "Unix Lite would have been okay four years ago, but with the performance and memory capacity of today's machines - and their future potential - we don't need cut-down Unix. It's cheaper to keep the whole lot and remain compatible - in the corporate environment you need all the bits and pieces on top of the kernel in any case."

Despite Sparcbook, Tadpole's bread and butter business remains its VME and Multibus board solutions for the present. Following what Gilkes admits has been a very poor year in the VME marketplace, that part of its enterprise will contribute a declining proportion of the company's revenue as sales of the Sparcbook rise. The cross-over point at which sales of the notebook outstrip revenues from its other products is still some way off, however, and it certainly won't be reached this year. Tadpole currently spends a larger proportion of hardware research and development money on board design, not on the Sparcbook, although most of its software development efforts go into the notebook version of Unix.

"Looking at other RISCs"

Gilkes is content enough with the Sparc market that his firm has to itself at the present, though he admits that the company is looking at other, unspecified RISC architectures, and it really is only just little more than co-incidence that Tadpole's US office is just down the street from where IBM/Motorola Inc's PowerPC RISC efforts are concentrated. There are, says Gilkes, several other CPU technologies that could benefit from Tadpole's notebook treatment, but they're not public yet, though they will be by year-end, he advises.

ANOTHER R4000 DERIVATIVE IS SPOTTED

Michael Slater, in the latest issue of *Microprocessor Report*, chides us all for being mean to MIPS Computer Systems Inc and the ACE Initiative. In his analysis, Hewlett-Packard Co, Sun Microsystems Inc and Intel Corp were out for blood, DEC and Compaq Computer Corp started eating their own children and "the press, in a striking example of pack journalism, turned vicious," playing up all the bad stuff - most notably MIPS' financial distress - never mentioning the \$50m it has in the bank - though see page three for MIPS' disastrous results. Slater, however, who figures MIPS for one of the strongest long-term challenges to Intel's iAPX-86 dominance in the personal computer market, allows that MIPS has nevertheless created some of its own headaches - like delays in the R4000 RISC stemming from its decision to produce a chip that pleased everybody, yet pleased nobody. It wasn't performance-intensive enough for Silicon Graphics Inc, but included stuff like multi-processor support that was completely unimportant in a mainstream Intel competitor, but yet it remained hard to design and debug. It needed a two-tier design approach, but now that it's got one - compliments of the VRX implementation (UX No 379) - the window of opportunity isn't as wide open. The *Microprocessor Report* has gotten wind of at least one other low-cost, low-power R4000 derivative in the works beside the NEC/MIPS VRX. It seems there's a MIPS spin-off called QED under contract to Integrated Device Technology, which is producing a 50MHz, 2W, 60 SPECmark piece of silicon with cache memory size significantly larger than the original, but on a die less than half the R4000's. Sampling is expected in the second half of next year with volume following in early 1994. Toshiba Corp and Siemens-Nixdorf, IDT partners, are supposed to supply the chip, with Toshiba reportedly being especially hot to trot.

EUROPEAN ROUNDUP

ICL is introducing Openframework Version, its guide to implementing open systems solutions: ICL says the guide will include advice on standards conformance and software compatibility issues, functionality, performance and a comparison of different approaches to implementing open systems.

According to Tektronix UK Ltd, Marlow, Buckinghamshire, commercially available X-Windows applications are increasing at a rate of 40% a year: under the company's validation programme, over 60 new applications have been approved after testing on Tektronix TekXpress X terminals.

\$16m-a-year French software house Prologue SA has clinched a joint sales and marketing deal with IBM France for the RS/6000 version of its multi-user application development language Abal: Prolog says installation and after-sales support will be provided by its Symbiose Informatique subsidiary.

London-based Chernikeeff Networks Ltd is now offering Japan Computer Corp's range of MIPS R3000 RISC-based colour X-terminals in the UK as the SuperXR series: prices go from £4,500 for a 17" model to £6,000 for the 20" version.

Phoenix Computers Ltd, Northampton, UK, is offering Dataram's DR-6000S memory boards for IBM's RS/6000 series, which increases main memory on the Model 320 from 8Mb to 128Mb, and to 512Mb across the rest of the range: the boards come in 16Mb and 64Mb configurations and are claimed to cost 30% less than IBM options.

Dickens Data Systems' Max-Terminal - an asynchronous X-terminal for the IBM RS/6000 - is now available in the UK from Oxford-based Nextage Systems Ltd.

Xerox Imaging Systems, Peabody, Massachusetts, has begun shipping Scanworx, its document input system to France, Germany, Italy and Spain: running on Sun Microsystems Inc's SunSparcstations under SunView or USL's Open Look. Scanworx is distributed by Compact Computer Systems in Austria, Rank Xerox in France, Nuvoe Technologie Grafiche in Italy and in the UK by Xerox Imaging Systems Ltd.

The Kewill Group's Trifid Software Ltd, Congleton, Cheshire, has released a Unix version of its IBS integrated business system for manufacturing industries.

In the UK, Cambridge-based CadCentre's GNC Plus is to support Hewlett-Packard's 9000 series 700 workstations: GNC Plus, its Unix Cam package it allows CAD-generated component designs to be turned directly into machining programs for NC/CNC tools.

Amsterdam-based, Associated Computer Experts BV and Parsytec, Aachen, Germany have signed an OEM agreement for ACE Expert T800/T9000 transputer compilers. Parsytec has integrated ACE's Expert compilers with Parix its run-time development environment for its parallel supercomputers, GC-series. ACE Expert compilers features C, ANSI-C and Fortran-77 front ends and a language independent back-end for the T800. Parsytec will deliver the ACE compilers with every GC-system.

UK Unix connectivity house Unipalm Ltd, Cambridge, is to distribute Macclesfield, Cheshire-based JSB Computer Systems' MultiView, Windows-to-Unix integration software through its European channels.

VMark Software Inc is setting up UK and European subsidiaries in Frensham, Surrey, and Paris, France: VMark UK Ltd is headed-up by Ed Aston, whilst Freddie Rodriguez continues to serve as manager of operations, now at VMark Europe Inc. The firm has appointed Steve Machnik vice president of marketing in the US.

In Europe, DEC has appointed Dr Juan Rada as director of strategy and new initiatives - he hails from the International Institute of Management Development in Lausanne, where he was director general.

London-based Personal Workstations Ltd is now offering the XI extension to XVT's graphical user interface toolkit for £275: developed by Orca Software, Colorado, XI allows portable database applications to be created that take advantage of the environments XVT supports.

Technology Ventures Ltd, Luton, UK is distributing the TGRAF-X 4200 graphics emulation tool from Grafpoint Inc in the UK. Emulating a Tektronix terminal under X-Windows, the TGRAF-X 4200 can be installed on most hardware platforms including HP 9000 and IBM RS/6000. The tool allows the user to run any applications supporting Tektronix terminals on X-Terminals or workstations even if the application does not support X.

The Unix Forum '92 expo and conference is being held May 26-27 at the Internationales Congress Centrum Berlin in what is now a united Germany.

Rair Computer GmbH will be selling Addamax's secure operating system and networking products including its Compartmented Mode Workstation (CMW) in Germany to both commercial and government accounts under an exclusive reseller licence: the two will collaborate on localisation. Meanwhile, Addamax has picked European OSI vendor the Marben Group to provide OSI networking technology for the Addamax CMW.

In the UK, Misys subsidiary, TIS Software Ltd, Slough, Berkshire, says it has ported its Strategix financial and distribution system to Sequent Computer's Symmetry series - Sequent reseller, Cambridge Online Applications Ltd becomes a Strategix VAR.

Following its bid for Dataid SA in France, AT&T Co's AT&T Istel subsidiary has moved on to Germany and won agreement for the acquisition of CAB Computeranwendungs-Beratungs GmbH, a software house specialising in applications that run mainly under Unix. It is one of Hewlett-Packard Co's most successful German resellers and has 100 employees; 1991 turnover was about \$12m. AT&T Istel plans to combine the company with its 1991 acquisition, Infoplan in Cologne. The first European Design Automation Conference is scheduled for 7-10 September at Hamburg's Congress Center and is expected to attract 5,000 visitors: among those exhibiting are DEC, Harris, Sun, Cadence, Fujitsu and i-Logix.

In the UK, Uniface and Information Dimensions have developed an interface driver which integrates Information Dimensions' Basicplus and the Uniface 4GL across mainframe, minicomputer and Unix platforms: Basicplus is a relational database designed for document processing and multimedia.

In the UK, Luton-based Optim Computers Ltd has released Help3000, a help desk system for MS-DOS and Unix platforms: it features tracking capabilities, an electronic data interchange interface, call tracking and logging. Shipping now, prices start at £8,000.

Lynwood Scientific Developments, Crowthorne, Berkshire, has signed an OEM agreement with Tandberg Data AS for its X-Windows terminal technology: in return, Tandberg is to take Lynwood's security tools.

Instrumatic UK Ltd, Marlow, Buckinghamshire, has launched TSSI's X-Windows-based Wavemaker graphical test generator for Sun Microsystem Inc and Hewlett-Packard Co platforms.

UK, Oxford-based Network Designers Ltd, is to supply Scottish Airports Ltd - a subsidiary of British Airports Authority - with its Tango+ connectivity system for linking ICL DRS Unix servers with VME mainframes at Edinburgh, Aberdeen and Glasgow airports.

Computer Systems for Business Ltd, Burnham, Buckinghamshire, has launched a manufacturing, accounting and distribution package for Unix systems dubbed TIMS: the firm has recently opened a branch in Warsaw.

Netherlands-based, Westmount Technology BV has announced ISEE/Acell, a CASE tool that generates applications for relational databases: ISEE/Acell supports Oracle, Sybase, Unify 2000, Informix and Ingres and runs under Microsoft Windows, Open Look and Motif. Available now, a full licence for one user costs \$10,000.

In the UK, Oxford-based Hytec Computer Systems Ltd, has been bought out in a £1.8m management buy-out the ICL reseller of its Unix mid range computer systems will be headed up by Suat Yilmaz who will take over as managing director.

SCO KEEPS WEATHER-EYE ON INTEL P5 AS ITS INTEREST IN MIPS WANES

Last week, SCO's European business development manager, Steve Spill, was able to say only that his company's Open Desktop port to MIPS/ACE is "continuing as of today, but we'll be looking closely when the Intel P5 [80586] is launched." According to Spill, there are a number of checkpoints that SCO must negotiate over the coming months if it is to maintain its MIPS effort - each requiring a commitment of political will, as well as cash. With the ACE ODT developers' kit for DEC's R3000-based machines under its belt (UX No 366), SCO has to decide whether to continue work on HAL, ACE's hardware abstraction layer, a version of which is required for each port of ODT to an ACE member's MIPS platform. Then it has to decide if it actually wants to shrink-wrap the stuff, and finally whether to go ahead and put together a marketing and distribution effort for the completed product. SCO's schedule - now effectively subject to change without prior notification - would have an R4000 developers' kit out in the third quarter, with a completed offering early next year. "We're not at a checkpoint at the moment," says Spill, "but the P5 will be there before we reach the next one... and many people are waiting for the P5 before deciding whether to go to the R4000. There are many less ACE machines around than we thought there would be by this time," he added. Ing C Olivetti & Co SpA's European corporate marketing director for personal computers, Fabrizio Gimona, revealed that SCO even offered to develop a custom version of ODT for Olivetti's latest box - see front page - an offer the Italian company eventually declined. "We were very hungry for a shrinkwrapped operating system for our ACE machines but we had to say no to SCO," he said. Gimona claims SCO had already told Olivetti it would be refocusing on Intel some time ago. Spill says SCO will make an announcement regarding its Intel plans around mid-year, its new-found enthusiasm is a turnaround from last year when it was bullish about its MIPS Open Desktop effort, but seemed ready to leave the Intel ACE version to tread water, saying it wouldn't be around until 1993 (UX No 364).

SONY SHOWS TWO MORE NEWS WORKSTATIONS

Sony Corp has two new models of its NEWS workstation family, both based on the 64-bit R4000 RISC chip and with speeds of 100 MIPS: the NWS-5000 is a desktop model and the MWS-5900 is a server and both use the R4000SC chip clocked at 66.7MHz. They run the NEWS-OS4.2 version of Berkeley Unix, and feature support of the AppleTalk protocol, facilitating connection with Macintosh computers. The 5000 desktop model has a memory checking function for picking up memory errors, while the 5900 server can make use of a large-capacity disk array with up to eight disk drives.

ENCORE HAS CONCEPT/32, 88000 BOX - RSX 90 SYSTEM

Fort Lauderdale, Florida-based Encore Computer Corp has introduced a new machine that combines a Concept/32 processor with its 88000 RISC-based machine. The result is to create the RSX 90 System, which runs both real-time Unix and MPX-32. The RSX 90 System features a development and execution environment based on Encore's UMAX V Unix and MPX-32, the operating system of the old Gould line. A windowing terminal interface is available and this uses Macintosh-like commands and functions in an icon-based screen. RSX 90 users get access to software engineering tools with graphical user interfaces, VME-based input-output options, along with incremental compute and graphics processing power for use in real-time applications. The RSX 90 also features Network File System, GOSIP, Fibre Distributed Data Interface and X25 interfaces. IEEE 754 floating point for data sharing with other RISC systems is available, and, you will all be relieved to hear that UMAX V is fully Posix certified, or so the company says. The RSX 90 co-processors are interconnected via Encore's patented Reflective Memory System. Multiple RSX 90 systems can be connected via this Reflective Memory System to form a cluster. Multiple clusters, each one spanning distances of up to a mile, can be configured using Encore's Fibre Optic Reflective Memory Systems. Clusters also can include other members of the Encore 90 Family as well as Concept/32 systems which can be configured together to form scalable systems for complex application requirements. Entry-level prices for the RSX 90 system start at \$159,900.

USL TO OPEN UP IN FRANCE, ITALY AND GERMANY...

Unix System Labs Inc is to extend its European operations and is planning to open a French office by the end of the month. It's part of USL's strategy to manoeuvre itself back into the commercial sector - the company says the operation will be concerned with systems integration and promoting Unix awareness in the government and corporate markets. Other offices are planned for Italy and Germany in the next few months.

...ADDS DESQVIEW TO DESTINY

At the Ing C Olivetti & Co SpA launch last week, see front page, Unix System Labs Inc president Roel Pieper confirmed, as reported (UX No 370), that it is to adopt Veritas Software Corp's file management system for its Destiny desktop environment. Pieper says it will also feature Quarterdeck Office Systems Inc's MS-DOS implementation of the X-Window system, Desqview/X - which has finally appeared after lengthy delays (UX No 380) - if its can get the thing up and running on it. The port as "not running too smoothly," at present, he said.

GOLDMINE UK TAKES OPEN INC'S ASPECT

Newly formed Goldmine Technologies Ltd, based in Berkhamsted, Herts, says that it will be distributing Aspect, the graphical user interface development system from Open Inc, Colorado Springs (UX No 315, 358), for Apple Macintosh and IBM's Presentation Manager in June and October respectively - versions for OSF/Motif, Open Look and Microsoft Windows are available immediately. As well as distributing the new version 1.2 of Aspect, due out at the end second quarter, Goldmine claims that it has other distribution deals in the pipeline to be announced over the next few weeks. The company sees its future as mainly GUI-shaped and admits that Aspect takes advantage of the lack of GUI standards: "standards will not happen", commented Malcolm Neill, the company's director, who formed Goldmine with fellow-ex Sybase UK employee John Rodford and technical director Brian Clarke, one of the originals at Pyramid UK. It was set up in conjunction with Swiss entrepreneur Niels Rasmussen, owner of Nercom Informatik, who has also set up Goldmine Technologies AG in Zug, Switzerland (UX No 374). In the US, Open Inc has 50 customers for Aspect, including NASA and AT&T Bell Laboratories, and already has one in the UK which Goldmine coyly refused to reveal. Entry-level price for a single-user copy of Aspect is £1,500.

IMAGINE HAS MULTI-AUTHOR APPLICATION DEVELOPMENT ENVIRONMENT

Imagine Multimedia, the Ann Arbor, Michigan-based spinoff of the University of Michigan and creators of MediaStation, has developed InterActive Author, a hypermedia software for authoring interactive applications. Imagine says it has taken the complexity out of authoring by creating a program that constructs sophisticated hypermedia apps without recourse to a scripting language. It can be combined with MediaStation for media acquisition, editing and management. Together they support multiple authors working on different aspects of an application simultaneously over a network. InterActive Author, whose price is still unfixed, will be available on NeXT computers in the third quarter, with an X-Windows version coming by the end of the year. An X-Windows version of MediaStation will be shipping on DECStation 5000s this summer.

KNOWLEDGEWARE SEEN AS A TAKEOVER TARGET OF SOFTLAB GmbH

It seems KnowledgeWare Inc may be an acquisition candidate for hungry Munich software house Softlab GmbH which, on behalf of its 75% owner Bayerische MotorenWerke AG, is known to be assessing various complementary software businesses as potential buys, particularly in the US. According to Computerworld, Softlab recently offered \$350m for the company - which has been experiencing a rough time of late, reporting mid-term losses of \$3.5m back in January. A spokeswoman for Softlab, however, told the US paper's German sister publication, Computerwoche, that the figure had been plucked out of the air and, while confirming that the two companies are in discussion, said that negotiations are no further advanced than those it is currently having with at least four other US firms. Beyond that, Softlab isn't giving anything away: US rules say it may not discuss talks until agreement is won.

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Altus Finance, a subsidiary of Credit Lyonnais in France, has followed Unix System Labs Inc's example and invested \$1m in Paris-based micro-kernel Unix house Chorus Systemes SA (UX No 359).

Cypress Semiconductor Corp is disappointed with its Sparc business, which is falling and impacted its earnings in at least the last quarter: but now it reckons its Pinnacle Sparc shot (UX No 381) will save the day in the second half.

Sparc laptop house RDI Computer Corp, San Diego, California has had a change of guard: start-up specialist, Roy Wright, has been brought in as president to run day-to-day operations, while co-founder, Rick Schrameck, remains chairman and CEO responsible for the company's direction, strategic alliances and new product development.

Informed sources say that Texas Instruments Inc had Sun Microsystems Inc's SunOS Unix running on the superscalar Viking Sparc a long time ago, but when schedules for the long overdue part began to slip, it clammed up, leaving the grapevine to hum with negative vibes. The sources, who have seen Viking in action, say that the thing works, and may even perform ahead of expectations when it eventually sees the light of day. Claiming to have "seen it all," they say Fujitsu is doing some interesting things with Sparc, but the Cypress Semiconductor Corp/Ross Pinnacle effort is "still a long way off."

NCube Inc, Foster City, California says that it expects to win agreement within three months for one of Japan's Big Three mainframe manufacturers to start marketing its massively parallel machines, and suggests that Siemens AG may also adopt them for marketing in Europe.

Santa Cruz Operation Inc and Inglewood, California-based Locus Computing Corp say that Locus's Merge MS-DOS-under-Unix is now available as SCO Merge for all Santa Cruz Unix System V/386 systems; it runs MS-DOS applications as Unix processes on iAPX-86 machines.

AT&T Federal Systems has signed a systems integration teaming agreement with MIPS Computer Systems Inc, which includes Bell Laboratories implementing a MIPS System V.4 applications binary interface-compatible version of B1-rated System V/Multi-Level Secure Unix for MIPS' new R4000 workstations and servers; AT&T intends to sell the MIPS machines to the US federal government.

Dutch water, gas and electricity distributor, Energie Delfland NV, Delft, has signed for UK, Cambridge-based Smallworld Systems Ltd's geographical information system which it is to use for its Atlas project management and distribution system running on Sun Microsystems Inc workstations.

Data General Corp, the British Computer Society, the Scottish Office Industry Department and the Department of Trade and Industry are co-sponsoring the first Scottish Open Systems conference, which takes place at the Ibrox Stadium - home to Glasgow Rangers football club - on May 14th.

Correction: Hewlett-Packard Co says that its new HP 9000 RISC server line should boost performance by up to 70% at the top end of its line, not 7% as reported (UX No 380).

Unisys Corp is slowly settling on Staffware as its workflow automation software, Unisys Information Systems having pledged to make it their only workflow offering, renamed their Staffware-derived OFIS Procedures product back to the generic labeling Staffware and a co-marketing agreement with the Staffware company: Staffware has also nosed out the Dublin-created Workhorse workflow software at Imix, Arix's imaging arm, in Imix' Supervision integrated imaging and workflow system. Imix is supplying both Wang and Cincinnati Bell with their Unix imaging products.

Deleware-based Security vendor, Raptor Systems (UX No 377), is offering to install one of its new Eagle network security systems free-of-charge for 30 days on any network using TCP/IP. They'll also bring in an independent security auditor to estimate its effectiveness: Eagle will be installed on the user's Sparc or RS/6000.

Sunwatchers: if you were expecting Texas Instruments to formally announce the Viking chip before Sun trots out its Viking boxes May 19, take heart. TI will bear its soul officially on Viking performance, price and availability May 7.

Uniform Asia '92 conference will run concurrently with the first Asia Pacific Networking, Open Systems & Workstations (NOW) exhibit August 25-27 at the Marina Mandarin Hotel in Singapore. A hundred companies are expected to participate.

DEC will be porting its strategic Rdb/VMS relational database to Alpha VMS and OSF/1 platforms.

Hewlett-Packard's KGB claims DEC/Europe is under orders not to sell Unix and move Vax 4000s and 6000s instead even though Europe is hot for Unix: It's the margins, you see.

HP's Larry Lytle, loaned to the Open Software Foundation back at its inception to handle recruiting, has made a 180 degree turn after a stint at Netwise as strategic relations director where he had philosophical differences with OSf: He's now gone to Unix System Labs as director of corporate communications.

Vivid Publishing in Los Altos, California, makers of the TypeView font utility for Next, has come up with an environmentally aware software packaging scheme it's calling EarthPack and challenging other software vendors to do the same: it's making the specifications available to any who inquire and will license the EarthPack name free of charge.

InterCon is now up to version 1.2 of Planet X, its X Window client software for the Mac, promising 20% faster performance in colour mode and improved session security. It says Telnet users won't bump into each other anymore. Planet X will also run on Apple Quadras now and support Apple mono-chrome displays.

Seymour Cray has been left holding the baby at his struggling Colorado Springs-based Cray Computer Corp: Neil Davenport has resigned as president and chief executive, saying that Cray Computer had reached the point where it has appropriate resources to complete the Cray-3 so he is free to seek other opportunities - but the company is still seeking its first firm customer for the super-computer. The firm said chairman Seymour Cray would be assuming the two additional posts for now.

The rumoured deal between NeXT and either Compaq or Dell that first broke last January (UX No 368) has so far failed to materialise: observers claim it's because Steve Jobs is demanding a big down payment from both firms even though he intends to shrinkwrap NeXTstep-on-Intel.

Meanwhile, observers, who claim there are still chats going on between HP and NeXT (UX No 372), say NeXTStep won't run on just any 486: it takes SuperVGA just to get mono and a JAWS card to get colour.

Talus, the little Texas company with the order for 2,500 NeXT workstations from Russian president Boris Yeltsin (UX No 381), says the way the order's written it doesn't have to provide NeXT machines, merely computers running NeXTStep: it estimates the value of the order at \$25m, but not in cold cash. It's prepared to barter for Russian oil and lumber.

Sun is set to cut prices across-the-board this week on its desktop line as part of its transition to Viking starting May 19th: just how deep they'll go remains to be seen. According to their latest results they were eating up backlog last quarter.

San Jose, California-based 3C, now trafficking as Super Workstation with ex-Sony VP Mike Hilgenberg in as president, claims it is making the LSI/Sbus-based CPU and frame buffer boards for Goldstar's Sparcettes in the US and shipping them to Korea for final assembly: it also says it's planning a Viking-based add-in card and is designing its own Sbus/Mbus 24-bit and 32-bit graphics accelerators.

Novell Inc reckons it has four paths into the Unix market: NetWare, NetWare for Unix, NetWare NFS and Univel Inc.

Sequent Computer Systems Inc has privately placed some \$20m - £11.3m - worth of convertible debentures to repay bank debt and provide working capital

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CYPRESS/ROSS HYPERSPARC TO CHALLENGE TEXAS VIKING...

If Cypress Semiconductor Corp has its way, Sparcs will really begin to fly over the next couple of weeks. Whilst Texas Instruments Inc gears up to launch its long overdue and much-detailed superscalar Viking, or SuperSparc RISC part this Thursday May 7th, Cypress, San Jose, California, in conjunction with Ross Technology Inc, its Austin, Texas-based subsidiary, is determined not to give Texas an easy ride. It will unveil its own high-end Sparc challenger, HyperSparc, five days later, on May 12th. Although Cypress/Ross is keeping price and performance of its own superscalar effort pretty much under wraps, the HyperSparc - known until now only by its code-name, Pinnacle - will start life as a 55MHz offering in its first iteration, set to rise to 80MHz later in the year. HyperSparc is implemented in CMOS, against Viking's BiCMOS, and weighs in with 1.2m transistors, compared with Viking's reported 3.1m-strong component set. Setting up the prospect of some lively debate over the next couple of weeks, Cypress said last week that "HyperSparc is a better product: we can make HyperSparc," casting Viking as "a big complex chip which is unmakeable." Both Sun Microsystems Inc, due to announce systems based upon Viking on May 19th, and UK Sparc-builder ICL, which has already announced its Viking intentions (UX No 371), are expected to make statements about Viking availability on the 7th. Both, however, along with UK Sparc notebook builder, Tadpole Technology plc, Cambridge, will also be present at the Cypress/Ross roll-out. Sun and ICL say they are there to "endorse" HyperSparc, though neither rules out use of the part in future system plans. ICL reminds us that it is "not unusual for the company to dual-source components," whilst Sun says that its software will run on any Sparc International SCD-compliant chip.

...AS NIMBUS READIES CHIPSET FOR SUPERSCALAR SPARC BUILDERS

Getting its timing just right - and hoping to be the Chips and Technologies Inc of its breed - Santa Clara, California start-up Nimbus Technologies Inc will next week come out with the first chipset, targeted at the compatible builders, which is tailored for use with the superscalar Sparcs - Viking and HyperSparc - both due in the second half of the year, see above. Using the current 40MHz Cypress Sparc to begin with, Nimbus says its board will offer a simple swap-out capability for the superscalars when they arrive. Nimbus believes HyperSparc may even leapfrog Viking to be the first of the superscalars to become available to all-comers. Details, page three.

NOW SCO SUSPENDS MIPS/ACE DEVELOPMENT: GAME SET AND MATCH AGAINST THE INITIATIVE?

Seizing the opportunity offered by Compaq Computer Corp's formal resignation from the Advanced Computing Environment initiative (UX No 382), the Santa Cruz Operation Inc, finally steeled itself to announce the suspension of all of its MIPS Computer Systems Inc development work last week - effectively tendering its resignation from the ACE crowd. SCO said it felt no need to formally resign because of the loose construction of the initiative. "Who are we going to resign to?," wondered business development vice president, Jim Wilt. SCO's plug-pulling ends months of press and industry speculation (UX No 364), about the sincerity of its ACE commitment. SCO says its decision was based primarily on Intel Corp's reported success in catching up with the performance promised by the ACE environment, and that it will re-focus its Open Desktop Unix efforts on the forthcoming P5 80586 part. Intel has been quietly improving the performance of its next-generation iAPX-86 variant - which now, said by the company to be at over 100 MIPS, is more than equivalent to MIPS' R4000 RISC - and has brought forward its delivery dates. The news means ACE has now effectively lost two of its main founder members - of MIPS' submission to Silicon Graphics Inc isn't counted - and at best can count only on the flirtatious attention of Digital Equipment Corp and Microsoft Corp, who are conducting their own extra-marital affair. The fallout was precipitated by an ACE members meet last Friday 24th, at which it was decided to de-emphasise the whole Intel side of the equation - at Intel's own instigation it now appears (see page four). Compaq, it seems, had no stomach for a MIPS-only menu, and SCO found that prospect just as unappealing. So after a brief twelve months in existence, ACE has paddled itself up the Swanee, its dream of emulating the success of the personal computer revolution now just a pipe-dream. Details and background, see page four.

X/OPEN "TO RE-VAMP USER EFFORTS"

Following news that it was working on an open systems "business specification" for commercial users and organisations (UX No 373), the X/Open Group Co Ltd is at last preparing to make good some of the promises it made last year about giving users a bigger say in its affairs. To start the ball rolling, X/Open is to announce a re-vamped version of its Xtra user requirement process later this month, which will define a new set of relationships between the Xtra, the User Council, and X/Open's various technical working groups. The idea is to ensure that users, via Xtra, and the work groups, focus their efforts on real, achievable goals, rather than flights of fancy (remember the calls for graphical user interface standards in 1990). According to X/Open's chief marketing officer, Alan Davies, as "the user community is the audience of X/Open... Xtra will be owned by the User Council." Additionally, X/Open expects to incorporate ideas from other user organisations and standards groups, many of which - including NIST, the US national institute of standards - are now taking increasingly pro-active roles in the open systems arena. X/Open is likely, for example, to embrace some of the work being done by SPAG, the European Standards Promotion & Application Group - see page five - in its next XPG5 release. Indeed, faced with the encroachment of other bodies into its traditional territory, X/Open says it intends to position itself as an "integrator" between the various standards and user group efforts. X/Open's apparent inability to address some of users' most pressing concerns has led recently - at least in the opinion of its own consultants at the Gartner Group - to some "concern about the future of X/Open:" it's now being addressed.

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SAMSUNG DEBUTS OFFICE PRODUCTS

Samsung Software America is bringing out the first of its anticipated shrinkwrapped Unix office automation products: Replix, a full-featured networked client/server Fax management application targeted at mission-critical environments in medium to large organisations. It is distinguished by an X-Windows/Motif interface, and its ability to integrate with optical character readers and document processors. It also supports Postscript and Monotype fonts for improved fax quality. It runs on Sun Sparcstations, IBM RS/6000s, HP 700s, SCO Unix, Interactive Unix and Intel i860s, all of which are available in the same package. Ships begin in May, through a two-tiered international channel of distributors and VARs. Samsung is looking for OEMs. Replix will be sold on a network, floating license basis. The base package, with two concurrent interface clients, unlimited servers, support for one modem and unlimited command-line clients, starts at \$2,400.

SEQUOIA LAUNCHES SUPPORT NETWORK

Sequoia Systems Inc, Marlborough, Massachusetts, has come up with Sequoia Support Network, claiming an industry-first in being able to instantaneously detect and automatically respond to system errors anywhere in the world. The network is expected to help the company penetrate geographically dispersed markets more quickly. The network's centre is a dedicated Sequoia 400 running Sequoia Automatic Fault Evaluation (SAFE) software at the company's headquarters in Massachusetts. The network uses X.25 and UUCP to link Sequoia systems worldwide including sites in Eastern Europe and Russia. Fault conditions are reported to SAFE which initiates a series of diagnostic and corrective steps using rule-based artificial intelligence. Replacement parts, if needed, are automatically sent and the site is guided through installation via Sequoia's Enhanced remote Maintenance Access (ERMA) software.

TRANSTECH STARS WITH 16 PARALLEL SYSTEMS SOLD AHEAD OF FORMAL TIE-UP

Hot news on the exhibition floor of the recent Supercomputing '92 show in Tokyo was the conclusion of an agreement between UK parallel system maker Transtech Parallel Systems and Nichimen Data Systems Corp, subsidiary of trading house Nichimen Inc. The deal provides for Nichimen to distribute in Japan Transtech's 80860-based TRAM-TTM 110 parallel processor board, as well as associated Transputer software such as compilers. The products will be incorporated as a daughter board into the ParallelWare series of parallel processing systems sold jointly by Nichimen Data and Nippon Steel Corp, and sold as a new model the ParallelWare/80860 model. According to Yoichiro Yoda, of the AI Sales Section of Nichimen Data, the systems will be targeted initially at research and development environments, and the company hopes to sell 50 to 60 of the machines in the first year. As a result of a test marketing exercise conducted since February, when discussions began with Transtech, 16 systems have already been sold in Japan.

PARALLEL CENTRE APPLIES VIRTUAL REALITY TO DESIGN OF ADVANCED LIGHTING SYSTEMS

The UK Department of Trade & Industry-Science & Engineering Research Council-funded London Parallel Applications Centre, LPAC, is to host what it hopes will become the "largest Virtual Reality facility in Europe". The result of a collaboration between the London Centre, Thorn EMI Central Research Laboratories and Bristol-based Division Ltd, the "major new project" will focus on real-time lighting simulation. LPAC director, Dr Peter Dzwig, describes the two-year effort as a "collaborative project between academia and industry, aimed at developing commercially useful products and services". The participants will provide advanced adaptive lighting of complex interiors with support for dynamic lighting and environmental modelling, so that designers and customers can enter a realistic virtual building where they can change the placement and intensity of light fittings and even modify the environment. Work at the new Virtual Reality facility will be based on research and development already performed by the partners - LPAC member Queen Mary & Westfield College, for example, has been working on imaging, human computer interfaces and visualisation. Thorn is involved in lighting simulation and parallel computing (via its GP MIMD Esprit interest); and Division is contributing its ProVision parallel Virtual Reality computing engine. Orders for the new equipment are already flooding in, and the facility should be "at full strength" by summer 1993. The full system will comprise a standard ProVision integrated Virtual Reality system, plus a next-generation scalable visualisation engine based on 16 Intel 80860 processors capable of 1.3 GFLOPS.

MT XINU ADDS A NEW MACH 3.0 OPTION TO ITS MAC386 PRODUCT

Back-to-front Unix house Mt Xinu Inc, Berkeley, California has come out with a version of the Mach 3.0 microkernel developed at Carnegie Mellon University as an add-on to its Mach386 product: it runs on Intel 80386 and 80486-based AT-bus computer systems and provides complete Mach 3.0 microkernel source code, a complete build environment which enables users that do not have a detailed knowledge of Carnegie Mellon University system development tools to modify and rebuild the Mach 3.0 kernel, a binary version of a BSD server which makes it possible to run the Mach 3.0 kernel and the BSD server in place of the standard integrated 2.5 Mach kernel provided with Mach386, source code for many system-specific utilities, which have been modified to operate with Mach 3.0, and a source-code example of a simple Unix-like server. The Mach 3.0 add-on is targeted at researchers and early-adopters of microkernel technology, and does not require an Unix System Laboratories Inc source licence. The Mach386 package costs \$1,000 including the Mach 2.5 kernel, the 4.3 BSD interface and utilities, GNU utilities from the Free Software Foundation (GCC, GDB, GAS, Emacs, and Bison) on-line reference manuals, a networking module, an X Window System 11.4 module and a supplemental on-line documentation module. The Mach 3.0 add-on sells for another \$200.

RUSSIAN ROUNDUP

JV Dialogue, the sprawling banking software company, is to open an office in London: the aim of the office - which will be staffed with just one person - is to promote, distribute and support software developed in Russia by its constituent organisations; the only success story for Soviet software in the West so far is that of Paragraph which has agreements with Apple Computer Inc and Go Corp on its cursive handwriting recognition software.

Comtek '92 can, it seems, still justifiably be billed as Russia's main trade event: this year the show attracted over 70 hard currency-paying exhibitors, most of which were Western companies; that so many companies are willing to pay \$350 per square metre is testimony to the fact that the Russian market retains the interest of a significant portion of Western companies; show organiser Crocus International says it invited 200,000 "specialists" to the show, but in reality, Comtek has become a popular event in all senses of the word with most companies using the show as an opportunity for general exposure to the Russian market rather than as a means of generating many hard sales leads.

Aleks (Russia), a Moscow-based security company, is marketing a computer database of business partners to avoid: rather suspiciously launched on April 1, the service - Conduit - has information on what it calls "untrustworthy commercial partners" and the database is apparently updated by aggrieved entrepreneurs and firms that have been victims of fraud or deceit and are seeking redress (or revenge) - canny Aleks says it cannot be responsible for the data contained on the database; users must pay 5,000 roubles as an initial fee, plus another 100 roubles a month and 20 roubles for each reference.

The Soviet-US joint venture Telekos is now providing a voice-mail service in Moscow: according to Alexander Gromov, Telekos deputy director, the system runs off a computer installed at the Moscow city telephone exchange; the mail box has two minutes' memory for input messages and half a minute for output messages; the subscription is 1,000 roubles hook-up fee plus 2,300 roubles per month.

Two organisations have now managed to set up clearing facilities enabling them to dispense hard currency in Moscow: Credobank, a Moscow-based commercial bank, began offering cash advances to Visa card holders from early March and American Express has been offering a limited service to its card holders from its Moscow representative office; Credobank has an on-line connection to a London clearing centre to check all cards - the connection was organised by Sprint Networks; the bank also plans to offer cash service in some Moscow hotels.

NIMBUS TO DEBUT CHIPSET SOLUTION FOR SUPERSCALAR SPARC BUILDERS

Santa Clara, California start-up Nimbus Technologies Inc will next week come out with the first chipset targeted at the compatible builders which is tailored for use with the super-scalar Sparcs - Viking and HyperSparc - both expected to hit the market in the second half of the year, see front page. LSI Logic Corp and Fujitsu Ltd have both promised Sun-independent chipsets for some time, but none have materialised, fouling clone efforts to produce boxes as powerful as Sun's. The Texas Instruments/Sun Viking and the Cypress/Ross HyperSparc chips are both still commercially unavailable. In fact they are even unannounced - see front page - and the dicier issues of their volume delivery and general availability lay beyond the next couple of weeks. Even Nimbus has yet to see either silicon, and is working purely from specifications. However, Nimbus president, Sanjeev Ranjen, believes HyperSparc, thought to lag Viking (UX No 381), could still leapfrog it in being available to all comers sooner than it rival. In the meantime, Nimbus is taking advantage of the "mix 'n match" features of Mbus to create a demonstration card bearing the 40MHz Cypress Sparc chip Sun uses to power its Galaxy machines as its single CPU, though it is aimed at multi-processors eventually. Nimbus says that when the superscalars become available, cloners will simply have to swap them for the Cypress part. The rest of the Nimbus-designed processor-independent seven-chip chipset, which will support any Mbus-based silicon, will stay in place including Ethernet networking, SCSI controller, floppy disk interface, serial ports and audio. The NIM6000, as it is called, includes high-resolution Mbus colour graphics on the system motherboard, freeing cloners from reliance on a GX accelerator. The firm indicated its graphics performance would scale to the CPU used and provide accelerated performance at the cost of an ordinary colour frame buffer. NIM6000M is compatible with Sbus expansion cards. Nimbus estimates the board's performance with the Cypress module is 15% above Sun's Sparcstation 2. Twinhead is the only other Sparc house out with an Mbus board, albeit a motherboard. Nimbus has engineering samples available now with production volumes set for early in June. The chipset plus base board will go for \$350 to \$400 in volumes of 1,000. Nimbus claims manufacturers can assemble a complete workstation on a single circuit board using the NIM6000M at a fraction of the cost of a Sparcstation 2. Nimbus customers will go to SunSoft for an operating system and could go direct to the semiconductor houses for CPU chips.

OSF READIES DISTRIBUTED MANAGEMENT ENVIRONMENT SNAPSHOT

The Open Software Foundation is to reveal the first snapshot of its Distributed Management Environment architecture after its members meeting in Munich on the 13th. OSF says the snapshot features sample code of all the various DME component technologies so far announced, but adds that there will be other parts to be tacked-on at a later date. What precisely those technologies are, and where they come from, is still under discussion, it says.

UNIX SYSTEM LABS WORKS ON ANDF-LIKE SOLUTION FOR DESKTOP

The Architecture Neutral Distribution Format-like technology that Unix System Laboratories Inc has up its sleeve so that one port of an application to its Destiny desktop implementation will run on the disparate architectures of the Intel Corp iAPX-86, Sun Microsystems Inc Sparc, MIPS Computer Systems Inc RISC, Hewlett-Packard PA RISC and IBM RS/6000 architectures (UX No 380) is exactly that: ANDF-like. It is not the ANDF selected by the Open Software Foundation. Instead it is home-grown and by USL's lights, superior to the technology OSF decided to run with. Wanting to play this card particularly close to its vest, USL declines to describe it further. It is very concerned about presenting the world with a fait accompli and meeting the fourth-quarter timeframe it has set. Worse case, however, would reportedly be first quarter 1993. Latest speculation has Destiny coming to market as UnixWare.

SUN LAUNCHES CHEAPEST EVER COLOUR SPARCSTATION AT \$6,000...

Sun Microsystems Inc's Computer Corp unit duly came out with a new, cheaper Sparcstation IPC last week, offering a colour system for under \$6,000 - £5,000 in the UK - for the first time. The Mountain View company also cut prices on its desktop products by up to 26% and added a lower-cost, more flexible version of its Sparcengine IPX board-level product. The company reckons that the new IPC lines up against an IBM Corp RS/6000 Model 220 at \$10,000 and an HP 9000/710 at \$14,065 - and is nearly \$2,000 under a similarly equipped 486/33M PC from Compaq Computer Corp. It has a new 16" 1,152 x 900 monitor from Sony Corp, 8Mb memory and a 207Mb disk and Solaris 1.0 is bundled. The Sparcstation ELC entry-level monochrome workstation is down 20% at \$4,000 - £3,000 - and the 16" IPX is off 26% at \$10,000, the 19" is off 18.5% at \$11,000. The 16" and 19" colour models of the Sparcstation 2 are off 17% at \$15,300 - £12,300 - and 11.9% at \$16,300 - £13,000 - respectively. The new Sparcengine IPX has no memory and replaces the old IPX that included 16Mb, at \$6,500, £5,200. It is out in June; all others are out now.

...RE-JIGS STATESIDE VAR STRATEGY

Sun Microsystems has spent the last year revamping its American resellers program and has de-authorized some 900 low value add locations for not making the kind of long-term commitment and investment it believes is necessary to a sound business model. It has some 2,100 commercial system integrators, OEMs, master resellers and value-added resellers restructured into those four categories. It is also encouraging resellers, particularly VARS, to buy from master resellers such as Arrow Electronics, Access Graphics and Intelligent Electronics. VARS have been further re-classified according to their value-added strengths as resellers and high-end network integrators. Sun is also trying to tailor its reseller support to individual needs. It has implemented a value-based pricing model so resellers can augment their base discount by making certain commitments. It has also set up a market development fund in support of the reseller's sales and marketing activities. Sun estimates 67% of its products will be sold through indirect channels worldwide in 1994, up from 43% in 1990 with the commercial area growing to 28% from 13% at the expense of technical bastion. Sun's no-clone policy still remains in force.

ACE: FIRST BIRTHDAY IS NO CAUSE FOR CELEBRATION

The ACE Initiative, hailed by its founders as the "most significant computer industry announcement of the 1990s" just twelve short months ago (UX No 329), lies in tatters. Now effectively shy of two of those founders, it has essentially retracted back to a die-hard core of some two dozen companies from a highly publicised swell of some 250 industry lights.

by William Fellows, Maureen O'Gara and Tim Palmer

"Intel's own doing"

ACE's decision to de-emphasise the Intel Corp architecture - see front page - was apparently Intel's own doing. MIPS Computer Systems Inc vice president of software technology, and now its ACE liaison, Larry Weber, said that since last summer Intel was repeatedly approached by ACE members including Olivetti, Acer, Compaq and MIPS asking it to somehow endorse and participate in the Initiative. What the Initiative wanted was a generic ACE/Intel machine comparable to the MIPS ARC. Compaq went so far as to draft the specification which included an ARC-like HAL, or Hardware Abstraction Layer, to separate the value added from the hardware implementation. Any number of concessions were apparently made to Intel's sensibilities including Intel ownership through completely parallel structures, offering Intel ownership of the specification and completely equal access. Intel reportedly never showed any interest. Initiative members argue an ACE/Intel machine would have helped Intel distinguish itself from the cloners nipping most furiously at its heels. Weber believes the reason Intel wouldn't participate is because the 80586 chip, P5, isn't all the Intel hype claims it is, and couldn't stand the comparison. Instead of the MIPS R4000-killer it's cracked up to be, he thinks it may be only a 30% performance improvement over the 80486.

Dicey MIPS chip volumes, however, were reportedly never mentioned in the internal letter dated April 27 that Santa Cruz Operation Inc circulated to its executives. There it gave Compaq's resignation and the pending Silicon Graphics acquisition of MIPS, as its reasons for withdrawing. The latter it concluded brought new risks into the MIPS equation. Other ACE players, however, say the reason behind SCO's behaviour is the simple fact that it was never able to garner a market inside the Initiative for its product. MIPS says it made a strong effort at the beginning to get the SCO on very favourable terms but the sponsorship just wasn't there. Larry Weber says SCO didn't have the development energy to do the products. It attempted to get money from the ACE members upfront to fund the project, he said. The membership showed no interest in doing business that way, but would have talked if SCO had had a product.

At the April 24 ACE Executive Advisory Board meeting that Compaq didn't attend because it knew it was going to resign, ACE decided to invite the Open Software Foundation, a non-member, to participate in some fashion. The Initiative wants OSF to contribute to the Unix specification for ACE, and sees itself as a possible vehicle for knitting the discordant elements of the establishment together. Technical groups have reportedly advanced the shared SVR4-OSF/1 application programming interface to the draft stage - that effort will continue over ACE's dead body - creating a workable application binary interface would be the next step.

Fears

Officially, the Santa Cruz Operation Inc is shelving its MIPS Computer Systems Inc work to "wait and see" how the MIPS market develops numerically. However, it is deemed unlikely to reactivate the effort despite contentions that the Intel work taking priority - largely the stuff of Open Desktop 2.0 coming out this summer - could be easily ported to the MIPS platform should it suddenly become a volume player. As of last week, all SCO engineers still assigned to the MIPS project - a paltry few by SCO's own count - were redeployed to Intel development, now at least 150 strong, though SCO says it will attend the periodic meetings of ACE's recently established executive board. SCO's development partner DEC will have to soldier on alone, if it has not been doing just that for some time (UX No 364), if it intends to put OSF/1-for-ACE on its MIPS R4000 machines. SCO business development vice president, Jim Wilt, said that under the terms of their technology exchange pacts still in force, DEC could license pieces of ODT from SCO. SCO leaves the Initiative with only an OSF/1-based ODT development system for the R3000; the R4000 port is unfinished. Wilt offered a grab bag of reasons for the SCO pull-out, all involving fears that MIPS will fail to command a market of any size. Included were the need for leadership from a company like Compaq to galvanize the market, the distractions of Alpha, the paltry number of OEMs ARC has attracted, the MIPS-killer promise of the upcoming Intel 80586 and the restructuring of ACE to de-emphasise Intel, the natural volume frontrunner.

SCO claims it was misunderstood all those long months we thought it was decommitting from ACE, shuffling the MIPS work back to DEC and favouring Intel. "No, no," it says, "we were simply reprioritising. The original schedule called for MIPS first, then Intel - that was changed to Intel first, then MIPS." We could kick ourselves for not realising the obvious distinction.

SCO is now saying that only some 7% of Open Desktop code touches the hardware in any case - all the high level stuff like communications, the desktop, graphics and utilities is common to Intel and MIPS. The company, it seems, has no stomach to fight religious wars any longer and has meetings scheduled with Unix System Labs this week, and the Open Software Foundation next, at which some kind of rapprochement is likely - though not an SVR4 kernel development - with product announcements set for the end of the month. Taking a philosophical view of ACE's decline it asks "is there ever going to be an opportunity to make an open, commercial platform out of RISC?"

Market research

For its part, Compaq Computer Corp says its decision to abandon the MIPS platform is based on considerable market research and interrogation of its major Fortune 1000 and FT 500 customer base. The feedback was consistent, it claims. Customers don't want to be straddled with non-Intel platforms. If the performance of the 80586 and the MIPS R4000 is only off plus or minus 20%, it's not enough to make the hassle worth it. The findings also reportedly indicate that even Europeans, who are judged to be two to three times more interested in Unix than Americans, reject the notion of Unix on the desktop, reckoning MS-DOS and Windows are sufficient, allowing for a move to NT where necessary down the road. Compaq figures NT will have a tough time on the server, so its server policy will either be in NetWare or SCO, sticking with the latter at least in the short term.

Few hats hanging on OSF/1 peg

Meanwhile, with SCO's Open Desktop dead in the water as an operating system for ACE - the prospects for another operating system designed by committee, the Open Software Foundation's OSF/1, are now looking decidedly lacklustre. Electronic News has been doing the rounds of the Foundation sponsors and finds that only Digital Equipment Corp of the US and European sponsors is hanging its hat on OSF/1 for its flag ship Unix machines. IBM Corp has launched a version of OSF/1, but only in the ultra low-volume mainframe version of AIX, but Groupe Bull SA is quite happy to add bits of Foundation technology to its Berkeley Unix brought up to Unix System V.3.2 level, and Hewlett-Packard Co is taking the same tack with HP-UX. IBM's AIX/6000 for the RS/6000 is still firmly System V.3-based, and while the company says it does plan to use the OSF/1 kernel over time, that clearly now means "this year, next year, some time, maybe never". Hewlett-Packard and IBM are both very interested in the microkernel planned by the Software Foundation, but that is two years away, which suggests that if applications developers do not start converting their applications to run under OSF/1 soon, for commercial reasons, all the sponsors currently at the V.3.2 level look likely to decide to wait for the microkernel and then implement their existing environments over it. Even DEC may find that it may need to hang on to its V.3.2-level Ultrix rather longer than it intended: it says that so far about 500 of the 3,000 Ultrix applications are being converted for OSF/1, which doesn't sound like unbounded enthusiasm on the part of the industry. Hitachi Ltd has OSF/1 out in Japan, but its role in computers is now starting to appear strained.

DEC, which will soon announce R4000 upgrades to all of its R3000-based platforms - existing users will be offered board swaps - is still trying to put a brave face on the ACE debacle, saying the ACE Hardware Abstraction Layer in Microsoft Corp NT will allow ACE applications to run on its Alpha RISC platforms. The HAL in NT is around 60 pages of code - "not a lot," says DEC. However, the future of its messy OSF/1-Ultrix-Open Desktop strategy is so unstable that even its own spokespeople were at a loss to explain it last week - "it's too early to say," they conceded.

IBM ENHANCES, CUTS TAGS ON POWER VISUALISATION BOX

IBM Corp last week boosted the versatility of its Power Visualisation System, a parallel server for generating and manipulating complex images at high speed in applications such as medicine and geophysics, and cut prices on the thing by 25% to 40%, lowering the entry point to \$320,000 from \$528,000. The Power Visualisation System server is an eight- to 32-way parallel processor using Intel Corp 80860 RISCs, available with 256Mb to 1.5Gb and an estimated peak rate of 2.5 GFLOPS. It also said it will market versions of Visualisation Data Explorer software for Hewlett-Packard Co, Sun Microsystems Inc and Silicon Graphics Inc workstations as well as for the RS/6000, and will run stand-alone on the alien workstations as well as over a network accessing the server. IBM also introduced a software development kit, including C and Fortran compilers and associated development tools. The software development toolkit is available from The Portland Group Inc at a site licence price of \$37,000. Visualisation Data Explorer for the RS/6000 is \$5,900; IBM also offers a 60-day free evaluation copy. Pricing and availability for the Hewlett-Packard, Sun Microsystems and Silicon Graphics workstations will be set later on this year, the company said.

SPARC INTERNATIONAL AIMS FOR SHRINK-WRAPPED SOFTWARE

Sparc International is taking a leaf out of 88open's book by trying to create a class of shrinkwrapped software that will run on all Sparc machines everywhere regardless of architectural distinctions. The long-overdue effort will seek to propagate the newly cast SCD 2.0 as the specification software houses and end users write to. SI has packaged SCD 2.0 along with a mass of documentation, tools and white papers on a CD-ROM labelled Developer's ToolChest. It is based on Sun's own Solaris 1.0-to-Solaris 2.0 migration kit Pipeline which SI has licensed and broadened. ToolChest will be widely distributed initially to some 25,000 ISVs and end-user software developers, the bulk of them from Sun and SunSoft rosters, the rest from Unix International. Repeated distribution efforts will be made based on other members' list and companies like Hyundai will be bundling it with every system. The population approached will include DOC, IBM and DEC bases. Software written to ToolChest will be able to bypass pricey compliance testing on all the various Sparc boxes. None of the software created under ToolChest can be optimised for any particular Sparc configuration without forfeiting compliance. That will have to be undertaken separately. Compliant software will be branded. ToolChest will be available in mid May with quarterly releases following. Products are individually priced ranging from \$28 to \$50 and \$395 for the Migration Tool. SI members can claim a 10% discount. Floating network licensee keys access the products. Meanwhile, Philip Huelson, Sparc International vice president and technology director, has been named president and chief operating officer of the organisation responsible for operations and development of new business activities.

SPAG MOVES TO PROMOTE THE WONDERS OF OPEN SYSTEMS INTERCONNECTION TO USERS

The Brussels-based Standards Promotion & Application Group - SPAG - has come out with a set of documentation written specifically to give clear descriptions of what Open Systems Interconnection products actually do, and which of their features actually lie within the OSI standard of interoperability. The Process to Support Interoperability, PSI, service is described as a "multi-vendor code of conduct", and was developed by SPAG with its share holding companies - Alcatel NV, Groupe Bull SA, Digital Equipment Corp, Hewlett-Packard Co, IBM Corp, ICL Plc, Ing C Olivetti & Co SpA and Siemens-Nixdorf Informationssysteme AG. PSI, which is supported by the EPHOS guide to public procurement, is a reaction to end-users' belief that too much time has been spent focusing on the protocol aspect of interoperability - in which users aren't at all interested. According to SPAG's Michel Hordies, "the actual functionality of OSI products hasn't been described clearly enough". The PSI code will enable users to determine what features of a product described as X400-compliant will be supported by other, equally OSI, products on the same system. "The idea is to determine a common set of functionality for any two products", he says. Using PSI, buyers will be able to reduce the risk of "non-internetworking". SPAG currently has a PSI code set for X400 products, and says it will have one for the FTAM file transfer by year-end.

COMPAQ TAKING LONG HARD LOOK AT NEXTSTEP

Even though Compaq Computer Corp is infatuated with the NeXT Computer Inc's NextStep environment, claiming it delivers today what the Taligent IBM Corp/Apple Computer Inc joint venture can only promise, and what Sun Microsystems Inc and Hewlett-Packard Co have yet to materialise, it seems in no particular hurry to cut that OEM deal Steve Jobs is after. It's been working with NeXT since January, tuning the software and getting the right hardware configuration - stuff like modifying its QVision board. It also has to figure out how to take it to market, yet officials still claim no decision's been reached on whether they'll OEM it at all.

WYSE ADDS TO MULTI-USER RANGE...

Wyse Technology Inc will this week extend its line of Unix multi-user systems with two new low-end products, a single-processor system and a kit enabling the company's Decision 386/40 PCs to run the Wyse version of System V 3.2. The new series 6000i Model 640 supports up to 32 users and is suitable for small businesses, workgroups and development environments. The Decision 386/40 kit, based on MD's 40Mhz 386DXL and available with either a 5.25 or 3.5 floppy, is designed for application developers and small business workgroup environments of up to 16 users. Subsystem components include a SCSI controller, 15Mb cartridge tape and either a 200Mb or 420Mb hard drive, expandable to over 600Mb. The 27 MIPS desktop Model 640 is built around the 33Mhz 486, 387 math co-processor and 8Kb internal cache with 128Kb external and 8Mb memory, expandable to 16Mb. It comes standard with a 320-525Mb cartridge tape drive, 3.5" 1.44Mb floppy and a 420Mb hard drive. Expanded it can hold over 2GB internal. A base model is priced at \$9,625. The Unix and SCSI kit with a 200Mb drive is \$4,175. Both are immediately available.

...AS LINK AND VISUAL TEAM ON X-TERMS

X-terminal firm Visual - the Gipsi SA, Paris, France, and Visual Technology Inc, Westborough, Massachusetts, combine - is teaming up with Link Technologies, Fremont, California, the big general-purpose US terminal house and a subsidiary of Wyse Technology Inc, to develop a new, competitively priced X-terminal line targeted at OEMs, distributors and value added resellers that will sell in significant volume. The tie-up is Link's first exposure to X-terminals. It is expected to contribute its manufacturing expertise and worldwide distribution channels as well as its design know-how in areas such as screens. The pair are planning to introduce and ship a line of four models this summer including a low-end colour unit priced under the \$2,000 barrier and a monochrome unit that will equal or better the \$1,000 price tag on Visual's current entry level. They are also slated to produce affordable mono and colour large-screen X-terminals.

MODCOMP ADDS THREE MODELS TO REAL/STAR 88000 LINE

Fort Lauderdale, Florida-based Modular Computer Systems Inc has added three new members to its Real/Star Family 1000 Series of 88000-based real-time computer systems that run the AEG AG company's Real/IX real-time Unix. The machines come in three-slot desk enclosure, six-slot desktop tower enclosure, and 12-slot rack-mount chassis. The new packaged single-board systems feature 25MHz MC88100 and up to 64Mb memory. All the major system features are implemented in a single VME slot, increasing the system's functionality in minimum space. Prices for complete systems, including Real/IX are priced from \$14,900, immediately.

ARTISOFT TO BUY PERFORMANCE TECHNOLOGY TO GET INTO UNIX WORLD

Artisoft Inc, the Tucson Arizona-based developer of the Lantastic low-end network operating system, has signed a letter of intent agreement to acquire San Antonio, Texas-based Performance Technology Inc for 300,000 new shares, valuing Performance at about \$7.725m at the current Artisoft share price. Privately-held Performance Technology, develops the Powerfusion package that links MS-DOS micros to Unix systems, the Powersave archival system for networks, and the PowerLan personal computer networking system, which is compliant with X/Open Co Ltd and Open Software Foundation Distributed Computing Environment recommendations. Its Powerbridge is a wide area networking product for NetBIOS-compliant machines.

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X-WORLD ROUND UP

San Mateo, California-based Demax Software Inc has released SecureMax/UX 2.0, its security software allowing users to assess and monitor security of a multi-vendor Unix network: it runs under the graphical user interface Open Windows and intends to add OSF's Motif later in the year. Prices start from \$500 for single-CPU copies to \$350 for a workstation license.

UK-based VisionWare Ltd has struck an OEM deal with Data General Corp Westborough, Massachusetts, for XVision - Visionware's Microsoft Windows-based X server. XVision will be offered as part of DG's systems integration package for its Avion office information systems and Server systems.

San Diego, California, AGE Logic Inc has released the latest version of its X Server Xoftware for Microsoft Windows 1.5: compatible with Microsoft Windows 3.1, X applications can be accessed using Microsoft's local window manager, OSF's Motif, Sun's Open Look or DECWindows. Prices start at \$500.

AGE Logic Inc's Xoftware, is to support DEC Pathworks TCP/IP version 1.1: running on Microsoft Windows and MS-DOS it is implemented on Santa Cruz Operation's Open Desktop and SunSoft's Interactive Unix.

White Pine Software Inc, Nashua, New Hampshire, has launched a new version of eXodus, its X-Window display server, for the NeXT Computer. Features include client launch facility, enabling users to create, edit and remove user-defined connection strips, X Extensions, Copy Graphics and Motif. Exodus is compatible with the NeXTstep 2.0 environment and X-Windows. Priced at \$350, Exodus for Apple Computers Inc's Macintosh ships in June.

Edison, New Jersey-based UniPress Software Inc and Hewlett-Packard Co's Swedish operation have announced that Ecrisson Telecom's Sun XView-based CASE tools will support HP9000 Series 700 platforms running under Motif. Using UniPress's XView Toolkit to recompile Sun's Sun View application source code, it provides a migration path from SunView to X-Windows. The UniPress XView Toolkit for HP9000 series and DECstation costs \$2,500.

KL Group Inc, Toronto, Ontario, has released the latest version of XRT/graph 2.2, a graph widget and development tool enabling users to embed dynamic graphs and charts in X Window applications. Included with XRT/graph is Builder, its prototyping development tool which saves graph description and automatically generate application code. Applications built on XRT/graph will run under X11 Window Servers, X-Terminals and workstations and supports SunSparc, HP9000 series 700/800 and IBM RS/6000. Cost starts at \$2,000.

Byfleet, Surrey-based Specialix Ltd, UK manufacturer of intelligent input/output controllers has pulled out of ACE: marketing director, Ian Cummins says "ACE was initially a good idea if everyone had worked together. We jumped on board in the early days because of MIPS and the business we did with them." Specialix got out, he says, when it found out that all an associate member got for its money was access to pre-published specifications.

Our sister publication, Computergram International, the daily hi-tech newsletter, is now available as Computergram Newline in the UK only. Updated daily, the service is split into four sections - front page, finance, IBM and Unix. Call 0839 300 300 for the latest news on the industry. Calls charged at 36p a minute cheap rate, 48p at all other times.

VenturCom's real-time E-Venix/386 Unix operating system will now support embedded X-Windows, reportedly a first for an embedded operating system: the company has made it possible to embed NFS on a diskless single-board computer via E-NFS.

Applix Inc has poached DJ Long from the Unix side of Lotus Development Corp as its new vice-president of marketing.

Uniforum New Zealand '92 will be held May 14-16 in exotic Taranaka.

David Tory, the president of the Open Software Foundation, has added another directorship to his CV, joining the board of directors at Service Systems International Ltd where he sits alongside an old colleague, chairman of the board Sam Goodner.

Last week at DEC World in Boston they had a bevy of Alpha-based boxes on the floor including Sandpiper, Flamingo, Cobra and Laser Box.

Silicon Graphics Inc took one look at the ghastly quarterly figures from MIPS Computer Systems Inc - a \$12.7m loss (UX No 382) - and decided it had paid too much for MIPS: it will now pay 0.52 of a share for each MIPS, down from 0.61 of a share, the eventual price depending on what MIPS' share price is when the deal closes.

Sun Microsystems Inc reports that Banco Bamerindus do Brazil with 1,400 branches, has bought more than 45 workstations and servers for use in investment trading options: terms were not disclosed.

Emeryville, California-based Sybase Inc, has ported its Sybase System to Digital Equipment Corp's Alpha 64-bit RISC architecture: a relational database management system it features SQL lifecycle tools. It will run under DEC's OpenVMS and OSF/1 operating systems.

NCR is the latest bastion to fall to Novell: it has become a part of Novell's Alliance Program to collaborate on early development of Novell products.

Piling on yet more misery for MIPS Computer Systems Inc, the US Navy has decided to drop the R4000 RISC from the list of two mandatory CPUs for the upcoming AX attack aircraft and will ask the Joint Integrated Avionics Working Group joint service panel to follow its lead and eliminate the R4000 from the list, leaving the field clear for the other part, Intel Corp's 80960 RISC alone, Electronic News reports.

Motorola Inc says it'll have 40MHz 68040 parts shipping by the third quarter, 50MHz versions in the fourth, going to 0.5 micron technology: its next-generation part, Q, or the 68060 (UX No 380), will deliver 100 MIPS performance by the end of next year, it says - that must put it around a year behind Intel Corp, who's 100 MIPS P5, or 80586 iteration is due at the end of this year.

One small software company that looks to be doing well is Bracknell, Berkshire-based Mantix Systems Ltd, purveyor of the Cascade project management system, which runs on all the top five Unix workstation families. It says sales last year rose 65% to £1.6m, with the US, Japan and the continent all chipping in, and that profits were significantly up. It is now expanding in McLean, Virginia.

Data General Corp is finding the transition to open systems at a time of recession extremely painful with a second quarter loss of \$55m after a \$48m charge for another 1,000 lay-offs: turnover was down 14% at \$274m, in part because the sale of the Japanese subsidiary cut volume by \$19m; the company blamed the disappointing results on competitive pricing pressures, which have cut profits, as well as the weak worldwide economy; the company says it continues to be very cautious about the remainder of 1992; AViiON sales continue to grow, but "we are not satisfied with overall revenues," the company declared. Electronic Data Systems Corp says its graphical design system now supports Hewlett-Packard's series 700 workstations: first deliveries are scheduled for May.

Snakes! Hewlett-Packard Co recently sent out pairs of natty sunglasses to the UK computer press bearing the message "you'll be needing these on May 5th," (well some of the poor loves must have thought things rather fetching as they were wearing them on Olivetti's jaunt to Paris a couple of days later). So, expecting to be whisked off to some faraway hot spot for a mild spell of brainwashing, we duly prepared to bring you next week's Unigram from under the shade of a palm tree on a secluded sandy beach - or at least somewhere nicer than four storeys above the Charing Cross Road in rainy central London. When we phoned HP last week to confirm the destination, our dreams were shattered with the news that the specs are only intended to protect against the dazzling blues, reds and greens of a new colour printer **its launching - not a single sunbeam.**

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Number 384

OPEN SOFTWARE FOUNDATION PUTS THE BRAKES ON ANDF

The Open Software Foundation has halted work on its ground-breaking shrink-wrapped software solution, ANDF, the Architecture Neutral Distribution Format, reassigning its engineering resources elsewhere. OSF is now believed to be looking for a commercial partner to take over and productise the technology, which is much-needed within the industry. The only company to have voiced an interest in ANDF recently, or to have hinted that it was negotiating for it, is Unix System Laboratories (UX No 380). USL, reportedly working along similar lines (UX No 383), has declined to comment officially, and asked whether it was developing its own solution or buying the technology in from elsewhere, director of low-end Unix systems, Bill Traber, said "I can't answer that." OSF, which admits to "close contacts" with USL, said it would be pleased to see any organisation take an interest in the project. Work already done on ANDF has been turned over to the European Commission's Open Microprocessor Initiative - a £40m effort to develop next-generation microprocessor and software technology (UX Nos 381, 315). OSF's R&D labs in Grenoble, France, will continue to work on ANDF for OMI, and there are other niche plans in the works, it says. Budgetary concerns and the drive for self-sufficiency (UX No 374), are forcing OSF to retract back to a few core technologies like DCE, DME and Motif, and to hold off on any further technology requests. It said that it simply couldn't foresee the day when revenues from licensing ANDF, to its principal members for starters, would start to pay for the cost of development. "It wasn't a technical hurdle, it was the marketing dynamics." OSF will go public with its ANDF decision after member and board meetings in Munich this week. There, OSF will layout "open road" plans for each of its technologies, thought to include much re-focusing of its efforts. Rumours were circulating last week that even OSF/1, its nominal raison d'être, would be given short shrift in those re-prioritisations. Meta Group analyst, Kate Fessenden, claims OSF is looking for a graceful exit and that once OSF/1.1 comes out, and Unix SVR4 applications are able to run on it, it will simply be allowed to wither away. Some reports suggest that OSF members are reluctant to fund ANDF any further because it will inevitably dim their distinguishing marks. ANDF technology was sourced from the Electronics Division of the UK Defence Research Agency, (UX No 337). However, such talk might be so much stuff and nonsense. Companies, like people who try to stop the future from happening, generally find themselves run over by it.

TEXAS VIKING LANDS - HIGHER CLOCK SPEED VERSIONS ARE ABSENT

Texas Instruments Inc last week rolled-out its long-overdue Viking SuperSparc RISC processor, on which Sun Microsystems Inc's performance hopes ride. However, Viking won't initially appear in the 50MHz, 150 MIPS versions its parents were shooting for. Instead, two junior members of what will be a clan of Vikings were announced: a 33MHz, 99 MIPS unit and a 40MHz, 120 MIPS part, both without external cache. The higher-end 45MHz, 135 MIPS and 50MHz, 150 MIPS iterations, with external cache, are promised for some time later this year. 50MHz Vikings, which would give Sun a workstation performance rating in excess of 80 SPECmarks, are reportedly up and running, but are not ready for volume production. A dual-chip 75MHz, 450 MIPS version of the Sparc is planned for next year - that should score 240 SPECmarks, the firm claims. The current Viking siblings are rated at 40 SPECmarks for the 33MHz processor and 50 SPECmarks for the 40MHz CPU. Texas Instruments, Sun's co-developer and fabricator, said that the "business decision" to start ramping-up production of the smaller chips at the expense of fussing over the 50MHz part was made two months ago, because Sun couldn't wait any longer. The chips are in production and reports from the field indicate that Sun's next-generation Viking-based boxes are already installed at sites. Initial volumes of the processor will go to Sun, with smaller numbers going to unidentified vendors on Sparc International's Executive Committee. General availability to the rest of the Sparc-compatible community will follow in the fourth quarter. By then, Texas should be capable of producing at least 10,000 a month. Chips will sell for under \$400 a piece in quantities of 10,000-up, starting in the first quarter of 1993. The announcement included one surprise: a brand new multi-processor Xbus, co-designed by Xerox Palo Alto Research Centre. It uses high-speed, state-of-the-art packet switching techniques incorporated into the cache controller for symmetrically connecting over 64 Viking CPUs.

FOUR SUN SUPERSPARC DESKTOPS DUE ON MAY 19TH

Sun's initial Viking workstations, the first four of which are due on May 19th, won't be called Sparcstation 3s, but will come in various configurations of desktops including both uni- and multi-processors, and come in Sun-tweaked versions around and between the TI 33MHz and 40MHz SuperSparcs. Sun has also reportedly changed the form of box design. One observer called it a "pizza box with a beer belly", not higher, but sagging at the bottom and hugging the desktop a little closer. The boxes will run SunSoft's Solaris 1.0 initially and Solaris 2.0 by the end of June. Prices are expected to start between \$20-\$30,000 depending on the unit. The company is expected to tout the chip as providing the industry's best dollar/pound-per-MIPS rather than competing on absolute performance. Despite rumours to the contrary, Sun says it will not discontinue Sparcstation 2s, which still represent a nice piece of change.

250 MIPS, MULTI-PROCESSING, SUPERSCALAR SPARC BOX USING VLIW "DUE THIS YEAR," SAYS BELL

Following news that it was working on a 64-bit Sparc RISC version of very long instruction word technology (UX No 381), Bell Atlantic Corp, Philadelphia, Pennsylvania, is now claiming that there will be a multi-processing, superscalar Sparc Unix machine around by the end of the year that will incorporate the VLIW Trace scheduling compilers which originated from now defunct Multiflow Computers Inc. Using that technology - which it picked-up from its acquisition of Multiflow's Customer Support Division - Bell says it is collaborating in a joint venture with an unidentified "up and coming" multi-processor specialist which will roll-out a Sparc system of that genre by 1993. Bell says that at 250 MIPS, the illusive box will be faster than the old Multiflow systems which it continues to market, though at much reduced prices. The 55 MIPS, Trace 14/300 now retails at \$55,000, whilst the 215 MIPS Trace 28/300 costs \$100,000 - originally a \$300,000 system piece of kit. The superscalar machine is reportedly in alpha testing at the moment - director of Bell's computer services division, Steve Eskernazi claims that "it is going better than expected... we're very confident about its success." Scheduled to ship by year-end, the system will come with a price tag of \$300,000-plus, and Eskernazi expects it to take on the likes of Cray Research Inc and Convex Computer Corp.

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LUCKY GOLDSTAR SUN CLONES HIT UK AND EUROPE THROUGH LOGIX

The latest addition to the Sun clone market, Logix Technology Ltd based in Newbury, Berkshire, and part of the Lucky Goldstar Group, Seoul, Korea, has begun shipping three RISC-based workstations using Sun's Solaris 1.0 operating system. Manufactured by Goldstar in Korea, the workstations use the LSI Logic Corp Sparkit chipset. The LWS-25 is a 25Mhz, 15.8 MIPS offering priced at £7,500; the LWS-40, priced at £7,000 and rated at 28.5 MIPS, is for advanced 2D and 3D graphics; and the LWS-40GX, at £10,000, features a GX graphics accelerator. The company also hopes to add another low-end workstation in two months and one in the third quarter using the much hyped Viking superscalar chip (UX No 383) from Texas Instruments Inc. All will use Sun's Solaris version 2.0 operating system when it becomes available. Logix claims that the machines offer full compatibility with Sun's Sparcstation range. Already shipping in Korea, the Sun clones could capture up to 10 per cent of the workstation market this year in areas where Sun has yet to cast its shadow, according to Logix managing director John Girdley. Unavailable in the US, the workstations are aimed at corporate, financial and engineering customers.

NCR SIGNS INDEPENDENCE TO DO TOP ENDS FOR SUN, IBM...

AT&T Co's Tuxedo transaction processing monitor - now with Unix System Laboratories Inc - seems to have lost out to NCR Corp's Top End in the acquisition, and now NCR wants Top End to be more widely used. It has signed up Fremont, California Unix transaction processing systems integrator and consultancy Independence Technologies Inc to convert Top End to run on Sun Microsystems Inc Sparcservers, IBM Corp RS/6000s, Hewlett-Packard Co HP 9000s and Pyramid Technology Corp's MIServers, and to distribute the resulting implementations, starting this quarter. Top End has open interfaces for transaction processing and commercial processing features such as scalable performance, high availability, data integrity, two-phase commit co-ordination, security, dynamic reconfiguration, administration tools and distributed systems support. It is possible, Independence said, that NCR could buy back some of the ports to sell to its own customers. Independence reckons to sell several thousand on all the platforms during the year. The companies are also working to integrate Top End with Independence Technologies' object-oriented ITRAN TP ToolKit.

...RESTRUCTURES OEM DIVISION

Meanwhile, NCR has restructured its OEM Marketing & Sales Group to provide a single point of contact and foster strategic partnerships. The Group will be trying to peddle NCR's entire general-purpose product line, board and chip components and technology licensing including symmetrical multi-processing, RAID, imaging, networking, mobile computing and object frameworks. The company has named Ronald Stanczak, assistant vice president of the Cooperative Marketing Division inside NCR's US Marketing Group to head the new organisation.

ATRIA TO OFFER ADVANCED CONFIGURATION MANAGEMENT

Sixteen-month-old Natick, Massachusetts-based start-up, Atria Software Inc, will this week introduce ClearCase, which it is touting as the industry's most advanced software configuration management system for organising pieces of large-scale CASE development projects. Atria will also announce OEM pacts with Hewlett-Packard Co and Silicon Graphics Inc, both of whom will sell ClearCase directly. Atria has strategic alliances with CASE vendors CenterLine Software and Cadre Technologies. The software is said to solve the fundamental problems associated with software development: tracking changes, working in parallel and managing releases. Atria considers itself a spin-out by designers of the Apollo Domain Software Environment. The software, due in June, will initially come out on Sun Sparcstations, SGI's Iris machines and HP Snakes. The company says the software allows independent software vendors to preserve their software investments by giving existing Unix tools and commands transparent access, through the standard Unix file system interface, to any version of any object in the program. This capability comes through the use of a virtual file system compatible with NFS.

SLOWLY, SLOWLY, ICL AIMS TO BECOME A SERVICES COMPANY

ICL UK Ltd says income from its service businesses topped those of IBM UK Ltd last year, accounting for 32.9%, or £344m of its UK revenues, compared to IBM's £322m - a 18.9% share of its UK business. According to 1991 figures from UK market research firm, Input, ICL is now the ninth largest software and services provider in Europe, with sales of £810m, behind IBM's £4,840m business, DEC's £2,180m, Siemens-Nixdorf at £1,810m, Groupe Bull on £980m, Cap Gemini's £970m, Olivetti with £940m, Unisys at £900m and Reuters with £840m. Roger Burrell, director of ICL's customer services division says the company is shooting for a top five position in that table by 1997, with a revenue stream of some £2,400m. John Bennett, ICL UK's sales and marketing manager, said that of the company's £1,870m revenues for 1991, 35.1% of that total was accounted for by hardware sales, 51% was derived from software and services with 13.4% coming from other technologies such as electronic point-of-sale systems. Mainframes still garnered the largest portion - 36.7% - of hardware revenues for the company, which bills itself as the open systems supplier, down from 44.8% last time around. Unix systems represented 16.9% of hardware sales, up from 15.3% last year; personal computers accounted for an 18.7% share - up from 11.3% - with other types of kit down 0.9% at 27.7% on 1990. The Unix element, worth some £130m, includes a 26% increase in its DRS6000 Sparc system business. ICL, now 80% owned by Fujitsu Ltd, says margins on its hardware sales have shrunk as much in the last 18 months as in all the five years preceding, and it aims to drive revenues from its services business even higher as it focuses more on that market, through organic growth, joint ventures, marketing agreements and by acquisition. It says it hasn't passed on the cost of those decreasing hardware margins to customers via higher software and services cost, rather it is simply targeting those areas where customers are going to spend more of their money. The software component of its business is now worth some £215m in total, split 49%, 36% and 15% between operating systems, information management (including CASE and databases for example) and applications (like OfficePower) respectively. Its proprietary VME environment accounted for 80% of operating system sales, 65% of information management revenues and 40% of its application business. It's the application side of the equation which the company most wants to grow, as operating systems - VME, Unix and MS-DOS - continue to show a slow decline: they accounted for 51% of software sales in 1990. On the personal computer front, ICL says it intends to progress relationships with the world's top 50 PC software suppliers to an extent where it will effectively house a PC software distribution business in its stable, and will be able to offer almost any PC solution to customers. ICL, which has already said it will begin to offer its flagship office automation platform, OfficePower, on other vendors' Unix platforms, says a version for Santa Cruz Operation Inc Unix will be announced soon. Sun Microsystems Inc and IBM RS/6000 ports will follow this year. OfficePower takes central stage in ICL's overall strategy as combined hardware, software and services revenues associated with the environment in all of its guises now amounts to some £1,200m, according to Graham Taylor, ICL UK's software business manager. The company claims some 300,000 OfficePower users worldwide, with 10,000 installations at 7,500 sites.

OKI MICROSYSTEMS i860 WORKSTATION DIVISION BITES THE DUST

Okidata Microsystems Division, the Japanese giant's fledgling flight into the US workstation business, crashed and burned last week, taking the remnants of the Mass860 consortium - the Intel Corp i860 RISC supporters club - with it. The Japanese are being made to suffer what is for them a serious loss of face in having to pull the plug on the fifteen-month-old Massachusetts-based operation set up to build and sell Intel i860 boxes under a five-year commitment to the project. Intel itself decommitted from the chip, its own maiden voyage into RISC, several months ago, and will doubtless come in for its share of the blame. However, Oki's decision was made to staunch the flow of red ink gushing from the unit, estimated by insiders at around \$9m for the year ended last month. These losses are relatively minor compared to Oki's overall investment, said to be upwards of \$25m. Insiders claim the Okidata machine, with its fairly respectable 30 SPECmark rating, was badly mismanaged and misdirected by the division's top echelons. President Jim Butterworth's expertise lay outside both Unix and workstations. Since unveiling the machine, they said, the division was only able to sell perhaps 40 systems, leaving 800 or 900 units warehoused and unsold in Mount Laurel, New Jersey, and another 200-odd unsold units out with software houses around the country. Companies such as Oracle, Frame and Progress have reportedly ported to the box. Estimates ranged as high as a couple of hundred units having been sold in Japan. However, that figure is a far cry from the 3,000 it had bet on getting rid of in the Orient or the couple of thousand forecast for the states. The division's business plan, apparently created early on by consultants, targeted the machine at document imaging, geographic information systems, computer-aided publishing and financial markets. None of them were the graphical, scientific and engineering markets beloved amongst Unix workstation vendors, and the Oki machine was perhaps not strong enough on I/O to handle document imaging, for instance. Oki intends to leave a transition team in place until October though its function remains unclear. The company will apparently continue to support whatever machines remain in the field after that. It is offering the division's 70-odd employees six-months severance, provided they sign a statement that they will not sue the company because of verbal commitments made to them. Some could be absorbed into other Oki operations such as the research and development-oriented Oki Advanced Products, which contains a dozen ex-Stardent Computer Inc engineers reporting directly to Japan, who could maintain contacts. It is believed Oki will lie low for a while then pick another chip and start the process over again. Plans are far from fixed, but the replacement could be Hewlett-Packard Co's PA RISC, since the Japanese firm has already reportedly pledged to buy \$80m worth over the next three or four years. Oki was the last remaining corporate member of the Mass860 consortium formed to support the chip and garner a software following. The last meeting was held on Oki premises a few weeks ago with only a few friends of the family in attendance.

DESTINY DESKTOP NEARS COMPLETION

Unix System Laboratories Inc says it is now in the final round of clearing bugs from its Destiny Unix operating system, which will shortly be released to its Univel Inc joint venture with Novell Inc. Univel is to shrink-wrap the desktop Unix contender and integrate it with Novell's NetWare networking technology. It will be sold through existing USL and Novell distribution channels. Sources say UnixWare is a possible name for the productised Destiny (UX No 383), which USL says will be competitively priced with, for example, Santa Cruz Operation Inc's desktop Unix implementation. Destiny comes complete with the usual graphical desktop utilities, although its watebasket is vogueishly dubbed a "re-cycling basket." ICL for one, expects to have Destiny on its systems "soon" - see page five.

IBM SURPRISES ITSELF AT PROGRESS OF POWERPC...

Work on developing the PowerPC version of IBM Corp's Rios RISC is progressing faster than anyone, including partners in the venture IBM, Apple Computer Inc and Motorola Inc believed possible, and chips should be ready before the end of the year with the possibility of machines being announced very late this year, **Electronic News** reports. The key to completing the design was to add the input-output interface of Motorola's 88110 RISC to the IBM chip, something that turned out to be easier than anticipated. IBM is also promising a new release of AIX for later this year that will enable network administrators to update client computers from an RS/6000 server, making PowerPC personal computers running AIX more attractive to large users. And the deal between Apple Computer Inc and Echo Logic Inc on the latter's application translation technology should make a raft of Mac applications available for the new machines.

...SOMERSET POWERPC FACILITY INAUGURATED
IBM, Motorola and Apple last week formally dedicated Somerset, the new facility in Austin, Texas that is to serve as the focal point of their PowerPC design and development efforts. The 80,000-square-foot space will house 300 engineers, simultaneously developing the first four PowerPC implementations combining IBM and Motorola technologies and manufacturing techniques. IBMer Tom Whiteside, Somerset's co-director said the architectural specifications have been completed, extended to 64-bits, and development started on all four processors. The chips are targeted at embedded controls, portable and desktop computers, high-end fault-tolerant machines and supercomputers. Groupe Bull will be using the PowerPC in commercial multiprocessors and Thomson-CSF in real-time computers for defence, electronics and aerospace applications.

DCE ON SVR4: UNIX SYSTEM LABS AND SIEMENS-NIXDORF TIE THE KNOT

Unix System Laboratories Inc and Siemens-Nixdorf Informationssysteme AG have finally got their deal ironed out under which USL is to offer SNI's version of the Distributed Computing Environment on its Unix SVR4 operating system (UX No 379). As it turns out, USL has now negotiated a licence for DCE source code from the Open Software Foundation, DCE's originator. USL's DCE for Unix SVR4 will be an extension of Siemens' reference work that the pair will collaborate on to tighten up the integration. USL will provide technical support to its customers. As suspected, USL's DCE customers will have to get a licence from OSF first, before getting the product from USL. Siemens is currently shipping snapshots of its SVR4 reference port of DCE to OSF - the complete toolkit, DCE 1.01 will be delivered in September. USL expects to have early access programme developers' kits ready by the end of the year. DCE includes component technologies from various OSF members, and is now expected to become the future de facto - if not de jure - standard for creating distributed applications and allowing heterogeneous systems to share those applications transparently across client/server network architectures. Available presently only in the very earliest of guises from some OSF member companies, DCE's main competitor is Sun Microsystems Inc's diametrically opposed Open Network Computing environment, which has some two million installations. However, Sun has softened its attitude towards DCE of late, and now seems certain to offer the OSF solution itself at some point in the future. Although DCE does not provide any fundamentally new functionality - there is no single DCE component that has not already been implemented elsewhere - it integrates a set of highly complex functions in a way that is claimed to make it easy to develop and run distributed applications.

VIKING TALES

by Maureen O'Gara

Texas Instruments Inc wants us to know that there's no bad blood between it and Sun Microsystems Inc simply because the Viking SuperSparc is late and underpowered - see front page. We are to understand that their relationship is cuddly, and that TI isn't in the Sparc business for the short term. It says it'll be doing the "next generation" of single-chip, 64-bit Sparcs and the Version 9 architecture due to be voted on this month by Sparc International (UX No 380). Its plans also include the low-end/low-cost Tsunami workstation-on-a-chip due to be productised later this year (UX No 367), see below. By the turn of the century, to borrow from DEC's Alpha phrase book, the pair expect a Sparc to have 100m transistors, operating at clock speeds approaching a billion cycles and deliver two billion instructions a second.

We understand four SuperSparcs can be combined for a peak performance of 600 MIPS, while SuperSparc's superscalar engine executes up to three instructions per clock cycle. Unlike most superscalars, the chip can execute two integer instructions in a single clock cycle. It is said to have the largest on-chip cache in the industry - two thirds of its 3.1m transistors are dedicated to the cache - and claims to be the first with complete on-chip multi-processing. It is also unique in offering two buses: Mbus for plug-compatibility and Xbus for packet switching multi-processing. Being a single chip it replaces the 12 VLSI chips used in Sparcstation 2 and the 79 it took to build the original Sun 490s.

Texas Instruments Inc claims a 33MHz SuperSparc is equal or better than a 50MHz MIPS R4000, and twice the stuff of a 50MHz 80486. It also claims to have better integer performance than the mid-range IBM RS/6000 model 540. TI has some estimates of the old-style SPECmark ratings that Viking might do: it rates the 40MHz part at 50-60 SPECmarks (40-50 SPECint, 50-60 SPECfp); the 45MHz version at 60-70 SPECmarks (50-60 SPECint, 70-80 SPECfp); and the 50MHz at 80 SPECmarks (60 SPECint, 80 SPECfp). The dual-chip 75MHz iteration planned for 1993, it says, should offer 240 SPECmarks. Of course TI is quick to note that these projections only take into account existing compilers. The new compiler under development at SunPro and elsewhere could improve performance 15% to 20%. Since it's in a forecasting mood, TI also projects the 50MHz Viking's multi-processor performance at 9,600 MIPS for a 64 CPU system, 4,800 MIPS with 32 processors, 2,400 MIPS with 16 CPUs and 1,200 MIPS with 8 processors. However, sceptics were last week arguing that the scalability of Sparc remains unproven, no matter what TI and Sun say.

As you might expect, Texas Instruments Inc is pressing the high performance per MHz it's reportedly getting from Viking: its SPEC sheets claim the 50MHz cycle time is scalable to 100MHz "over time" and the four-way multi-processing that will supposedly offer a peak of 600 MIPS is scalable to 1200 MIPS again "over time". A uni-processor design, with a peak of 150 MIPS is said to be scalable to 300 MIPS "over time." A SuperSparc System Design Starter Kit, including advanced system development tools, documentation, E-Mail, technical support and several SuperSparc units will be available to systems houses in the third quarter, for \$50,000.

Michael Slater, editor of *The Microprocessor Report*, asks us to notice that TI is quoting prices only on the 33MHz Viking and that those are exceedingly cheap. That means, he says, that TI realises it's going to have to make "lots and lots and lots" of chips to get a reasonable 50MHz yield. The ones that don't measure up will be sold for fodder at 33MHz. Slater also says it's the first and only time he's ever seen clock ratings take such baby steps - 33 to 40 to 45 to 50. He figures Sun must be very disappointed and frustrated at not having at least the 50s. There's probably some name calling going on with TI retorting, "well, it is your design".

To keep the cost of producing the upcoming low-end/high-volume Sun Tsunami chip down (UX No 367), TI is going to produce it using cost-effective tape automated bond (TAB) packaging. Apparently it's been practicing that technique, and had a sample of the little thing with it on its road trip last week. TI intends to do the same with the 75MHz dual SuperSparcs next year. At the moment, a SuperSparc comes stand-alone or in a system-ready Mbus module consisting of a single Viking on a standard Mbus plug-in board or with a Multi-cache Module Controller and 1Mb of expansion cache memory which can operate in the Xbus mode for large-scale multiprocessing.

Meanwhile, Cypress Semiconductor Corp chief, TJ Rogers, is feeling a bit cantankerous these days. His own superscalar Sparc chip, HyperSparc, due to be announced this week (UX No 383), is still lagging behind Viking. So before SuperSparc corrals all the business, he's sending Sun messages in the press that if it doesn't buy HyperSparc - also known as Pinnacle - he's going to turn round and do the Alpha for DEC

HEWLETT-PACKARD DEBUTS DME-READY OPEN VIEW NETWORK MANAGER

Pipping its Open Software Foundation Distributed Management Environment chums to the post last week, Hewlett-Packard has released its latest OpenView release 3.0: its next generation suite of network and management software for local area networks, parts of which are included within the DME spec. Adding salt to the wound, HP also announced that it would have OpenView release 3.1 out by the third quarter increasing the pressure on other DME participants to get their stuff out the door. OpenView release 3.0 is made up from several components: SNMP, incorporating HP's OpenView Windows graphical user interface allowing users to customise applications; OpenView Windows application programming interfaces, APIs, picked up by OSF's DME; and a Distributed Management component running an Ingres-based SQL database. This provides programmatic access to Simple Network Management Protocol (SNMP) and Common Management over TCP/IP (CMOT) services using Consolidated Management API (CM-API) - selected for both OSF's DME and X/Open's management protocol environments. In a related announcement, Groupe Bull SA says it will be taking out a cross-licensing agreement with HP giving Bull access to OpenView components, whilst HP gets Bull's CM-API. HP is also rolling-out OpenView Network Node Manager 3.0, incorporating all the features of the SNMP component. It monitors local area TCP/IP networks performing fault, configuration and performance management from a single workstation: and it will, says HP, integrate with other third party applications to form a single DME-based network management solution. Scheduled to ship the first week of June, OpenView SNMP is priced at \$7,000, Distributed Management costs \$8,000 and HP's OpenView Network Node Manager costs \$15,000.

DEC USED EQUATOR VLIW TECHNIQUES IN ALPHA DESIGN

The resurgence of interest in Multiflow's VLIW - see front page - has also surfaced in DEC's Alpha RISC chip of all places: the VLIW, very long instruction word technology that originated in the work of the now defunct Multiflow Computers Inc (UX No 381), played a cameo role in the design and development of DEC's Alpha RISC chip, according to Seattle, Washington-based Equator Technologies Inc. DEC, intrigued by the VLIW technique, and an original licensee of the Multiflow technology, apparently used Equator in the early phases of the Alpha chip design cycle to implement Multiflow's Trace scheduling compilers. Not content with having Equator hog the technology that it had dropped, DEC brought the whole VLIW project in-house, picking up two ex-Multiflow engineers on the way, to finish the job. However, what the net result of the activity has been is unclear, as DEC says it is now closing down its VLIW-on-Alpha work - having failed to enlighten us as to the reasons why - but, at the instruction level, it is thought that Multiflow's trace compilers were being pressed into service to boost the speed at which the RISC could execute programmes. Established in 1990, just two months after Multiflow closed its doors, Equator is headed up by ex-Multiflow vice president John O'Donnell. Making its money as a system design consultancy, it's staying clear of the grave Multiflow dug for itself building machines, it says. Now president of Equator, O'Donnell argues that "Multiflow came out with a product before its time... then, the likelihood of a 64-bit RISC chip was far away, on the horizon, now it's changed." Equator is now thought to be working on Intel Corp's i860 RISC processor, retargeting the Trace compilers for that architecture, as well as "liaising with other major vendors" who originally signed with Multiflow, such as Hewlett-Packard Co, HAL Computer Systems Inc and Fujitsu Ltd. The VLIW stuff aside, Equator's bread and butter comes from designing custom CMOS chips as well as developing proprietary software for analysing superscalar architectures and instruction-level technology.

ICL HAILS VIKING - NEW SPARC MODELS SET FOR THE THIRD QUARTER, INTEL BOXES DUE IN JULY

ICL last week announced its support for Texas Instruments Inc's superscalar Viking Sparc - see front page - which will figure in a top-end, multi-processing DRS6000 Model 764. "We have been evaluating SuperSparc capabilities for high-performance commercial application environments, and we are impressed with the results," said Andrew Roberts, managing director of ICL's mid-range systems division. The company also said the DRS6000 Models 240, 450, 750 and 752 - announced with the 752 back in February (UX No 371) - which use uni- and multi-processor combinations of existing 40MHz Cypress Sparc technology, (dubbed CPU2 architecture) will ship in the third quarter. A new version of its Unix SVR4 implementation - DRS/NX - will figure on those. Meanwhile, new DRS3000 Intel Corp-based models based upon its "Spring Collection" will ship in July. The DRS3000 levels 243CX desktop, 343CXe desktop and 543FX desktide all utilise 33MHz 80486 CPU technology, run a shrink-wrapped Unix SVR4 PC operating system and will feature Unix System Labs' Destiny desktop version of Unix as soon as it appears: "within weeks," the firm claims. Older DRS3000 models will be phased out, it says. Also on ICL's hardware agenda this year are smaller and larger four-node SX mainframe models, new DX systems, a re-vamped peripheral range and the first Open VME products - including 7651 Windows, forms, X.400, OSMC and VME-X.

FEDERAL HEAT OFF OSF

The Federal Trade Commission has shelved its investigation of the Open Software Foundation for alleged violations of the US anti-trust laws (UX No 317). Sources close to the investigation suggest it has been dormant for some months and that it produced no conclusions one way or the other. It could be reopened if the current status of things changed. The massive \$100m federal anti-trust suit that Addamax has lodged against the OSF (UX No 331), is believed to have influenced the FTC's decision to put its own investigation on hold. The FTC is also regarded as being reluctant to pursue high-tech companies because by the time it is brought and the issues resolved, the market has moved on.

DEC TO BUILD GIGA-SWITCH CONTROLLER

DEC announced plans to build a Giga-switch, a network and cluster interconnect, at DECworld in Boston last week. Critical for hooking Alphas and VAXes, DEC said the platform would be protocol-independent, capable of handling everything from multi-vendor PC LANs to multi-vendor mainframes. Based on crossbar switch technology, a Giga-switch solution could make over six million dynamic connections a-second with point-to-point connections between systems and switches, enabling multiple FDDI networks to be interconnected. The technology has a potential aggregate throughput of 3.6Gbps. It permits resources to be dynamically reconfigured. Initial plans include a 22-FDDI port, a DS3 WAN, multi-protocol routing, up to five Giga-switch platforms and SNMP-compliant management software.

IBM's MICROKERNEL PLANS FOR OS/2 3.0

IBM Corp has now fallen back on the reliable method of pre-announcement for its OS/2 promotion campaign. The release of version 2.0 has only just begun, yet the company is already plugging version 3.0. The future-generation operating system, unofficially labelled OS/2 3.0, will be based on a microkernel architecture - though it hasn't been decided which one - will support symmetric multi-processing, and be portable across different hardware systems. According to *Computerworld*, IBM officials have hinted that a version for the RS/6000 workstation is a definite possibility. *Computerworld* interprets IBM's willingness to make public its plans for OS/2 3.0 as the latest advance in the clash with Microsoft Corp: having lost out in the personal computer operating system game, where OS/2 is lagging far behind compared with MS-DOS and Windows, IBM is trying to position the next generation OS/2 competitively against Microsoft's forthcoming NT operating system. It will, however, likely be years before we see hide or hair of it - the company's programming centre in Boca Raton, Florida, indicates that version 2.1 will be the next implementation of OS/2, and even that isn't likely to hit the market until at least spring of next year. As yet, no definitive decision has been made as to the microkernel that will be used for new versions of OS/2, though developers are known to be working with the Carnegie-Mellon University's Mach 3 microkernel; in addition, there is the possibility that IBM might use the NT kernel - "we could use the NT microkernel if we wanted to", it said.

IBM "TO BUY INTO PARALLAN FOR HIGH-END SERVERS"...

IBM Corp is expected to take a 20% stake in Mountain View, California-based Parallan Computer Inc to cement a deal under which IBM would add Parallan's multi-processor 80486-based servers to its line, *Computerwoche* reports. Parallan, a \$10m-a-year, three-year-old private company, will sign a joint development agreement with IBM, paving the way for production of servers that will fit between Parallan's System 290 OS/2 application superservers and the two new high-end IBM PS/2 Model 95s announced last week. As part of the proposed deal, IBM is expected to resell System 290s - currently in their second generation, based on the 50MHz version of the Intel Corp chip, up to 128Mb main memory and incorporating a super-secure implementation of RAID 5 disk array technology, starting at \$25,000 - while the new line of servers is being put together. IBM watchers say the pending agreement signals an intention by IBM to offer with in the next two years an asymmetric parallel processing server designed to run mission-critical applications, including CICS programs. IBM, meanwhile, is not giving any word on the deal, but the company told *Computerwoche* from Armonk that it is "talking to Parallan". Parallan marketing director David Fields was equally coy: he told the German weekly that "a co-operation with IBM would in every regard be advantageous, since our products are quite compatible with IBM's line". If it goes through, the pact will immediately give IBM a presence in the high-end server market. Frank Dzubeck, president of Communications Network Architects Inc in Washington DC, commented to the German newspaper's US sister title, *Computerworld*, that IBM "considers today's multi-processors an interim step, and it doesn't want to [build them]". He suggested that the proposed deal would be a good thing, as it would immediately validate the still ill-defined superserver market. Analysts say that OS/2 2.0 is reason enough for IBM to advance into the superserver market.

...WHILST AUSPEX LOOKS TO INTERNATIONAL MARKET AS IBM DEAL PROGRESSES

Auspex Systems Inc, the Santa Clara, California network server company that struck up a deal with IBM recently (UX No 369), is said to be looking to expand its operations internationally, before going public, possibly by the end of the year. Speculation has it that Auspex has its eyes on its current distributor, Thame Microsystems, as the basis of its UK operation, although Thame's owner Memec is still likely to retain a stake. Thame - an erstwhile distributor of Motorola Computer Systems boxes, was showing Auspex NetServers at the UK Computer Management Group exhibition in Brighton last week, along with the new Sparc-based Epoch-2 data storage servers from Epoch Systems Inc. Auspex recently struck up an OEM deal with IBM, which involves development of a new version of the machine using a Rios chip rather than the current Sparc. In the meantime IBM is already said to have sold a number of Sparc-based models, and may have its own version ready by year-end. IBM versions use IBM disks rather than the 1.35Gb (and soon 2Gb) HP drives used by Auspex. The change of chip is largely a political move, since the CPU is used mostly for housekeeping matters on an Auspex server, the main work is carried out through a series of custom and ASIC chips handling Ethernet, File and Storage processing. The key to the performance advantages of an Auspex server over, say, an IBM RS/6000, is that the Auspex machines has no Unix overhead - there is a 55Mb backplane for network traffic alone, unimpeded by instruction or Unix traffic. There are currently over 400 systems installed, running up to 200 workstations or 100 X-terminals, and up to 5Gb disk storage. Expansion in the number of users and disk storage supported are on there way. There are also rumours that DEC has struck up a deal with Auspex, although DEC UK wouldn't comment.

TATUNG MOVES TO MATCH SUN'S PRICE CUTS ON SPARCSTATIONS

San Jose-based Tatung Science & Technology Inc has been driven by Sun Microsystems Inc into cutting prices on its own Sparc-based workstation line, and as a result, it says it now offers a 40MHz system at \$5,990 and a full range of colour systems at less than \$5,000. The Compstation 40 configurations have been cut by more than 30% so that a diskless system with 40MHz CPU, 15" colour monitor and 8Mb is \$5,990, \$6,990 with 270Mb disk and single-slot graphic accelerator card; with 19" colour monitor, 32Mb, 520Mb disk and the accelerator it is \$10,890. The entry-level models start at \$3,990 with the Mariner 4i, a 25MHz workstation; a diskless Compstation 25 is \$4,490 with a 15" colour monitor and 8Mb.

OPEN SYSTEMS - FACTS AND FICTION ACCORDING TO THE GARTNER GROUP

by William Fellows

The Gartner Group's bandwagon came to the UK recently, where it used a conference in London - Open Systems: A Mix of Myth and Reality - for the launch of its latest consultancy package, the Open Systems Service.

The market research outfit reckons that the four fundamental factors driving the adoption of open systems - functionality, availability, complexity and cost - will only begin to intersect favourably around 1995. Why 1995? As well as being party to the future plans of its vendor clients - many of whom will be directly responsible for developing technology which will fuel these forces - Gartner has arrived at 1995 by using diffusion theory, which is a way of interpreting something, in this case open systems, by examining the natural movement of its components. It's a technique that was first used, according to Steve Wendler, vice president and service director of the open systems programme, in the American mid-West, to explain why farmers adopted new corn seeds, and then applied in other fields of study. Even so, Wendler is careful to qualify best estimates, saying "open environments will not be possible in the absolute, even by 1996, but solutions will emerge that are increasingly less closed."

Initially, any new technology functions rather crudely, Wendler argues, but its usability rises over time as users and vendors gain experience through subsequent versions. Similarly, the availability of new technology is limited at first to narrow distribution channels such as direct sales and systems integrators, typically proportional to the complexity of the stuff. The complexity of new technology (for users) is high at first, but again decreases with subsequent releases of the product. Similarly initial costs are high as vendors try to recover their non-recurring investments in the technology, but falls as volumes increase and manufacturing is streamlined or competition depresses prices. Broadly, Wendler's argument is that these four factors have favourably intersected for a sub-set of technologies - Unix, C and TCP/IP - in large - scientific, engineering, government and education - but niche markets.

Ripe

Looking specifically at the mid-range commercial systems marketplace, Wendler believes that by 1995, users are likely to reach a point where the cost of implementing open systems will be less than to carry on as they are. The mid-range market is most ripe for open systems, he says, because of the availability of low-cost, high-performance systems that span replicated site configurations linked to departmental server configurations connected to loosely-coupled multi-processing central processing units. At the low-end of this market, for example, no suppliers can any longer offer a proprietary technical workstation, it has to be open systems.

Wendler has also assessed which application areas, or what Gartner refers to as middleware - everything between the hardware and what the user actually sees - are most appropriate for the near-term deployment of open systems. These include application development environments (though vendor-specific), global networking (OSI, TCP/IP), network and systems management (EMA, Open-View, ONE, DME), integrated office products (AT&T Rhapsody, NCR Cooperation, Applix, Quadratron) and workstation integration (LM/X, PC-NFS). Some technologies, Wendler believes, are irrelevant because of their relative immaturity, such as repositories and on-line transaction processing monitors. Some have to be dealt with using ad hoc, independent software vendor solutions at present, such as application development environments and distributed databases. Gartner has focused on the mid-range - apart from the money it has to spend on consultancy one assumes - because it believes the "heritage of open systems has been to solve mid-range problems."

Widespread implementation of Unix on the mainframe is still some way off Wendler reckons - Amdahl Corp's UTS excepted - because Unix's input/output performance is still in the realm of kilobytes per second, not megabytes per second. Moreover, Unix can only recognise a maximum of 1,024 devices and it doesn't support multiple volume files. Unix is also very weak on systems administration when compared to proprietary systems, Wendler says, and when it comes to high-availability, Unix just isn't durable enough.

"As open systems cannot fulfill most of these roles at the moment, many [mid-range] users will see open systems as a niche strategy, until 1995, when the technology will change to such a degree that open systems will be able to meet the needs of the most demanding commercial applications."

As is clear to anyone who is involved in the industry, open systems are already having an enormous impact on vendor strategies. Wendler says one result will be that "software prices will rise astronomically to compensate for declining hardware revenues." Much of what business needs to carry out new information strategies is simply not being provided, he says; "most organisations are going through an architectural crisis at the moment due to the absence of strategic planning and management."

However, in response to user demands for openness, Wendler argues, vendors will - as we know only too well - increasingly promote everything they can as "standard." In that arena, vendors will "increasingly obfuscate formal, draft, proposed, consortium, de facto and proprietary standards compliance." In some cases, he says, this approaches Orwellian newspeak, for example IBM's "Open Communications Architectures, which effectively withdraw from publication of newer versions of proprietary network-layer protocols that have previously been published." Wendler suggests that users "consider formal, draft, consortium and de facto standards as real standards, proposed and proprietary as self-serving vendor hype." Users themselves, however, are not completely blameless when it comes to the slow uptake of open systems, Wendler observes, "our clients don't take products seriously until IBM is involved."

Client/server future

Another major player, Microsoft Corp, so far with only a tippy-toe in the open systems waters, needs to control the definition and evolution of computing to maintain its momentum, Wendler says. NT he considers a ported proprietary environment, but it will, by dint of its use of OSF's Distributed Computing Environment "accelerate the take-up of open systems," he believes. In Wendler's eyes, DCE will become the de facto standard for client/server computing. Sun, he says, "sat on its remote procedure call laurels too long and didn't advance its Open Network Computing technology until OSF started talking about DCE." Wendler recognises that object-oriented technology will play a central role in the distributed management systems of the future, though it is too immature to be of any real use at present, he says - "the class definition stuff that OMG is working on now is much more important than the Object Request Broker." OMG's work so far "has been like defining that there have to be lights on the the wing tips of aeroplanes."

Wendler concludes "there is no such thing as an open system in 1992," and that for users, the economic benefits of going open systems have so far been only "anecdotal." Although, he confesses, he cannot provide "money saving ideas," he firmly believes that as far as mid-range systems go, Unix functionality is now on a par with proprietary systems, reflected in reduced proprietary pricing, and that substitution, rather than wholesale replacement, is the key to open systems. He strongly advises users to get involved with their regional open systems organisations and representative industry groups.

Without question, open systems give users a great deal more leverage when negotiating with their suppliers, as Wendler observes, "the keys to a successful migration process are as much political as they are technical. We can incrementally manage our way towards open systems component by component," is his message to users, "but don't do it all at once - and remember it doesn't necessarily mean Unix."

Gartner's Open Systems Service costs £10,800 for one year's subscription.

PEACE IN UNIX WARS WON'T SLOW MICROSOFT'S WORLD DOMINATION, SAYS GARTNER

The Gartner Group's latest thinking on Unix - see opposite page - has Unix System Labs/Unix International and the Open Software Foundation ending "the Unix wars by establishing a unified version of Unix and critical middleware, but [they] will be unsuccessful in curtailing Microsoft Corp's domination of the commercial desktop." In this unified Unix environment, Gartner positions a common SVR4-OSF/1 application programming interface, OSF's Distributed Computing Environment, Tivoli Systems Inc's management framework, OSF/Motif and a common desktop manager - watch this space. The market research group reckons it won't be until the second half of next year that Unix will achieve the degree of functionality needed to match proprietary systems as viable, enterprise-wide server platform, ESP. ESP, in its nomenclature, refers to a mid-range, distributed multi-processing server which can be integrated into, and used in conjunction with, a larger information technology architecture, providing transparent services to any client. Sun Microsystems Inc, Gartner believes, has an entrenched position, focused on providing "invented here" enabling technologies to independent software vendors, rather than on providing comprehensive ESP products to end users. However, it trumpets NCR Corp's recent efforts, saying that only it "will emerge from the shadow of product delays and corporate reorganisation to offer a suite of ESP products rivalled only by Hewlett-Packard Co in terms of breadth and quality." Pyramid Technology Corp, it forecasts, will move "cautiously" to provide greater ESP support with partners, or where the cost of entrance is low. Sequent Computer Systems Inc, meanwhile, will "successfully exploit its multi-threaded NetWare implementation to win major new accounts."

PERSONAL COMPUTER CAMP "TO CHALLENGE WORKSTATION PERFORMANCE"

It looks though what Intel Corp refused to do for ACE will be done under other colours after all. In last week's episode, we had Intel refusing the repeated pleas of Compaq Computer Corp and other personal computer vendors inside ACE to create a new ARC-like standard for Intel machines complete with an ARC-like Hardware Abstraction Layer (UX No 383). Now it appears in a story published in **Computer Retail News** that that's exactly what's afoot in the personal computer camp - with Intel, Compaq, Microsoft Corp and IBM as players, and a game plan that tries to equal workstation performance with a PC-compatible. We know Compaq wrote the specification when it was still a ploy - **Systems Network Integration** says they even have a prototype up and running - but whether this can ever amount to anything more than a high-end PC depends on sorting out fact from propaganda. Intel, after all, is said to have lopped a year off its P5 (80586) design cycle just to compete with RISC chips.

DEC TO END BUNDLING AGREEMENT WITH INGRES FOR ULTRIX

Following close on the termination of its Open Desktop agreement with Santa Cruz Operation Inc, Ask Computer Systems Inc's Ingres Products Division faces another divorce: now Digital Equipment Corp is to sever links, ending a three-year bundling of the Ingres relational database management system under Ultrix. This confirms previous reports last week strenuously denied by both Digital and Ingres UK management: both parties say "negotiations" on the deal are currently under way at the DECWorld extravaganza in Boston, but don't expect the cards to fall any other way.

UK COMPANIES AT LOGGERHEADS OVER LOGIX NAME

Logix '92, cast as a spring-time showpiece for Logitek Distribution Ltd's Unix reseller initiative, has turned out to be something of a damp squib for the Slough, Berkshire-based outfit. Logix UK Ltd, Redhill, Surrey, the computer division of Korean giant Lucky Goldstar's London-based international operation, is threatening to sue Logitek over the the Logix name - used for the conference event it hosted last week, as well as figuring in its on-going marketing plans for the coming year. Logix - the company - was alerted to its doppelganger when a confused customer telephoned, demanding an invitation to its Logix '92 event. Although Logitek managing director, Ian Johnston, claims Goldstar has yet to register its Logix logo as an official trademark, he took the precaution of explaining to Logix '92 attendees that there were no Logix products at the event, and included a footnote to that effect in the accompanying publicity material. Logix, however, is not convinced. Non-plussed, its director, Brian Jackson, said "we have given Logitek a time limit to come to terms with their error. If they do not [change the name] we will have to do it for them." Logix and Logitek are trying to settle the squabble out of court.

ESIX LAUNCHES SYSTEM V.4.0.4 SHRINK-WRAPPED UNIX

Fremont-based Everex Systems Inc's Santa Ana, California-based Esix Computer Inc does not intend to leave the iAPX-86 Unix market to Santa Cruz Operation Inc, Sun Microsystems Inc's SunSoft and Unix System Laboratories Inc's forthcoming Destiny. It says it is now shipping its shrink-wrapped System V Unix Release 4.0.4 operating system, which supports the Intel Corp iBCS II specification, which enables all iBCS II-conforming Santa Cruz Unix 3.2 applications to run. The Esix product is claimed to unify all major versions and derivatives of Unix such as System V.3.2, Berkeley Software Distribution 4.2 and 4.3 and Microsoft Corp's Xenix, which was also handed over to Santa Cruz a year or three back. Key features of Sun Microsystems Inc's SunOS have also been incorporated into the new release, Esix says, adding that it is also conformant with IEEE P1003.1 Posix.

BULL PREVIEWS MULTIMEDIA DEVELOPMENT SYSTEM FOR UNIX AHEAD OF AUTUMN LAUNCH

Sometime this autumn, Groupe Bull SA plans to introduce its promised Hyperpath Unix-based multimedia application development system created under European Community Esprit funding. Components include the Hypermedia Toolkit that enables programmers to create and manipulate persistent, distributed Hypermedia objects such as nodes, anchors and links, or to add hypermedia function to other development environments. Multitalk is a scripting language that enables authors and end-users to implement simple applications by defining actions to be performed by the active hypermedia objects. An M2000 communications protocol is available through the application programming interface, and Hypermedia objects and documents are stored using a simple distributed persistent storage device. The Authoring tool is an OSF/Motif application written by the Toolkit, and the MC Editor is a Motif program too. Other editors have been extended to handle the M2000 protocol, including GNU Emacs and Raphael/Balzac. There are versions of the system for use with Bull's DPX Unix systems, workstations from Sun Microsystems Inc and personal computers running Santa Cruz Operation Inc Unix System V.3.2. Bull says that it plans to release a Windows 3.1 version by the end of the year.

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CDC TO ADD ANOTHER RISC

Control Data Corp is this week tipped to announce its adoption of Hewlett-Packard Co's PA RISC chip, which it will use in systems that'll sit alongside the MIPS Computer Systems Inc RISC boxes it already builds and OEMs. Although a closer relationship with the Silicon Graphics Inc/MIPS unit would seem the most plausible direction for CDC, it has shunned this route. A story which appeared in last week's Electronics Weekly, saying the company was considering another RISC was placed with that publication, CDC admits, "to put the wind up Silicon Graphics and MIPS." Although CDC would not come clean with its actual choice of another RISC, it ruled out Sparc, said DEC's Alpha was just vapourware and admitted it had been positively influenced by HP's technology commitment. CDC's decision won't be made public until it wraps up its latest internal re-organisation (UX 381).

Sun Microsystems Inc has shunted NCR Corp out of the frame at UK newspaper and magazine wholesaler and high street retailer, John Menzies UK Ltd, Edinburgh: Sun Sparcstations will replace NCR Towers in Menzies' 66 branches across the UK for its wholesale operation.

Epoch Systems is changing its tack and making the source code for an enhanced version of its network data management software available to OEMs as a software-only product dubbed EpochServ. One of its first customers is Storage Tech.

Adobe Systems is to port its Display Postscript language to Mountain View, California-based Network Computing Devices Inc's MIPS Computer Systems Inc R3000 RISC-based X-terminals: NCD, which will have a hand in the porting, is to license the stuff back early next year when it is complete.

DEC has come out with two new models in its VXT 2000 line of X-Windows terminals: a new entry-level 15" mono model integrates all the electronics with the screen at \$1,700 but with less space for memory does only 47,000-Xstones, down from 60,000-X - there is also a full-size 17" colour model at \$4,700 in May, both use a VAX CPU.

Apple Computer Inc says it bought the C2 level security software for its A/UX Unix from SecureWare Inc, Atlanta, Georgia: SecureWare is the approved vendor of security technology for the Open Software Foundation's OSF/1 operating system.

Visix Software Inc has picked up UniPress Software Inc as a distributor, which will sell Looking Glass Professional as its desktop manager of choice.

Sequent Computer Systems Inc has privately placed some \$20m - £11.3m - worth of convertible debentures to repay bank debt and provide working capital.

Expanding on the agreement that AT&T's Computer Systems Division forged with Banyan Systems Inc last year, NCR Corp has now sealed a pact with the Westborough, Massachusetts-based company, said to be worth \$25m over the next three years: NCR is to market and support Banyan's Unix-based Vines network operating system - in the US and Canada initially, worldwide at a later date - whilst Banyan distributors will be able to sell NCR products.

UniVerse house, VMark Software Inc has filed to go public with 1.8m shares priced between \$10 and \$12.

Intelligent input/output board supplier, Byfleet, Surrey-based Specialix Ltd, says its flagship product, the transputer-based RIO controller, isn't going down the storm that it had hoped it would: even OEM deals with the likes of Groupe Bull SA have not boosted sales, says marketing director, Ian Cummins, "RIO is not selling as well as we thought it would... and our estimations on its performance in the market are nine months ahead of what has actually happened". Specialix also admits the move to Unix System Labs' Unix SVR4 hasn't gone smoothly as planned, saying that it unexpectedly had to rewrite several device drivers for OEM versions.

Computer Associates has put Motif on its CA-20/20 spreadsheet for Unix workstations and PCs under SCO Unix. The company says the product has been redesigned from the ground up to exploit the GUI but keep compatibility with existing 20/20 applications.

Sources are now saying that Pinnacle 1 or HyperSparc, the Cypress/Ross version of a superscalar Sparc, that we pegged last week as debuting a 55MHz will actually be introduced as a 66.7MHz/70 SpecMark chip, which of course is faster than Viking. However, we are also reminded that Pinnacle hasn't been taped out yet so it's still only hopes and dreams time over at Cypress. Supposedly, it'll be a fourth-quarter deliverable.

The Instruction Set has paired with the Computer Channel in the US to produce a series of TV programs and videos on open systems topics: Instruction Set already sells some Computer Channel videos, using them to supplement instructor-led curricula. Subjects include distributed systems, portability, GUIs, client-server environments, object orientation and networking.

A new Unix expo is on the drawing board, this one, borrowing from the original Comdex, is aimed at the reseller community: Unix Resellers, organized by Expoconsul International in Princeton, New Jersey, is scheduled for May 4-6 1993 at the Dallas Convention Centre.

Ask Computer Systems Inc of Mountain View, California, is believed to be about to take a stake in Unix manufacturing software specialist Baan International NV of Ede, Holland. Baan declined to comment. Motivation is interest in its Triton Management System.

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Stateside gossip has it that Hitachi Ltd will announce a "Unix mainframe" within the next 30 days: possibilities are either OSF/1 on its existing M-series mainframes, or the first fruits of its efforts with Hewlett-Packard Co's Precision Architecture RISC, which is said to be a RISC-based Unix co-processor for the IBM-compatible mainframes.

Start-up Carrera Computers Inc out of Laguna Hills, California, has licensed an ARCSys system design, the ARCSys 100 Manufacturing Kit, from MIPS Computer Systems Inc to make motherboards, expecting to be first out with a RISC-based personal computer board later this year.

Costa Mesa, California-based FileNet Corp, which up to now has built its Unix-based image processing servers around the Motorola 68000 family, has decided to switch to two models of IBM Corp's RS/6000 for high-end models under an OEM agreement that also covers AIX/6000. FileNet also has two new 68040-based models, one out now, the other set for July. The RS/6000-based models are to be called the FileNet Series 6000.

Armchair strategists reckon that if Solaris 2.0-on-Intel and the USL/Univel Destiny don't snare a piece of the Microsoft pie they are surely going to displace SCO.

It appears Canon increased its position in NeXT slightly with an additional \$10m-\$20m investment back in December: it now holds 17.9%. Jobs' holding is now less than 50%, at 46.1%.

The User Alliance for Open Systems is set to meet May 11-14 in Dallas at the InfoMart: it is anxious to push its agenda for interoperability, transportable data and applications and an IT environment that supports business objectives.

Bell Labs plans to spin off a new company, Echo Logic Inc, which will offer binary code conversions enabling Macintosh applications to run natively on IBM's Unix-based AIX, Systems Network and Integration reports. The addition of Macintosh applications is also likely to make the IBM's RISC System/6000 a likely upgrade path for Macintosh users looking for more powerful servers than Apple can offer.

Kaleida, Apple Computers Inc and IBM Corp's joint multimedia venture, is expected to announce the appointment of Nat Goldhaber as CEO this week: Goldhaber, founder of Centram Systems West, will reportedly be joined on the Kaleida board by an array of Apple and IBM executives including David Nagel, senior vice president of Apple's Advanced Technology Group; Robert Carberry, IBM's assistant general manager of personal systems; and two other high-ranking executives from Apple and IBM. Kaleida will initially be housed at Apple's headquarters, but there are plans for it to be relocated to Silicon Valley later in the year.

Sun Microsystems Inc management estimates it is spending 10%-15% of its revenues moving over to Unix SVR4: that must mean, that when the exercise is over, it will be rolling in cash.

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SUN ROLLS OUT VIKING BOXES AS SPARCSTATION 10s...

This is the week that Sun Microsystems Inc debuts the first of its much-heralded, if tardy, Viking boxes. Despite hopes that Sun would think up something warm and friendly to call them, the things have been dubbed Sparcstation 10s - small improvement over the Sparcstation 3s they might have been - in recognition of Sun's tenth birthday, which it celebrated earlier this year. The new family includes two desktop workstations, the Model 30 and 41, each available in August in either single or dual processor configurations. Both models, sans monitor and keyboard, also come as servers. Performance will be quoted at two to three times the existing Sparcstation 2. Sun has wisely isolated its competitor as Hewlett-Packard Co, currently the performance leader, and is going to go head-on with claims that its boxes beat comparable HP Snakes on a sheer performance basis, let alone the price/performance ratios. As of last week, Sun was still tinkering with the Viking's clock speeds. It is not using the 33MHz and 40MHz silicon Texas Instruments just announced (UX No 384), but will come in higher than both those rates. Sun will also be offering Viking versions of the Galaxy 630MP, 670MP and 690MP multi-processors it introduced this winter, configured with one to four processors. The Sparcstation 10 comes with 32Mb RAM standard, expandable to 512Mb using 64Mb SIMMs or 128Mb with 16Mb SIMMs. There is either one 424Mb or 1Gb 3.5-inch drive standard, up to two 3.5-inch SCSI hard disks and up to 26Gb external disk capacity. There are four SBus and two MBus slots. A single-slot GX accelerator is standard with GXplus, GS and GT configurations, available for 2D and 3D graphics. Monitor options include a 19-inch grey-scale or 16- or 19-inch colour screens. Solaris 1.1 will be pre-installed. As Sun suggested it would do, it has built in ISDN and multimedia features such as a bundled speaker box and microphone, CD-quality audio and multimedia mail in an OpenWindows 3.0 environment. The Model 30 servers are uniprocessor only, the 41s can expand to two. Both will connect directly with 34 terminals. Sparcstation 1, 1+ and 2 users - even in some respects IPX customers - will be able to upgrade to either the Model 30 or 41 via a chassis and motherboard swap out. Old Sun-3 and Sun386i users can exchange their CPU boards for an entry-level Model 30. No further word on pricing was available at press time except that the 10s will start between \$20,000 and \$30,000. Keeping its eye on what HP was up to with its latest Snake, see page three, Sun was still dickering with its pricing schedule at the eleventh hour last week.

...AS CYPRESS DELIVERS HYPERSPARC - BUT NO CUSTOMERS YET

Cypress Semiconductor Corp and its Ross Technology Inc subsidiary last week delivered their report to Texas Instruments Inc's superscalar Viking Sparc in the form of HyperSparc, a 64-bit microprocessor which they hope will compete with Texas' part for the next generation of Sparc RISC system business. Developed and designed by Austin, Texas-based Ross, under the watchful eyes of Sun Microsystems Inc engineers, the superscalar, superpipelined HyperSparc begins life as a 66.7MHz unit delivering 70 SPECmarks (55 SPECint, 64 SPECfp), 133 MIPS and 32 MFLOPS, compared to the 50 SPECmarks of Texas' initial 40MHz Viking CPU. Executing 0.9 instructions per cycle, HyperSparc uses 0.65 micron, two-layer metal CMOS technology, has 1.2m transistors, is taped-out now and is due to sample next month. Prices start at \$3,500 in quantities of 100, which ship from the fourth quarter. HyperSparc will evolve into three-layer, 0.5 CMOS, 80MHz and 100MHz iterations next year. An 80MHz part will deliver 85 SPECmarks (65 SPECint and 75 SPECfp), 166 MIPS and 37 MFLOPS. The 100MHz offering is rated at 101 SPECmarks (77 SPECint and 89 SPECfp), 200 MIPS and 44 MFLOPS. HyperSparc is being offered in uni- and dual-processor modules with 128Kb or 256Kb of cache memory per processor. A symmetric multi-processing HyperSparc configuration with two, dual-66.7MHz CPU modules has a SPECthruput rating of 200. HyperSparc is pin-compatible with Cypress' first-generation Sparc RISCs, which Sun uses in its workstations and server systems, and uses the 40MHz Mbus. To handle the throughput that future HyperSparcs will be capable of delivering in multi-processor configurations, Cypress says it is investigating a higher clock speed Mbus, and other bus technologies. Although existing Sparc applications can take advantage of the superscalar and superpipelined features of HyperSparc as they stand, Cypress says that with re-compilation, software can garner a further 10-15% boost in performance. Sun's SunPro unit is expected to come out with new compiler technology to allow applications to take advantage of HyperSparc - and Viking - features, indeed Sun's whole SunWorks compiler set is now being readied for an overhaul. Viking fits Sparc international's current edition of the Sparc Compliance Definition - Cypress says it'll also meet the requirements of SCD 9.0, now expected in the third or fourth quarter, which will outline a set of parameters for 64-bit Sparc systems (UX No 380). More details, page four.

UNIX ON THE DESKTOPS, WITH A LITTLE HELP FROM FRIENDS

There are a handful of noticeably small start-ups wrestling with the key interoperability issues facing Unix as it elbows its way on to the desktop. SunSoft Inc's solution to the problem of running Microsoft Corp Windows applications on its Solaris 2.0-on-Intel Unix SVR4 operating system will reportedly be addressed by Praxsys Technologies Inc, Norwood, Massachusetts. The technology is code-named "Snoopy," and the firm claims its software will take all current and future off-the-shelf shrinkwrapped Windows applications, whether written for Windows 3.0, 3.1 or NT and run them unmodified on any RISC or Intel Corp Unix platform in native mode, see page five. Snoopy doesn't have the field to itself, however, as Bristol Technology Inc, Ridgefield, Connecticut, is also readying a solution to the task of running Windows applications on Unix. Its Win/U answer to the problem is expected to debut as a commercial product by the end of the year and is claimed to be a step ahead of rival technologies because it requires no Windows source code, see page four. Meanwhile, start-up Echo Logic, the Bell Labs Inc spin-off being funded by AT&T Ventures Corporation, the phone company's venture arm, has announced a pact with Apple Computer Inc that it's apparently had in its back pocket for over a year. The pair will reportedly use Echo's multi-pass binary compiler technology, FlashPort, to have existing shrinkwrapped Mac applications running on Apple's anticipated PowerPC RISC Unix boxes when they reach market, see page five. Not such good news from one of the original players in this arena though, Mac-on-RISC house Quorum Software Systems Inc, Menlo Park, California, has filed suit against Apple seeking to counter allegations of patent and copyright infringement made by Apple. The suit is meant to head off a legal attack against it by Apple which Quorum believes is in the works, see page four.

X/OPEN STILL TRYING TO CUT A DEAL WITH OSF

The X/Open Group Co Ltd has missed its proposed May timeframe for rolling out XPG4, the next version of its portability guide, which are a set of specifications designed to make it easier to develop open systems products, or to port proprietary offerings to open systems platforms. The delay is due to the complex documentation required, X/Open claims, saying that it wants to make a big splash for XPG4, now scheduled for the Autumn. Now that Unix System Labs has finally cut a deal for OSF's Distributed Computing Environment, albeit through Siemens-Nixdorf Informationssysteme AG (UX No 384), hopes are that X/Open may find light at the end of that particular tunnel too. X/Open, which has been in negotiations with OSF for over a year now, was supposed to have incorporated DCE into its Common Applications Environment some time ago: that announcement is also on ice until the two can work something out.

SUNSOFT TO ACKNOWLEDGE OSF'S DISTRIBUTED COMPUTING ENVIRONMENT

Sun Microsystems Inc has been sending out some rather confusing messages of late with regard to its position over the Open Software Foundation's Distributed Computing Environment - DCE - initiative, which is more or less completely opposite to its own Open Network Computing, ONC environment. Although the industry seems to be rallying to DCE, which is being touted as the future de facto, if not de jure, standard for creating and implementing distributed client/server applications, as Sun points out, no-one is using DCE - except a few early developers - whilst it already has some three million odd ONC licences. Nevertheless, Sun has come in for no small amount of criticism in pursuing what is often strictly an "invented here" approach to technology solutions, at the expense of making some pragmatic marketing decisions. Most marked has been Sun's reluctance to concede any ground to OSF's Motif interface, even though many Sun users clearly prefer that graphical environment over Sun's Open Look GUI. On May 26th, Sun will, via its SunSoft Inc software operation, outline a more conciliatory position over DCE, alongside the first major shake-up in its networking strategy for some time. Although its plans stop short of adopting DCE outright, or even endorsing a third-party offering based upon the stuff, SunSoft will define a networking strategy for its Solaris Unix SVR4 operating system, which will include the ability to "plug-in" DCE components, according to Ed Zander, president of the software unit. As well as introducing ONC Plus, an enhanced version of its existing networking technology, featuring new naming services, file system services and security enhancements, SunSoft will describe Solaris Federated Services, a set of utilities that'll allow users to develop with ONC Plus, or to plug-in alternative technologies such as DCE, even whole networking products, like Novell Inc's NetWare. SunSoft's Unix-on-Intel play, Solaris 2.0, will be shown at the forthcoming PC Expo in New York - along with its emulation stuff, see page five - and is still scheduled to become available 90 days after the Sparc version ships. By next year there will be no time delay between releases of software for the different architectures, promises Zander. Meanwhile, the SparcWorks compilers that are used to re-compile for both platforms are soon to get a re-working, including a name change, says Zander, but there will be no cross-compiler.

Solaris and Destiny - incompatible

Given all the hard work being invested in the various Unix desktop efforts, it seems a shame that Solaris for Sparc and Intel won't be binary-compatible with Unix System Labs' Sparc and Intel implementations of the Destiny desktop Unix. Their respective Application Binary Interfaces are different. That might cause headaches at the likes of ICL, which says it'll run Destiny on its DRS3000 boxes (UX No 384), whilst maintaining a Sun-compatible operating system on its DRS6000 Sparc range. However, USL has recently claimed that it will configure Destiny to run applications of all persuasions - including Solaris - (UX No 380), Zander says "if they can do that they're better than anyone in the world."

DOE: Distributed Objects Everywhere

According to Zander there are 12 different products that will eventually fall under the DOE umbrella that it is sharing with Hewlett-Packard Co. The first of that breed will appear next year, including technology that will incorporate Tivoli Systems Inc's WizDom object-oriented distributed management framework. DOE will also embrace Sun's ToolTalk communications and messaging service. SunSoft holds quarterly DOE non-disclosure updates for 75 or more independent software vendors under the auspices of a Distributed Object Council, and has up to 100 engineers working on object stuff.

European offices

As well as its North European operation (covering Ireland, Norway, Finland, Denmark, Sweden, Iceland, Belgium, Luxembourg, the Netherlands and Israel), which is run by Interactive Systems' former European boss, Doug Millar, out of Interactive's old UK offices in High Wycombe, Buckinghamshire, SunSoft has now opened offices in (Grasbrunn) Munich and Velizy-Villacoublay (Paris), though both are located within the parent's premises. The French office handles Southern Europe - France, Spain, Italy, Portugal, Greece, Turkey, Yugoslavia and Albania, plus Africa and the Middle East, and is run by Bernard Moitel, poached from Santa Cruz Operation Inc. Dr Michael Beier has responsibility for Germany, Austria and Switzerland - and any points that it can find east.

SUNSOFT'S INTERACTIVE INITIATIVE

Eyeing the expected Microsoft Corp NT assault on the 32-bit systems software market, SunSoft is also fortifying its channel strategy hoping to press the advantage first for its Interactive product, then for Solaris-on-Intel when it becomes available. SunSoft has been publicly quiet on Interactive Unix since acquiring the division at the new year despite the fact that its sales accounted for a significant portion of the record number of licenses it sold. Now it is starting to rev its engines with a new Spectrum programme designed to increase Interactive channel sales, preparing the way for Solaris-on-Intel. It has been interviewing its distributors and sampling its 3,000 resellers to assess geographical coverage and shortcomings. SunSoft is spending in the neighbourhood of \$5m on training and education, lead generation and promotion and user-oriented advertising. Its 10 US and 30 European distributors have been briefed: its 12 PacRim houses remain. Sun, which reckons its US distribution is thin, is expected to strike first at SCO which is deemed over-distributed and stagnant. SCO's forces are apparently dis-guntled since Sun has been invited to make its case to SCO's Distributor Council later this month in Florida. SunSoft is also kicking off a 200,000-piece direct mail campaign targeting new users and collateral telemarketing activity. It says it is currently turning over some 6,000 leads a month to its distributors.

HEWLETT-PACKARD HP-UX AND OSF/1:

"THE PROBLEM IS THAT IT ISN'T CALLED UNIX"
Although Hewlett-Packard Co says it still plans to incorporate OSF/1 into its HP-UX Unix implementation, the timeframe for accomplishing that task is gradually being pushed back, and who knows what will happen before such a transition is complete. The company's next Unix release - HP-UX 9.0 - will comply with release 2 of OSF's Application Environment Specification, "OSF/1 without Mach," says HP UK's workstation manager Richard Owen, with a full OSF/1 kernel expected in HP-UX 10.0, which will be backwards compatible with the other HP-UX releases. HP is not in a hurry to rush to OSF/1, Owen says, because the applications aren't there, but "the big problem is that it [OSF/1] isn't called Unix. And users want Unix." HP will take-up OSF's other technologies - like the Distributed Computing and Management Environments - the problem though, "a hairy one," according to Owen, is how to fit them together, or how to develop the interfaces that allow them to interoperate with each other. Owen says HP is "doing better with DCE than DME." HP's Apollo Network Computing System development team "regards DCE as an NCS product," and currently has its work cut out trying to integrate all the DCE components - new technology to HP - back into NCS. On the other hand, from HP's corner, DME is essentially the development of an existing application, not a new technology, and in any case "we've got more of our stuff in there," says Owen. Owen, who describes DCE as "more ambitious code," says the other problem with it is that, by implication, DCE has to be tested on multi-vendor machines. "People want DCE because they want the Andrew File System - which accepts wide area networking - and the security." The problem with Network File System (part of Sun Microsystems Inc's rival Open Network Computing technology) Owen says, is that its security is built upon Unix, and it is not scalable above 20 systems.

On the demise of the Open Software Foundation's Architecture Neutral Distribution Format effort, Hewlett-Packard Co says "there should be an ANDF technology out there, but says it will be happy to work with whoever can provide that solution, "we're not religious about that," says HP UK's workstation marketing manager, Richard Owen. Although an adversary of the Advanced Computing Environment initiative, Owen concedes "ACE stirred people into an application portability train of thought." HP will pick up any software technology "that makes it easier to sell hardware," Owen says, "if users demand Microsoft NT, then we'll pick that up too."

HP ADDS COLOUR 705 WORKSTATION

Turning up the heat on Sun Microsystems Inc and IBM, Hewlett-Packard Co is starting worldwide deliveries of another Snake RISC workstation in June, adding a colour model of the PA-RISC HP 9000/705 to its pit. Geared towards computer-aided design and technical markets, the colour desktop uses the company's HP-UX Unix operating system, runs at 35 MIPS and is rated at 34 SPECmarks. With 16Mb RAM, the 16-inch and 19-inch diskless units cost £7,100 (\$9,000) and £8,000 (\$10,000) respectively. Pitched at £400 less than the IBM RS/6000 model 220, the colour 705 can be upgraded to use the 50MHz 710 PA-RISC board, upgradability, which HP claims, is offered neither by Sun nor IBM. To stir up the competition even further, HP has reduced the price of the current Model 710 by £1,125 (\$1,500) to £9,350 (\$12,500). Tilting further at Sun, HP says it has eight RISC Unix announcements to make before Sun wraps up its May 19th Viking launch (we're still waiting).

APPLE LAUNCHES UNIX DESKSIDE IN UK

Apple Computer UK Ltd, Uxbridge, Middlesex, begins deliveries of its Quadra 950 deskside Macintosh in the UK this week. Running Apple's A/UX Unix implementation, the machine is based upon Motorola Inc's 33MHz 68040 chip, delivers 25 MIPS performance and includes 1152 x 870 resolution graphics, five NuBus slots and CD-ROM. The 950, different from the desktop Quadra 900 (CI No 1,784), comes with a variety of monitor size options - 12-inch to 21-inch. Prices start at £4,900 for the 4Mb, diskless version - £5,700 buys a system with 230Mb disk. US prices have yet to be announced.

CRAY LAUNCHES MASSIVE MEMORY Y-MP M90s, CUTS LOW-END TAGS

Eagan, Minnesota-based Cray Research Inc has introduced a new Y-MP M90 series of supercomputers, claiming that they offer the largest main memories ever, in the hope that they make it possible to solve important scientific and engineering problems that are too large for the memory of any existing computer system to handle efficiently. It is looking for customers in the petroleum, automotive, aerospace and chemical industries and in large-scale environmental and long-range weather modelling. There are three models - M92 with two CPUs, M94 with four and M98 with up to eight, the last coming with up to 4G-words of 64 bits, 32Gb, using 16M-bit memory chips with up to 17.1G-bytes-per-second memory bandwidth and 11.7G-bytes-per-second input-output throughput. No word on who is supplying the memory chips. AT&T Co's Bell Laboratories in Murray Hill, New Jersey has ordered a Y-MP M92 for installation in late 1992 for integrated circuit design, physics, chemistry, numerical methods and speech processing. Pricing for the Y-MP M98 starts under \$10m where three years ago, eight-processor Cray supercomputers started at over \$23m. It has also cut prices on its existing Y-MP 2E, 4E, 8I and 8E by 5% to 30%.

CRAY COMPUTER WANTS CRAY-3 TO FRONT-END PARALLELS

Meanwhile, Colorado Springs, Colorado-based Cray Computer Corp has had to have another rethink on its strategy for its delayed and now down-sized Cray-3 supercomputer. Seymour Cray now says that it will be marketed as a front-end to enhance massively parallel processors, in the hope that the combination will appeal to scientists whose problems are too complex for a massively parallel computer alone to solve. Under the new marketing strategy, Cray Computer will offer the Cray-3 in two-, four- and eight-processor configurations. Cray Computer says that at least one prototype has been running for about three weeks and hopes to have one ready to demonstrate by the end of this summer. The machines will cost \$5m to \$30m and the company says that it has already opened talks with some makers of massively parallel computers - observers suggest that Intel Corp and Thinking Machines Corp may be high on the list - according to the New York Times, several major US laboratories have experimented with Cray machines (Cray-2s presumably) linked to Thinking Machines kit.

SQL GROUP HALTS WORK ON ACCESS

SPECIFICATIONS, RUNNING OUT OF CASH

The SQL Access Group (SAG) is shelving its design and development plans for the SQL Access specification, leaving IBM's Distributed Relational Data Architecture (DRDA), to monopolise the field of database enquiry. SAG was set up in 1989 to develop an architecture for relational database connectivity, its aim, to create complete multi-vendor database interoperability. SQL, the standard query language for interrogating relational databases is now established - the battle is over how SQL enquiries are structured - the IBM or SAG way. SAG, seen by many as the only independent standards body opposing IBM's hegemonic database infrastructure, has DEC, Informix Software, Oracle Corp, Microsoft Corp, Locus Computing Corp, and X/Open amongst its members. However, SAG has been forced to wind down work on its two major development projects, the persistent SQL function, which involves an SQL statement being compiled and stored using a high performance compiler, and datatypes strategy for two-phase commit. At a recent SAG board meeting a decision was taken to cut all development projects in an attempt to consolidate resources. SAG admits that it didn't anticipate the difficulty it would face convincing vendors to pick up its technology. SAG chairman of the board, John Robertson said "we weren't expecting to have to work so hard at promoting the technical specifications... and the price is having to back off on these projects." Products complying to the SQL Access specification are still expected to start shipping by the end of the year, including Retix Inc's OSI communication stack, its application builder and Microsoft Corp's SQL Access interface implementation in Windows 3.0 (UX No 382). These few, SAG claims, are not enough to keep it running. Financially, SAG's bank balance looks a little unstable - Westport, Connecticut-based Meta Group predicts that its revenue stream of around \$300,000 a year will run dry by the summer. The problem, Meta claims, lies in the fact that commitment of SAG's 40 members runs only skin deep. Most have plumped for a "token" associate membership, contributing a couple of thousand dollars rather than coughing up around \$10,000 and two engineers for full membership. Meta says its problems have been compounded by the rise of IBM's DRDA, which is seeing a tidy flow of SAG members defect to its ranks, including Oracle and Informix, who say they simply cannot afford not to pick up DRDA because of IBM's huge installation base.

UNIX INTERNATIONAL SEEKS COMMENTS ON DWARF DEBUGGING AID

Parsippany, New Jersey-based Unix International Inc says it has completed a specification that will enable software developers to create debugging tools that can analyse any Unix application. The specification, called Dwarf, is designed to enable debugging of any application generated by a compiler that also supports the Dwarf format, regardless of the application's vendor. It supports the storing of complex debugging information within a compiled application. The design of the debugging information format is open-ended, so that new information and support for new languages or debugger capabilities can be added, and can be used outside the Unix world. The Dwarf specification currently supports debugging of C, C++ and Fortran 77, and will be available free for industry comment until June 15. After receiving input from the industry, Unix International will revise the format as indicated by the review process and issue a revision. Dwarf comes from a Special Interest Group representing users, proprietary and open systems vendors worldwide, including Data General Corp, Fujitsu Ltd, IBM Corp, ICL Plc, NCR Corp, NEC Corp, the Open Software Foundation, Oracle Corp, Siemens Nixdorf Informationssysteme AG, Sun Microsystems Inc, Unix System Laboratories Inc and Unisys Corp.

NOW UNIX LABS FORMS VENTURE ON TUXEDO WITH STERIA

Unix System Laboratories Inc has formed another joint venture to complement its Univel Inc effort with Novell Inc, this time in France. Its partner in the new Unix System Technologies SA is software and services house Steria SA, and the company will concentrate on the Tuxedo transaction processing monitor for Unix. The new company will also offer engineering services and training programmes for the full gamut of vendors, and for large end users. Velizy-based Steria was chosen for its systems integration skills. The new company, headquartered in Paris, expects to be employing 100 people within three years. No financial details were given, but Unix Labs will get a 51% stake, Steria 49%.

QUORUM "TO FIGHT APPLE LAW SUIT" ...

Mac-on-RISC house Quorum Software Systems Inc, Menlo Park, California, last week filed a suit against Apple Computer Inc seeking to counter allegations of patent and copyright infringement made by Apple. The suit is meant to head off a legal attack against it by Apple which Quorum believes is in the works. The action stems from a letter Apple sent Quorum lawyers on March 17 accusing it of infringing its intellectual property rights. On May 1 Apple also revoked Quorum's privileges as an Apple certified developer, calling it an error and returning its \$600 sign-up fee. The March 17 letter was signed by Apple vice president and Macintosh software architecture general manager Roger Heinen. Four days earlier Apple had signed a confidential agreement allowing it to review the object code of Quorum's Latitude and Equal products, a negotiated response to an earlier Apple demand that Quorum send its Latitude object and source code to Apple's outside litigation attorneys. The Heinen letter claims "Latitude appears to specifically infringe Apple's patents and copyrights. This is evident from a cursory review of the object code... For example, the Latitude product running on a Sun workstation violates Apple's patents on pull-down menus and Colour QuickDraw." Quorum maintains that it relied solely on Motif or Open Look for the pull-down menus and uses Adobe Display Postscript or SunSoft Inc News for screen rendering and therefore could hardly have infringed Apple's patent or copyrights. Heinen's letter also says that "We believe Latitude incorporates copyrighted material of Apple. For example, Latitude was developed by violating, or inducing others to violate, a number of licensing and confidentiality agreements by making use of information provided to developers only on a restricted basis and subject to a number of conditions." Quorum counters that Apple cannot assert any ownership of application source code created by ISVs. Quorum is asking the federal courts in California to rule that it has not infringed on Apple's turf, and declare Latitude marketable with no infringement liability and enjoin Apple from making any further assertions.

...APPLE QUESTIONS QUORUM TACTICS...

As part of the fall-out from the Quorum/Apple controversy, Apple says it believes that Equal, the end user-oriented software Quorum has in development, "will not be Macintosh compatible" unless Quorum infringes Apple's intellectual property further. It also claims to be concerned about Quorum's marketing tactics. It dismisses Quorum's claims of providing compatibility with the Macintosh. "Nothing close to full compatibility is achieved by either product," Heinen's letter says. Further, "Apple is also disturbed by the implications in press coverage that Quorum has a relationship to Apple; this is also not true."

...QUARK RALLIES TO QUORUM DEFENCE

Quark Inc chairman, Tim Gill, has come to Quorum's defence, dismissing Apple's position as incorrect and ill-considered: in a letter he wrote to Quorum he adds that Quorum made a port to Unix feasible for him. "Compare the estimate of less than one man-year effort to port using your toolkit to the 30 man-year effort to port to Windows. I believe that a port to Unix using the toolkit will take less time and resources than our conversion to support Apple's system 7. If that isn't 'compatibility,' I don't know what is."

CYPRESS WOOS MEIKO

Although Cypress has made great efforts to get the HyperSparc to the launch platform so quickly (when compared to Viking, see front page) - the design process spanned just 18 months - Cypress has one major problem: it has no customers signed-up for the thing yet. Sun Microsystems Inc, which takes 70% of Cypress' current generation of Sparc 2 products for its existing workstations and servers, was at the roll-out to endorse HyperSparc, but says it has no plans, as yet, to use the 64-bit technology. Its apples, for now, are in the Texas camp, after expending considerable resources on the Viking project. Cypress says it can only speculate that Sun will become a customer for HyperSparc, though Cypress chief, TJ Rogers, has been sending messages via the press to the effect that if Sun doesn't buy HyperSparc, then he's going to turn around and do the Alpha RISC for DEC (UX No 384). Nevertheless, Cypress is sending out semaphores about ICL being interested in HyperSparc, but more interestingly it seems Meiko Scientific Ltd, the UK, Bristol-based manufacturer of Intel Corp 80860, Inmos Transputer and Sparc-based multiple instruction multiple data (MIMD) parallel systems will likely move to incorporate HyperSparc in the summer. It currently uses Sparc 2 parts in its Computing Surface platform, which comes in scientific and commercial flavours, running SunOS. Meiko also had a hand in developing Sun's low-end Tsunami Sparc, which it says it'll also be using when the thing arrives.

**BRISTOL'S WIN/U WILL SUPPORT WINDOWS APPLICATIONS UNDER UNIX:
NO MICROSOFT CODE REQUIRED**

Bristol Technology Inc, a tiny, privately-held, six-person shop in Ridgefield, Connecticut, is currently bearing down on the problem of how to move Microsoft Corp Windows applications to Unix. Its solution, a program called Win/U, goes into beta test next month, which it hopes to debut as a commercial product by the end of the year. Its success could affect the outcome of the Unix-on-the-desktop movement on which the fortunes of so many more prominent firms in the industry now hang. Bristol claims its approach to the issue is more viable and ultimately more independent of Microsoft than other solutions from firms which are believed to be working on the same problem. Those companies, reportedly including Insignia Software Inc and the newly constituted SunSelect (UX No 381), are thought to require Windows source code. Bristol does not. Win/U reportedly needs only the Windows application's source code, which is then recompiled and emerges running native on any brand of Unix under Motif. The recompile is said to link the application function-by-function to Bristol's own library rather than to Microsoft's Software Development Kit. Motif is slower than Windows but Bristol's marketing vice president, Jean Blackwell, says there is no degradation and the software experiences a performance gain because it is now running on a Unix box. Blackwell indicates Win/U has attracted the passive interest of hardware vendors such as HP, IBM and Sun who are apparently adopting a "wait-and-see" attitude. They are unlikely to be Win/U's market. Software houses will be the target and major players like Lotus Development and Borland are reportedly starting to kick Bristol's tyres. Potential competitors such as the hot-shot Mac-to-Unix people at Quorum Software, who might eventually find their market niche too narrow, are also said to be watching. During beta testing, Bristol will be working with small independent software vendors willing to hand their source code over to Bristol so that it can properly babysit the whole operation. When Win/U is debugged, fleshed out and licensable - at a projected fee of around \$100,000 - ISVs will simply use it in-house without parting with their precious source code. Bristol plans to issue revisions to maintain pace with the changes made in Windows and Unix. Bristol, which hopes to grow to 10 or 12 people by year's end and is looking for qualified X-Windows and Motif programmers, says it now has a positive cash flow. It kicked off in October of 1990 and got \$200,000 in venture money from a local government agency called Connecticut Innovations. Since Win/U is modular, it has been selling its Postscript-based XPrinter and hypertext-style HyperHelp modules separately, the latter for \$19,500 as a source code site license, \$2,500 for run-time. Motif lacks on-line help, and HyperHelp reportedly runs on any X-Windows system including VMS. It has recently been licensed for resale by Dublin-based Glockenspiel as part of its C++ Application Framework for Motif under the name CommonHelp. Win/U also includes a Graphical Development Interface (GDI) mapped to Motif, Windows Management and Systems Services. Co-founder and chief technical officer, Ken Blackwell, reportedly structured development serially and did the hardest bits first to insure the design could be accomplished.

SUNSOFT LOOKS TO SNOOPY FOR

WINDOWS COMPATIBILITY UNDER SOLARIS

SunSoft Inc's all-important solution for running Microsoft Corp Windows applications on its watershed Solaris 2.0-on-Intel operating system is reportedly being developed outside by a little-known 10-person firm called Praxsys Technologies Inc in Norwood, Massachusetts. Praxsys is one of a handful of noticeably small start-ups wrestling with the key interoperability issue facing Unix as it elbows its way on to the desktop. "Snoopy," the code name given the unchristened Praxsys software, promises to take all current and future off-the-shelf shrinkwrapped Windows applications, whether written for Windows 3.0, 3.1 or NT, and run them unmodified on any RISC or Intel Corp Unix platform in native mode. Praxsys has remapped the Windows 3.0 application programming interface to XLib and Motif interfaces, expanding Windows to X-Windows stations, devices Microsoft itself can't run on yet. As such, it has been designed to straddle client/server architectures. Major Windows packages such as Excel, Coral and Word have reportedly been tested. Keyboard, mouse and screen all run native. The performance of graphical Windows programs should be enhanced by the Unix hardware. Compute-bound packages that require the Unix engine to emulate Intel's floating point will not run as well as on an Intel/MS-DOS platform. Depending on intensity of use, Snoopy may be bundled with a copy of Windows. Praxsys intends making the operating system-independent software generally available, with hopes of hopping on such vehicles as Destiny from Unix System Labs Inc and Univel Inc. It could conceivably capture 10% to 25% of Unix users if its \$500 list price is right. SunSoft, however, thanks to a license it inherited when it bought the Systems Products Division of Interactive Systems Corp, has a time-to-market advantage whose exact terms are still unclear. With Solaris-on-Intel still unannounced and SunSoft starting to push Interactive Unix (see opposite), Snoopy could appear there or on Solaris 1.0 or 2.0-on-Sparc first. It could also be an aftermarket product for Interactive's 3.2. SunSoft, likely to be billed as a co-developer, is believed to be readying its Solaris-on-Intel announcement for late next month at PC Expo in New York. Sun's acquisition of Interactive reportedly delayed Snoopy, originally set to bow at Uniforum in January. Currently, it is reported to be in pre-alpha quality assurance, with alpha starting in June and beta later in the quarter. Praxsys could deliver in the fourth quarter: early 1993 is more likely.

Detective work

Praxsys reportedly used Microsoft manuals in reconstructing the Windows API and played detective to find its undocumented systems calls. Sources say most things work but hundreds of fine points have to be checked. The effort involved remaking every window, arrow and icon in the Motif look-and-feel. Initially a Windows 3.0 vehicle, Praxsys has reportedly overcome the major 3.1 hurdles: dynamic data exchange, OLE and scalable fonts. It cannot support TrueType until the X-Windows server does. Since Snoopy re-implements Windows calls, it could be used as a porting tool, currently a more vapoury purpose than its initial harder-to-realize charter. Praxsys founders include engineering vice president, Bob Van Dette, who brought a hand-picked development team over with him from Phoenix Technologies when it bombed out of the emulation business two years ago. That team had co-developed VPix, probably the most popular of the MS-DOS emulators, with Interactive. Besides Snoopy, Praxis has done MS-DOS emulation work for Sparc cloners Mars, Tatung and Hyundai. Praxsys is said to be "leagues ahead" of Quorum Software, the Mac-on-RISC house that captured the limelight back at Uniforum - see opposite.

ECHO BINARIES WILL RUN

APPLE MAC SOFTWARE ON POWERPC

Start-up Echo Logic, the Bell Labs Inc spin-off being funded by AT&T Ventures Corporation, the phone company's venture arm, last week announced a pact with Apple Computer Inc that it's apparently had in its back pocket for over a year. The pair will reportedly use Echo's multi-pass binary compiler technology, FlashPort, to have existing shrinkwrapped Mac applications running on Apple's anticipated PowerPC boxes when they reach market. Echo president, Brad Burnham, claims Apple has expressed an unpursued interest in taking an equity position in Echo. The product itself won't be generally available before the second quarter 1993, though limited numbers of alpha editions will hit software developers, its key market, later this year. Burnham mysteriously alluded to the architecture before the PowerPC version comes to market. He was not specific and appeared to have no other projects in hand. He denied having any solid relationship with Unix System Laboratories Inc, a fellow AT&T company, despite the fact that USL is reported to be working on any ANDF-style solution for its Destiny project as well as being determined to evaluate the Open Software Foundation's own ANDF selection (UX No 384). It is believed the internal "ANDF-style" technology USL has claimed to have may in fact be Echo Logic's which it may be evaluating. As a Destiny product, FlashPort's state of readiness may be more important than to Apple. Burnham said that as FlashPort needed "a lot of improvement" tightening up integration, size, the speed of generated code, degree of automation and documentation. It is, however, considered out of the research phase.

Tough-nut

The Apple deal reportedly came about because Echo used the Mac, theoretically the toughest nut to crack, as its proof of concept and showed the system to Apple last year, translating Macintosh programs to several unidentified RISC platforms. Burnham described FlashPort as a beefy, sophisticated and complex piece of software suitable for use by a senior engineer. However, Echo is promising to cut ports to a matter of days, or at worst weeks, lopping off what could be years of development time in moving from one architecture to another. The time saved could be spent adding features like voice recognition that are only possible on a more advanced platform such as PowerPC. Echo claims to circumvent the problem of trespassing on Apple's jealously guarded ToolBox by not needing it anywhere but on the target machine, which in this case Apple will provide. Meanwhile, Echo says it has Apple's permission to use the ToolBox for demonstration purposes. Echo still needs the connivance of an Apple to guarantee that it stays in synch with all system call releases. Echo says FlashPort, which translates executable object code, will generate an application for a PowerPC intervention regardless of language, even assembly. The results should be competitive with hand-ported code in performance and size. Echo has been working on the technology for three years with a variety of minicomputer architectures. It developed three algorithms that automatically analyse the program's machine code, create an intermediate architecture neutral representation of the program and shift executable code to the new environment. A user interface reportedly allows a developer to intervene at any stage in the translation. Burnham, at a Macintosh Developers Conference last week, declined to say what FlashPoint's license fees would be, indicating they could vary depending on the developer's particular circumstances and desperation. Developers could use the tool in-house, at the expense of buying a target machine, currently an RS/6000, or have Echo do it as a service. Royalties are an issue Echo has apparently not resolved. Echo was unclear whether the programs shifted over were System 7 or System 3 based.

UKCMG ATTENDEES NERVOUS OF UNIX, BUT CAN'T IGNORE IT

by John Abbott

Habitual attendees of Unix events would have enjoyed last week's UK Computer Measurement Group conference and exhibition, held at the Brighton Metropole. Instead of the usual exercise in preaching to the converted, UKCMG members - real users rather than computer industry staff - brought with them a wealth of scepticism and experience to Thursday's open systems stream that was both refreshing and alarming. One speaker was introduced with the sobriquet that his ambition "was never to become involved in Unix", a more general view being that it could no longer be ignored, even if little good might come of it!

CAPACITY PLANNING FOR UNIX BEGINS TO EMERGE FROM BLACK ART STATUS

Aside from the old chestnut that no single Unix implementation is the same as any other, the main concern voiced was the lack of tools available for DP staff to plan and manage their systems using the type of facilities available on proprietary systems. "Unix is not open, only ajar", Harold Mead of Metron Data told delegates during a talk on capacity planning, going on to describe in detail how, despite the fact that while data for performance measurement and capacity planning is available from Unix through utilities such as sar, ps, mpstat (on some multi-processors), acctcom and last, data was often presented with different formats and content that could easily make a nonsense of the figures. In one case - IBM's AIX versions 3.1 and 3.2 - sar enquires of cache performance data brings up only a screenful of headings with no data - a problem IBM is said to be "aware of". Information on transaction-level data, readily available from IBM's CICS (MVS) and ICL's TPS Audit (VME) facilities, is nowhere to be found in Unix, the only hope of getting it is through RDBMS tools, and in the future from transaction processing monitors such as Tuxedo. Capacity planning, of course, is vital if customers are to avoid buying equipment they don't need, or buying it too soon, and at the same time avoid hitting a performance crisis due to inadequate hardware resources. And if Unix advocates counter the criticisms with the promise of the Universal Measurement Architecture, proposed by Unix International and the Open Software Foundation, he points out that there are so many options in the specification that we will only be marginally better off: "at least we'll know the format of the data that isn't there", he said. Metron itself took the opportunity to launch Athene/Open, an integrated capacity management environment for Unix, also available on MVS, VMS, and VME. It runs on a PC, taking data from a data collection monitor running on the target machine, which in the Unix version include AIX, Bull, HP, ICL, Phillips and Pyramid systems. Cost is from £10,000 to £50,000.

FORCE YOUR OWN BENCHMARKS ON MANUFACTURERS, ADVISES ANALYST

Citing the experience of the Northumbria Police Force, analyst Andrew Hubbard of the X/Team, based in Twickenham, West London, said that delegates should tell manufacturers "to stop mailing benchmarks and performance figures from outside organisations". Users should provide their own benchmarks, preferably an emulation of the sort of application they intend to run with comparable workload. "It is important that you own the process, not AIM or whoever". At Northumbria, 45 Oracle users were emulated using keystrokes from users entering sample data and carrying out enquiries using SQL batch programs. Shortlisted companies such as ICL, Unisys, Bull, Tandem and McDonnell Douglas were asked to run the simulation and report on performance. The final choice, yet to be made, centred as much around how the suppliers coped with these demands as much as the actual performance figures. "We learned so much about the suppliers and how they could help us or not that the results weren't so important", said Hubbard, who claimed that the process was beneficial to both supplier and customer, taking some of the guesswork out of sizing and selecting the final systems. Initially the lowest-priced system was offered at £300,000, the next most expensive £600,000 and the most expensive priced at £1 million, with little relationship to performance, claimed Hubbard. While no decision has been made as yet, ICL appears to be the front runner, although more than one supplier might be chosen.

SECOND "PREFERRED PARTNER" FOR UNIPLEX IS DATA GENERAL

Uniplex Ltd is set to reveal Data General as the second of its "preferred" architectures for Medley - its new generation client/server office automation software project. Back in March (UX No 375), Uniplex said it would use IBM's RS/6000 as a primary development machine along with one other platform, giving those chosen a significant lead time in bringing product to market. Despite the later announcement, Uniplex managing director Patrick Register claimed that negotiations with Data General on the deal were "more advanced than with IBM, with specific projects planned". DG is funding some of the development work on Medley, something which IBM is also expected to do. The new products will still be available on other platforms - HP and DEC, for instance, are working with the company in other areas - but IBM UK and DG will be the first to offer commercial ports of Medley some time next year.

DG CUTS LOW-END SERVER PRICES - HAPPY WITH 88000 CHIPS

Data General, hosts to a lively Scottish Open Systems Conference at Ibrox Stadium in Glasgow last week, marked the occasions with price cuts of around 25% on its low-end servers. In the UK, that means a 25MHz AV 4300 server with 1Mb RAM and 332Mb has been reduced from £12,500 to £9,000, the same price as the AV 4100 entry-level system, still available but in effect now obsolete. A system with 1.4Gb disk now costs £16,000, down from £18,800. And prices for the 33MHz AV 4600 line have also been cut. AV 4300s can be upgraded with a second CPU for £5,400, doubling the power from 29 to 58 MIPS for less than half the cost of the original machine, according to DG. The company also improved packaging options on its AV 4300 and 4600s, with ECC memory, DAT tapes and improved connectivity. According to Peter Gyenes, VP and General Manager International, Aviiion revenues are now around equal with the proprietary Eclipse range, which dropped off "faster than expected" over the last quarter. Gyenes again confirmed that DG was happy with its choice of the Motorola 88000 chip, especially since Motorola has accelerated the pace of its 88120 developments. 88110 machines are said to be "on the way", but no dates appear to have been set. Observers are expecting multi-processors beyond the current 4-processor models, but whether these will be 88100 or 88110 machines is currently unclear.

SEEKING STRENGTH IN NUMBERS AGAINST US ONSLAUGHT, NEC AND SONY MAKE MIPS BOXES COMPATIBLE

Japanese companies continue to find the going extremely tough in the workstation business, where American companies led by Sun Microsystems Inc and Hewlett-Packard Co continue to make all the running, so defensive alliances are becoming essential, and Sony Corp and NEC Corp shared a platform last week to say that they are joining forces in the Japanese workstation market to enable Japanese language applications written for either of their MIPS Computer Systems Inc RISC-based workstation families - NEC's EWS4800 and Sony's NEWS - to run on the other. The two have jointly developed an Open Computing environment for MIPS Platform, OCMP, specification based on an expansion of the MIPS applications binary interface developed by Unix System Laboratories Inc and announced by the M-SIG special interest group at this year's UniForum. Sony's SuperMicro Division forecast that the combined Sony-NEC share of the workstation market would be over 50% by 1993-94.

INTEL LOST NT-ON-i860 BECAUSE OF COMPLEXITY

Intel Corp has been less than enthusiastic about the future of its i860 - getting the 80586 into battle readiness in such a short space of time has taken up much of the company's research and development resources in any case. But part of Intel's de-emphasis is due to the fact that it believed the i860 would gather its own momentum as Microsoft Corp brought its New Technology operating system over to the chip. Microsoft had i860s in its labs, but its engineers, whilst reportedly "not un-impressed" with the part, "didn't want to spend the next six years writing assembler code," for the very complex processor, and shelved the port. The M15 follow-on to the current i860 XP hasn't been cancelled, but Intel isn't being very specific about what is going to happen to it.

IN A CORNER, PORTLAND GROUP LOOKS BEYOND i860

Presently treading water as a three-year-old compiler house, Portland Group Inc, Wilsonville, Oregon, is expected to grab the bull by the horns over the next couple of months and put in place strategies which it claims will lead the company into more profitable software markets. The company develops and markets compilers for the Intel Corp 80860 RISC - but must be saturated by now - and competes with the likes of Green Hills Software and Metaware. Portland Group claims it has got the US market "pretty well stitched up," and will re-focus efforts on cracking the European market and the low-end of the i860 vendor spectrum. The top-end of the market, where the likes of Intel Scientific Computer and Parsytec live, is already well populated with compiler technology, but Portland reckons there is a great deal of ground to be gained amongst the host of niche players banging out i860 boards for graphics and CPU acceleration. Portland, which does C and Fortran compilers - including the C compiler for Unix SVR4 on the i860 - is looking at C++ as well as other processor architectures. The company said it was "disturbed that Oki has gone," from the i860 fray (UX No 384) - it had sold its compiler technology to the firm. However, Samsung is beginning to ramp up its i860 effort, there are thought to be 12 of its MagicStation workstations with ISVs in Germany, six in the UK. And in the US, Palo Alto, California-based Torque is still banging out Linda, its distributed processing protocol technology, which originated at Yale University. Linda enables users to build applications for i860-based distributed servers, which can be networked to heterogeneous systems, replacing the need for i860-based accelerator boards in each client.

THE ABC OF ABC

Turning up under the new name of ABC Workstation Solutions Ltd, Harpenden, Hertfordshire, the checkered past of this UK start-up has taken some interesting turns. The trail begins with the now de-funct Whitechapel Workstations Ltd back in 1987, which ran out of money in April 1988 only to be bailed out by a European consortium funded by Barron International Holdings of Gibraltar. The consortium founded a company, Mistral Computer Systems Ltd, picking up Whitechapel's MIPS R2000-based Hi-Tech 10 workstation along the way, which it prettied-up and renamed Mistral-20 (a MIPS R3000 20MHz, 8Mb system). It came a cropper in 1990 and had to be cut up and sold off, with the remains ending up at Amstral Workstation Solutions Ltd, a value added reseller operation. Amstral has recently been through a combination of management buyouts and takeovers, including the acquisition of Crab Advanced Technologies' sales and marketing division, and now goes by the name of ABC Workstation Solutions Ltd. Content with being a VAR, ABC sells Hewlett-Packard Co 9000/700/800 systems as Macintosh file servers, and says, it will be carrying Sun Microsystems Inc's Sparcstations by the end of this week.

MARKET ROUNDUP

Upgrading its Unix-to-IBM mainframe connectivity products, Rabbit Software Corp, Pennsylvania, has released Open Advantage Version 5.0 for 3270-SNA, RJE-SNA and APPC applications, for both SDLC and Token Ring. It's available for SCO Version 3.2, SCO Open Desktop, Interactive System Version 3.2 and 4.0, Intel Unix System V and IBM's RS/6000 System next quarter.

Uniface Corp and Ingres in a joint venture, are releasing an Uniface built interface driver to access the latest release of Ingres's 6.4 relational database management system. The Uniface database interface drivers cost \$750 to \$40,000: the Uniface device interface for Ingres 6.4 will ship in the third quarter, no price given.

In the UK, Star Computer Plc, Watford, Hertfordshire, has launched Unix/DOS integration tool kit MSWindows: which allows Unix applications to run within MSWindows on a personal computer or Unix machine, or alongside other Windows applications such as Lotus 1-2-3, without applications having to be rewritten. Running on Unisys Corp's Unix 6000 systems System V.4 Unix. Entry level costs £200 rising to £20,000 depending on the scale of integration.

Taiwan's Macronix International has licensed MIPS Computer Systems Inc's R3000 RISC on the heels of its fellow countryman Acer Corp taking the R4000. It will use it as an embedded controller in office automation products such as X-terminals after it shrinks it and optimizes its speed. It will start with 0.8-micron CMOS technology going to 0.6 micron. Commercial versions are not expected for 18 months. The R3000 came out in 1.3 microns.

UK software house, James Anthony Consultants, Hemel Hempstead, Hertfordshire, is beta testing an application development tool, jBASE, for translating Pick applications to Unix. It uses an intermediate language - jBC - which outputs C object code from Pick-Basic, alongside what the firm calls a jedi library, which provides an interface between an application and a database, disk subsystem or network. JAC claims jedi will soon be able to communicate with object-oriented databases via the generation of C++ code. Versions for MS-DOS and other proprietary environments are also underway, the firm says. jBASE ships in the summer, no prices given.

Philips Semiconductor has new input/output processors which it claims, can boost the performance of Motorola Inc 680X0 and Intel Corp iAPX-86 microprocessors by up to ten times for peripheral handling in parallel networks - it's due next month.

Artisoft Inc, the Tucson Arizona-based developer of the Lantastic low-end network operating system, has signed a letter of intent agreement to acquire San Antonio, Texas-based Performance Technology Inc for 300,000 new shares, valuing Performance at about \$7.725m at the current Artisoft share price: privately-held Performance Technology, develops the Powerfusion package that links MS-DOS micros to Unix systems, the Powersave archival system for networks, and the PowerLan personal computer networking system, which is compliant with X/Open Co Ltd and Open Software Foundation Distributed Computing Environment recommendations.

Informix Software Inc says version 4.1 of its OnLine/Secure database is now available for AT&T's System V/MLS B1 secure operating system.

Dataproducts Corp has released XP-1, a print server designed to be an intelligent noder for Unix or DEC Ethernet networks: allowing multiple hosts to queue print jobs transparently across the network. The server supports TCP/IP, local area transport and runs BSD Unix and DEC VAX/VMS. XP-1 costs \$1,295.

Control Data Corp's Computer Products Group has appointed Clive Hay-Smith as regional manager, responsible for Western Europe, Africa and the Middle East following CDC's decision to separate its business into three divisions Information Services, Government Systems and Computer Products.

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Trying to put its ACE nightmare behind it, Santa Cruz Operation Inc will this week try to start making amends with the launch of Open Desktop version 2.0.

Sequent has cut a strategic relationship with Computer Associates that will put CA's mainframe software on Symmetry 2000s. Sequent figures to be the first vendor to offer a large-scale symmetric multi-processing implementation of CA's products for Unix. The partnership provides for joint development and marketing of CA's Unicentre, CA-DB, CA-DB:Generator and Classic/Open. It also provides for CA and Sequent to co-develop an enhanced version of CA-DB for Sequent's Dynix/ptx symmetric multi-processing environment.

Besides Sun, we guess the unidentified members of the Sparc International Executive Committee getting access to the Viking chip are the five in the systems business: Hal, Hyundai, Amdahl, ICL and Matsushita.

Solbourne patron Matsushita announced its very own colour ICD Sparc portable in Japan; The unit, no battery and rather hefty, is bound to show up on Solbourne's plate later this year. Matsushita by the way is talking about using Sparcs in high-definition TV. Fancy that.

Leasametric has now jumped on the Tadpole bandwagon and will be an Sparc-book authorised rental company.

Xerox Imaging Systems has named John Seeley Brown, head of Xerox PARC, to its board of directors.

AIX Expo and the Power Solutions Conference, the exclusively IBM shindig, has been scheduled for October 20-23 at the San Jose Convention Centre in California: they expect to change the world.

According to the latest tittle-tattle, Sparc licensees Fujitsu and LSI Logic (who is into MIPS as well) have been talking to DEC about Alpha.

Hewlett-Packard Co and Intel Corp are to jointly develop a chip set for the HP 700/RX family of i960 RISC-based X stations; the circuit devices will use Intel's i960 Cx series of superscalar microprocessors to provide chip-set solutions for X station applications.

Larkspur, California-based Bristol Group has released a new version of IsoFax, its software-based fax package including Direct Inward Dialling phone service for Unix-based workstations: it runs under Open Look and Motif on Sun Microsystems Inc Sparcstations.

ParcPlace Systems has got itself a new president and CEO; Bill Lyons, former Ashton-Tate chairman and CEO who left when Borland took over. ParcPlace founder Adele Goldberg shifts to chairman.

IXI Ltd says Groupe Bull has standardized on its X.desktop as the de-rigueur Motif desktop manager across all its boxes including the Power RISC stuff it's doing with IBM. Meanwhile, in the UK, IXI has got an agreement with the Combined Higher Education Software Team - CHEST - to provide X.desktop to all universities and colleges across the UK, including Motif kits for Sun workstations.

The world has another Sparc cloner: Santa Clara, California-based Silla Corporation started by ex-TriGem groupie Michael Pak. Apparently it's OEMing somebody's Mbus machine and are talking about a portable that's not a laptop. They're hoping to substitute their own designs down the road.

HP says its 705 Snake and particularly its 710 sales have exceeded projections.

San Jose, California-based Cypress Semiconductor Corp, which is betting the company on its new HyperSparc microprocessor, for which it has no customers, is to cut costs by moving its US assembly operations offshore at the cost of about 200 American jobs this year - 100 have gone immediately; it hasn't said where assembly will be done.

What makes Ross Perot think that he can get a handle on the US budget deficit that has defeated the last two administrations? Well he is still legendary in Dallas for his lightning five-year spell with IBM Corp, when he met his annual sales target... in the middle of January.

Qualix, the software distributor, has fashioned a new "Cheap Seats" program to bring the price of networked licensed Unix software below PC and Mac software. Companies can purchase multiple copies of popular packages at greatly reduced prices. The discounts vary with the publisher but a Lotus 1-2-3 25-user set is going for \$10,000 and Avalon, the page layout program, usually \$49,000 for simultaneous users, is now \$10,000. Sunsoft and HP are endorsing the concept.

InfoWorld's hit-or-miss gossip column claims Next is considering designing its expected twin-processor workstation with a PowerPC instead of 88110 out of concern Motorola won't be able to keep as many balls in the air as it's got.

Hewlett-Packard is going to try to steal some of Sun's thunder this week by getting their top honchos to roll out a high-end multi-processor, reportedly code named Emerald, that will come to use the recently announced 7100 PA-RISC chip.

DEC was trying to gain visibility last week for the 661 companies it says are porting programs over Alpha.

Quorum says that it has some Echo Logic-type technology in development that it calls Autoport and might be interested in a cross-licensing deal - see page four.

Wyse Technology found itself a technology playmate in Siemens Nixdorf, having forged a pact some months ago that they're just getting around to telling us about: Wyse is selling SNI its Intel Corp-based symmetric multi-processing designs and subsystems which the Germans are using in the MX500 super-server line released in Europe and the Far East late last year. SNI expects to release the boxes, which run the SNI version of SVR4 Sinix, in the states in the second half the year. It's Wyse's second OEM deal after Datapoint.

Epoch Systems Inc, has released Epoch-Backup, software backup systems for Unix-based network environments: designed to automatically back up and restore files it also incorporates disaster recovery, library management and hierarchical storage management. Set to ship in May prices starts at \$5,000.

Redwood Shores, California-based Oracle Corp has joined the Greek chorus to say that it plans to convert its complete family of products to run on Alpha architecture under both OpenVMS and DEC OSF/1; the conversion effort on the VMS products is under way and should be out by the time DEC starts ships.

Digital Equipment Corp says it will lay off up to 60 employees at its Asian headquarters in Hong Kong as part of a regional restructuring unconnected with its first quarter loss. The company employs about 6,000 people in 11 Asian countries, and there may be further layoffs in the Taiwan, Hong Kong, China, Singapore and India subsidiaries.

IBM has lost its head of worldwide database design and strategy, and the man responsible for DB2, Jnan Dash, to Oracle Corp, to be vice-president, Database Technologies.

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HP AIMS FOR IBM INSTALLED BASE WITH NEW MAINFRAME KILLERS

Hewlett-Packard pitched into the downsizing battle with a vengeance last week with the launch of new top-end multi-processors claimed to be more powerful than up to 85% of IBM's installed base of mainframe systems - and in a supporting role gathered together an impressive list of mainframe specialist software houses committed to support the machines. The HP 9000 Series 890s running HP/UX and the HP 3000 992s running the proprietary MPE operating system take HP right into the mainframe space, with performance claims set at around 400 transactions per second, an entry-level price of \$335,000 (£265,000 UK) combined with a three year cost of ownership of \$2.7m against \$15m for IBM. But what makes HP's claims more convincing than most is the support from traditional IBM mainframe software suppliers, something HP is said to have been putting together for the last 18 months. The names include Anderson, CGI, Cincom, Computer Associates, Dun and Bradstreet, Lawson, Oracle, Peoplesoft, SAP, SAS, Softlab and Software AG. The machines have a new architecture with a separate HP Precision Bus handling input/output, and use up to four 60MHz Snake chips, with the promise of further power boosts ahead once the latest 7100 PA RISC is utilised (UX No 373). Sixteen processor versions are also on their way, and longer term, HP is talking about 128 processor systems using the same basic architecture, that it will develop with its new partner Convex. It is talking about doubling performance every year. Meanwhile, the first machines to use the new 7100 chip, mid-range servers code-named Nova, will be out next month, HP hinted. Full details, inside.

SUN SETS 36MHz, 40MHz, 45MHz SPARCSTATION 10 MODELS

Sun Microsystems Computer Corp duly announced its Sparcstation 10 systems last week, claiming they deliver up to ten times the performance of existing systems and feature the lowest-cost multiprocessing RISC server on the market. There is also an upgrade to the SuperSparc (Viking) chip for the Sparcserver 600MP Series of multiprocessing servers, doubling the performance ceiling of these systems while maintaining the same range of price points. The Sparcserver 10 introduces a compact new version of the desktop pizza box enclosure: by lowering the bottom of the pizza box a few millimetres and stacking MBus and SBus expansion slots, SMCC engineers have created a more powerful desktop server with the same footprint as the Sparcserver 2 but with up to five times the applications throughput, five times the memory capacity, double the disk storage and 25% more expansion capacity. The system houses two MBus slots into which users can plug Sparc modules for up to four CPUs. There is also an external 1Mb SuperCache. The Model 30, with a 36MHz CPU, is rated at 86.1 MIPS (44.2 SPECint92 and 52.9 SPECfp92). The model 41 has a 40MHz CPU and does 96.2 MIPS (52.6 SPECint92 and 64.7 SPECfp 92), whilst the 52, with two 45MHz processors, does 200 MIPS (109 SPECthruput89) and the 54 with four 45MHz CPUs, 400 MIPS and up (218 SPECthruput89). To upgrade to multiple CPUs and new, faster microprocessors including the 50MHz SuperSparc when it is available in volume, users can pull out the Sparc module and replace it with a new one. Prices start at \$18,500 - £14,800 - for the Sparcstation 10 Model 30, \$25,000 - £20,000 - for the Model 41, \$40,000 - £32,000 - for the Model 52 and £46,400 for the Model 54. The 30 and 41 ship with 32Mb RAM, 424Mb disk, 19" GX graphics monochrome screens and ISDN - see page three. The 52 and 54 arrive with 64Mb RAM, 1Gb disk, 19" GX colour screens and ISDN. Board-level Sparcengines are priced at from \$11,500 - £9,200 - for the 30 and \$18,000 - £14,400 - for the 41. Server configurations start at \$17,000 - £13,600 - for a uniprocessor Sparcserver 10 (£44,300 for four CPUs) rising to £118,000 for a Sparcserver 690MP with four processors. To upgrade a Sparcserver 600MP with the SuperSparc module, the cost is \$6,000 and SuperSparc 600s are \$47,000-up. The uniprocessor models of the Sparcserver 10 and the Sparcserver 600MP system with SuperSparc will be available with Solaris 1.1 in the third quarter. The Sparcserver 10/Model 52 follows in fourth quarter. The Sparcserver 10/Model 54 will be available in the first quarter 1993.

DEC "WORKING TOWARDS UNIX SVR4-ON-ALPHA AGREEMENTS"

A source within in DEC who didn't want to be quoted said that hand in hand with the announcement of more Alpha RISC licences - expected soon - DEC would also likely move to support for Unix System Labs Inc's Unix SVR4. The deal, still being cut with firms in the US, Europe and Japan, is shaping up as some kind of cross-licensing initiative with the partner getting rights to use, manufacture or resell Alpha products in return for its getting SVR4 on to the RISC to serve markets in each of those locations. If this pans out into formal relationships - which are still being worked on - then DEC would also likely offer SVR4 alongside VMS, OSF/1 and Microsoft Corp NT on its Alpha platforms. According to last week's gossip, Sparc licences Fujitsu Ltd and LSI Logic have been talking to DEC about Alpha (UX No 385). Before any additional Alpha licences are revealed, DEC says it has a heap of important VAX announcements to make.

PYRAMID TO DOUBLE ITS POWER WITH 24 PROCESSORS

With Hewlett-Packard Co threatening to encroach on its market area - see opposite - Pyramid Technology Corp, a pioneer in the high-end RISC server marketplace, is expected to fight back next month with new hardware that, according to one source, "will make HP look small." The new machines are expected to appear first through Ing C Olivetti & Co SpA, one of Pyramid's OEM partners, thought to be readying a 24-way version of its Pyramid re-badged LSX range for a mid-June introduction. Current Pyramid Corporate MIServers have up to 12 33MHz MIPS Computer Systems Inc R3000 processors, and are rated at up to 468 transactions per second (UX No 329). The new iterations will feature a higher clock speed processor and two chips per board. Another Pyramid OEM, Siemens Nixdorf Informationssysteme AG, is said to have been working closely with the company on R4000-based systems (UX No 357). Software for the Unix System V.4-based machines include network management and a suite of capacity planning software written in-house which is being offered to Unix International as a potential standard component.

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SANTA CRUZ UNVEILS OPEN DESKTOP 2 FOR UNIX-ON-INTEL BATTLE

Although Microsoft Corp is currently gorging itself on Intel Corp iAPX-86 platforms with its Windows desktop environment - and Windows NT will follow - there are still expected to be some rich pickings left over for the gaggle of hopefuls which are working on desktop Unix implementations for the architecture, which will soon include the new P5 80586 iteration when it arrives. Although Interactive Systems Corp products will decline as competitive offerings now that the company has been incorporated into SunSoft Inc, Unix-on-Intel house, Santa Cruz Operation Inc, is likely to face increasingly stiff competition on its turf from the likes of SunSoft, with its Solaris-on-Intel play, Unix System Labs Inc/Univel Inc, which is already proclaiming great things for its cut-down, shrink-wrapped Destiny desktop and NeXT Computer Inc's NextStep environment, if it ever finds its way on to Compaq Computer Corp or any other machines. SCO is already battling with IBM's OS/2, which, if the spin doctors are to be believed, will still make at least some of the running in its 32-bit form. To try and steal a march on SunSoft and USL - still vapourware - SCO last week announced release 2 of its Open Desktop Unix operating system environment, which will ship on July 1. ODT 2.0 offers an enhanced graphical interface incorporating version 1.1 of OSF's Motif GUI - although that isn't the latest release of the window manager - and the new release of IXI Ltd's X.desktop. It features TCP/IP 1.2, NFS 1.2 and Novell Inc IPX/SPX networking protocols, with further NetWare integration to follow. Locus Merge, already included in ODT, now supports MS-DOS 5 applications. The Ingres relational database is no longer bundled, but is available as an option.

Preferred direction

ODT was designed originally as a desktop product, but the addition of MPX multi-processing extensions has made it more popular in multi-user environments: it requires an 80386 personal computer with 8Mb RAM, 100Mb disk and VGA graphics as minimum to run. A cut-down, personal version for clients hosted on a network will also be released, which will operate with 4Mb RAM and 40Mb disk, the company says. On CD-ROM, personal ODT 2.0 costs £960, the server version is £1,950 and a development copy comes in at £1,190. Upgrades cost £225, £450 and £350 respectively. SCO claims some 550,000 installations of its Unix-based products on Intel computers worldwide, and although its ODT business accounted for only 20% of its revenues in 1991 - ODT 1.0 was launched in 1990 - and 25% so far this year, it believes ODT sales will rocket to account for 60% of its sales by next year. Although ODT 2.0 will make SunSoft, USL and NeXT work that much harder for market share the longer term future of SCO's Unix strategy is somewhat less clear. Its kernel technology lies in the domain of AT&T Unix System V.3.2.4 (what SCO cheekily calls its Unix Version 4), with SVID 3 and Intel Binary Compatibility Standard 2 conformance. It has asserted again and again that it will not adopt Unix SVR4 outright, and even seemed to have thrown in its lot with the Open Software Foundation when the Advanced Computing Environment launched its initiative last year. SCO's faith in ACE dwindled even before ACE's halcyon period began to wane. When development of an OSF/1 implementation of ODT for ACE's MIPS Computer Systems Inc RISC architecture passed to DEC, the signs were ominous. Soon after, SCO withdrew from all MIPS development. Now it is at a crossroads. Before it stretches USL's congested expressway, or OSF's traffic-free route, SCO has been meeting with both outfits and is mulling the prospects of either journey. It maintains "OSF/1 is still the preferred direction:" not surprising as SunSoft and USL are already distant specks on the SVR4 horizon. Despite this apparent endorsement, SCO won't say whether it has even made a decision yet, suggesting that it is still trying to picture a future for OSF/1, given the lack of industry support for it and the shadows cast by OSF's re-focusing.

UNISOFT RELEASES SVR4 IMPLEMENTATION FOR MIPS SPECIAL INTEREST GROUP

Unisoft Inc, the London and New York-based Unix house that has been quietly transforming itself into a system integrator and bespoke application developer has broken its near silence of the last couple of years and come out with what it calls a "highly portable" version of Unix V.4 - UniPlus+ SVR4/MIPS. Rubbing salt into the wounds of ACE purists, it's designed for MIPS Computer Systems Inc's R3000 and R4000 RISCs, including MIPS' own ACE/ARC-compliant systems. The Unisoft operating system - developed in conjunction with MIPS - complies with Unix System Labs Inc's MIPS SVR4 applications binary interface and MIPS' own flavour of Unix Risc/OS. Uniplus+ will run application binary interface from the ACE MIPS Special Interest Group (Apache) members - MIPS, NEC, Olivetti, Pyramid, SNI, Sony Tandem and USL - as well as existing MIPS applications. UniPlus+ is available from June 1st as a custom port or as a binary porting kit for OEMs. Unisoft will produce a binary, shrink-wrapped version of the stuff when ACE's Hardware Abstraction Layer, HAL, is complete.

NEURON ADDS OBJECT-ORIENTED SERVICES TO OPEN INTERFACE USER INTERFACE BUILDER

Palo Alto, California-based Neuron Data Inc has come out with Neuron Data Open Interface 2.0, the next generation of its portable graphical user interface builder, which adds new object-oriented services, support for Windows 3.1 and OS/2 2.0, and new pricing. Open Interface is designed to enable developers to build portable graphical user interfaces systems running MS Windows, OSF/Motif, Open Look, Presentation Manager, and the Macintosh and appears to have been fairly successful. The company claims that since first shipment in June 1991, it has sold more than 500 development and 100,000 run-time licences, primarily to large corporate customers. Open Interface features tools and services and the company reckons it changes the economics of application development by providing a superset library architecture of all native windowing environments. The superset library architecture provides look and feel independence and the new release adds new object-oriented services and over 50 enhancements that reduce the application development cycle. It also features PostScript support for all software. It is in beta test and will be available in July - but despite the flaunted portability, only on Sun Microsystems Inc, Hewlett-Packard Co, DEC, MS-DOS, Macintosh and IBM Corp RS/6000 machines. The new pricing for run-time licences is \$95 per terminal on MS-DOS machines and the Mac, down from \$250. The Unix and VMS versions are \$190 per screen, down from \$500.

CORDATA HAS REPOSITORY-BASED GENERATOR FOR UNIX

IBM Corp has been rumbling uncomfortably about repositories for Unix and Waltham, Massachusetts-based Cortex Corp has leaped into the breach with Version 5.0 of its repository-based application generator CorVision, now available for Unix where the company has hitherto concentrated the product on the Digital Equipment Corp VAX/VMS market. CorVision Version 5.0 produces commercial applications in ANSI C source code and is designed to enable users to build client-server applications using MS-DOS or Windows-based personal computers as clients with a variety of Unix servers. The C applications generated can be executed under Unix System V.4, Santa Cruz Operation Inc Open Desktop and Unix System V/386 3.2, DEC Ultrix and OSF/1, Hewlett-Packard Co's HP/UX, and IBM Corp's AIX (which one, or all of them?) Version 5.0 applications are also implemented using IEEE Posix, TCP/IP, and SQL. CorVision 5.0 provides interfaces to upper CASE tools and DEC's CDD/Repository and can access Sybase, Oracle, C-ISAM, Rdb, RMS or other data managers. CorVision 5.0 will be commercially available in July, priced on a per-user basis with \$35,000 the price for a typical entry-level configuration. The company claims it has more than 1,600 user sites in the US, Europe and the Pacific region.

SUN LEADS THE WAY WITH ISDN

ON ITS SPARCSTATION 10 WORKSTATIONS...

Sun Microsystems Inc has built a Basic Rate ISDN interface into its new high-end Sparc Station 10 workstation. The heart of the interface is a standard part of the motherboard, and is implemented on a single chip, co-developed by Sun and AT&T. Sun is pushing the ISDN interface both as a personal productivity tool and as the basis for more complex voice processing and computer integrated telephony applications. An ISDN interface is not much use without the software to drive it and Sun is not stinting its efforts in this direction either. The machine itself should have telecoms approval for connection to the ISDNs of the UK, US, France, Germany and Japan by August or September, according to Jonathan Mills, the company's UK desktop products marketing manager. Solaris 2.0 will include the basic drivers for the on-board ISDN hardware. By next Spring this will be joined by extra software that will enable all existing Sun applications that use TCP/IP running over Ethernet to run over ISDN giving the technology what it has always needed: a practical use. Sun's hope of attracting software developers is pinned on its Teleservices Programming Interface. Due around the same time, TPI is designed to give developers the basic tools that they need to build applications that can use the wide area network technology. At their most basic this might be a name and address book that can dial the number selected, but the target is for more sophisticated uses, such as the shared white board approach, where workers can doodle their ideas on the computer screens linked by one 64kbps B channel, while chatting about them on a phone connected over the second channel. With the Sparcstation 10 costing what it does, this is not the machine to bring ISDN to everybody's desktop, however it will serve as a valuable platform for demonstrating its potential. While these personal productivity applications are appealing to techies, the company admits that most personal users will begin with simple file transfers. The other use of TPI is to build proper computer integrated telephony (CIT) applications, and Sun's entry into this swiftly growing market should shake things up a bit. TPI gives the programmer full access to D-channel information including calling number identification. With these facilities the way is open for customer database files to automatically be retrieved and displayed on an operators' screen before the phone is answered - the kind of time saving integration between phone and workstation that telesales operations dream about. The fact that developers will now have an easier start in producing the software should be no bad thing for the market's progression.

...AS INTEL, MICROSOFT, NOVELL, SUN TEAM ON MICRO MANAGEMENT

Addressing the fragmented state of personal computer systems management, Intel Corp, Microsoft Corp, Novell Inc, Sun Microsystems Inc's SunConnect and SynOptics Communications Inc came together in Washington last week to announce that they are working together to address iAPX-86-based workstation management issues, specifically resource management, configuration management, performance analysis, software monitoring and security. The group intends to specify information that can be integrated into a variety of network management environments. Microsoft, Intel, Novell and SynOptics are working on an open, common set of application programming interfaces that will enable management of individual micros on a network, providing a reference implementation and an open architecture. The planned reference implementation will be distributed free and SunConnect will be integrating the information into a management system.

CONVEX SIGNS FOR DOLPHIN'S SCALABLE BUS TECHNOLOGY

Massively parallel supercomputer manufacturer, Convex Computer Corp will this week endorse the Scalable Coherent Interface bus technology, pioneered by Norsk Data affiliate Dolphin Server Technology AS. Convex has recently adopted Hewlett-Packard Co's PA RISC (with HP acquiring 5% of the company in return), and has an existing relationship with MIPS Computer Systems Inc for its R series RISCs. Dolphin claims SCI allows up to 1,000 RISC processors to be coupled together, each accessing 100Mb of memory - significantly extending the scope of supercomputer applications. Dolphin, which has been developing SCI over the last two years, will add its own SCI-based multi-processing system using the Motorola Inc 88110 later this year. Triton SCI, Dolphin says, will be a 300 MIPS system configured in a Token ring-like format with cache and memory components taken from its Orion project - a joint development with Motorola Inc to build a multi-processing machine around an ECL version of the 88000. Triton SCI will offer bridges to VME-based systems and is claimed to be five times faster than systems that will be built around the emerging Futurebus+ standard.

SILLA "TO HALVE THE PRICE OF LCD, GAS PLASMA SCREENS"

Start-up Silla Corporation, the latest of the Sparc cloners (UX No 385), which last week was due to change its name to EOS Technologies, is promising great things on the portable screen front. Founder Michael Pak, late of TriGem, says he has a joint venture with an unidentified Japanese company that will halve the price of LCD and gas plasma screens and overcome the fatality rate experienced in trying to make colour tubes for portables. He says the development is based on advanced new technology which he declines to name but promises to show in July at the Sun Expo in Anaheim, California. It should allow him to produce a \$5,000 to \$20,000 Sparc portables line featuring 16-inch to 25-inch colour displays with resolutions of 1152 x 900 and 1280 x 1024. Depending on the actual manufacturing costs and screen quality, a low-end 1024 x 768 version is also possible though last week he and his cronies were reportedly deciding its fate. The screens, which could be available in small quantities in July building to a thousand a month in the fall, may become OEM products. Pak dismisses the RDI Britelite and Tadpole SparcBoot laptops as the wrong products for the market because there's "not enough screen". His will be a heavier, larger box weighing 15 to 20 pounds, capable to 4,000 colours and directed at the general commercial technical CAD/CAM marketplaces. He intends running it with myriad Sparc chips, everything from a low-end Tsunami to a high-end Viking or HyperSparc but until those pieces of silicon become available he'll use a 40MHz MBus-based Cypress chip that can be swapped out when the time comes. The portables will be joined by high-end and low-end servers and desktops made by the company from somebody's chip set - again running the gamut of available silicon - and fleshed out by some of its own proprietary ASIC and graphics work. The Sparc market is Pak's first port of call but he sees no reason why the portables couldn't house an HP or an IBM chip. Silla took its name from the \$1b Korean conglomerate that is providing much but reportedly not all of its funding.

IBM ADDS STRING OF ENHANCEMENTS TO LOW-END RS/6000 220

IBM Corp has added several new features to its low-end RS/6000, the Model 220. They include enhancements to graphics, communications, disk and multimedia support. The 220 now supports the Power GTO three-dimensional graphics subsystem which performs at 990,000 three-dimensional vectors per second. The 8-bit GTO is £10,406, the 24-bit version is £13,875 and a GTO accelerator attachment costs £631. Other graphics enhancements include a second Power Gt3 two-dimensional adaptor that performs at 650,000 vectors per second. It enables users to attach additional displays to the same workstation and costs £2,703 per adaptor. Lighted Programmable Function Keyboard and Dials devices for manipulation of images are now supported by the 220, and the keyboard costs £334 while the Dials device is £803. All the graphics enhancements are available in June. In terms of storage and communications, the 220 now supports the 9334 model 500 Deskside Expansion Unit, enabling it to access up to 5.4Gb of external storage. Also available next month, it starts at £7,000 with one 670Mb drive. As from July, the 200 will support the SCSI High-Performance External input-output controller which provides an SCSI connection in addition to the integrated SCSI on the motherboard. It will facilitate the connection of extra storage devices - tape, CD-ROM or drives - and distributes the workload across both SCSI devices. Support for the Ethernet local area network adaptor provides a second Ethernet connection and enables the 220 to function as a gateway with extra redundancy. Also supported is a 64-port Asynchronous Controller, said to provide a fourfold increase in the number of devices that can attach to the 220. The four-port Multiprotocol Communications Controller attaches the 220 to synchronous communications networks and up to two adaptors can be used on each system. The SCSI support feature costs £1,073, £592 for the Ethernet connection, the 64-port enhancement is £1,428 and Communications Controller support is £2,234. In the multi-media arena, the RS/6000 M-Audio Capture and Playback Adaptor enables 220 users to record and playback sound. It works with standard audio input devices like microphones, disks and cassette tapes, and plays back on a variety of devices. Up to two adaptors attach to the 200 at £386 each. The M-Video Capture Adaptor captures, displays and digitises video images and it will be available from July at £1,892. Those features with June availability in the UK will be available on May 26 in the US, June 26 for the rest. The SCSI Controller costs \$1,245, the Voice Server Attachment Adaptor is \$1,200, the M-Audio Capture and Playback Adaptor is \$500 and the M-Video Capture Adaptor costs \$2,250. The Four-Port Multiprotocol Communications Controller costs \$2,600, \$1,600 for the 64-Port Async Controller, and a 16-Port Async Concentrator is \$1,365.

SAMSUNG'S 100 USER, FAULT-TOLERANT SEQUOIA MACHINE STARTS AT \$159,000

Marlborough, Massachusetts-based fault-tolerant Unix systems builder, Sequoia Systems Inc, has the potential to be a \$300m to \$400m company within five years, chairman and chief executive Gabriel Fusco believes. The company is predicted to turn in figures of around \$85m for its years to June. Sequoia, which has had its share of brushes with bankruptcy in the past, is now growing at around 30% per annum, and the market that it's in, fault-tolerant Unix systems, is lucrative enough to support a number of players. Sequoia's current series 300 and 400 fault-tolerant multi-processors, based upon Motorola Inc 68030 and 68040 CPU technology respectively, address the mid-range of that market, where its main competition is Stratus Computer Inc's Intel Corp 80860-based machines and Tandem Computers Inc's MIPS Computer Systems Inc RISC line. The 400 can be configured with a theoretical 64 CPUs - though linear performance gains are curtailed at 28 processors, and the largest installed machine runs only eight 68040s (downsized from 16 68030s). By next year the company will be offering a dual-processor strategy, now Hewlett-Packard Co is hard at work on a high-end implementation of Sequoia's fault-tolerant architecture using its PA RISC processor. In return, Sequoia has given up any ambitions it may have had in the telecommunications marketplace, but will sell the thing in competition with HP elsewhere. That box, the Series 1000 won't be around until next year. In the meantime, HP is marketing Sequoia's existing 300 and 400 systems under its own name.

Exchange

With its RISC strategy taken care of by HP, Sequoia has also handed over future development of its Motorola Inc family to Samsung Electronics Co, this time in exchange for the Korean marketplace, which Sequoia will stay out of. Samsung is readying a low-end Series 40 system using up to four 25MHz 68040 processors. It'll be announced next month, and is due to ship in August. Supporting up to 100 users, a Unix variant, running Sequoia's implementation of System V.3.2, called Topix, will start at \$159,000. The Pick version - Pick being Sequoia's traditional operating system platform - comes in at \$310,000. The series 40 will appear in 33MHz and 50MHz guises over time. A version of Sequoia's current line, using a next-generation 680X0 part from Motorola may also result from its collaboration with Samsung. Another catch hanging on Sequoia's belt is Japan's Toshiba Corp, which, though not an OEM customer, is currently working on a Sparc RISC version of Sequoia's fault-tolerant stuff. Toshiba will have exclusive marketing rights in Japan for that box, Sequoia will be free to market it elsewhere. The company has also established a relationship with Sumitomo Electric Industries Ltd, which is to market Sequoia machines in Japan and some Far East countries. The deal, as it stands, does not include a development agreement, but Fusco doesn't rule that out for the future: Sumitomo is a MIPS RISC licensee.

Unix SVR4 by September

Sequoia promises compliance with Unix SVR4 by September, a transaction processing monitor - either Unix System Labs Inc's Tuxedo or Transac Corp's Encina - by the end of the year, and support for MUMPS within 90 days. Oracle, introduced on to its platforms last Autumn, is expected to become the predominant software environment fairly quickly - less than 5% of the installed base run Sequoia's proprietary database system. Sequoia's business is done primarily in the US, though last quarter 47% of its sales were international, Fusco claims, with 80% of those international sales done in Europe: 55% are direct, 45% through third parties including systems integrators. The relationship with HP (which HP has cemented with an 8% equity stake), will contribute around 5% to Sequoia's figures this year, expected to rise quickly to 20% when the PA fault-tolerant boxes come on stream. The company claims a total of 330 machines installed at 165 sites. Sequoia employs around 400 staff, and has recently opened in the UK, with a 12-strong Hayes, Middlesex-based operation under Guy Nordgrove. It also has designs on the German and Polish markets. The firm is also doubling its floor space as of June 15 when it adds adjacent offices in Marlborough to its plot.

HP DETAILS ITS "MAINFRAME ALTERNATIVE" CORPORATE BUSINESS SERVERS

HP last week chose New York and Copenhagen as the venues for the launch of its new assault on the high-end server market - see front page. Introduced were four models each in the MPE/XL 3000 and Unix 9000 ranges - the 3000 992/100, 200, 300 and 400, and the 9000 890S/100, 200, 300 and 400 - which use from 1 to 4 60MHz PA RISC "snake" processors. There is also an additional 3000 machine, the 990/100 using a 48MHz chip, taking the entry-price of the 3000 range (more expensive than their HP-UX equivalents) down to \$365,000 - the 9000s start at \$335,000. The 9000s will support up to 4,500 users and include 112 I/O slots, 128Mb to 2Gb memory, and maximum disk storage of 600Gb. While official TPC-A figures are yet to be disclosed, transactions per second rates range from 110 for the 890S/100 up to 336 for the 890S/400. The 3000s support 2,300 users, less because of current limitations in the MPE/XL operating system for multi-processing, but TPS rates are higher, ranging from 114 for the 3000 990/100 up to 420 for the 992/400. Both ranges will be available in the Autumn. The machines have a new architecture, including a 1Gb/sec memory bus and up to eight 256Mb/sec HP Precision Bus I/O channels, which means that users hoping to upgrade from HP's previously high-end 870 systems will face a box-swap. The machines are air-cooled, taking up one tenth of the power and physical space needed by an equivalent IBM mainframe, for around 1/5th of the overall cost of ownership over three years, or a third of the price of a VAX 9000, according to HP figures.

"Huge market" from downsizing, say software houses

HP boasted that over 100 IBM customers had already offloaded or replaced applications from their mainframes over to HP business systems and servers over the past year, and quoted Dataquest figures that show 46% of mainframe sites surveyed in the process of downsizing. HP's software effort for the new servers included endorsement from a veritable whos-who of mainframe software houses, all eager to stand up on the platform and say that their customers were queueing up to leave the IBM mainframe world behind. Computer Associates, for instance, claimed there was "a huge market - you can't imagine it" for its new product, CA-Unicenter, which is currently in beta-testing on HP platforms. Unicenter is an open systems equivalent to its current mainframe software for data centre management. Oracle Corp's Larry Ellison claimed that HP was the only company to offer credible, fully-compatible systems at both client and server levels, something that makes the implementation of client-server software a whole lot easier, he said. Dun and Bradstreet said it was porting its Millennium financial and human resources package, which would be ready by year-end, and in the meantime has a gateway product allowing data access between IBM mainframes and HP systems. Other software houses committing to the platform included: Lawson, Peoplesoft and SAP (Financials and Human Resources); SAS and Pilot Executive (Executive Information Systems); Anderson, Cimcon and SAP (Manufacturing and Logistics); CGI, Cincom, Information Builders, Softlab, Software AG and Texas Instruments (4GLs, DBMS and CASE). Computer Associates, SAS, Pilot Executive, Anderson, Cincom and Texas Instruments are currently only working on HP-UX ports, the rest also have MPE/IX projects on the go.

DEC ADDS INTEL'S iPSC/860

DEC will start peddling Intel Corp's iPSC/860 massively parallel 7.6 GFLOPS machines this summer under a newly inked OEM pact. Next summer it will add Intel's yet-to-be-shipped Paragon technology, the massively parallel 300 GFLOP supercomputer expected to sell for around \$2m. DEC's game plan is to swap Intel's proprietary Unix-like NX2 operating system for OSF/1 MK, the microkernel currently under development at the OSF Research Institute. DEC anticipates selling the machines initially with NX, enhanced for message passing, and moving over to MK in six to nine months. The Intel machines will extend DEC's reach into the MPP market. It has no homegrown MPP line and is currently reselling only Maspar's maximum 1.3-GFLOPS boxes. Adding the Intel boxes also gives DEC an esoteric sort of one-upmanship, making it the only supplier to support both the SIMD (Maspar) and MIMD (Intel) styles of MPP hardware, whose distinctions are a matter of religious controversy in some quarters of the MPP world. The alliance should come as no surprise considering the pair recently agreed to collaborate on MPP software projects, co-developing a Fortran compiler. They will now begin to identify and port key third-party applications to the Intel environment. DEC did not announce availability or pricing. iPSC/860 machines installed with 300 systems sold worldwide, sell for between \$300,000 and \$4m.

OSF/1 FUTURE IN BALANCE AS NOT SO PROUD PARENTS WAVER

Rumours are circulating that OSF/1, the operating system conceived in spite and anger, may miscarry. Claims are being made that its future is currently under debate in a roundrobin of meetings and phone calls among the founders and staff of the Open Software Foundation and that no decision has been reached. The gossips say the issue is whether OSF, under pressure to become self-sustaining, should continue to spend its resources on further development or focus its energies on its more innovative software DCE, DME and Motif. It could be farmed out or forgotten. However, a DEC middle manager said last week that OSF/1's life is not in jeopardy and that the real issue being debated is whether there's a smarter way to do the engineering. Whether OSF should subcontract it or hire additional engineers.

DEC - OSF/1 now Alpha only

A child of many fathers, OSF/1 is still practically an orphan. Only DEC has adopted it and was rumoured to be lobbying for its continued development within the framework of the consortium. Yet even DEC, which has spent a small fortune debugging and porting it, has loosened its bear hug. Once scheduled to run on DEC's MIPS machines, then on its MIPS and Alpha machines, OSF/1 has now been scrapped as far as the MIPS boxes go and declared Alpha-only meat. In the meantime, DEC has restarted its Ultrix development. DEC says that OSF/1-on-Alpha is now its primary platform and applications target and that customers are telling it the transition would be made more easily from MIPS R/4000-based boxes running Ultrix than OSF/1. Then only the hardware would change; not both hardware and software. DEC claims that its MIPS DECstation and DECsystems machines could eventually run OSF/1. But realistically speaking, barring overwhelming customer demand, Alpha will overtake MIPS long before that happens.

HP - kernel is a don't care issue

Hewlett-Packard too is fonder of its own proprietary iteration of Unix, HP-UX, than OSF/1 and is talking seriously of staying with that, at least until more advanced microkernel work becomes available. On the other hand, rumours, both printed and whispered, that HP is getting ready to bolt to the SVR4 camp, perhaps for the desktop with Destiny, are at best premature. For starters, HP General Systems Division general manager Bernard Guidon, referring to Destiny, indicated HP was concerned about consistency in its OS offerings. HP CEO John Young told a meeting of analysts last week that HP had been looking at both the USL and OSF kernels, but had no plans in place to license USL technology. He did say, however, that one of HP's PA RISC partners would be doing a port. Young later told Unigram that "technology marches on, and the kernel has become a don't care issue, gone away and moved to higher layers". HP was, he said, very interested in the market for desktop Unix, the basis being its Visual User Environment product.

IBM - common microkernel for AIX and OS/2

Both HP and IBM are interested in OSF's microkernel developments. HP's Guidon, however, maintains that this is a completely separate issue from the one posed by OSF/1 and much further down the road. In a move reminiscent of what Microsoft is doing with NT and Unix System Labs with Destiny, IBM has said recently that it is dividing both AIX and OS/2 into client and server versions and wants them to share as much infrastructure as possible. Ultimately that would mean a common kernel, apparently a MACH microkernel. Meanwhile, the Open Software Foundation itself has denied in writing that OSF/1 will be de-emphasised out of existence. Its statement reads "As of May 8, 1992, OSF is still unequivocally committed to OSF/1 and intends to aggressively pursue its on-going development and adoption in the marketplace." It also said it has a plan to converge OSF/1 and OSF/1 MK, its anticipated microkernel, into a single microkernel-based next generation OSF/1, presumably in keeping with prior intentions (UX No 373).

CANDLE HELPS OSF OUT ON DCE

Los Angeles-based Candle Corp is to help the Open Software Foundation, Cambridge with "technical issues" relating to the Distributed Computing Environment. Candle says it has successfully tested key DCE components within its Distributed Computing Server component in an MVS-OS/2 client-server environment and says it is the first implementation of DCE on an MVS system. It has also formed a Candle Advanced Solution Institute through which it plans to share its experiences and recommendations in areas of client-server computing, open systems and object oriented software for the mainframe and other environments.

COHERENT UNIXALIKE FOR INTEL AT \$100 FROM MARK WILLIAMS

Mark Williams Co of Northbrook, Illinois bills the 4.0 release of its Coherent Unixlike as the answer to an impecunious Unix-lover's prayer, describing it as the first inexpensive, easy-to-use, 32-bit clone of Unix and "smaller, faster, and less expensive than any other Unix operating system for the Personal Computer". The price is certainly impressive - just \$100, "and you don't need to be an engineer to use it," according to the company. And the price includes unlimited free technical support, an unlimited user licence, and a 1,200 page manual. Coherent 4.0 is the successor to Coherent 3.2, which the company claims has sold over 40,000 copies since its release in May 1990. A new feature is the ability to run COFF binaries that run on many other iAPX-86 Unix systems, such as Santa Cruz Operation Inc's Unix System V/386 3.2.2. Another piece of what sounds like good news is that the entire Coherent 4.0 consists of six floppy disks and "installs in less than an hour". It is also claimed to outrun the competition, outperforming Santa Cruz Unix V/386 almost three to one on a 25MHz 80486 box running the Byte C Compiler Benchmark. It comes with program development, text processing, communications and administrative tools and runs on 80386 and 80486 AT-alikes with 1Mb memory - and up to 64Mb. It supports SCSI adaptors from Adaptec Inc, Seagate Technology Corp, and Future Domain Inc, are IDE, RLL, MFM, ESDI and Perstor disk controllers and mono CGA, EGA, Hercules and VGA displays.

X/OPEN's XTRA FALLS INTO USERS' HANDS: VENDOR OFFERINGS TO BE ASSESSED

Xtra, the process by which X/Open Group Co Ltd's hopes to determine what users want from open systems, is being handed over to those very users in the shape of the X/Open User Council. This is the major change in this year's Xtra process which will also see the introduction of a European Xtra conference in Dusseldorf in November, continuous workshops to refine requirements throughout the year and educational seminars run by X/Open and aimed at users. The Xtra Conference proper takes place in the autumn and will follow a summer of intensive market research by X/Open and a yet-to-be-named market research company. The research will try and determine users needs in terms of open systems and this year, for the first time, supply-side research will also be conducted to determine how vendors' offerings measure up to users' stated requirements. X/Open's chief marketing officer, Alan Davies says that XPG4, to be released in the Autumn, will contain a lot of material on interoperability and how to integrate legacy systems. He admits the Xtra requirements gathering process sometimes lags behind vendors' product introductions but said he thought XPG4 would contain some elements that were ahead of current offerings on interoperability. He says in future, requirements are more likely to appear in regular "profiles" - groups of standards that provide workable solutions, rather than in one package such as XPG5, XPG6 and so on.

BARCLAYS BRANCHES OUT WITH COMMERCIAL IT OFFERINGS

In the UK, Barclays Computer Operations, Knutsford, Cheshire, which was set up in January 1991 by Barclays Bank Plc to provide in-house facilities management, is stepping out into the commercial marketplace with its own offerings - OPM (Operator Presentation Manager), and DataPlace. The bank says it has turned the cost centre into a business in an attempt to reduce overheads. Based on X-Windows technology, OPM allows applications to appear in different windows on one workstation. It runs on Motorola 680X0-based Unix servers. DataPlace is a purpose-built environment from which companies that lack the office space can run their computer systems. OPM and DataPlace are available next month. BCO will also provide contingency planning, technical support and project management. It is targeting US and Middle East banks, service industries and multi-nationals. Contracts signed to date total £2m, BCO claims, customers include IBM, the Harpur Group and Mercantile Credit, it says.

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IBM Europe will introduce a new company, ICPI Ltd, and ICPI will launch its family of Ambra bargain basement personal computers June 4 from the London's BAFTA - where the company launched its RS/6000 back in 1990. When James Cannavino said last week that IBM Corp was not going to sell personal computer clones, what he meant was that the things would not carry an IBM logo - and so he could say that IBM was not selling them. Despite Cannavino's touting of the wonders of Greenock, the machines are expected to come from the Far East. What does ICPI stand for - IBM Clone Products and Imitations Ltd? No. Individual Computer Projects Incorporated Ltd.

The annual Unix Fair'92, sponsored by the Japan Unix Society, will be held in Yokohama December 9-11 with 40,000 attendees forecast.

C++ World conference and exhibit is set for November 16-20 at the Meadowlands Hilton in Secaucus, New Jersey with Bjarne Stroustrup giving a keynote.

By the end of next year, Apple expects to have out PowerPC computers running Macintosh System 7 - the company is ahead of schedule in converting the software for the chip, CEO John Sculley said.

Tadpole is opening up Australia and New Zealand for its SparcBook notebook, signing Sydney-based UniXpress Pty, a Unix distributor, to handle the market.

Applix Inc, the office software supplier for Unix systems, is extending its operations to Europe, opening up an office in the UK: based in Berkhamstead, Hertfordshire, it will support and market Aster*x, its office integration software.

Rumours that Ingres Corp had pulled out of Unix International have turned out to be exaggerated, originating from the UK arm not renewing its three-month subscription to the UK marketing group of UI: while Ingres was withdrawing, citing too much emphasis on hardware, rival Oracle Corp was joining the steering committee, and UI began offering country membership to its organisation with cut price rates for software houses.

Hewlett-Packard Co came out with fiscal second quarter figures showing net profits up 40% at \$326m on turnover up 12% at \$4,183m, and reported that orders grew by 11% over the second quarter of fiscal 1991 at \$4,183m.

The International Motif User Group, now 320 strong, has scheduled its annual meeting for November 30-December 4 in Washington, DC.

InterOp has scheduled its big fall get-together for October 26-30 at the Moscone Centre in San Francisco.

Analyst Judith Hurwitz, now running her own shop, Hurwitz Consulting Group, has taken over the multimedia newsletter *Media Letter* from Myriad Technologies to add to its own *Tool Watch*.

Apple's out to prove that its alliance with IBM will revolutionise the computer industry: so it's offering a free video on the subject and picking up leads in the process. If you want to see for yourself call (800) 635-9550 ext 802.

It seems that that recent \$1m+ investment in Chorus Systemes SA by Altus Finance, a subsidiary of Credit Lyonnais, one of Europe's largest banks (UX No 382), has spurred Unix System Laboratories to increase its \$1m investment in the firm just to maintain its share: however, the companies don't want to reveal how much USL added to the kitty or what percentage it controls for fear of giving away the valuation. Meanwhile, USL Pacific is acting as Chorus' agent in the Far East where it has no operation of its own.

Like in the Bible, the prodigal is rewarded for returning to the fold: in SCO's case, it's getting Intel Corp president and CEO Andy Grove as a keynoter for SCO Forum this summer.

"It is unnecessary because it doesn't do anything more than what Unix does today. It is good for their strategy because DOS doesn't hack it. It is an unnecessary happening." Apple president Michael Spindler's opinion of Microsoft's NT as quoted in *PC Week*.

Sun says it's built "a couple hundred" Viking so far. The design used got started in 1988 and took five years to get a full multi-processor in such a small package.

Gradient Technologies last week announced a junior version of its OSF-endorsed NetLS licensing software contributed to by DEC, Microsoft and Novell and directed at the Windows crowd. Gradient hopes the new Common Licensing API (LS-API) will entice PC developers and users to NetLS, the licensing engine the Open Software Foundation picked for DME, once they need something more robust. Gradient will develop an LS-API library and offer a Windows 3.1-compliant "software wrapper," WinLOK, to bring existing apps under control of a user's system administrator.

Ilog SA, the french engineering software specialist, is expanding its operations to the UK starting up Ilog Ltd, Guilford, Surrey, to provide maintenance and support for its UK users.

ParcPlace Systems, the object oriented specialist, has appointed William Lyons as its new president and CEO: he was formerly chairman of the board and CEO at Ashton-Tate Corp before the merger with Borland International.

A new UK start-up Thomas Cairns Partnership, Wokingham, Berkshire, is to distribute Acer Corp's full range Unix multi-processing machines and software products: the company, headed up by Tom Cairns, former managing director of Tandom Computers, has a head count of around 70 people.

In the UK, Infact Ltd, an independent consultancy firm, has set up a subsidiary Infact Research Ltd, London, to investigate the client/server, networking, data management and workflow automation markets in Europe: the operation will be headed up by John Matthews, formerly an industry analyst with New Science Associates.

Structured Software Solutions Inc's FacetTerm, its Unix multi-session interface, will now support AlphaWindows - alphanumeric terminals bringing point click environments to character-based applications. Available now, FacetTerm costs \$500.

Freemont, California-based Independence Technologies Inc has added distributed management, dual discovery, line management and Centurion to its iView System Manager - which monitors and controls multi-vendor hardware and software in SNMP or CMIP agents over TCP/IP networking environments. Currently available on Sun Microsystems Inc's Sparcstations, iView runs under OSF's Motif graphical user. Available now, iView Manager costs \$14,500.

Sun Microsystems Computing Corp is developing Asynchronous Transfer Mode (ATM) for wide area networks and local area networks: ATM is a flexible, fixed cell packet system for broadband transmission. With no product launches scheduled for at least another year or so, Sun says, it is interested in using ATM for multimedia networks and distributed processing environments.

Sun Microsystems Inc's Sunconnect division is to roll-out the latest version of SunNet Manager, its network manager software, in an attempt to catch up with Hewlett-Packard Co which has just released OpenView 3.0. The upgraded version sports a single control window allowing users to view all active queries and a graphical user interface for management operations. Sun has also signed up Tivoli Systems, 3Comm and the Strategic Software Group to add additional features to SunNet including system administration, security and configuration management.

Now that the Open Software Foundation is looking for new development avenues for ANDF, its architecture neutral distribution format (UX No 384), it says a number of interested parties including both commercial houses and research institutes have come forward: Apparently talks with an unidentified US government agency, a research arm, have advanced to contract negotiations. OSF doesn't expect to name it before fall.

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UNIX SYSTEM LABS PICKS JUNE D-DAY, WOOS IBM, HP, DEC

Unix System Laboratories Inc has picked Tuesday June 16 to launch Destiny, its desktop system now officially designated SVR4.2. A roll-out is expected on the West Coast in either San Francisco or around San Jose, California, near the time of the Xhibition X-Windows show which will be held there that week. USL is hoping to collect an impressive array of godparents to stand witness. DEC, Hewlett-Packard Co and IBM have yet to agree to adopt the software, but USL is trying to get their representatives there in a show of solidarity and support for the operating system. A unanimous gesture from the founders of the Open Software Foundation is needed now to heal any lingering breeches in the industry. Destiny is also their one chance to beat back the forces of the "Baron of Bellevue," Bill Gates, and his gathering Microsoft NT hordes. Closed ranks would be USL's pay-off for recent concessions made to the Open Software Foundation's most important technologies. USL is hoping OSF chief David Tory will make an appearance at the debut. Definitely slated to be there are companies such as ICL plc, Ing C Olivetti & Co SpA, Unisys Corp and Univel Inc, the USL/Novell joint venture scheduled to introduce UnixWare, its own version of Destiny in September. ICL, USL's porting partner for Destiny-on-Sparc, will reportedly take both the USL code for enterprise-style implementations and the Univel product for the low end. Olivetti should show off Destiny on its MIPS Computer Systems Inc RISC-based platform. USL has had Destiny, initially conceived for Intel Corp platforms, in beta test for some weeks and should start regular deliveries to its OEM customers in July. Destiny will also represent a turning point for Adobe Systems Inc, whose Type Manager will now become part of the Unix operating system. Adobe has always been highly protective of its source code, turning down deals rather than share it. Although it is giving some of its "glue" source to USL, most of what USL will have and what will be distributed is binary. Adobe itself will reportedly do the ports to the various platforms for SVR4.2. One of the items Unix System Labs and Adobe still have to sort out is whether to make Type Manager retroactively available to SVR4 licences.

SILICON GRAPHICS GETS 10%, NEC MAYBE 5% IN NEW CONTROL DATA SYSTEMS - REST TO BE CERIDIAN

Control Data Corp last week announced plans to spin off its computer systems arm into a new company, Control Data Systems Inc, and rename the software and computer services rump of the company Ceridian Corp. Bowing to the logic we have suggested here (UX Nos 381, 384), Silicon Graphics Inc will take a 10% stake in Control Data Systems, and NEC Corp may take a 5% stake to seal a deal under which the new company will commit to NEC's versions of the MIPS Computer Systems Inc RISC. Control Data had been mulling the use of other RISCs, notably the Hewlett-Packard Co PA chip, but these machinations were, as the company admitted (UX No 384), a bluff to bring Silicon Graphics and NEC to the table. The change of name to Ceridian Corp from Control Data Corp will become effective June 1. The Control Data Systems name is effective immediately. The split, which will be effected by issuing one share of Control Data Systems for every four Control Data held, is contingent on the agreement of Control Data's bankers. The company is currently seeking agreement, and an extension of its credit agreement beyond the current June 30 expiry date. Silicon Graphics has signed a letter of intent to buy 10% of Control Data Systems once it becomes an independent company. Control Data Corp expects to record charges of about \$400m against its second quarter, about \$130m attributable to Control Data Systems - \$115m in restructuring charges and \$15m in inventory write-downs as part of the transition from the proprietary Cyber mainframes to integration of open systems and applications. The \$270m balance of the charges includes other expected losses and provisions. Lawrence Perlman, president and chief executive, will hold the same posts at Ceridian and James Ousley, who has headed the Computer Products business for three years, will be president and chief executive of Control Data Systems. The company plans to capitalise Control Data Systems with \$50m in cash, payable when the spin-off occurs, and another \$45m in cash payable in December. There will be no material ownership or management relationship between the two after the spin-off, although they will continue to provide products and services to each other over a transition period. Control Data Systems has applied for listing of its shares on the NASDAQ National Market System, and Silicon Graphics has entered new joint marketing and technology-sharing agreements. It means the new Control Data Systems Inc company will start life as a \$600m or so a year business, leaving its bigger sister, Ceridian Corp running at about \$700m a year. Control Data Systems will continue to sell and support Silicon Graphics and MIPS Computer Systems workstations and servers as part of its systems integration activities. NEC and Control Data Systems intend to expand their current supercomputer marketing agreement - CDC sells NEC's SX-3 to its mainframe customers in the US and Europe - to include joint marketing and technical activities in the Unix RISC area.

IXI READIES LATEST

BUNDLE OF DESKTOP TOOLS

UK company, IXI Ltd, Cambridge, will next week announce its latest product, Deskworks 1.0, a suite of integrated productivity tools targeted at heretical Sun Microsystems Inc Sparcstation users who prefer the Open Software Foundation's Motif graphical user interface over Sun's Open Look and have IXI's manager, X.desktop, installed. Deskworks is also reportedly suitable for IBM RS/6000 workstations and file servers and the SCO Open Desktop contingent already fitted out with X.desktop. The software includes a text editor, a time manager/calendar, a Unix mail front-end, a reminder, a calculator, a world time clock, a secure screen lock, a phone book and a chess game. IXI is hoping to exploit corporate situations demanding a consistent Motif interface. IXI will also be trotting out its latest release of X.desktop, version 3.5, which now supports video images so pictures of people can be encapsulated as icons. The company says it has enhanced the user interface and reduced install time. Deskworks will be available on Sun platforms next month and on DEC, HP and IBM systems in September, with licences ranging from \$75 to \$300 depending on the number of users. The new version of X.desktop ships for Sun, HP and DEC systems in the third quarter.

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DOLPHIN SPINS OUT SEPARATE UNIT TO DEVELOP SCI BUSINESS..

Following last week's licensing agreement with Convex Computer Corp, for its pioneering Scalable Coherent Interface bus architecture (UX No 386), Norsk Data affiliate, Dolphin Server Technologies AS, Oslo, Norway, has spun out a separate company, Dolphin SCI Technology AS. Dolphin Server holds a 75% stake in the new start up - employees get the remainder - and aims to centralise all of its SCI interests in one division. The new company is headed-up by Kare Lochsen, and the firm will operate out of its parent's offices with an initial head count of 20 staff. The non-exclusive deal, for a few hundred thousand dollars, gives Convex design rights to Dolphin's three year old chip-independent SCI technology. The SCI chips - made by Vitesse Semiconductor and due to prototype this Autumn - are claimed to deliver a sustained 1Gbps bandwidth between component nodes; Dolphin highlights its ability to be used both for tightly coupling processors (up to 1,000 RISCs) to memory (up to 100Mb) and input-output, and for loosely coupling distributed workstations and other subsystems, at backplane bandwidth. In the latter case, SCI technology is described as a cheap and powerful alternative to expensive HIPPI, midrange-but-still-pricey FDDI and low-capacity Ethernet. Initially the Dolphin SCI chip, implemented by the Norwegian firm for use with the Motorola 88000 RISC processor, comes in an 18-bit parallel copper version, but the company says several new SCI signalling schemes are currently being defined, such as a serialised fibre optical version, and a low signal swing, narrow version. It is the interconnect's design, however, that Convex has licensed; the Richardson, Texas firm will not be buying in its chips from Dolphin, according to Convex European vice president John Hughes. This is because Convex wants to be able to implement the technology in future generations of its proprietary C Series moderately parallel systems as well as its Hewlett-Packard Precision Architecture RISC-based massively parallel products. Convex reckons its machines will contain some form of SCI technology by 1994. With Convex already under its belt, Dolphin is now understood to be courting Data General Corp, and already selling SCI simulation systems and high level design language implementations to the likes of Apple Computers Inc and the Centre for Research into Nucleonics, Geneva, Switzerland. To some extent, SCI has a rival in the Futurebus+ architecture, also an IEEE standard, born in the 1970s but only now gaining recognition: both are set to hit the market at the same time. Dolphin admits that its going to be tough marketing two standards to the same set of people. It believes the two will operate as hostile, parallel technologies for the time being, but anticipates some kind of interoperability between them in future. Claiming SCI is five times faster than Futurebus+, Dolphin marketing director Lars Lauritzsen says "Futurebus+ has been quite a disappointment.. for us the questions it set to answer remain unsolved".

...BUT LACK OF CASH FORCES ITS OWN SYSTEM DEVELOPMENT ON TO HOLD

However, with cash in short supply, Dolphin has had to put some of its own SCI product development on hold for the time being, until, as it hopes more cash comes rolling in. Dolphin recorded a loss for 1991 but expects to break even this year on revenues of around £10m. Dolphin's Motorola Inc 88110-based Triton SCI Server, which was scheduled to ship in the first quarter of this year, will be kept under wraps for at least another year, the company says. It needs hard cash from its SCI spin-out venture to get that effort going again.

AUSPEX DOUBLES THROUGHPUT OF NETWORK FILE SERVERS

Network server manufacturer Auspex is boasting that the latest addition to its product line can process more than 2,250 NFS input/output operations per second - five times the maximum NFS performance of Sun's Sparcserver 690MP. Holding the same price as earlier models, the new Auspex NS 5550, shown at the recent Interop conference in Washington DC, doubles the throughput of the older NS 5000. Auspex says it needed to boost the power to keep ahead of the demand of the latest high-powered workstations, such as the HP 9000/730 and Sun's Sparcstation 10s. The increase has been achieved through upgrading the Ethernet and file processors used in the machines from 20MHz Motorola 68020s to 40MHz 68040s. Up to four Ethernet processors (supporting eight Ethernets), one or two file processors (with 16Mb metadata cache memory) and up to three storage processors (for 30 SCSI I/O channels and 81Gb storage) can be configured into the servers, which also use a Sparc-based Unix host processor. Field upgrades are available. The machines now offer optional redundant power supplies, along with standard fault-resilient features such as disk mirroring and hot-pluggable tapes and disk drives. US price is £124,900 for the base configuration. For existing users, \$10,900 buys a file processor upgrade, \$12,900 for Ethernet processor upgrades. UK distributor is Thame Microsystems (UX No 384).

XBASE STANDARDS PUSH "WON'T SOLVE dBASE COMPATIBILITY PROBLEMS", CLAIMS RECITAL

With the dBase world now concentrated in the powerful hands of Borland International (since its Ashton-Tate acquisition), Microsoft Corp (with its pending Fox Software Inc acquisition) and Computer Associates International (which made a move on Clipper developer Nantucket Corp at the beginning of May), efforts to develop the various languages into an ANSI standard under the Xbase tag have now begun at the American National Standards Institution in Scottsdale, Arizona. Some estimates say that up to 9.5 million people are now using some type of dBase, yet the three main variants are not cross-compatible. Xbase is being coined as a generic name for "dBase compatibility", the aim being that all compiled forms of Xbase will be compliant. Aside from the big three, the move is being supported by Wordtech Inc, Emerald Bay Group, Dvorak Development Corp and Recital Corp. Bracknell, UK-based Recital (which has a US subsidiary in Boston), which started off back in 1988 with the aim of helping dBase, FoxBase and Clipper users to migrate to Unix and VAX/VMS platforms, welcomes Xbase, as it removes the possibilities of legal threats over dBase. But as for cross-compatibility, Recital already has it. The latest release, Recital 7.2, offers a "GUI-like" front-end to the 4GL and database product for character-based terminals. An X-Window version is under development. Meanwhile, Recital has launched its first client/server version, allowing DEC users to use the Recital 4GL as a front-end to an Rdb database. Unix versions will follow at intervals of eight weeks for Oracle, Informix (C-ISAM), Ingres and Sybase. Recital is also working on a version for Microsoft's NT. European general manager Barry Betts hints darkly that Microsoft has great plans for a combination of NT and FoxBase, and wonders whether the current compatibility problems will ever be sold, Xbase or not. "If you're HP, and you haven't got a guarantee that it will run, then get Sybase", he says, optimistically.

KODAK'S INTERACTIVE HAS PORTABLE TCP/IP CODE
Interactive Systems Corp - the Naperville, Illinois-based end of the dismembered company and the bit that still belongs to Eastman Kodak Co, has come out with Streamware TCP, a portable implementation of TCP/IP aimed at designers and integrators of distributed systems. Streamware TCP is a processor- and operating system-independent source code protocol. It includes the Streamware Kernel that enables the networking protocol to be used in proprietary and embedded environments, the firm says. Streamware TCP is a full Streams implementation written in ANSI C and includes source code for TCP/IP, "most" popular TCP applications, an SNMP agent, a Streams emulator for non-Unix operating systems, and also a skinny real-time executive for use in intelligent board-level products that are missing an operating system. It is currently available and tested on Intel Corp iAPX-86, Motorola Inc 68000 and 88000, Advanced Micro Devices Inc Am29000, and IBM Corp System 370. The firm says it has been adapted and tested for the MTOS, VRTX, VMEexec and other real-time operating systems. Chase Research, Formation and Specialix will be integrating it.

ALLIANT FIRES 165 EMPLOYEES, FILES CHAPTER 11 BANKRUPTCY

The announcement a week ago that the company was seeking new equity financing made it pretty clear that the end was nigh for Littleton, Massachusetts-based massively parallel systems builder Alliant Computer Systems Corp, and the company announced last week that the boom has fallen when it fired all but 50 of its 225 employees and filed for Chapter 11 bankruptcy protection. The company, building massively parallel scientific Unix machines around the Intel Corp 80860 RISC, will suspend development and most direct sales of new computer systems, while continuing to provide service and sales of systems and expansion products to its installed customer base of some 600 worldwide. About half the 60 remaining employees are at the Massachusetts headquarters, the rest are in worldwide service locations. A small management group will remain to prepare and manage a reorganisation plan while the company is in bankruptcy court protection. A small European operation remains in the UK, the French office is likely to close. The decision to go chapter 11 was made on the 21st of May - the company's 10th birthday.

SUN'S SUNEXPRESS TO MARKET TADPOLE SPARCBOOK DIRECT

Tadpole Technology Plc, Cambridge, UK reports that its Austin, Texas-based US operation has won a singular accolade from Sun Microsystems Inc: Sun's Lincoln, Massachusetts-based SunExpress unit is to carry the Sparcbook Unix-based notebook computer, offering it to end users and resellers via its SunExpress telemarketing sales operation. The Sparcbook will be promoted by Sun Express via its quarterly catalogue and outbound telesales force. Orders are being taken now with typical delivery of three to five days. Sparcbook runs Solaris 1.0 with Open Windows 3, and costs \$4,950 with 8Mb CPU, 85Mb disk and grey scale display; 16Mb and 32Mb CPUs, 240Mb disk and colour are also available. Tadpole is offering a free copy of Lotus 1-2-3 with its Sparcbook notebooks as part of a Power Perks promotion. And Tadpole is opening up Australia and New Zealand for its SparcBook notebook, signing Sydney-based UniXpress Pty, a Unix distributor, to handle the market.

IBM AND APPLE SEEK PARTNERS FOR MULTIMEDIA STANDARDS GROUP

IBM Corp and Apple Computer Inc are trolling Japan and Europe looking for folks willing to join a consortium to create a multimedia standard around a cross-platform compound document specification and "Kaleida Script," a common scripting language based on AppleScript that would be co-developed, according to *Electronic Engineering Times*. They are also being offered a piece of the IBM/Apple multimedia joint venture Kaleida. NEC, Matsushita, Hitachi, Sony and Sharp have all confirmed that they have been approached, the paper said, with Philips and Thomson pegged as likely candidates. The aim is to set up a core consortium group by the end of the month. Dues are said to be \$3.8m a head.

SQL GROUP SHIPS SNAPSHOT OF ITS ACCESS SPECIFICATION - OTHER DEVELOPMENTS ON HOLD

Following news that the SQL Access Group is slowing down work on Phases 3 of its SQL Specification (UX No 385), the group now says it is changing direction to focus on market demands, and admits it got carried away with the academics of development. Taking a leave of absence, SAG says all work on versions three, four and five of the SQL specification have been put on hold for the next nine months. Now six months behind in getting version one out the door, SAG has just pulled together the first snapshot of technologies which the specification will use. That has begun shipping to members, and SAG optimistically expects products complying to the specification to be around by the end of year. SAG vice chairman, Howard Cohen says "it wasn't the smartest thing to do, pushing ahead with the specifications, but we're now concentrating on market requirements." Work on version two is continuing and will, the group says, include TCP/IP and Ethernet functions as well as the Common Level Interface, part of its strategy to get the two protocols interoperating with each other. CLI has been strongly promoted by Microsoft Corp, which SAG says, will be at the heart of Microsoft's Open Database Connectivity (ODBC) data accessing system, running under Windows. CLI is currently out in review form at the moment - the group says it has to be fine-tuned before it can be released to members in July.

NOW DEC PLANS PARALLEL CLUSTERS OF ALPHA STATIONS

Digital Equipment Corp is only a few strides behind IBM Corp in the concept of clustering workstations to create highly parallel configurations. IBM has got to the point where it has baptised the concept of the RS/6000 Cluster Service Offering, but a twist in DEC's plan is to enable alien workstations to be included in the cluster - according to *Electronic News*, it conceives of creating clusters of Alpha-based workstations within one to two years and then to move on to embracing alien machines, with the benefit that stations could be used as stand-alone units when no parallel work was running. The company is banking on communications technology arriving in time so that the dispersed machines can be linked together at a speed of at least 100 Mbytes per second - FDDI runs at 100 M-bits per second, and the company is looking at Asynchronous Transfer Mode, the emerging broadband fixed-cell packet system for the links. DEC suggests that in the second generation, workstations from Sun Microsystems Inc, Hewlett-Packard Co, IBM and Silicon Graphics Inc might all be included in the clusters, which suggests that the Open Software Foundation's Distributed Computing Environment will play an important role. The company even acknowledges that its software might one day be used to cluster workstations that were all alien, with no Alpha-based ones in there. Following its agreements with Maspar Computer Corp and Intel Corp, DEC now has three more conventional massively parallel streams on the go - the Single Instruction-Multiple Data machines that it will build using MasPar's chip, the Multiple Instruction-Multiple Data machines it plans using Intel's 80860XP chip and technology, and an Alpha-based massively parallel machine set for 1995.

DEC PUTS ON ITS TUX TO DO TP BUSINESS

Last week DEC stopped flirting with Unix System Labs Inc's transaction processor monitor, Tuxedo, and officially became part of "the club," a die-in-the-wool Tuxedo reseller in hot pursuit of the commercial user. Initially TPframe 1.0 is coupled with DEC's Ultrix/SQL relational database, incorporating technology from Ingres, and client code to speed OLTP application development. Currently it supports a single host system. DEC plans to offer a multiple-host distributed client-server version. The software runs on DECsystem 5100s, 5000s Models 200 and 240, 5500s and 5900s with pricing starting at \$3,530. 4GL tools are expected. The company also introduced a high-capacity Ultrix/RISC-based StorageServer 100 fileserver combining rewritable optical and magnetic media with storage management software for an NFS-run hierarchical storage management system. Total storage ranges from 20Gb to 125Gb with dynamic file partitioning. Most frequently accessed data are stored on the magnetic media and less frequently on the optical media with backup also on the optical. The system does not need dedicated hardware because it uses a standard DECsystem server. Clients can include Unix machines, PCs, Macs and VAXs. Pricing starts at \$66,700.

HP DELIBERATES WHETHER TO CALL OUT THUNDERBIRDS

Hewlett-Packard Co vice president, Lew Platt, has confided to Wall Street analysts that the company will be introducing Snake workstations and upgrades run by its PA RISC 7100 chip, Thunderbird, by late summer and will start delivering them before its fiscal year closes in October. There appears to be some internal debate going on down in Palo Alto about how much damage Sun Microsystems Inc's recent Sparcstation 10 announcement is doing to its own workstation efforts. HP seems to have at least a couple of options: an immediate Thunderbird response, levelling the playing field with Sun right now - with ships in October - or a big splash in the Autumn, with immediate deliveries.

SUN SPOTS

Putting its money where its mouth is, Sun Microsystems Inc is downsizing its internal computer operations to the client-server model using Sparcstations and Sparcservers and is yanking out its mainframe. It has signed on undisclosed terms to use Oracle Corp's manufacturing and financial applications, including software engineering products worldwide; Oracle Manufacturing will be installed in Sun Microsystems Computer Corp manufacturing plants worldwide and Oracle Financials will be installed throughout Sun's subsidiaries, including sites in Europe, Asia and North America in what is claimed to be the first-ever distributed system to address multi-site, multi-plant, multi-country, and multi-lingual requirements; the value of the pact to Oracle was not given. Meanwhile, Oracle has plucked top product designer Karl Hageman from ASK and named him chief design architect of Oracle Manufacturing.

Palo Alto, California-based J Frank & Associates last week announced MVS/NFS, a software product co-developed with Sun Microsystems Inc that is designed to increase data sharing between mainframes and workstations through on-line access to MVS files from NFS networks. It is a full implementation of NFS under MVS bridging mainframes and Unix networks and from there to other NFS platforms such as PCs, Macs and VAXs. Workstation users can access and create files on the mainframe without knowing MVS or compromising MVS security, effectively making the mainframe a huge file server. MVS/NFS ships in June with prices ranging from \$18,000 to \$62,000.

Sun Microsystems Inc has an OEM contract from Fanuc Ltd which it estimates at \$10m a year: the Japanese robotics and factory automation company plans to create turnkey systems out of the workstations by bundling them with computer-aided design software from Cadkey Inc and sell them worldwide; it looks for \$330m in business over three years.

SunSoft Inc has adopted London-based Alex Technologies Ltd's graphical user interface tool for use with Solaris 2.0 in its master developer series on Intel and Sparc platforms: Alex allows users to transform their character applications to run under Open Look without modifications to the code.

HaL Computer Systems will sell NetLabs Inc's NetLab/Manager software as an option on its Sparc machines when they arrive: HaL apparently intends to build applications on top of the basic network management tool. Datacraft, a \$70m Australian integrator, is also picking up the stuff.

San Francisco, California-based Young Minds Inc, the CD-ROM software vendor, has released CD Studio - its second generation software and hardware solution for creating CD Write Once discs. CD Studio includes its Unix-based Makedisc premastering software, MakeCD controlling software and a 1Gb hard disk. Available on Sun Sparcstations it costs \$18,500.

Pacer Software Inc, La Jolla, California, has released DAL, its Data Access Language server for Sun Sparc and Hewlett-Packard 9000/800 systems: DAL provides transparent data access to Macintosh applications from Oracle, Ingres, Informix and Sybase. Prices start from \$4,000 for 16 users.

ICL Ltd has announced the availability of Fibre Distribution Data Interface (FDDI) network for its range of Unix Sparc-based DRS6000 systems: prices start at £8,000.

Version 5.1 of Orem, Utah-based WordPerfect Corp's word processing software will be available in the UK on Sun Microsystems Inc workstations from the third quarter.

SyQuest Technology and Control Concepts - a federal government integrator and manufacturer - have introduced the first SyQuest removeable drive for Sparc machines. Two versions offer either 88Mb or 176Mb of storage. Control will sell them into the federal market. SyQuest has also signed a licensing agreement with Delta Microsystems for them both to sell the \$350-per-workstation Delta software driver, needed to support SyQuest's 5.25-inch 44Mb and 88Mb removeable cartridge drives on Sparcs.

AION DEVELOPMENT SYSTEM UP ON SUNS

Palo Alto, California-based Aion Corp is diversifying from its IBM Corp MVS roots and has announced availability of the Aion Development System, a knowledge-based system designed specifically to automate business processes such as scheduling, configuration, monitoring, diagnostic, decision support and service, for Sun Microsystems Inc's Unix systems. The version for SunOS supports all features and functions found in the Aion Development System Version 6.0, including the Aion High Performance Option for faster and leaner compiled knowledge bases; relational database interfaces, providing direct access to external databases; and an application programming interface for linking to external programs, specialised data and different computers. Knowledge bases developed on other Aion-supported systems are portable to and from the Sun version of the system, the company claims. No prices given.

MATSUSHITA SHOWS VIRTUAL REALITY SYSTEM,

Unigram's Tokyo bureau has been looking at some of the research work being developed by Matsushita Electric Industrial Co at its Tokyo Information and Communications Research Laboratory. Researchers have developed a three-dimensional direct manipulation interface, fancifully called "Zashiki-Warashi" (a Zashiki-Warashi being an imaginary childlike creature in Japanese folklore, which plays unseen in a room, bringing happiness to the house it inhabits). The system developed aims to provide a three-dimensional means of manipulating a virtual reality scene, with a pen-type stylus used in place of a mouse. A further feature enables the manipulation of lighting and a camera, and with display of solids and use of simulated gravity to position objects. A Silicon Graphics Inc Iris workstation displays a scene of a room with furnishings, created with DesignBase, a three-dimensional computer-aided design database system from Ricoh Co, while the three-dimensional digitiser hardware, provided by Polhemus Inc, is able to manipulate objects by measuring the position and orientation of the stylus with six degrees of freedom. Matsushita researchers have developed "beam cursor" software for the interface of the stylus beam with the objects displayed, which is also used for re-orientation of the entire room itself. Features are similar to, but easier to use than, those obtained through the use of the glove and glasses of the system from VPL Research Inc (which sister company Matsushita Electric Works licenses for work on kitchen design simulation system).

NEC HAS WORKSTATION-BASED NEURAL NET

NEC Corp has developed a neural network systems that detects similarities in share price patterns. It claims it has given very similar results to patterns determined by stock price chartists, charlatans or alchemists depending on your viewpoint, whose work is very popular in Japan. The system was developed on a NEC EWS-4800 Unix workstation and uses a Dynamic Programming Neural Network, which incorporates features from a neural network and a Dynamic Programming matching method. Until development of this system it was difficult to do pattern matching if movements being compared were over varying time periods. The database for the system contains data on the price movements of 1,700 companies listed on the Tokyo Stock Exchange over the past 15 years. The system will be presented in detail at the International Joint Conference on Neural Networks 92 to be held in Baltimore, Maryland next month. NEC says that it is planning to create artificial neural network systems to analyse exchange rates and interest rate fluctuations as well.

SEQUOIA TAKES CLEARSPRING LIGHTSOUT SYSTEM

Sequoia Systems Inc is joining the rush to fit out Unix systems with all the aids and facilities that mainframe users take for granted, and reckons that it is one up on its competitors with software that continuously monitors all the functions of a computer system and immediately notifies operators of problems in operations or applications - even if it did have to go out-of-house to get it. It believes that the new LightsOut software is the first unattended event monitoring program from a supplier of Unix-based fault-tolerant computers. It is designed to enable system administrators to identify and fix problems before they come to most users' attention. It monitors all local and remote elements in a computer system, including attached devices such as printers, terminals, administrator consoles and communications links in addition to host-system functions. LightsOut was developed by ClearSpring Technologies Inc of Burlington, Massachusetts. Performance information can be viewed in real time or collected and archived at a single location to be used later for systems and capacity planning. For Sequoia users, LightsOut is available from either Sequoia or ClearSpring at prices from \$12,000.

SAS SHOWS ITS EXECUTIVE INFORMATION SYSTEM TO EUROPEAN HOI POLLOI

by William Fellows

SAS Institute Inc - it likes to be called sass, not SAS as in the UK's Special Air Services - held its tenth annual European User Group meeting, SEUGI '92, in Vienna a couple of weeks ago.

The event was primarily a homage to the long-awaited SAS Executive Information System, which hogged centre stage during the opening proceedings of the conference. On the evidence of its showing, SAS/EIS is certainly the kind of tool that will empower decision makers with the ability to study their companies and markets in new ways, with only minimum recall to the services of in-house software engineers - "even a CEO can use this because it only takes one finger," claims Jim Goodnight, SAS chief executive officer. SAS/EIS, however, is not a revolutionary departure, more a (welcome) common sense approach to the problem of coalescing disparate information sources into a practical, easy-to-use analysis and reporting environment. Turning numbers into graphs and simple pictures, it borrows conventions from car dashboard displays and suggests the use of simple colour/performance indicators such as red, amber and green. SAS/EIS uses object-oriented techniques and offers a fourth-generation language, enabling non-techies to get meaningful use from the system. It's currently at beta sites and staggered launches will begin in the fourth quarter with a version for IBM's MVS operating system.

Also previewed in Vienna was version 6.08 of the SAS system, the company's collection of statistical, analysis and reporting packages - what it calls its information delivery system - which will be available from the fourth quarter, or the beginning of 1993 in Unix flavours. Version 6.08 will include support for OS/2 2.0, Microsoft Corp Windows, IBM's VSE/ESA and the CICS transaction processing environment, plus gateway access to AS/400 systems in client/server set-ups. SAS doesn't run native on the AS/400 "because of technical reasons, but also because users tell us its not the platform they want to run applications on," it says. "In most cases AS/400s are full of data, and users want a delivery system that can access this data via OS/2 or Windows. We prefer OS/2, because it's a better operating system, and it is becoming the preferred choice for large commercial users, but Windows is most popular for the standalone." SAS supports access to a range of mainframe, personal computer and Unix database managers and spreadsheets and will run from day one on DEC's Alpha RISC boxes under Open VMS and OSF/1 when they are launched. Determined not to undermine his DEC marketing team's present offerings, Goodnight makes big beef about the fact that it has sold some 3,500 versions of SAS in the last three months.

Rellglon

SAS isn't religious, he says and will port to any volume platform whenever it is able to. So why a version for the NeXT Computer Inc NextStep environment? Goodnight says Steve Jobs had promised him that the NeXT boxes would sell in serious numbers, but now admits that that particular offering "isn't making us any money." Why no Apple Computer Inc Macintosh SAS system? The firm has a non-mainstream product called Jump available for the Mac, but there are no plans for a vanilla version of SAS software on that box. Goodnight discounts rumours that his company couldn't actually get a version of SAS to work on that particular platform, saying the firm isn't working on such a port now, and has no plans to do any other Motorola Inc 680X0 implementations besides the Unix one it offers currently. A version for the IBM/Apple Pink object-oriented operating system isn't ruled out though. In the UK, SAS has been trying to build a relationship with ICL plc for the last three or four years - with little success. However, it thinks some kind of contact will be forged over time and expects a port to the company's DRS6000 Unix box to materialise in the not too distant future.

Future additions to the Cary, North Carolina-based company's product suite will include SAS Trader (for the financial markets), Geographic, Publish, Render and Image - all fairly self-explanatory developments. They'll include a mixture of voice, graphics, video and other multi-media features. Some of this experimental technology will go into SAS release 6.09, most will roll into version 7.0, which isn't expected for a couple of years yet. All development is now done on Hewlett-Packard Co PA RISC Snake workstations running Unix - SAS has taken \$5m worth of the things - the SAS system as a whole now runs to over four million lines of code.

Privately-held SAS ploughs an estimated 40% of its revenues back into research and development - its 1991 figures of \$295m were 23% up on 1990, it says, with the European sector accounting for 178m Deutschmarks, up some 34% on the previous year. SAS claims three million users and 100,000 installations worldwide - around 11,000 of them are Unix - with 35,000 European sites. Having focused on the more traditional computer platforms in the past it's no surprise that Unix is SAS' fastest growing market - 20% of new business in the UK is Unix, it says. Sales of its Unix products will, for instance, outstrip revenues from the DEC versions that it markets over the next year or so, it reckons. SAS' current UK business is split 35% on IBM systems, 37% on PC/MS-DOS, 15% on DEC and less than 10% on Unix.

SAS brought in Cap Gemini Consulting vice president, Patrick Amzallag, to add a slightly more objective tone to the proceedings - SAS is not a Cap Gemini client, we are led to believe. Amzallag says that to be successful "it is not enough to be technically good. A company must be predominant in the eyes of decision makers." SAS? "They're doing OK," he says.

TWO-THIRDS OF LARGE UK USERS WILL HAVE UNIX WITHIN TWO YEARS, SAYS NEW REPORT

A new report from IT specialist Dr James Martin and London-based Applied Learning International finds that amongst the largest user organisations in the UK and Ireland, IBM still leads the way as far as mainframe, mid-range and personal computer installations go. Its systems are in use at 69%, 47% and 83% of sites using those respective technologies, although many have machines from two or more suppliers. Caution seems to be the watchword for major IT investment decisions at present. 51% of managers said they were playing it safe and upgrading their current central processing system, 29% said they are sticking with what they already have whilst some 16% said they would be downsizing to a mid-range system. The following table shows the take-up of latest technologies and future plans for 512 respondents of the 2,000 largest IT sites polled.

Technology	In place	In 2 years time	No plan
Client/server	34%	29%	37%
Open Systems	27%	47%	26%
Unix	40%	28%	32%
GUI	41%	49%	10%
EDI	50%	39%	11%
Network mgmnt	73%	23%	4%
Relational db	73%	22%	5%
IBM ESA	36%	15%	49%
CASE	42%	44%	14%
OO techniques	12%	35%	53%
Repository	14%	42%	44%
Image Processing	15%	49%	36%
Info engineering	24%	27%	49%
Rapid App Dev	13%	31%	56%
Joint App Dev	19%	25%	56%
IBM AD/Cycle	10%	25%	65%

DUN & BRADSTREET ADOPTS GRESHAM TELECOMPUTING TP+ WORLDWIDE

The successor to Telecomputing's TPM, the TP+ transaction processing monitor for Unix from UK firm Gresham Telecomputing Plc, Southampton, Hampshire, has at last found its place in the sun with the signing of an agreement under which Dun & Bradstreet Software will market the product worldwide as a key element in Unix line initially for Hewlett-Packard Co, ICL Plc, Data General Corp and Digital Equipment Corp machines. Dun expects at least 20% of its 14,000 customers worldwide to downsize their computer operations to Unix systems.

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IBM Europe's clone subsidiary, **Individual Computer Products Ltd**, due to be launched on June 4, looks to kick off with at least three new systems: sources say that there will be a desktop, a notebook and mini-tower, the first two using the 80386SX, the tower an 80486SX; all may be bundled with Microsoft Corp's Windows and use the AT bus; there are rumours of a degree of channel conflict with suggestions that the systems will be sold not only through the direct channel, but there are no details yet about alternative distribution; the launch will be phased across Europe and France will be next in line.

In the UK, ICL plc has previewed its Search Accelerator for the Informix relational database running on Unix SVR4. Already available for Ingres (UX No 350), the Informix Accelerator is being piloted with six local councils and government agencies before its release this September. Derived from the Content Addressable File System (CAFS) hardware database search engine, the accelerator consists of a CAFS board, an interface which decides whether the accelerator should be activated, a device driver and a relational database management system accelerator to control the searches. The company says that in the last six months it has sold over 600 Ingres Search Accelerator add-on boards. The Informix version is priced the same as the Ingres board at £10,000.

DEC is trying to gain visibility for the 661 companies it says are converting programmes for Alpha RISC.

Oracle Corp will announce version 7.0 of its database system on Monday June 15.

Interactive Development Environments has set up IDE Canada in Toronto to handle direct sales and support operations for its CASE products.

The move towards open systems is increasing security risks, according to the Commission of the European Communities (CEC). To raise industry awareness, it is revising its Information Technology Security Evaluation Criteria (ITSEC), published last June, with the help of SD-Scicon Ltd's Systems Assurance Division in Milton-Keynes, Buckinghamshire. Rather than taking as gospel what the manufacturers tell us, SD-Scicon is busy researching what levels of system security users actually want so that CEC can make recommendations.

Brixton Systems, the first company to route TCP/IP over SNA, is teaming with Bull-owned integrator Integris to develop a series of mainframe-specific SNA products for Unix. Integris will integrate these new SNA products with its UniRix CICS and market Brixton's Brx3270 and BrxSNA/IP router plus other Brixton products later on down the road. SNA-on-Unix is seen as a downsizing vehicle.

Unix System Labs Inc is currently evaluating the Architecture Neutral Distribution Format work done by the UK's Defence Research Agency, according to marketing vice president Joe Menard.

AGE Logic is to bundle Novell's TCP/IP PC-to-Unix connectivity software with its XoftWare family of Windows, MS-DOS and TIGA/DOS X-Windows server software: AGE will offer Novell's TCP/IP stack simplifying the installation issues normally associated with integrating X and networking software.

Despite a disconcerting 85% plunge in net profits to just \$94.5m, Fujitsu Ltd, bolstered by the acquisition of ICL Plc is putting rapidly increasing distance between itself and the other contenders for the title "world's second-biggest computer company": some commentators illegitimately eliminate Fujitsu's semiconductor sales from the total simply because the company sells more of its chip output on the merchant market than do IBM Corp, Digital Equipment Corp and Hewlett-Packard Co, but all of Fujitsu's \$26,640m annual turnover is information technology-related - and the company is now nearly twice the size of the \$14,000m-a-year DEC, and well over a third the size of IBM; only a decade ago, IBM was more like 10 times the size of the next biggest computer manufacturer.

Shakey multimedia start-up Tiger Media has lost its president Laura Buddine.

USL expects that its brand new Tuxedo joint venture with Steria in Paris (UX No 385) will also peddle Destiny.

"We're not out to position Windows NT as a replacement for Unix." Thus spake Microsoft NT director Dwayne Walker in *ComputerWorld*. He also said NT will also be able to host guest operations like Unix.

One of DEC's principal Alpha RISC architects, Richard Witek, has reportedly bolted to Apple Computer Inc.

Gain Technology, the multimedia start-up partnered by Matsushita, has acquired New Mexico's Santa Fe Interactive as the nucleus of a Gain business unit called Gain Interactive. Terms were not disclosed. Santa Fe Interactive is a developer of customised multimedia business systems with a high degree of user interactivity for corporate clients such as American Express. Gain says the acquisition positions it to take on the full scope of designing, building and delivering large-scale multimedia systems.

Emulex's new Tri-Protocol Release 3.0 allows Unix, Novell and DEC users, connected on a network, to share printers and transparently queue print jobs: the software also has a facility for Netware, Unix and DEC hosts to share printing services.

The British Broadcasting Corporation has extended its 30-year relationship with ICL Plc with two new contracts for the provision of services over the next six years: first, ICL's CFM facilities management subsidiary will run the Beeb's mainframe bureau operation in Feltham, West London on ICL Series 39 SX mainframes; second, the BBC is taking advantage of ICL's Open Hire agreement in its move to a distributed Unix computing environment.

British Telecom plc's BoAT project, with 50,000 users potentially the biggest office automation scheme currently afoot in Europe, has picked StaffWare as its workflow standard: BT is the first organisation to adopt the new Windows client/Unix server version of StaffWare. StaffWare will be adding some BT-specific features such as the ability to implement a corporate-style graphical user interface and to pick any database of choice.

Stone Systems, the would-be Sparc merchant from Hong Kong (UX No 358), has turned tail and fled the US marketplace shutting down its one American office last week.

Silicon Graphics Inc has picked Pericom Software's team-X 340 emulation package, reportedly the first VT340 terminal emulator for the X-Window environment, for use with its Indigos.

Aurum Software Inc, Santa Clara, California, has announced the Aurum Customer Resource Planning system, a suite of client/server Unix applications which support all major databases and GUIs: the four are TeleTrak, a telemarketing package; SalesTrak for field sales; SupportTrak, for customer support; and QualityTrak, for quality management - prices range from \$10,000 to \$200,000.

Wang Laboratories Inc plans to lay off more than 1,000 more people from its 13,500-strong workforce - a pale shadow of the 31,500 in March 1989, and says that even more cuts may be needed in the next several months.

MIPS Computer Systems Inc took another hit when OEM sales vice president Stratton Sclavos jumped ship to join the PenPoint operating system designer Go Corporation as vice president worldwide sales.

Progress Software plans to port its 4GL, RDBMS and associated tools over to Alpha under VMS, OSF/1 and NT.

Bell Labs Software Technology Center is to promote Procace's Smartsystem - a five-module development and maintenance environment integrated over an object-oriented database - to AT&T development organisations under a cooperative purchase pact: the Center has developed interfaces linking Smartsystem to AT&T's own software engineering products which Procace itself will peddle to C developers. Procace recently closed \$3.8m round of financing from current investors bringing total investment to over \$20m.

Progress Software Corp (#24) and Sequoia Systems Inc (#62) made this year's *BusinessWeek* list of the 100 Hot Growth Companies.

Sources claim Samsung is the company Hewlett-Packard CEO John Young was referring to when he told Wall Street analysts that one of his PA RISC partners was doing a port to SVR4 (UX No 386).

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IBM READIES FIRST OF ITS RS/6000 MULTI-PROCESSORS

Multi-processors seem to be the flavour of the day at the moment and IBM Corp has been promising a multi-processing addition to its RS/6000 line for some time, so it's not too surprising that we hear it'll announce one in around six weeks for delivery later in the year. We're told it comes with four Rios RISC processors, 2Gb RAM, 6Gb or more disk, 2Gb per-second fibre optic channel input/output and will perform at 400 MFLOPS. Its price tag is said to be in the low \$200,000 range. Although Groupe Bull SA Bull is supposed to be handling the RS/6000's multi-processing under its recently struck accord with IBM - see page four - it seems doubtful the French are making much of an impact on this particular machine. The system will likely be the first in a series of RS/6000 multi-processors that could eventually incorporate up to 16 CPUs. Late last year (UX No 362), Phil Hestor, vice president of systems and technology at IBM's Advanced Workstation Division in Austin, Texas, described how multi-processing for the RS/6000 range would start with a four-way offering rising to a maximum of 16 CPUs, with clustering required thereafter: it looks like IBM is sticking to that tack.

SECOND ROUND OF TALKS "WILL BRING PEACE", THOUGH UNITY UNLIKELY

The second round of "Unity" talks between the two opposing Unix factions are faring much better than the ill-fated first bout, though actual unity is unlikely to result at least in the short term. Unix System Laboratories and the Open Software Foundation look to be headed towards their first puff on the proverbial peace pipe at the Destiny launch on June 16. OSF, presumably in the person of its chief David Tory, is scheduled to be there. It is believed he and USL president Roel Pieper, the two heroes of the day, will unveil a joint working relationship, presumably focused on ANDF, signaling the end of the Unix wars. The occasion, now set for the Trustees' Auditorium at the de Young Museum in Golden Gate Park, San Francisco, will be one of sound bites and photo opportunities. The industry will be standing by gauging the heartiness of their handshakes and the sincerity of their smiles trying to decide whether the hatchet really is being buried or whether it's merely a Christmas truce. In this climate, a down-home bear hug and attendant back slapping probably wouldn't go amiss. The Santa Cruz Operation, which seems to want to move to Unix SVR4 now if the price is right, is reportedly anxious to attend the Destiny launch. Computer Associates and Lotus are likely add their endorsements. Whether IBM, DEC, Hewlett-Packard Co and Apple Computer Inc will be sending envoys in a show of solidarity remained to be seen as we went to press last week. Observers such as IDC's David Smith believe that of the big three HP is the most likely to make a move because unity plays to HP's hand, something he says is not the case with either IBM or Digital. The Destiny launch is shaping up to be a pretty big pow-wow. Anyone interested in mending fences or burning Bill Gates in effigy should call (415) 354-4454 and come on along.

CDS PLANS IMPROVED R6000, PLOTS ROUTE TO R4000, SETS MULTI-PROCESSING R5000, R10000 DESIGNS

The newly formed Control Data Systems Inc (UX No 387), is currently designing a higher performance, higher clock-speed implementation of MIPS Computer Systems Inc's R6000 ECL RISC - possibly utilising multiple CPU modules - which it will announce later this year for the 4860MP quad-processor that MIPS builds for it, according to chief executive officer, James Ousley. The chip is being manufactured for it by NEC. CDS won't take the 4860MP beyond four processors because, it says, there are no subsequent linear performance gains after that mark: it knows, because it has tried eight- and 16-CPU boards. However, CDS is also working on a project that will lead its customers out of the R6000 dead-end, given that MIPS has now ruled out further iterations of its ill-fated ECL part. Ousley says his firm is working on technology that will allow R4000s to reside on the backplane used by the R6000 in its 4680MP systems. Control Data Corp, as was, had planned to do a Gallium Arsenide implementation of the latest R4000 RISC for MIPS. That's been dropped too, because the GaAs semiconductor house CDC used could only get a yield of 2% good parts. However, CDS says it will pick up its GaAs threads again, once the technology has evolved sufficiently. Meanwhile, Toshiba Corp and NEC are thought to have invested some \$200m in preparation for development and fabrication of MIPS' next-generation R5000 and R10000 RISCs (UX No 377). CDS says it is currently designing multi-processing versions of both. More CDS details, see page six.

DESTINY PLUS NETWARE EQUALS

UNIXWARE: 70 SOFTWARE

FIRMS GIVE THEIR SUPPORT

Univel Inc, the Novell Inc/Unix System Labs joint venture for Destiny, is picking up the charter for recruiting the all-important software for the soon-to-debut desktop operating system from USL and this week will announce an early access programme that will get binary code into independent software developers' hands immediately. Reportedly Univel has already lined up at least 70-plus companies to port to Destiny including WordPerfect, Oracle, Borland, Gupta, Lotus, 3Com, Ingres, Hyperdesk, Sybase, Informix, Frame, Applix and Island Graphics. At press time, it was said to be still finalising international agreements. The software will be available in a month or six weeks to all ISVs. Pricing will then be determined. Univel's version of Destiny, with its hooks to Novell's NetWare, will be officially christened UnixWare this week. It should ship in September or October. ISVs will get complete NetWare, SVR4.2 and Motif application programming interfaces with access to Open Look via the Moolit toolkit along with Posix, XPG/3 and FIPS 151 compliance needed for federal contracts. Intel Corp is expected to bless the project with its endorsement, fittingly since it re-enforces its position in the marketplace. USL and Univel have apparently been working under non-disclosure with Intel to ensure the kernel wrings specific new performance possibilities from Intel's anticipated 80586 chip, the P5. Similarly, the trio combined to ensure the software worked suitably on existing Intel platforms. Univel believes a port to Destiny will be trivial for Unix companies who will be merely testing shipping product. Univel will ensure their programmes are integrated into Destiny's Mac-like desktop metaphor and that appropriate icons are provided. Univel is also expected to bring a bevy of endorsements from peripheral manufacturers.

NCUBE PREVIEWES 6.5 TFLOPS MONSTER THAT RUNS ORACLE

Foster City, California-based nCube Corp will this week preview its latest monster, the 6.5 TFLOPS nCube 3, its third-generation general-purpose hypercube supercomputer. The whopper is scalable to 65,536 proprietary 64-bit processors, boasting a daunting 3GIPS peak performance - 200 times faster than its predecessor, the nCube 2. Also announced is the interim nCube 2S and the entry-level nCube 2E. Due to ship in 1994, the nCube 3 will run a parallelised OSF/1 Unix, and hook up to machines supporting Ethernet TCP/IP, HIPPI, Fiberchannel and FDDI. The interim product, the nCube 2S, meanwhile, will ship this August, offering a 50% performance increase on the existing nCube 2 (which is rated at 27 GFLOPS peak), although scalable to the same maximum complement of 8,192 processors, and up to 512Gb main memory. Details of both machines are on page six.

SEACHANGE LAUNCHES SEACHANGE 4 FOR RAPID UNIX, MS-DOS DEVELOPMENT

A second generation of rapid development software products has been launched by UK, York-based Seachange Ltd. The new family of products, SeaChange 4, is targeted at software applications developers for Unix and MS-DOS systems. An integrated fourth generation language tool set, it produces interoperable software for a variety of database systems, such as Ingres, Oracle, Informix and C-ISAM. The £1.2m a year open systems software developer believes that SeaChange 4 builds on past developments and provides the optimum balance between procedural and non-procedural languages. The product range comprises SeaGen; Sea4GL; SeaGate; SeaGate Plus; SeaQL, and SeaAccounts. SeaGen is an applications generator with its own virtual machine architecture. This architecture enables applications to be developed on one system and implemented on a different one. SeaGen generates transaction processing applications around a database system. It has an active data dictionary and gives a relational view of the database. The generator has forms, menus and report handling systems as well as its own database processing language. SeaGen can be used by developers of varying ability levels. Sea4GL is a general purpose fourth generation, modular language that extends the functionality of SeaGen. It is aimed at experienced software developers, working in teams to produce complex applications. Re-usable code is written in blocks, so that tasks can be divided between individuals or groups dealing with a development project. After three years and approximately £2m of research and development, SeaChange 4 began shipping on March 31. Price is dependent on processor size and the number of users, but a start-up price for two to three users on a box running Santa Cruz Operations Inc Unix was quoted at £4,500.

OLIVETTI RESEARCH LABS WORK ON MULTI-MEDIA UNIX TECHNOLOGY

The UK, Cambridge-based Olivetti Research Laboratory, ORL, funded jointly by Ing C Olivetti & Co SpA and DEC, has been doing a lot of work on the so-called "active badge" technology - infra-red location devices linked to computer and telephone systems. But more interesting is a parallel project to develop a multi-media desktop environment using Unix workstations equipped with their own charge-coupled device camera, microphone and loudspeaker linked to an ORL Pandora system. Pandora, a digital system, allows real-time, interactive video, audio, text and graphics to be accessed simultaneously from different terminals. Two or more users can conduct video phone conversations and access live television pictures or send video mail, for instance. The workstations communicate via high-speed Asynchronous Mode Transfer local area networks with 500Mb per-second backbone capacity - 50Mbps distribution to individual workstations.

NOW SIEMENS NIXDORF TURNS TO HP FOR LICENCE TO SOFTBENCH

Siemens Nixdorf Informationssysteme AG has become the first non-US company to adopt Hewlett-Packard Co's SoftBench computer-aided software engineering environment. SoftBench is already licensed by Control Data Systems Inc, IBM Corp and Informix Inc. Siemens has licensed SoftBench as it is incorporated in the Toolbus environment from Informix; Encapsulator, a tool for adding software products to the SoftBench and Toolbus environment for integration of tools supplied by independent software vendors or users; and the C++ Developer software construction and browsing tool used for object-oriented programming in C++. Siemens is to incorporate SoftBench in its Domino software engineering environment which brings together process techniques, methods and design, development, testing and maintenance tools.

HEWLETT-PACKARD HANDS ITS ADA OFFERINGS TO THOMSON'S ALSYS...

In an effort to check both Digital Equipment Corp and Sun Microsystems Inc's lead in the Ada defence software market, Hewlett-Packard Co is giving Henley-on-Thames, Oxfordshire-based Alsys Ltd its Ada offerings. To wit, Alsys, very strong in the defence market, now has responsibility for the development, marketing and support of all Hewlett-Packard Ada compilation systems and related tool sets operating on HP 9000 workstations and business systems. The HP 700 products were originally based on Alsys technology and Alsys will continue developing, marketing and maintaining these products as well as shipping new versions of the product supporting HP-UX 8.0 on the Series 800, and will follow up with a new version supporting the Series 400 and 300 workstations. Alsys will also take over the Ada/SoftBench offering along with a suite of Ada bindings to HP-UX, X Library, X Toolkit and Motif. Intriguingly, Alsys, part of Thomson-CSF since October last year, is charged with providing the Ada development environment as part of Thomson's drive into the global software engineering market. Why intriguing? Because one of Alsys' siblings in the Thomson-CSF Information Technology Group is Atherton Technology Inc, whose backplane technology is seen as a rival to Hewlett's SoftBench. Doesn't this put Alsys in an invidious position? Alsys UK general manager John Walker doesn't think so. He says Alsys has not decided whether to make Soft Bench or Atherton the backplane of the Thomson Ada software engineering thrust. In choosing, Alsys has to weigh up two objectives: which technology has greater market share and is more attractive to third parties and which technology will be the standard internally at Thomson for engineering. Stating these two objectives, the choice doesn't seem easy to me - SoftBench is streets ahead in the market and Thomson would be acting very peculiarly if it didn't use Atherton internally. Another factor will be how easy the chosen technology is to convert for environments other than Hewlett's. For example, the Alsys tools use the Ada World menu system to invoke tools whereas Hewlett developed the HP 700 products to run with SoftBench instead which offers a Motif interface. Alsys is in two minds whether to revert to Ada World. This decision depends on how easy it is to convert the SoftBench environment with Alsys tools to other operating systems, although Walker recognises Alsys will have to provide standard interfaces like Motif and Open Look if it sticks with Ada World.

...DEBUTS UNIX SUPPORT TOOL

HP has introduced a new support tool for its Unix systems. HP Support Watch monitors clusters of systems and is claimed to provide early warning of potential problems with system memory, disk drives and tape backups. Some components are already available on the firm's proprietary MPE systems - the idea is to reduce the number of service calls required. Support Watch is being offered free to all HP customers with the company's SuccessLine hardware, BasicLine software and Software Materials services. HP 9000 series 800 users will also get a modem thrown in - SupportWatch automatically dials HP's response centre to notify engineers of problems. Less comprehensive versions of the software are available for HP's workstations.

RUSSIANS FINALLY PASS SOFTWARE COPYRIGHT PROTECTION MEASURE INTO LAW

On 14 May 1992 the Russian Parliament finally passed the second and final hearing of the Computer Program and Database Protection Law. The law makes the copying of software illegal and lays down how damages should be awarded. Software is treated as a distinct form of intellectual property. There is a mechanism for the voluntary registration of computer programs and databases. This law conforms to a European Commission Directive on Legal Protection Of Computer Programs, adopted by the European Community last year. The law includes a clause which allows a delay of one and a half years for its application for some users. It permits anyone to use any software for home-use for 18 months. Educational and scientific organisations may also use software for this period without any problems. After 18 months the law provides very rigid conditions for software registration and it will mean that every copy should be authorised.

PRIME "TO FLOAT COMPUTERVISION AFTER BUYOUT OF THE MINI BUSINESS"

Prime Computer Inc said it is continuing to weigh various capitalisation schemes, "including capital market transactions" but would not confirm a report in the *Wall Street Journal* that it is in the midst of talks that would lead it to going public again, *Reuter* reports from Boston. Prime would neither confirm nor deny the report but noted that it had long indicated in Securities & Exchange Commission filings that it was "exploring financial activities, including capital market transactions." The company is labouring under an intolerable burden of \$1,290m in long-term debt and the strategy outlined in the *Wall Street Journal* could cut this to between \$400m and \$500m. Prime would repay most if not all of the \$570m it owes to Shearson Lehman Brothers following the buyout, by swapping equity for debt and with proceeds from a new senior debt offering. Shearson was left holding the baby when the music stopped after the buyout: J H Whitney Co, leading the buyout, had persuaded Shearson to put up a bridging loan, and that it would easily be able to sell much of it on; in the event, the junk bond market collapsed and no-one wanted it. Under the plan outlined in the *Journal*, Prime would refloat under the name ComputerVision Corp, which would include the PrimeService third party maintenance business, and the vanishing minicomputer side would go in a management buyout. Prime also owes about \$235m to Bank of Boston, Chemical Bank and others, \$92m to Prudential Life Insurance Co and more than \$400m to its bondholders.

IXI SIGNS HAL, RISKS WRATH OF SUN AS IT COURTS SPARC USERS

UK, Cambridge-based IXI Ltd has reportedly cut a deal for that ever mysterious Sparc follower, HaL Computer Systems - whose range of OLTP machines are still waiting in the wings to be introduced - to standardize on its X.desktop interface. IXI managing director, Ray Anderson, says his company is girding its loins for the "mother of all battles" as it seeks to drive into Sun Microsystems Inc turf armed with X.desktop over OSF/Motif. IXI figures to pick up where the Open Software Foundation, a non-profit organization, leaves off, selling Motif as a user-ready environment integrated with its desktop manager and new Deskworks tool set (UX No 387). The lure of volumes, in the wake of the Advanced Computing Environment fiasco, is pushing him first into Sun's domain where the majority of users who care are said to prefer Motif over Open Look (36% versus 29%). Sun's German users in particular are said to favour the Motif option, and IXI has been out testing the waters on both sides of the Atlantic over the last couple of weeks. Courting the corporate wrath of Sun is hazardous duty for IXI's tiny 55-person army. Prodding them into this potential suicide mission, Anderson says, are his mighty "friends," IBM and DEC, both of whom are anxious to blunt the tip of Sun's arrow. With Motif at large in the Sun community, IBM and DEC are confident they could make inroads into the Sun installed base swapping out Sun machines for their own. Although parts of Sun, such as Sun Federal, have reportedly been flirting with IXI, Sun headquarters has clearly labeled the firm a competitor going so far as to put a last-minute kibosh on a real estate deal that would have moved IXI headquarters in Cambridge, England into Sun UK's offices as a tenant. Meanwhile, IXI says it has some deals in its back pocket to put X.desktop on Destiny for some of the USL OEMs - ICL being a likely candidate - see page five. To do the job it will use the Motif toolkit - not Destiny's Moolit.

SUNSOFT DETAILS ENHANCED NETWORKING FEATURES FOR SOLARIS

As expected (UX No 385), Sun Microsystems Inc, through its SunSoft Inc software subsidiary, has bowed to the inevitable and accepted the Open Software Foundation's Distributed Computing Environment, DCE, which it will support under Solaris 2.0, its forthcoming Unix SVR4 implementation, via Solaris Federated Services. The services are a collection of interface technologies which allow third party networking products to plug into Solaris 2.0 running on Sparc RISC and the Intel Corp iAPX-86 platforms it will also support. As well as DCE, Novell Inc NetWare and Open Systems Interconnection products will also be able to run under Solaris 2.0 using the services. In addition, SunSoft has revamped its own networking environment, Open Network Computing, ONC, which is based upon a set of remote procedure call protocols that are very different to those found in DCE. ONC+ has new naming, filing, distributed application and security services, and is claimed to be backward-compatible with existing ONC implementations. It includes a multi-threaded NFS file system, NIS+ naming service, a transport-independent remote procedure call for network-independent distributed applications and Kerberos and DEC support for enhanced network security. Local disk caching, connection-oriented protocol support for access to NFS servers over low-speed links and RSA for increased security and authentication will be added to Solaris in 1993. The Federated Services interfaces won't be around until early next year, but SunSoft is offering some demonstration technology which will be available for Solaris 2.0 next month. SunSoft will license ONC+ to allcomers - the first component of which, NIS+, will ship to third parties by the end of the year with the others to follow. Prices will be announced by the end of the third quarter.

..AS TRANSARC COMMITS TO SPARC AS REFERENCE PLATFORM

At the same time, Pittsburgh, Pennsylvania-based Transarc Corp has confirmed that it is adopting Solaris as a reference platform for its Encina on-line transaction processing monitor. As Encina is based upon OSF's distributed environment, Transarc will also supply an implementation of DCE for Solaris: both will be integrated using SunSoft's Federated Services. Transarc will ship early versions of Encina and DCE on Solaris 1.0 (which isn't Unix SVR4-compatible) this year, and will start deliveries for Solaris 2.0 early '93. Transarc is also porting release 3 of its Andrew File System, to Solaris 2.0, which will ship when the operating system arrives. The next version of AFS will be incorporated wholesale into DCE - its distributed service component is already a central feature of the OSF technology.

TALIGENT CASTS ITS OBJECT TECHNOLOGY AS ANSWER TO PC WOES

IBM/Apple joint venture Taligent Inc chairman and chief executive officer, Joe Guglielmi, made his first public appearance last week as keynote speaker at Object Expo in New York. Nothing in his IBM Corp background could have prepared him for the kind of speech he gave - in fact had to give, if Taligent is to be seen as the answer to the world's ills. And the speech was indeed a frank catalogue of the state of the personal computer business today: revenues down 14%, Apple Computer Inc, IBM and DEC contemplating low margins and sinking market share, the astronomical cost of developing a new package, the failure of PCs to penetrate much beyond word processing and spreadsheets, the monopoly lock of a few software houses on the marketplace and engineering's inability to develop an intuitive box, all conspiring to dissuade any sensible PC guy from putting any more money into research and development. Result: no innovation. Enter Taligent with its promised solution for rapid applications prototyping and customization in a hardware-independent environment just in the nick of time. Guglielmi of course declined to describe his object-oriented operating system beyond a few carefully chosen buzzwords. However, once he gets his base plan on paper, probably by September, he's going to start making the rounds of vendors seeking their cooperation in getting all the plugs from device drives to protocols filled beginning at the desktop level.

IBM AND BULL DOT THE Is, CROSS THE Ts

Compagnie des Machines Bull SA and IBM Corp came together in Paris last week to put the finishing touches to their collaborations, announcing successful conclusion of specific contracts that comprise the far-reaching open-systems technology and associated manufacturing alliance announced on January 28. Bull's decision to adopt IBM's Power and PowerPC RISC architectures is reckoned to provide a clear direction for future technology development and will lead to the increased availability of application software from independent suppliers, the partners hope. The specific accords, which range from five to 10 years in duration, encompass high-end, open-systems products based on the IBM RISC; networking and interoperability; specific operational and purchasing agreements; technology co-operation and licensing; manufacturing; and portable personal computers from Zenith Data Systems. The first research and development projects under the agreement have already begun and are operating on target and on time, the partners say - as reported at the time, in April, Bull announced its DPX/20 series of scalable Unix workstations and servers using the IBM RISC, and products are being shipped. On the financial side, IBM gets a 5.68% stake in Compagnie des Machines Bull for its \$100m investment, valuing the whole company at \$1,760m. Bull is licensed to develop and build products based on IBM technologies such as the RISC architectures and the AIX Unix operating system, as well as the right to develop products based on research generated at the Somerset Design Centre in Austin, Texas, where Apple Computer Inc and Motorola Inc are also partners. The design centre is the focal point of design and development efforts for the PowerPC family of single-chip RISC microprocessors. Bull will lead co-operative development projects for a range of symmetrical multiprocessing systems based on its multiprocessing expertise. Bull is licensed to manufacture at its facilities systems based on IBM RISC System/6000 architectures, and related circuit boards and sub-assemblies, which can be used for licensed Bull products. Bull is allowed to market current and future IBM RISC-based products under its own brand and will independently add its own content and value. And Zenith will provide IBM with customised portable personal computers for inclusion in the IBM product line. The parties are also defining potential new relationships in the area of portable personal computer development based on the Zenith technology. Another agreement covers initial projects in the area of networking and interoperability, principally software in the areas of Open Systems Interconnection and SNA, as well as the Distributed Computing Environment of the Open Software Foundation, of which Bull and IBM are both sponsors. Bull will also manufacture and sell to IBM circuit boards that meet IBM's specifications. The agreements anticipate deliveries starting in volume later this year, and IBM will also make available low-end disks for Bull mid-range systems and Zenith microcomputers.

AUTODESK LAUNCHES AUTOCAD v11 FOR THE IBM RS/6000

Sausalito, California-based Autodesk Inc has come out with the first major product from its European Software Centre in Neuchatel, Switzerland: AutoCAD Release 11 for the IBM RS/6000 line of workstations. The product began shipping to customers in Europe (apart from the UK) on May 18, and North American and Far Eastern ships apart from Japan started on Thursday. The new implementation runs under AIX 3.2 Unix and runs under Motif and X-Windows, retaining the look of AutoCAD Release 11 in its menus and dialogue boxes. It has been tested on the 220, 320, 320H, 530H, and 550 models and is designed to run on all models. The IBM Xstation 130 is supported as a display device; the 930 and 950 servers are also supported when used with a remote X terminal. It offers the usual multiple-view plotting, dialogue-based text editing, dimensioning enhancements, file-locking, external references, extended entity data, null display, eight-bit font support, multiple-session digitiser support, and scrolling text in text screen. All files created with AutoCAD Release 11 can be used on all operating systems and machine types running AutoCAD Release 11. AutoCAD for the RS/6000 costs \$3,500 in the US.

DISPLAY INDUSTRY ASSOCIATION UNVEILS ITS SOFTWARE ROADMAP

The Display Industry Association, DIA, which is promoting the development and use of AlphaWindow terminals, has released its software roadmap, a set of specifications enabling hardware, toolkit and application developers to build compatible and interoperable products. AlphaWindow (alphanumeric) terminals give users access to windowing functions which are traditionally associated with graphical environments, without the need for graphics technology. DIA claims AlphaWindows will allow any character-based application to run in a conventional, mouse-based windowing environment without the need to modify code, and, it believes, at a fraction of the cost of many graphical-based systems. A window manager on the host system creates the definition of a window for an application, whilst the terminal itself performs the windowing operations. Some implementations - where a window manager and multi-plexor are present - will allow different applications to be accessed in different windows on the same screen: cut and paste between applications is supported. DIA envisages different terminal emulators being able to run in different windows on the same screen. In the past, some terminal manufacturers have developed proprietary solutions to the problem of adding windowing functionality to character-based applications, but these have tended to fall by the wayside.

AlphaWindow terminals

The DIA roadmap includes a description of the protocols supported by AlphaWindow terminals, an application specification describing the protocols emitted by a compliant application and an application programming interface, API, which describes the C language interface to the application specification. The documentation costs \$95. The specifications will support toolkits that include, for instance, the ability to create different look and feels, such as OSF/Motif, Windows or Open Look. DIA is currently talking to firms such as Boulder, Colorado-based XVT Inc, whose interface-independent technology can produce a range of different front-ends for applications, including Apple Mac, Windows and Motif. In addition, it says manufacturers of multi-port board solutions are considering incorporating the window manager as a whole into their firmware products. Although AlphaWindows terminals are primarily suited for Unix - Santa Cruz Operation Inc is supporting the specifications under its SCO Unix - they will run on any operating system which can do multi-plexing. NCR Corp's ADDS division, which is readying its own AlphaWindows terminals, will be doing an implementation for Pick, according to Vinny Luciano. DIA vice president Steve Jones - also managing director of UK Unix connectivity software specialist, JSB Computer Systems Ltd, Macclesfield - says his company is talking to DEC about support under VMS. Main users of AlphaWindows terminals are expected to be the mid-ranking clerical and administration staff of organisations who have several tasks they need to perform using different applications. Microvitec is currently readying a colour AlphaWindows terminal for an August release, priced at £750, which supports standard personal computer keyboards and Microsoft Corp mice. Wyse Technology's Link subsidiary has black and white and colour offerings waiting in the wings. Cumulus will have its terminal out within three months and NCR/ADDS will begin volume shipments of its product later this year. Of the top terminal manufacturers, only IBM (the biggest) does not yet support the AlphaWindows effort, though it does market JSB's AlphaWindows MultiView Mascot product and DIA is continuing talks with it on the subject.

FRANK & ASSOCIATES OFFERS MVS/NFS, JOINTLY DEVELOPED WITH SUN

Palo Alto, California-based J Frank & Associates last week announced MVS/NFS, a software product co-developed with Sun Microsystems Inc and designed to increase data sharing between mainframes and workstations through on-line access to MVS files from Network File System networks. It is a full implementation of Network File System under MVS bridging mainframes and Unix networks and from there to other Network File System machines such as MS-DOS personal computers, Macs and VAXs. Workstation users can access and create files on the mainframe without knowing MVS or compromising MVS security, effectively making the mainframe a huge file server. MVS/NFS ships this month at from \$18,000 to \$62,000.

TOSHIBA CLAIMS ITS CONCURRENT OBJECT-ORIENTED C IS 90% SKINNIER

Toshiba Corp claims that it has developed a much more compact version of the C programming language. According to Pacific Rim News Network, Toshiba's Concurrent Object-Oriented C language "requires 90% less code to write programs derived from C." The new version of the language runs on Toshiba's Sparc-based Unix workstations. The company is already using Concurrent Object-Oriented C in-house, and plans to offer it to public and private research centres and universities across Japan by September. The institutions will be licensed to use the language only for research and development purposes, not for developing business applications.

NEXT LOSES CO-FOUNDER AND APPLE INTERFACE ARCHITECT TO SUNSOFT

A few weeks ago amidst the barrage of pot-shots that Next Computer Inc chief executive officer, Steve Jobs, was taking at Sun Microsystems Inc, Sun president, Scott McNealy, privately swore Jobs was "fried." Last week McNealy got to turn the heat up under the skillet when Next co-founder and key NextStep architect Bud Tribble moved over to SunSoft Inc as vice president of end user software. The move, reportedly initiated by Tribble, will undoubtedly prove to Jobs that there are at least two kinds of sizzle. Tribble was unavailable for comment but left a statement voicing an interest in serving a volume market. However sources at Next claim Tribble lacked management skills and suffered a vote of no confidence prior to his departure. Tribble, one of the original Mac architects at Apple Computer Inc responsible for its now famous user interface design and less famous operating system, is one of the few real experts around on object-oriented programming. At SunSoft he will be working on the DOE, or Distributed Objects Everywhere, side of the house developing an object desktop and enhancing Solaris' desktop productivity tools and information management software. In addition to managing all aspects of Solaris' end-user environment, he will also be responsible for expanding SunSoft's multimedia application programming interfaces. He reports to vice president of the user environment, Steve MacKay. One of Next's six founders, he had management and technical responsibility for all aspects of NextStep including the object-oriented design and user interface. Meanwhile, Next has plucked up one of Sun's men, hiring Bob Lawton, an Interactive Systems Corp legacy, away from Solaris-on-Intel product marketing to be its NextStep 80486 program manager, a newly created position. It has also picked up Jeff Spiner, formerly in charge of the Intel/IBM relationship at Intel, to be NextStep 486 marketing manager.

KAPRE START-UP READIES "CORPORATE GLUE"

Boulder, Colorado is home to another new start-up, Kapre Software Inc, set up by a bunch of refugees from AS/400 applications house JD Edwards in company with one of the founders of Pyramid Technology Corp, Robert Kelley. Heading up the venture is chief executive officer, Dan Ellis, under whose five-year tutelage JD Edwards grew from \$17m to \$125m in revenues. The team, including Kelley as vice president of development and Paul Rajski as vice president of marketing, intends to develop a "glueware" suite of integrated application development tools focused on getting all the pieces of a corporate system working together that will be marketed as the Software Factory. Release is expected next year, marketed directly and through distributors worldwide. Key platforms will be IBM, DEC, HP and Sun. The firm raised an unspecified first round of venture capital from Hill, Carman, Kirby and Washing and from Exabyte Corp founder and Juan Rodriguez.

ICL OFFERS UNIX SVR4 ON PCs: DESTINY AND OTHER UNIX PLANS TO FOLLOW

ICL is to offer a shrink-wrapped version of Unix SVR4 on its so-called "Spring Collection" of desktide and desktop Intel Corp 80486-based personal computers and servers launched recently, and says it may offer that implementation on other manufacturers' PCs too. Hardware requirements to run the shrink-wrapped Unix are 8Mb RAM, 200Mb disk and a tape streamer - prices for the system software start at £1,000. Santa Cruz Operation Inc Unix products are also available for the platforms where required by customers, it says. ICL now has quite an array of Unixes running on its systems, from a Unix System Labs-derived, Sun Microsystems Inc SunOS-compatible Unix SVR4 on its Sparc-based DRS6000 series, to USL Unix SVR4 on the Intel DRS3000 servers, down to this latest shrink-wrapped offering and SCO stuff at the low-end. All should become much clearer in the next week or so when the company details its plan for USL's Destiny desktop - see front page - and a strategic focus on SVR4. Although Destiny is designed for use on most desktops, ICL says it'll position the thing down at the low-end of its range, and won't offer it, for instance, on the desktop versions of its Sparc-based DRS6000 series. ICL will run IXI Ltd's X.desktop manager on top of Destiny.

XCELERATED OFFERS IMPROVED LIKEN TO RUN MAC APPLICATIONS ON SPARC

Xcelerated Systems Inc, San Diego has rushed out Version 1.2 of its Liken software, the program that enables applications written for the Apple Computer Inc Macintosh Classic to run unchanged on Sun Microsystems Inc Sparcstations. The company says that the new version improves the sharing between Sun and Mac environments, enhances cut and paste functionality, and includes more user-customisable set-up features. Liken enables Macintosh Classic applications to be run without modification in an X-Window on Sun and compatible Sparc-based workstations. The file sharing capability is provided by support for file exchange utilities using the uShare, Columbia AppleTalk, AppleSingle and AppleDouble file transfer protocols. The new release also supports Sun's line of Sparc-based laser printers. The firm now also offers floating licences, permitting access to Liken by any user on a Sun-based network; a single licence is \$700, a floating one is \$900.

UNIVEL VP QUILTS FOR SCO

Despite its success in signing up the software community for Destiny, everything isn't roses at Univel Inc at the moment. Not good news, is the loss of vice president, Grover Righter, who has jumped ship to rival Unix-on-the-desktop house, Santa Cruz Operation Inc. As head of Univel's development in its product group, Righter was reportedly dissatisfied with Univel's strategic direction and has taken refuge within Scott McGregor's product business unit at SCO. Righter is Unix System Labs/Novell Inc joint-venture Univel's second top-level loss - vice president Greg Fallon was recalled back to his original post at Novell just a couple of months ago. Univel is still looking for a replacement for Righter. In the meantime however, it has managed to recruit itself a vice president of marketing: Arum Taneja, who had been Vicom president, worldwide marketing for Convergent Technology Corp and a career that included Sun Microsystems Inc, Data General Corp and IBM Canada. It's also taken on Tom Best as vice president of service and support and Gerry Boomer, one of Novell's regional managers, as sales director.

ORACLE PRESIDENT OUSTED BEFORE VERSION 7 LAUNCH

On the eve of the debut of the ballyhoo'd Oracle version 7 this week, the company tossed out the president of Oracle Corp USA, Michael Fields, and brought in Ray Lane, a senior vice president with Booz Allen & Hamilton, to succeed him. US sales under Fields were not what people wanted and Oracle chief executive officer, Larry Ellison, reportedly has high hopes for Lane's high-margin consulting and integration experience. Oracle USA's sphere of influence has now been enlarged to include marketing as well as all domestic commercial and federal sales and consulting activities. Lane led Booz Allen's Information Systems Group, served on the board and sat on the firm's Executive Committee.

NCUBE TAKES ON THE TERAFLOPPERS WITH ORACLE-RUNNING 65,384-PROCESSOR NCUBE 3 FOR 1994

Foster City, California-based nCube Corp, majority-owned by the co-founders of Oracle Corp, surely wins the TeraFLOPS-boasting prize, with the launch next week of the 6.5 TFLOPS nCube 3, its third-generation general-purpose hypercube supercomputer - see front page. The whopper is scalable to 65,384 proprietary 64-bit processors, boasting an unimaginable peak performance of 6.5 TFLOPS, or 3m MIPS peak performance - 200 times faster than its predecessor, the nCube 2. Also announced is the interim nCube 2S and the entry-level nCube 2E. Due to ship in 1994, with an estimated product turnaround time of 90 days, the monster nCube 3 follows the same architecture as the previous nCube 2 models, enabling software compatibility across the range - the nCube president insists the new machine "uses no magic", and claims a full 65,000-processor configuration will be completely feasible - according to Meirer the whole thing would measure just 20 square feet, compared with Thinking Machines Inc's Sparc-based TeraFLOPS-performance CM-5 which is estimated by Thinking's Danny Hillis to measure the size of a tennis court in full 16,000-processor configuration. A fully-configured nCube 3 would feature 65Tb main memory - 1Gb per processor - with a local memory bandwidth of 500Mbps and an aggregate bandwidth of 32Tbps. The core of the machine will be nCube's self-contained chip (equipped with DRAM and 40 communications channels), made by Hewlett-Packard Co in Oregon, based on a 3m-transistor processor which has been implemented under 0.6 micron, three-layer metal CMOS technology from VLSI Technology. This will churn some 50 times faster than the version currently used in the nCube 2, with a clock rate that tops 50MHz and a floating point performance of 100 MFLOPS. Machines with 2,000 processors or less will be air-cooled, larger configurations liquid-cooled.

Superior

The nCube 3 will run a parallelised OSF/1 Unix, and hook up to machines supporting Ethernet TCP/IP, HIPPI, Fiberchannel and FDDI. The interim product, the nCube 2S, meanwhile, will ship this August, offering a 50% performance increase on the existing nCube 2 (which rates a peak 27 GFLOPS), though scalable to the same maximum complement of 8,192 processors, and up to 512Gb main memory. The nCube 2S will be priced as the current 2 series, while the existing range - which runs up to \$2m for a maximum 8,000 processors - will be reduced by 35%. No price mark has been suggested for the nCube 3. nCube claims its multi-purpose machines offer a price-performance ratio that is 20 times superior to present-day mainframe computers, making them highly suitable for the commercial data processing market, particularly as Oracle Parallel Server is now shipping with current models. The new entry-level nCube 2E - for parallel software development, entry-level scientific computing or use as a networked database server - is due to ship in October starting at \$30,000 in the US, and \$40,000 to \$50,000 in Europe. It measures 26" high by 18" wide by 30" deep and weighs a mere 150 lb to 300 lb. nCube is currently seeking weighty distribution partners in Japan, the US and Europe; any such marketing agreements will likely be on an OEM basis, the company says.

MICROSOFT TURNS TO CITRIX SYSTEMS FOR MULTI-USER EXTENSIONS TO WINDOWS NT

Coral Springs, Florida-based Citrix Systems Inc has so far not made much of an impact in the market with its multi-user versions of personal computer operating systems, notably the Multiuser version of OS/2, which uses code licensed from Microsoft Corp - but Microsoft reckons that the company may have something anyway, and has now signed a "strategic alliance" agreement with Citrix. The agreement calls for the two companies to co-operate on continued development of Citrix products that provide multi-user and network extensions for future Microsoft operating systems, notably Windows NT. The new Multiuser 2.0 gives users simultaneous access to MS-DOS, Windows and OS/2 applications in a multi-user environment. Citrix now plans to do multi-user and network extensions for Windows NT.

CONTROL DATA SYSTEMS EXPLAINS ITS BRIEF

James Ousley, chief executive officer of the Control Data Systems Inc spin-out, says its former parent, Control Data Corp - now divided into two separate companies (UX No 387) - had been looking for additional capital for a number of years, but was not able to tempt any investors to bankroll an organisation with interests as diverse as proprietary mainframes, Unix, military and government software and services and a lottery business. In the heady days of 1988, when CDC had revenues of some \$3,600m, the company had three main revenue streams: a financial wing which dealt with leasing of its Cyber mainframe series, the MPI peripherals business and the computer systems, services and software arm. None was big enough to become the core business of the company, Ousley says. With declining sales of Cyber systems and changing industry fashions the leasing business shrank and CDC sold its peripherals operation to Seagate Technology some three years ago. The remaining third has now effectively been chopped into two pieces with the formation of a computer systems arm, Control Data Systems Inc, CDS, and Ceridian Corp, the rump of its software and computer services business. Once the firm had voiced an intent, within the industry, to perform an amoeba-like separation, there was no shortage of interested parties, Ousley claims. CDC's talks with its OEM RISC Unix system supplier, Silicon Graphics Inc - which has now taken a 10% stake in CDS - started (unbeknown to CDC at the time, Ousley claims) in parallel with SGI's negotiations for its chip supplier, MIPS Computer Systems Inc. Ousley's quite happy with the way it has all panned out "because MIPS didn't have the wherewithall to do all it said it could. The R6000 ECL RISC was late, and that affected the R4000, which was a year late." Indeed, it was SGI's proposed acquisition of MIPS that finally lead CDC to the altar. "We probably wouldn't have signed if it had been just SGI," Ousley says. When CDC's intention became clear, it was approached by a variety of potential partners, Ousley says, and "came very close to changing" its decision (Hewlett-Packard Co being seen as the unlucky suitor (UX Nos 381, 384)). As for MIPS, "well they're just another proprietary RISC vendor now," says Ousley, who is nevertheless full of praise for the way it, via the Advanced Consortium Environment, initiative publicised its RISC architecture. "ACE got Bill Gates to commit to MIPS - I give Bob Miller (MIPS president) accolades for it." CDS' MIPS plans - see front page.

NEC's massively parallel project

When it comes to cutting the apron strings, CDS must still consider the 1,800-odd users of CDC's Cyber mainframe series. CDS is committed to supporting that hardware until at least the year 2000 - it still builds and sells them - though there will be no further additions to the series. However, the Cyber operating system will continue to be enhanced with new networking and input/output features, Ousley says. Moreover, revenues from the Cyber line are crucial to CDS. Only this year will revenues from its open system products begin to outstrip sales of Cyber kit, even though mainframe revenues are decreasing by around 25% a year and sales of open systems rising by some 100% a year. The agreement by which NEC, the second investor, will take around 5% of CDS (UX No 387), is expected to be finalised by the third quarter. NEC is also expected to OEM CDS and SGI/MIPS products for the Japanese market. Ousley says CDS is very interested in some massively parallel project that NEC is currently working on, though that won't see the light of day until the mid-1990s. CDS is also evaluating its software options and Ousley says it is looking to acquire - or do joint ventures with - two companies, one in the CAD arena, the other in data management. CDS starts life with 3,500 employees, and around \$125m cash once all the sums are complete.

MEASURE FOR MEASURE: LATEST WORKSTATION SPECmark COMPARISONS

The **Microprocessor Report** has put Sun Microsystems Inc's new Sparcstation 10 up against its rivals and measured integer and floating point performance of various Unix workstations against the SPEC92 benchmark suite. The results are measured, not simulated, as reported by the vendors.

Architecture	Sparc	Sparc	Sparc	MIPS	MIPS	PA-RISC	PA-RISC	Power	Power	80486DX
Processor	Super Sparc	Super Sparc	7C601	R4000	R4000	Snakes	Snakes	RIOS	RIOS	486DX
System	Sun SS-10/30	Sun SS-10/41	Sun SS-2	MIPS Magnum	SGI Crimson	HP 710	HP 750	IBM 340	IBM560	Intel Xpress
Clock Rate	36	40	40	50/100	50/100	66	33	50	50	50
Cache (S+P)	0+36K	1M+36K	0+64K	0+16K	1M+16K	0+96K	0+512K	0+40K	0+72K	256K+8K
SPECint92	44.2	52.6	21.8	36.8	61.7	31.6	48.1	27.7	42.0	30.1
SPECfp92	52.9	64.7	22.8	40.0	63.4	47.6	75.0	51.9	85.6	14.0

INPUT SAYS SERVICES ARE THE KEY TO EUROPEAN DESKTOP BUSINESS

A new report from London-based market research firm Input, suggests that the European market for desktop services - everything from device and network installation to support and maintenance, but excluding equipment itself - will reach \$400m in 1992, rising to \$1,400m in 1997. The trend towards downsizing - which it describes as moving power down to the desktop level - is already more advanced in Europe than it is in the US, it claims, where the power of large corporations tends to prolong the supremacy of mainframes. To defend their installed bases, equipment manufacturers, Input says, are responding to the trend by offering a growing portfolio of productised services which can be picked and mixed from a catalogue of traditional and new services. The delivery of quality support services is seen as one of the main purchasing criteria for new systems, according to the report. Independent maintenance organisations, faced with a shrinking market for their services, must therefore diversify into desktop services by offering customised solutions or tendering for complete contracts, it suggests. If, as it believes, desktop services become a predominant method of providing information technology infrastructure for the second half of the decade, then vendors must regard the sector as a long-term strategic venture. "The Impact of Downsizing on Customer Services Organisations" is priced at £1,500.

XVT's VERSION 3 SEES GENERIC WINDOWING SYSTEMS COME OF AGE

Boulder, Colorado-based XVT Software Inc has now introduced Release 3.0 of XVT, its Extensible Virtual Toolkit, which is now also available in the UK through Personal Workstations Ltd of Rotherhide, South London. XVT Release 3 offers a number of detailed improvements and new features, including support for international character sets, separate menus for each window, and cascading menus. The real value, however, is in a general tidying up of the interface to ensure portability. XVT, which first surfaced back in 1989, is probably the most mature of what is now a growing bunch of tools offering a single developers toolkit for multiple graphical user interfaces - competitors include Neuron Data's Open Interface and Open Inc's Aspect. XVT is a set of C libraries for GUI-building that can be linked to your applications at compilation. One set of code - "a lot easier to use than the native toolkits" says Personal Workstations - can be used for MS-Windows, Presentation Manager, Open Look, OSF/Motif and Macintosh GUI software, and can also produce a windowing interface for character-based screens. XVT is not an emulation, it maps directly onto the native toolkit, producing native applications. XVT also rejects the claim that such "generic" windowing systems have to opt for the lowest common denominator approach in choosing a subset of common functionality between all the windowing systems. XVT includes all the functionality of each system, simply missing out the features not available on a particular system. For instance, it supports the pin-down menu sheets exclusive to the Open Look interface. In the UK, Personal Workstations is now the exclusive distributor of the product, and is interested in adding its own third-party developments to the system, exploiting existing third-party extensions, such as the XI database interface, XVT++ C++ version and the Decos Windows-alike interface for 80286 and below PCs. Unlike some of its competitors, XVT does not charge a royalty to developers converting their software and then selling it on to their own customers.

MOTOROLA INTRODUCES LOW-END MODULAR SERVER LINE

Motorola Inc's commercial systems division has introduced a new low-end network server, the Series 8000 Model 8120, to its product line. With a basic design consisting of two self-contained, self-powered and self-cooled modules, the server module and peripheral module, Motorola claims the new machine is "virtually user-installable, upgradable and serviceable". In the server module is a 25MHz Motorola 88100 RISC processor with 16Mb memory, six serial ports, Ethernet and SCSI interfaces - integrated on a single board and housed in a 3.3-inch high enclosure weighing less than five pounds. The peripherals modules, for disk and tape expansion, can be integrated together by interconnecting external SCSI and power cables. This allows customers to start off with a diskless system and expand gradually up to 5Gb. Peripherals supported include SCSI disks, tape drives, CD-ROMS and other devices. The modules can have up to 64Mb memory. AIM ratings for the new machines are 18.1, with a MIPS rating of 38. Motorola is stacking the machine up against DG, HP, NCR Dell and IBM systems, saying that the cost of a fully configured system works out at from 10-55% cheaper than competitors. Price for a server module, including 16Mb memory, is \$4,430.

OPEN-FORUM CONFERENCE WORKING CLOSELY WITH CEC

Open Forum, the pan-European event scheduled for the week beginning November 23rd in Utrecht, is building momentum, according to UniForum chairman Ed Borkovsky and European executive director Pierre Scheuer, currently engaged on a European tour to promote the event. Open Forum is to be a conference-led event with both technical and business streams, designed to lead up to 1993 and the establishment of the single European market - and the Commission of the European Communities has been closely involved in its organisation, says Borkovsky, promising more details in the future. The keynote speeches will include "a high-level official from the Commission", currently being finalised, along with Nobel prize winner Dr Arno Penzais, vice president of research at AT&T Bell Labs, Doug Michels of the Santa Cruz Operation, Roel Pieper of Unix System Laboratories and Charles Reilly, vice president for operations at the Open Software Foundation. Unlike the many country-specific shows such as those held in France, Germany, Italy and the UK, Open Forum really is after a Europe-wide audience, and hopes the quality of the conference, from both a business and a technical point of view, will attract a wide geographical spread of attendees. The organisers are also working to attract attendees from other related events, such as the Esprit conference in nearby Brussels, to spend a day at the conference. European - which is making a gradual transition from the academic roots of its EUUG days to a more commercially led organisation, has a long-established record of technical conferences through Europe, while UniForum's last US show and conference attracted 35,000 attendees. European has 6,000 or so members, and UniForum 7,000. Tutorials make up the first two days, followed by the main conference and associated exhibition.

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Oracle Corp has introduced the Developer's Release of its forthcoming Trusted Oracle Version 1.0, high security database: it is initially available under Digital Equipment Corp's Secure VMS and Hewlett-Packard Co's HP-UX BLS. A version for compartmented mode workstations such as DEC Ultrix MLS+ will be available in 90 days and versions for emerging systems such as SunOS CMW and ICL Plc DRS/NX V4.0 Security Option is expected within 90 days of full production availability of those systems.

Fremont, California-based Independence Technologies Inc has announced iView Fast Track, its Unix-based software for tracking hardware/software and administration problems. The software supports Open Look and OSF's Motif graphical user interfaces and runs Oracle, Informix or Sybase relational databases. Available on Sun Microsystems Inc's Sparcstations it costs \$5,500.

AT&T's NCR Federal Systems Division is upgrading some of the products it is supplying as part of US government contracts: it has added the AT&T StarStation 386 DX PC to its \$800 million, eight-year Office Automation Technology and Services (OATS) contract with the the Federal Aviation Administration (FAA) which it won back in in 1989 - 12,500 Intel 80386-based personal computers and 2,500 laptops have been shipped so far - and has upgraded computers supplied under the 1988, \$1bn Standard Multi-user Small Computer Requirements Contract to run Unix SVR4.

Meanwhile, NCR has formed a \$3 million alliance with Software Clearing House Inc to sell Frame Technology Corp's FrameMaker desktop publishing software into the NCR customer base.

Part of the reason the Open Software Foundation missed the boat with its Architecture Neutral Distribution Format technology, according to observers, is that it wrongly targeted independent software vendors as the home for its solution. ISVs, observers note, are only interested in direct ports to gain leverage market windows - it is end users that really want the stuff.

Santa Cruz Operation Inc has had a good look at Unix System Lab's Destiny desktop - it is a beta site - but isn't worried by the competition, "after looking at it closely, we've no problem with Open Desktop," it says.

SCO says it doesn't have to make a decision about the kernel technology route - OSF/1 or Unix SVR4 - for Open Desktop until later this year, as it won't be making any significant kernel changes to the operating system bundle until late 1993 or early 1994. And in the run up to a public offering - which, it insists, is still part of the SCO roadmap - "we'll continue to play the product game, not the technology game."

A nicely placed observer speculates that if Univel Inc, the Novell Inc/Unix System Labs joint venture, does well with the Destiny desktop operating system, that that will convince Novell chief Ray Noorda to go for a bigger piece of USL: he already owns the largest outside share.

DEC has firmed up plans for its new chip plant to fabricate the Alpha RISC, and now says it will definitely build a \$425m 526,000-square-foot research and manufacturing facility in Hudson, Massachusetts. Future versions of the Alpha will be made at the plant as well as at the one in South Queensferry, Scotland. The company's sixth semiconductor wafer fabrication operation, it is code-named Fab-6, and is scheduled for completion in 1994, and manufacturing of Alpha in sub-0.5 micron geometries will start in 1996.

Everyone remarks on how aggressive it now is, and it seems Down Under, Hewlett-Packard Co made its point about its new mainframe-killing Emerald servers by launching them in the Fossil Gallery of the Australian Museum, carefully labelling the dinosaur skeletons with jibes at IBM Corp, Hitachi Ltd, Fujitsu Ltd, Amdahl Corp and Digital Equipment Corp: legends such as "ES/9000 - a large body and a small brain led this animal to become extinct".

Sun Labs reportedly has an objected-oriented operating system built and working.

The Newton Personal Digital Assistants from Apple Computer Inc will be built around the Advanced RISC Computing Ltd ARM610 RISC: Apple says that the first version of Newton will be out early next year, and will be an electronic notepad, able to record and recognise handwriting and to straighten out rough sketches; Cambridge-based Advanced RISC Machines, which is owned by Acorn Computers Plc, Apple and VLSI Technology Inc says that Newton has an object-oriented executive and that the memory manager in the ARM610 provides specific support for object-oriented data handling.

Software house Chantal Systems in San Diego, California has gone from Chapter 11 to Chapter 7.

For what it's worth, Silicon Graphics Inc and MIPS Computer Systems Inc are understood to be drawing together a new executive-level technical committee of the Advanced Computing Environment. Now focused on a single-chip (MIPS) strategy, the group reportedly includes representatives of SGI, MIPS, Control Data Systems Inc, Tandem Computers Inc plus the MIPS RISC fabrication companies. Even the ACE name may be thrown out with the dishwasher in this latest development - too many bad memories? - "but you can be sure that there will be a deuce!" one insider told Unigram last week.

Microsoft Corp's NT business manager, Carl Stork, say Microsoft is preparing to hand out "many thousands" of NT developer kits beginning July 6 when the Windows 32 Developers Conference kicks off in San Francisco. The CD-ROM circulated will hold both Intel Corp and MIPS Computer Systems Inc code plus compilers and debuggers. The company will also start a Microsoft-controlled field beta test. Stork claims NT is "dead-on" schedule and will have first product in user hands by the end of year. He categorically refused to discuss NT-on-Alpha.

UK, Macclesfield firm, JSB Computer Systems Ltd's US operation, out in Scotts Valley, California (UX No 347), has had a few teething troubles - it is some \$200,000 short of its initial target and has undergone a few staff changes - however JSB managing director, Steve Jones says the unit turned in \$150,000 last month and is now holding its own.

We can all get a chuckle over that the fact that Microsoft is going to refuse to renew the cross-licence it has with IBM for Windows and NT after it expires next year. At least that's what it's telling the PC press, with IBM retorting that it's trying to spook customers. IBM is maintaining a disdain for using NT. If it doesn't ship before the contract expires, apparently IBM won't have full rights to it.

SunSoft's first attempt at courting major SCO distributors on behalf of Interactive Unix and Solaris-on-Intel apparently hit the right notes: after a session last month with the SCO Distributor Council (UX No 385), another meeting is being set up to look seriously into establishing a relationship. SunSoft, who only reckons Taligent and Microsoft as competitors, thinks its wherewithal to develop the operating system long-term is persuasive.

ICL is this week expected to reveal details of plans to offer its OfficePower office automation package on a range of Unix platforms, including Santa Cruz Operation Inc Open Desktop, Sun Sparcstations and IBM RS/6000s (UX No 384).

Last week at the Sybase User Conference, Microsoft showed off a prototype 32-bit version of SQL Server designed to exploit NT's multiprocessing architecture for the first time on a NCR 486 MP machine.

Debt-laden Tustin, California-based business systems supplier MAI Systems Corp appears to have hit a credit crunch according to the German weekly *Computerwoche*. The paper hears that \$130m in loans has to be repaid by the former MAI Basic Four Inc by mid-month and that the company is trying to raise the money by selling the profitable German subsidiary MAI Deutschland GmbH in Frankfurt. Negotiations with CitiCorp to sell the unit for \$108.8m have foundered.

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UK FIRM HAS ARCHITECTURE NEUTRAL DISTRIBUTION INSTALLER FOR SUN MICROSYSTEMS SPARC

Despite the Open Software Foundation's apparent downgrading of its Architecture Neutral Distribution Format technology effort (UX No 384), the ground-breaking project is likely to gain an imminent reprieve from a variety of quarters, not least as part of any eventual joint working relationship between OSF and Unix System Labs - see below. In a development that is expected to have at least some impact on the current jockeying for positions between the Unix factions, a 200-person UK software engineering firm, Praxis Systems plc, Bath, has now completed an evaluation ANDF installer for the Sun Microsystems Inc Sparc, which it says, "exceeded the original performance targets." It's been doing that work on behalf of OSF, which could presumably use the stuff as some kind of a bargaining chip in the latest round of talks with Unix System Labs (UX Nos 387, 388). Praxis says it is well down the development road of getting an ANDF installer up on another RISC, possibly the Inmos Transputer, whilst there are known to be several other key players keen to get installers up and running on their kit too (UX No 385). Praxis believes once the independent software vendor community starts nibbling at its bait then the momentum behind ANDF will gather irreversible pace. Whatever happens this Tuesday, it is thought ANDF will return to centre stage soon after.

DESTINY GUESTS STILL CHOOSING THEIR PARTY FROCKS

Rumours were racing through the industry last week that Hewlett-Packard Co and DEC - and perhaps even IBM, apparently the most laggard of the trio - might indeed muster some support for Unix System Labs Inc's Destiny launch on Tuesday, June 16. One of DEC's official spokesmen allowed that they would probably send along representatives ready to support Unix SVR4 with its Network Application Support environment. Others, however, suggested factions inside DEC, previously thought to be the most difficult of the troika, are rushing to ensure Destiny gets on their platforms and will go further than might be imagined on Tuesday. HP, a more consensus-run establishment, might be a bit more tepid this week in its enthusiasms but is believed to be sending observers with at least a statement of goodwill. IBM is said to be late off the mark and may not get the chance to inject itself officially. However, it too is thought to be moving to catch up with the market. Since Tuesday is not exactly Unity II, but only its stepchild, much of the factionalism inside the industry is still lively. The Open Software Foundation is caught in the middle and is reportedly being pulled in both directions, with some of the OSF staff, not to say members, said to be questioning the wisdom of OSF chief David Tory's appearance at the launch. An OSF spokeswoman said Tory was preparing his own remarks and that she had no idea what he would finally say. She read a draft OSF position paper which focused on the importance of portability, the adoption of OSF technologies - the Distributed Computing Environment, Distributed Management Environment and Motif - by USL and the expansion of their camaraderie beyond a common API. Notably it made no mention of any collaboration, specifically on ANDF, though some kind of working relationship on that technology is expected to be forged, according to one insider. OSF also suggested there would be further endorsement of OSF/1 from some unidentified quarter this week. Tory of course will have to fend off inquiries about the continued viability of the operating system and the re-prioritisation going on inside OSF. Intel Corp, which last week purred over Univel Inc and Destiny, will doubtless make an appearance at the launch along with three score or more companies including end users, Wall Street firms and uncommitted OEMs, all suddenly interested in what's going on.

DEC CHANGES ITS MIND, AS WORK ON OSF/1 FOR MIPS BEGINS AGAIN

DEC has had to think again about its decision to scrap its OSF/1 operating system development on the MIPS platform, due to demand from customers already working on OSF/1 projects. DEC's announcement that it would concentrate on OSF/1 only for the Alpha range made enough customers angry for DEC to go back to its business plan and think again. "It's a financial decision - revenues will be significant", said DEC spokesman Chris Sarfas. The prevarication has set back the effort six months, said Sarfas, and OSF/1 for the Alphas will now emerge first, early next year. DEC already has the incomplete version 1 of the OSF operating system out on its MIPS line, and it's this that customers are using for their own early development work. Dropping version 2 of OSF/1 would have left those on-going developments undeployable. DEC also said it would provide R4000-based daughter cards to upgrade existing R3000 DECstations and DECsystems, but would give no indication as to whether it would proceed with MIPS beyond the R4000, or concentrate on Alpha. In the US, DEC's abrupt volte-face involved it in a furious row with press and analysts - see page two.

SANYO ENDORSES NEC'S POLE POSITION IN WORKSTATIONS

NEC Corp is now such a star in workstations in the Japanese market that Sanyo Electric Corp, which had developed its own Icon workstations around the MIPS Computer Systems Inc R-series RISC, has decided instead to work with NEC on MIPS-based workstations and buy the resulting products in OEM, the Nikkei Industrial Daily reports. NEC beat Sony Corp to third place in the Japanese workstation market last year - Sun Microsystems Inc and Hewlett-Packard Co remain one and two. Sanyo has tried to be active in the personal computer market as a member of the Japanese-language AT-compatible AX PC group, but has an almost negligible share within Japan, with most sales coming in OEM from Europe and the US. Meantime NEC has come out with two new models in its SuperServer UP4800 series and three new models in the EWS4800 workstation series. The new UP4800/630 and 620 servers use 60MHz and 50MHz 64-bit R4000 processors respectively, delivering a claimed 110 MIPS and 95 MIPS. The new workstations are Model EWS4800/130LT which has a 1,280 by 1,024 pixel colour Thin Film Transistor screen and performance claimed at 30 MIPS; the EWS4800/350 with a 50MHz CPU and performance of 95 MIPS; and Model EWS4800/215, a desktop entry-level model with a VMEbus expansion slot. NEC plans to use the 75MHz R4000 microprocessor which will be ready soon, in an upgrade board to be released this year. Both servers and workstations use versions of Unix SVR4, which will incorporate the Common Japanese Language Application Binary Interface called OCMP announced last week by Sony and NEC. The new products are priced from at the equivalent of \$17,800 to \$128,000, including software, and shipments are phased from late this month to early September. NEC is hoping to shift 30,000 workstations over two years.

DEC READIES OPEN VMS VAX RANGE

The "heap" of important VAX announcements that Digital Equipment Corp said it would make before it reveals more Alpha RISC licences (UX 386), will take place on July 7th. On that day DEC plans to lift the veil on its OpenVMS VAX systems - new transitional VAX models that will be upgradable with Alpha RISC processors when the chips are out in volume. DEC says the announcement will feature "more systems than the company has ever announced in a single day."

DEC "PINS OSF/1 CONFUSION ON PRESS CORPS"

DEC last week reversed a decision of a few weeks standing not to put OSF/1 on future MIPS machines (UX No 386) and reverted to an earlier strategy that will - see front page. The flip-flop, outlined in the first of a series of three press conferences last Wednesday (with more to come today, Monday), turned far messier than it needed to be due largely to DEC's inability to admit that it had flip-flopped to begin with. Instead, DEC's Unix-based Software and Systems Marketing and Planning Group manager Matt Kochen and Laurie Buller from the product management group staff attempted to pin responsibility for what they termed the "confusion" in the marketplace over DEC's actual position on misguided press reports - an allegation stoutly and unanimously resisted by senior members of the US press corps and analysts who have been close to the story. Effectively they called DEC a liar. DEC for its part disassociated itself from statements made by DEC VP of software engineering David Stone as well as its own PR people that DEC had decided not to pursue the OSF/1 path for MIPS. It labelled them as personal opinion and suggested that in future the press question everything said at any time by DEC staff, no matter how high ranking, to assure themselves they are getting the company line.

Customers vote for MIPS

Despite his contention that DEC's strategy had never changed, Kochen also said DEC's Product Strategy Committee, chaired by founder Ken Olsen, had decided last week to stick with the MIPS-OSF/1 policy. Kochen cited DEC's need, under current financial conditions, to look at all significant investments as the reason for the review. Kochen maintained that DEC had been taking a worldwide census of "hundreds of customers" recently to ascertain whether OSF/1-on-MIPS was a viable policy. Overwhelmingly they voted in favour, he said, though he could not quantify the demand. It is believed the technique DEC used, though Kochen did not say, was largely an Internet opinion poll and that DEC's sales force, on hearing the no-OSF/1 decision, had begged their customers to complain. It is also believed that the no-OSF/1 decision, made in the midst of the recent flurry of reorganisations that have left DEC somewhat muddled, was made - perhaps unilaterally - by Stone whose heart apparently belongs to Alpha and that its reversal is something of an internally staged palace revolt. However, forums such as ComputerWorld have seen a small firestorm of user complaints in their pages over the proposed return to an Ultrix migration path. Reporters suggested that a "trial balloon" had backfired on DEC, leaving customers feeling "whipsawed" and "cynical." Kochen himself mentioned that orders had frozen and users themselves calculated that DEC had lost millions of dollars along with credibility and goodwill.

Hostilities

With the industry hours away from its first formal truce since the Unix wars began (UX No 388), DEC returned to the rhetoric that marked the outbreak of hostilities. Kochen and crew maintained that DEC customers were "excited about OSF/1" because of its superior technology and key features, the prospect of DCE and DME and the "more open process" by which the Open Software Foundation found its technology. They again rejected any possibility of DEC ever going to SVR4 ("no requests for it," they said), maintaining that OSF's future compliance with SVR4 would suffice and calling OSF/1 the long-awaited Unix rewrite. One observer, however, suggested that the users perhaps felt anything would be better than Ultrix, which DEC will continue to support on R4000s.

BEEB SWAPS ICL MAINFRAME FOR SUN

The BBC's magazine distribution arm, BBC Frontline, based in Peterborough, Cambridgeshire, has ditched its ICL Series 39 mainframe in favour of a 670 MP Unix machine from Sun Microsystems Inc, Mountain View, California. The news comes a week after ICL closed a deal with the BBC to outsource its IBM mainframes through its Facilities Management arm, CFM, as well as providing the BBC with an Open Hire agreement for Unix systems. Jointly owned by the BBC, EMAP and Haymarket, BBC Frontline installed its first Sun machine last year as its initial step away from VME to a more open, Unix oriented approach. The company commented that it had benchmarked machines like ICL's DRS6000 and a Sequent server in December 1990 but they were not considered fast enough. It already has two Sun Sparcstations acting as clients and one Sparcserver 670 running an Ingres database.

HP IS TOP OF THE CLASS IN NEW OPEN SYSTEMS REPORT

Digital Equipment Corp will be trailing far behind IBM and Hewlett-Packard Co by the time it gets its Alpha-based hardware out, according to Butler Bloor Ltd's Open Systems report, published this week. The research company assessed 16 companies for architecture, hardware range, top end performance, Unix implementation, development software and support. At the top of the class is Hewlett-Packard in terms of its attitude towards Unix. The report claims the company is "clearly the vendor that the others respect most". It was the only company to provide perfect scores for its architecture and its hardware range according to Butler Bloor's assessment. Also favoured was IBM which Butler Bloor predicts will attempt to reconcile its mainframe and AS/400 lines with Unix. This will be achieved, it speculates, through OS/2 running on the RS6000: "we rate the RS/6000 architecture highly and expect IBM eventually to assume its natural position as market leader". Despite ICL's Unix expertise, its choice of Sun's Sparc architecture is brought into question. Pyramid and Sequent score well, along with Siemens Nixdorf, in the top end performance ratings for mainframe Unix. Although Sun's architecture is termed "excellent", Butler Bloor claims that its hardware range is not comprehensive enough and that the company still has the feel of a workstation vendor. Still reeling from its ACE nightmare, MIPS's market presence is seen to only be significant through its OEMs, according to the report.

ENLISTS HELPS IBM WITH RS/6000 CLUSTERING

Pursuing its goal of creating very high-speed clustered configurations of the RS/6000 Unix workstations and servers, IBM Corp has turned for help - on the fast optical links it will need - to Ancor Communications Inc in Minnetonka, Minnesota. IBM sees the clustered configurations being used to process and share text, video and image data used in large, complex applications such as astrophysics, climatology and medical imaging. The two plan to work together on development of hardware and software components that support Fibre Channel Standard optical-link technology, not only for the RS/6000 but ultimately for connection to mainframes and other mid-range systems such as IBM's AS/400, personal computers and peripherals. The two also hope to accelerate standards by contributing to the definition of an open architecture that can be used by others in the industry to develop software applications, hardware technologies and other products and components for Fibre Channel Standard-based networks. Fibre Channel Standard is sanctioned by the American National Standards Institute and transfers data at up to 1Gbps compared with 100Mbps for Fibre Distributed Data Interchange. Computing devices linked by the channel can be physically up to six miles apart. Ancor says it has extensive expertise in the research and design of components that meet the Fibre Channel Standard specification, and the initial activities will involve use of high-speed switching chips and software technologies from Ancor and related technologies from IBM. The products will be designed to support existing network protocols and interoperate with existing technologies such as FDDI, Ethernet and Token Ring. Testing of prototype products with university, national laboratory and commercial customers is expected to begin by the end of the year.

ADOBE PUTS DISPLAY POSTSCRIPT ON SPARC

Shrugging off the distressing four-day kidnapping ordeal of its president, Adobe Systems Inc, Mountain View, California has come out with a whole string of announcements, headlined by the news that it is to make the Display PostScript system available to users of Sun Microsystems Inc Sparcstations. The system will include the Adobe Showpage PostScript language file viewer and will be offered through distributors, which will receive the Display PostScript Server Integration Kit for Sparcstations this month. The kits enables the distributor to modify an X-Window System 11.5 server running on a Sparc processor to use the Display PostScript extension. Distributors can sell an X server with integrated Display PostScript software as a stand-alone product, or bundle it with Adobe's TranScript software for PostScript language printing in Unix environments, an Adobe Software Development Kit, or additional fonts. Sparcstations with Display PostScript will ship with 13 scalable Type 1 fonts and further type sets will be available - a font installer programme will give access to the full 1,500 type faces in the Adobe Type Library plus 13,000 Type 1 fonts from other vendors. Adobe Illustrator, Motif version, already out for other Unix systems, will be offered by the same distributors later this year.

UI READIES DME-COMPLIANT, OBJECT MODEL

Unix International said last week that it has finalised its systems and network management requirements, focused on a single object-based model, making them compatible and interoperable with the Open Software Foundation's Distributed Management Environment (DME). Working through Unix System Labs, it will also be giving its members early access to the Tivoli-based object-oriented framework starting in the third quarter. The framework is due to be out with major OEMs and key users in early 1993. Framework APIs are to be put in the public domain.

CRAY READY TO SHIP S-MP SPARC-BASED SUPER-SERVERS

Eagan, Minnesota-based Cray Research Inc said it will shortly start shipping the Cray S-MP system, the first in a planned series of Sparc-based servers from Cray Research Superservers Inc, the subsidiary it formed around the Floating Point Systems Inc assets it acquired late last year. It says it has so far received nine orders for the multiprocessor S-MP superservers, which start at \$500,000 and are designed to support Sparc-based workstations.

ACE's APPLICATION PROGRAMMING INTERFACE FOR UNIX SVR4, OSF/1 "READY THIS MONTH"

Whilst a final version of the Advanced Computing Environment's hardware specification is now being printed, more interesting, hears Electronic News, is that the common application programming interface for Unix SVR4 and OSF/1 operating systems should be completed this month. Although a binary interface for various Unix SVR4 implementations is also being put together, plans for an OSF/1 binary interface have been dropped, apparently due to technical difficulties. However, following Santa Cruz Operation Inc's departure from ACE, OSF/1 has been degraded to the status of an unofficial ACE operating system. OSF/1 was ACE's primary Unix focus when the initiative was launched amidst much fanfare last year, but over the following months it became clear that DEC was the only major ACE member committed to using the operating system. DEC's recent Windows-on-Alpha agreement with Microsoft Corp only drove the nail further into ACE's OSF coffin.

...AS MIPS TAKES OVER SILICON GRAPHICS R4000 TFP EFFORT

Although the MIPS Technologies subsidiary of Silicon Graphics Inc will retain research and development responsibility for the R series RISC processors, a Silicon Graphics vice-president is to head-up the multi-processing effort under MIPS chief executive Bob Miller. Silicon Graphics' endeavour to produce a floating-point intensive R4000 part by next year in conjunction with Toshiba Corp, called TFP (UX No 380), is being re-integrated into the MIPS unit, taking some 40 Silicon Graphics engineers along with it. The reason being given is that in retaining the project for itself, Silicon Graphics' goal of portraying the MIPS architecture as vendor-neutral would be compromised.

PRIME FILES TO GO PUBLIC AGAIN

Prime Computer Inc has now filed for its expected return as a public company - under which it will change its name to Computervision Corp, and intends to offer 15.8m shares at a target price of \$18 to \$20, concurrent with an offer of \$125m of senior notes due 1999. All the proceeds will go to repay existing senior debt and some of the senior subordinated notes held by Shearson Lehman Brothers Holdings Inc. The remaining junk paper that was left with Shearson after the junk bond music stopped, will be converted into common stock at the price at which the company goes public. As expected, the Computer Systems Business Unit will be sold to its management.

ORACLE EUROPE RESTRUCTURES

In the run-up to the single European market next year (if the Maastricht treaty ever gets ratified) Oracle Corp has restructured its European operations into four divisions. Its Austrian (including Yugoslavia), Swiss and German outfits get grouped together under Franz Niedermaier, currently managing director of Oracle Germany. Oracle Italy is being formed as joint venture with its distributor of ten years, Datamat; Michael Rocher, managing director of Oracle France takes on responsibility for that unit too. The database company's subsidiaries in Spain, Portugal, Greece and Central Europe join Scandinavia and Benelux under the charge of Loek van den Boog, previously vice president of Northern Europe. Mike Harrison remains in control of Oracle UK and the European development and financial organisations remain unchanged.

ICL PUTS OFFICEPOWER UP ON SCO, SUN, IBM PLATFORMS

ICL has been dallying with the prospect of putting its OfficePower office automation suite up on alien platforms for at least two years. Now it has finally taken to the field and just about touched first base, announcing that OfficePower is from today, generally available worldwide on Santa Cruz Operation's SCO Unix implementation. As expected (UX No 384), the two other Unix platforms it will market OfficePower on are Sun Microsystems Inc Sparcstations running SunOs 4.1.2, which is scheduled to ship at the end of June and IBM Corp's RS/6000 AIX systems, which ICL says will hit the streets at the end of September. It's a "cultural move", according to Graham Taylor, ICL's UK software business manager, to break into the client/server open systems market. Apparently IBM, which offers the AP/6000 office package on the RS/6000, is not at all perturbed about ICL muscling on to its territory with OfficePower. Aiming at corporate accounts, ICL claims these versions of OfficePower, along with implementations on other Unix platforms expected to be announced in the coming months, will account for over 70% of new licences for the software by the end of 1993, by its reckoning some 140,000 out of 200,000 new seats it expects to win between now and then. The company claims 10,000 of its Unix sites are already running OfficePower, which has some 300,000 users worldwide, 120,000 of them in the UK. Despite its good intentions, however, ICL is only able to deliver, at present, a rather lacklustre SCO implementation running under Powerwindows - a Microsoft Corp Windows based graphical user interface. X.400 mail, Novell Inc NetWare local area networking, Powersearch version 3, Powerlink, all server software as well as an application programming interface (API) toolkit called Powerkit are all included. However, the new versions do not support the de facto OSF/Motif graphical user interface standard - though the Sun version does support OpenLook - and Motif support may not even feature by the time the RS/6000 version is delivered, though ICL says it is working on it. The API toolkit, developed for Unix-based applications, will allow existing software to be front-ended with a traditional OfficePower look and feel. OfficePower for Unix currently only supports ICL's long time relational database partner, Ingres, though there are plans to bring the Oracle Corp offering into play, and the company confirms that it is talking to other companies too. Sales will be direct and via existing third-party distributors, though ICL plans to sign up specialist Unix and office software VARs in all regions. Prices will be user-banded, irrespective of platform, starting at £150 and rising to around £400 per seat.

...SUPPORTS SCO MPX ON PCs...

Whilst ICL has duly announced that it is to support Santa Cruz Operation's SCO Unix MPX for multi-processing, Open Desktop environment and the SCO communications suite on its Intel Corp 80486-based personal computers, the OfficePower-on-SCO validation work - see above - was actually carried out on an Apricot Computers Ltd box. Completing the Santa Cruz story, ICL is also offering SCO Unix versions of TeamOffice, its local area network management software.

...TEAMS WITH HUGHES FOR SECURE NETWORKING...

Meanwhile, via its federal systems division in Reston, Virginia, ICL and Hughes Aircraft's Hughes STX systems integration subsidiary plan to jointly develop secure networking systems and software for the commercial open systems market. To kick off with, ICL is making all of its existing secure systems technology available to Hughes STX, starting with Access Manager, the secure network password software, running on DRS6000 Sparc workstations. ICL will also supply technology developed under the auspices of its work for the UK Ministry of Defence's Corporate Headquarters Office Technology - or CHOTS - to the effort, and use Hughes STX as a gateway to lucrative US government and defence contracts. Products developed under the agreement will be marketed by both companies.

...DELIVERS VIKING ORDERS TO TEXAS

Being one of those select few companies that have been able to secure access to initial deliveries of Texas Instruments Inc's Super-Sparc RISC processor (UX No 384), it is understood that ICL last week totted up numbers required by its various departments and placed its order with TI for the part, which will feature in the DRS6000 workstation range from the fourth quarter.

READY SYSTEMS HAS FIRST PORTABLE REAL-TIME OPERATING ENVIRONMENT...

Sunnyvale, California-based real-time tools developer Ready Systems Corp will unleash a scalable, modular operating system towards the end of this year. Prior to this it is ensuring its distribution and support is beefed up in the UK and Germany by signing a sole distribution deal with Marlow, Buckinghamshire-based Instrumatic UK Ltd. Ready Systems is known for its VRTX operating system for real-time embedded applications. VRTX has had 4,500 design wins and can be found in Ricoh cameras, Apple printers, Motorola cellular phones, submarines, bomber planes and pacemakers to name but a few applications. Famous for its marketing campaign that guaranteed bug-free software - if you found a bug you could claim a VW Beetle from the company - Ready Systems embarked on an ambitious project two and a half years ago to build a completely new tool suite. Ambitious because the company was attempting to write a scalable operating system. Bruce Gregory, Ready System's president and chief executive, explains that the requirement for a real-time operating system is diverse, ranging from very lightweight applications such as intelligent suspension systems through to the complexity of NASA space station command and control systems. Currently, real-time operating systems tend to be optimised for either low end, mid-range or high end applications, and customers either buy VRTX, go somewhere else or build their own system. Now those companies that have built their own operating system (and around 60% or more do in the real-time area) can retain their investment and buy into the new operating system as the company reckons it can emulate any existing operating system. The beauty with a scalable operating system, believes Gregory, is that Ready can take a single technology and adopt it to suit any requirements. The new operating system has a layered architecture - the lowest layer is a very small kernel that runs very fast and is suitable for lightweight applications. On top of this Ready Systems can add different layers for different implementations, the most powerful of which is a real-time Unix offering. The lowest layer is patented as the "nanokernel" and acts as a substrate for the other layers. It has been up and running for 18 months and was beta tested last summer by Japanese engineers from NEC Corp that built an I-Tron interface to it. So far it has been implemented for the 68000, 88000, R-Series and Sparc processors. The first product, to ship this September, is VRTXsa, which is a 100% emulation of VRTX built on the nanokernel to provide upward compatibility, and the new toolkit. Gregory believes the new toolkit, which is also scalable, is a technical breakthrough because it can assume the available processing power and memory resource on the target. With this Virtual Target Capability application code can be developed without a target, as the code can be run on the host processor or switched to run on an emulation of the target node. This enables the design phase to gather pace before the hardware is ready for implementation. The tool interface is open and can be accessed by any third-party tool written to it and the company is looking to integrate it with engineering frameworks like Atherton, SoftBench and so on. The nanokernel acts like a bus and can move between operating systems to run different systems simultaneously on different processors. Gregory claims that he has already licensed this technology to a well-known player interested in multimedia applications. The secret licensing deal is believed to be with one of the following three: Sun Microsystems Inc, Microsoft Corp or Kaleida Inc. You see, the very exciting thing about multimedia from Ready Systems' point of view is that it requires real-time software.

...ACCOMPANIED BY TOOLSET

Accompanying VRTXsa is a development toolset, Velocity 3.0. It operates in an host/target interconnect arrangement and the tools will support embedded microprocessors and microcontrollers, but can also scale up to support VME and system-level clients if required. Ready anticipates it will quadruple its sales revenues with the release of Velocity 3.0. Velocity 3.0 is targeted at the Motorola Inc 680X0 and MIPS Computer Systems Inc R4000 CPUs initially. Scheduled to ship in September Velocity 3.0 will cost £17,000 for an entry level development seat with add-on seats costing £2,000.

UNISYS ADDS CLIENT/SERVER FEATURES TO ON-LINE TRANSACTION PROCESSING SYSTEM

Unisys Corp has come out with an enhanced version of its one-year-old Open/OLTP on-line transaction processing environment, which uses Unix System Labs Inc's Tuxedo TP monitor. Open/OLTP TM2 includes transactional desktop, terminal concentrator and conversational transaction support features, which, the company says, increases the options for integrating personal computers and Unix systems into distributed client/server networks. Open/OLTP runs on Unisys' U 6000 series of Intel Corp 80486-based servers, and includes the Ally CASE/4GL environment. The transactional desktop element allows networked personal computers running MS-DOS or Windows to run the client portions of Open/OLTP downloaded from the server. Users can perform local tasks on their PCs, with their existing tools and can initiate transactions, including two-phase commit operations. Offloading tasks from the server also frees-up CPU time, allowing it to get on with other things and reduces the flow of network traffic. The terminal concentrator allows other Unisys Unix systems to serve as client controllers for asynchronous terminals, off-loading client management functions from the Open/OLTP server. Conversational transaction support allows clients to establish peer-to-peer relationships with the application server, which Unisys claims, enables large blocks of data or queries to be processed continually. There are two security enhancements: application password control and client authentication. Open/OLTP comes in five modules. The transaction manager itself, and four components which each support a different type of client. The manager costs from \$1,900 to \$17,500 depending on the U 6000 being used. Transaction desktop and terminal concentrator costs \$500 per seat. The network access port - software which enables transactional desktop and terminal concentrator to communicate with the Unix server costs \$150 for each concurrently active client. Networked Open/OLTP TM2 nodes can interoperate with those running Open/OLTP TM1: TM1 to TM2 upgrade kits cost 50% of the price of the TM2 transaction manager for the appropriate U 6000 server. Unisys quotes Hyannis, Massachusetts-based market research firm the Standish Group, which estimates the market for OLTP on Unix platforms will grow at a compound annual rate of 119%, from \$900m in 1991 to \$20,800m in 1995.

ELLIPSE DEBUTS TP SOLUTION IN EUROPE...

San Jose, California-based Cooperative Solutions Inc has launched itself into Europe with Ellipse/DE, its combined development and run-time system for building transaction processing into LAN-based workstations and servers. Its UK base will be in Stockley Park, London. Available since September last year under Windows 3.0 and OS/2, Cooperative plans to port Ellipse to Unix by the third quarter of this year. It will generate stored procedures for Unix machines using the Sybase Inc database together with 8m lines of code called the Production System, guaranteeing the partition of applications so they can be distributed around the network. The Production System also acts as an application manager so that workstations have correct versions of software. Cooperative claims Production System provides a higher level of security by giving every user a different profile.

FORTE AND TESSERACT NOT FAR BEHIND

However, hot on Cooperative's trail are two other companies, both based in San Francisco. Forte Software is hoping to have a similar tool, yet to be named, up under Unix by 1993, once it has finished beta testing. The company describes its stuff as an advanced open application development tool for distributed computing with database roots. Meanwhile, Tesseract Corp has Primrose, launched in the US at the end of April. According to director of software marketing, Dan Esterlin, Primrose arranges things using a peer-to-peer system and does not just partition the application once, but every time the application is run. Tesseract will port Primrose to Unix by year end using Sequent Computer Systems Inc and Pyramid Technology Corp multi-processors.

COROLLARY RE-SIGHTS ON INTEL P5 FOR MULTI-PROCESSING WORK AFTER ACE CRASH

Irvine, California-based Corollary Inc's search for a volume multi-processing market, derailed by the Advanced Computing Environment fiasco, has led it to switch gears to pursue the P5 and NT in league with Intel Corp and Microsoft Corp. The twin moves by a company that previously described itself as an out-and-out, dyed-in-the-wool Unix bigot with great hopes for the MIPS RISC chip must leave the rest of the Unix community at least edgy despite the fact that Corollary says the bulk of its energies are still directed toward Unix. The shift will delay the productisation of Corollary's third-generation C-bus II architecture, originally intended for 50MHz 80486 systems and now hell-bent to substitute for Intel's anticipated 80586 or P5 instead, by two or three quarters. The redirection will probably make Corollary the only company to produce a generic P5 multiprocessor board and chipset targeted at OEMs. Corollary expects to cash in on the appeal of the BiCMOS P5 which will doubtless far outshine the 80486 whose market will likely be truncated. It is working with Intel on the project but has to wait for silicon before it attempts to actualise the product and turn it over to LSI Logic for manufacture. A sample is promised for sometime before Comdex. However, the company's spec calls for it to support six to eight P5s which it says should be capable of 250 transactions a second. Corollary is also working with Microsoft to port NT to its fully Symmetric Multiprocessor Integrated Logic (SIMPL) chipset and C-bus II architecture which also supports SCO MPX, which it developed, and SVR4.0. It expects the standard server version of NT, sold at retail, to support its technology. A key feature of NT is its MP capability and Corollary says the NT Hardware Abstraction Layer (HAL) for C-bus II systems contains more than 3,000 lines of code and was complete last month. The SIMPL chipset includes one cache bus controller chip and two data path exchange chips creating a 64-bit path. With them, a P5 multiprocessor can be implemented on half a card. Corollary is assuming a 66MHz P5. Anything above that would be hard to keep up with, it said.

UNIFACE REVEALS GUI-INDEPENDENT DATABASE APPLICATION BUILDER

Alameda, California-based Uniface Corp will this week be staging a four-city telecast, rolling out its new Universal Presentation Interface and promising that developers will be able to build database applications that automatically deploy on computers running Motif, Open Look, Windows, Presentation Manager or even character mode without writing a single line of additional code. UPI, except for PM, is available immediately as part of Uniface 5.2. The development, important to the company's portability strategy and to developers interested in maintaining only a single application, addresses the multiplication of platforms and graphical user interfaces in the marketplace. Uniface says each of the GUIs are supported by a specific driver that provides applications with all the features of the particular environment. Uniface figures UPI can help developers leverage the millions of character-based displays in the workplace. Otherwise, the new 4GL release is said to improve Kanji support. Uniface pricing ranges between \$5,000 and \$250,000. GUI drivers cost \$350 to \$32,000 depending on platform and configuration.

SUN INTRODUCES SUNSELECT AND SUNCONNECT INTO EUROPE

Sun Microsystems Inc last week launched its SunSelect and SunConnect satellites in Europe, using existing offices in the UK and France as base. Billerica, Massachusetts-based SunSelect, which concentrates on PC and Unix integration, will run its European operations from Bagshot, Surrey in the UK by David Ballantine. It's product focus is the SunPC product line, combining PC emulation technology from Insignia software with i486 SX and DX S-bus accelerator cards to give acceptable Windows performance on a Sparcstation, and the recently unveiled version 4.0 of PC-NFS, which Sun claims now holds a larger slice of the PC networking market than Banyon. A third strand to the business is NetWare SunLink, Sun's implementation of Portable NetWare for the Sparc. SunSelect's UK distributor is Unipalm, Cambridge. SunConnect, which will be run from both Bagshot and Paris, with a presence in Germany by year-end, concentrates on OSI services, network management with SunNet Manager version 2.0 and other LAN/WAN tools and services. New European network management partners include Archie Communications and Grapheal (France), Dormier (Germany), and MicroMuse in the UK.

SILICON GRAPHICS RALLIES EIGHT MIPS BACKERS TO BUY 1.5m SHARES

In the hope that it will lock them in to the MIPS Computer Systems Inc RISC family, Silicon Graphics Inc has persuaded eight of the major MIPS chip users and fabricators - Control Data Systems Inc, Integrated Device Technology Inc, NEC Corp, Sumishomo Electronics Co Ltd, Sumitomo Corp, Tandem Computers Inc, Tata Enterprises Overseas Pte Ltd and Toshiba America Electronic Components Inc to participate in a modest way in the share offering it is making to raise cash to bolster the balance sheet of its MIPS Computer Systems acquisition. The eight will share only 1.5m shares between them, representing just 2.4% of the shares the company will have outstanding after the 5.1m share issue. Such cross-shareholdings are commonplace in Japan and in continental Europe, but tend not to work so well in the US - Control Data had 20% of Silicon Graphics and sold it; Compaq Computer Corp sold the stake it bought to cement the Advanced Computing Environment Initiative in less than a year. Now Silicon Graphics is to take a 10% stake in Control Data Systems.

TIVOLI FOUNDER SURFACES AT ATRIUM WITH NEW NETWORK SOFTWARE

Start-up maven, Bob Fabbio, fresh from the unparalleled success of Tivoli Systems Inc, whose software has become the distributed systems management framework for the Open Software Foundation, Unix International and Sun Microsystems Inc, is back at it again. Having left Tivoli in capable hands, he's kicked off another new Austin, Texas-based start-up, Atrium Technologies Inc. This one's doing a product called Dazel, due out the second quarter of 1993. Dazel is partially funded by some Fortune 500 companies, so development is in progress, but Fabbio is currently out looking for more money. Fabbio did his homework among the downsizing-bent corporates which gave him the idea for Dazel: exploit the need for managing information in the network environment and give them instantaneous links to fax, printers, voice and E-mail. Dazel, based on a distributed client/server architecture, is targeted at MS-DOS and Unix platforms, starting with Sun Sparcstations.

ECHO HONES MAC-TO-POWERPC COMPILER SOFTWARE FOR EASE OF USE

Mac-to-PowerPC software start-up, Echo Logic (UX No 385), fresh from its triumphant debut, figures it has proved the feasibility of its concept and is now starting afresh to try and make the binary compiler technology, FlashPort, easy to use. President Brad Burnham says the amount of information FlashPort generates about a programme as it attempts to translate it from one platform to another has presented him with pricing and packaging issues. Some people have notions of using the technology as an ambitious static analysis machine but in most cases it simply presents more data than anybody needs and will have to be restrained. Echo Logic isn't rushing towards the Intel iAPX-86 market, estimating it would take nine months and four or five dedicated folks working on it.

IXI HIRES SAATCHI AND SAATCHI FOR SUN CAMPAIGN, PLANS NT VERSION OF X.DESKTOP

IXI Ltd, Cambridge, claims that over 50% of the estimated 400,000 or so existing Motif users are running its X.desktop manager on top of their Open Software Foundation-based windowing environments. The rest are using a combination of the Visual User Environment window manager from Hewlett-Packard Co - 25% - Visix Software Inc's Looking Glass - 20% - with the remaining 5% accounted for by the likes of Paris-based Non Standard Logics SA's Wish and Siemens Nixdorf Informationssysteme AG's management systems. Having mopped up the majority of Motif users, IXI is now gunning for Sun Microsystems Inc's Open Look user base - both installed and new accounts - as its next outlet (UX No 388), and has hired the advertising guns of Saatchi and Saatchi to try and tease Sun users to X.desktop with its largest advertising campaign to date. IXI doesn't think those users will need to be tempted by special offers promotions though, believing they'll come flocking of their own accord. Indeed, IXI claims one of Sun's European offices has already brought in a Motif-based solution to use in-house. IXI says it'll put its X.desktop technology up on Microsoft Corp's NT when that arrives too.

DATA GENERAL DEFENDS ITS GROUND - NEW AViiONs IN THE WORKS

by John Abbott, William Fellows and Sue Norris

Ron Skates, president and chief executive officer of Data General Corp and senior vice president, Tom West, were in the UK last week to bolster the company's bid for a share of the UK Home Office's Unix System Environment - House 2 - contract for open systems hardware, which is worth up to £100m split between three suppliers. House 2 is a project to computerise the UK's criminal justice system.

Skates is confident that, whatever its prospects seem to outsiders, the fast-shrinking Westborough, Massachusetts-based hardware manufacturer will weather the economic storm, while competitors that haven't been as prudent will suffer greatly. The General, half the beast it used to be and back in the red at the mid-point of 1992, will be lucky to break even this year, despite vast attempts over the last three years to clear the decks and keep a tight ship. But, although eyebrows were raised in April at the unexpected announcement that DG would be axing a further 1,000 jobs, reducing the total headcount to just over 7,000, from 17,700 a few years ago, Skates maintains that these cuts - 600 to 700 of which have already been effected - would have been implemented regardless of the company's financial performance. It turns out that the recent redundancies were enabled by the installation of an AViiON-based Unix client/server administration system at the company's headquarters. Skates, his ruthless beancounting skills surfacing, makes no bones about suggesting that if any more job cuts can be made, they will be. He explains that although DG is currently incurring losses, the company's balance sheet remains healthy in comparison to those of its rivals. He notes that the General is selling more computers than "ever before in our lives". But, although margins are good, system prices are much reduced, so that a very low cost base is needed before profits begin to show. DG has over the last three to four years put a good deal of energy into reducing that cost base, but now, even with a quarterly breakeven level reduced to \$270m from \$350m, the company is struggling to make ends meet. The problem lies with the proprietary MV Eclipse line, which last year still accounted for some 65% of revenues. Skates says MV customers are in the main small businesses which aren't making replacement purchases while the recession's on. So, although AViiON sales are increasing quarter by quarter, they aren't bringing in enough to compensate for the sudden drop-off in MV business. Skates forecasts that it won't be until early 1993 that sales of the Unix-based AViiON workstation and server line cross the proprietary MV line. (Research and development split between the two lines - currently 50-50 - will soon tip the balance in favour of AViiON, since three years' worth of products are expected to be squeezed out of the last round of investment in the proprietary line.) While Skates concedes that the current year is going to be a difficult one, he feels that his company is now better prepared than most. In November, he warned that if the likes of IBM and DEC didn't implement drastic measures they'd go through "Holy Heck" - DG has been through that and if the company is confident about one thing, it is that the worst is over. Alliances beyond the product-swap level are seemingly still off the agenda, and Data General is not for sale.

Designer label

The General currently offers 29 AViiON systems - seven workstations models, the rest server configurations - built around Motorola Inc's initial 88100 RISC part. Its top-end quad-processor was launched more than a year ago and there have been no major additions to the range since then. The company will move to the next-generation 88110 CPU - which it'll use to re-vamp the entire AViiON line - though an eight-processor system using the existing 88100 will emerge before that, Skates says. Despite 88110 announcements from other Motorola RISC vendors - notably Dolphin Server Technology and Harris Corp - DG is not worried about rushing to follow suit. Skates doesn't believe that anyone is actually shipping 88110 products yet in any case. Skates said that DEC approached DG - as it did with most other manufacturers - about using its Alpha RISC processor. Skates describes Alpha as "wonderful technology," but says the 88000 is better. Despite being Motorola's only volume outlet for 88000-based CPU systems, the company wouldn't dream, he says, of taking over fabrication of the part from its owner, in the same way that Silicon Graphics Inc is swallowing its chip supplier. Apart from the fact that it divested its foundry business some four years ago - and has no intention of getting back into that game - Motorola can supply 88000 parts at a \$850 apiece.

That's a price DG could never hope to match, indeed Motorola could probably fulfill DG's entire CPU requirements for the part in just a straight two week run on its fab line. In any case, "a fabrication plant costs \$1.3m a week to run before you even turn the lights on," says Skates. Tom West, head of Data General's Advanced Systems Development Group claims that DG's lonely advocacy of the 88000 RISC "is not a problem - two or three years ago I was more worried about the decision than I am now". The challenge to make the 88000-based systems a binary-compatible standard across a wide range of high-volume, multi-vendor platforms has largely failed, despite the 88open binary compatibility standard, to which DG heavily contributed, serving as a model for how it should be done. "The chip just has the wrong designer label", says West. But, he said, most shrink-wrapped software would not be applicable to DG's demanding commercial customers anyway. Aside from the 88open work, West says that Motorola established an early working definition of the 88000 that won't change with future upgrades. It's also the best of the bunch for multi-processing, he says. Although DG plans eight-processor models - see above - the optimum for the AViiON's tightly-coupled architecture is "somewhere above eight and below 16", according to West. Ironically, when DG started out with AViiON, the fashion was to get away from proprietary silicon onto merchant microprocessors. Now Hewlett Packard, IBM, and DEC are all back on the other side of the fence.

INTERLEAF HAS SGML-COMPLIANT DTP SYSTEM

Waltham, Massachusetts-based Interleaf Inc, the desktop publishing house, has incorporated the standard generalised markup language, SGML, into release 5 of its electronic document software. The SGML data format allows documents to be shared between different publishing systems or applications, tagging each piece of data with a name or identifier. It was adopted as an ISO standard back in 1986, and has led something of a ghostly existence in the commercial market ever since, hovering on the boundaries of document interoperability solutions for the last five years. Interleaf says it will provide a migration path for its 130,000 existing non-SGML users to move to the standard incorporated into version 5 of its package. It will also allow alien SGML documents and applications to be imported into the environment with, so it claims, no recoding. There are also plans, says Interleaf, to make its other products "speak" SGML. Interleaf 5 incorporates a relational document manager, which retrieves and manages information from any SGML source, and Worldview, its electronic distribution system. Interleaf is working on getting an object-oriented version out, and says the software already includes SGML object interchange functionality. Interleaf 5 is scheduled to ship in August on DEC Ultrix, Sun Microsystems Inc Sparcstations, Hewlett-Packard Co PA RISC Unix systems and Data General AViiON computers - no prices were given.

IBM PICKS UP UNITREE FILE, STORAGE MANAGEMENT SOFTWARE FOR RS/6000

IBM Corp has gone to the Distributed Computing Solutions arm of General Atomics Inc, San Diego for its UniTree file and storage management software "for use and distribution on the entire line of IBM computers," although it seems likely that it will be confined to running under Unix for now. UniTree, used primarily in the scientific world - Convex Computer Corp has an implementation and Floating Point Systems Inc picked it up before it turned up its toes - is an implementation of the IEEE Mass Storage Reference Model and automatically migrates files among disk and tape libraries. UniTree is a distributed client/server program that provides automatic and transparent file and storage management for networked, heterogeneous computing environments. In its simplest form, it provides a single central file server, automated transfer of data between storage subsystems and user access via Network File System and File Transfer Protocol.

XHIBITION '92 PREVIEW

Samsung Electronics America will be showing off its two new AMD 29000-based X terminals this week at Xhibition. The SGS-CA1 and SGS-CA2, intended for CAD/CAM, scientific desktop publishing applications, are reportedly user-installable in minutes. They come with 4Mb RAM standard, and X11 Release 4. The SGS-CA1 includes a non-interlaced colour display supporting 1024 x 768 pixels; the SGS-CA2 uses a 19-inch 1280 x 1024 screen along with 2Mb video RAM. Shipments start this month. Pricing was not available.

This is the week for Bristol Technology Inc, Ridgefield, Connecticut, to formally unwrap its new-fangled Windows-to-Unix software Wind/U at the show. The potentially breakthrough technology promises to allow Windows applications to run native as Unix/Motif applications via recompile (UX No 385), and springboard Windows developers into the Unix marketplace. Bristol will be demonstrating its test case, a Windows CASE analysis and design tool called ObjectMaker from MS-DOS house Mark V Systems that has ported to Unix with Wind/U. The Unix version of ObjectMaker goes into beta this month. Mark V president Herman Fisher says he has a common set of source code running on Windows 3.1, NT (beta) and Unix while maintaining all the Windows functionality. Bristol is also intending to enter a joint development with Montreal, Canada-based Visual Edge Technologies Inc, suppliers of the UIM/X GUI development tool. Wind/U, a complete set of Windows APIs operating under Motif that Bristol wrote, is currently in beta and will ship in the fourth quarter priced at \$50,000 per product license.

Milpitas, California-based, LSI Logic Corp is catapulting itself into the X terminal market introducing the RISC-based Racer X Board, which allows OEMs to build monochrome or colour X-terminals based on the MIPS Computer Systems Inc R3000 RISC. The Racer X Board is also, says LSI, destined for the personal computer and Apple Computers Inc Macintosh markets. The board is based upon LSI's embedded version of the R3000, called the LR33020 Graph X Controller, supports 25/33 and 40MHz operations. Other competitors also gunning for the R3000 X-terminal market are Integrated Device Technology Inc and Performance Semiconductor Corp. At the same time, Intel Corp and Motorola Inc are also in the offing with their versions of chips for X-terminals. The Racer X Board comes in two versions, an 8-bit colour or monochrome unit. Both versions include 4Mb of RAM expandable to 8Mb. The 25MHz colour board sells for \$4,000, and the monochrome version costs \$3,000.

Ontario, Canada-based, ATI Technologies Inc has struck up a deal with Metro Link Inc to run ATI's Ultra graphics accelerator board and Metro's Metro-X X11.5 server together to give Intel Corp 80386 and 80486 systems X-Windows functionality. An X-Windows system running in an Unix environment, Metro-X 2.0 will run under Santa Cruz Operation SCO Unix, USL's System V.4 or Interactive Systems Corp's Unix flavour. ATI's graphics Ultra boards come in 512K and 1Mb configurations with extended drawing capabilities reaching maximum rates of 10-pixel vectors per second, which plug into ISA or Micro Channel systems. Metro-X, supports X colour management system, PEX 3D library, X and Motif shared libraries. Metro Link's Metro-X server is priced at \$300 and ATI graphics Ultra boards cost \$600 for the 512K and \$700 for the 1Mb board.

San Jose, California, Megatek Corp will preview the newest member of its graphics family X-Cellerator, Esprix. The Megatek Esprix board accelerates X11RS, Open software Foundation's graphical user interface Motif, SunView applications and window managers. A one slot Sbus, Esprix features a graphics rendering processor, an 8 bit-colour frame buffer, and says, it is binary compatible with X-Window and Open Windows software. Prices start at \$2,500.

Felton, California-based, Crosswind Technologies Inc, says Synchronise 1.2, its time management tool, is to support Santa Cruz Operation's Open Desktop 2.0. Synchronise 1.2 is an X-based time management tool, using a multiple time zone support allowing schedules, tasks and resources to be transparently managed across wide area networks.

Rhode Island-based Sunrise Software International, is releasing the latest version of ezX 3.2, its flagship graphical user interface prototype productivity tool for Motif. As a prototype tool, ezX 3.2 allows users to revise the GUI without recompiling the application as well as generating C, Ada or UIL data structures. EzX 3.2 is also compatible with C++, Fortran and C languages. As a graphical design tool, ezX 3.2 features colour image editor, WYSIWYG functions, integrated resource editor - which controls the attributes of Motif widgets - as well as replacing widget or re-parenting widgets capabilities in a drag and drop format. EzX is available on Sun Microsystems Inc's SparcStations, DEC's VAX, IBM RS/6000 and Silicon Graphics Inc's Iris workstations. The version sells for \$3,500 per seat.

SL Corp, Corle Madera, California-based object oriented graphics software company, will be launching SL-GMS - its graphical modeling system for Motif, Open Look and DECwindows interfaces. Used to develop embedded dynamic graphical screens into application software, SL-GMS features include a drawing toolset, input objects functions - using graphical interactive screen management objects (GISMOs) - Model instance compression and double buffering maximise application performance. Metafiles can be saved in an ASCII format allowing applications and files to be exported and imported in and out of Unix and Vax environments. Intended for the aerospace, corporate and manufacturing sectors SL-GMS is available now. No prices given.

San Jose, California, Microfield Graphics Inc will roll out the X8 colour graphics controller, its graphics processing controller for the technical and manufacturing markets, for X-Windows and Microsoft Windows systems. A single slot graphics controller, X8 boosts ISA/ESA-bus compatible personal computers into workstations, and has a screen resolution of 1280 x 1024. The X8 features 5Mb ISA bus image transfer between host and display, 2Mb of VRAM, and bi-directional input/output block logic transfer. Running on Santa Cruz Operation SCO Unix, USL's System V.4, Sunsoft's Solaris and Microsoft Windows. X8 costs \$3,000.

Mount Laurel, New Jersey, Bluestone Consulting Inc will be showing off its new Motif graphical user interface builder, UIM/X Professional 2.0. Using Professional, Motif developers can select widgets in UIM/X to design widget layout, callback, test/revision and code generation functions. UIM/X Professional 2.0 will start to ship in August. No prices given.

Leeds, UK-based VisionWare Ltd is supposed to announce its fourth product at Xhibition this week, but since it has taken a vow of silence everyone will have to wait until Thursday to find out what's going on. According to the firm, the announcement has nothing to do with X-Windows whatsoever, which is why it is keeping stumm. However, Visionware is also priming itself for the opening of its US office in California on July 1. Heading up the operation is UK managing director, Chris Holmes.

WINSOCK API FIRMS UP TCP/IP OVER WINDOWS NT APPLICATION EFFORTS

A new applications programming interface specification for TCP/IP applications running under Microsoft Windows has been agreed and announced by 20 vendors, including FTP Software, JSB, Microsoft Corp and SunSelect. The WinSock API (for Windows Sockets) allows an application written to the interface to run unchanged over TCP/IP implementations from multiple vendors under Windows and Windows NT. Included are Microsoft Windows-specific extensions for applications writers to integrate the networking portions of their applications into the message-driven Windows programming model. "A single market for TCP/IP applications under MS-Windows will expand the market", said Martin Hall of JSB. It is available via Internet from FTP Software Inc, Wakefield, Massachusetts, from Microsoft's Online Software Library, the CompuServe bulletin board, or in forthcoming Microsoft developers kits, such as the preliminary Win32 SDK for Windows NT. Microsoft is working with Spider Systems, Edinburgh, Scotland, to provide a validation suite. Other endorsements come from 3Com, Beame and Whiteside, Novell, Wollongong and Ungermann-Bass.

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Word has it that Unix System Labs has structured its pricing schedule so that its OEMs could bring Destiny out for \$350.

A source who ought to know says that Unix System Laboratories has changed Destiny's original Mac-like interface and made it look more like Windows: Sounds like a dumb move to us. Ironically, SunSoft, whose now got Mac/Next designer Bud Tribble working for it (UX No 388) will probably turn up with a more sensible Apple-esque front-end on Solaris.

SunSoft Inc has picked Tuesday June 23, the start of PC Expo in New York, as the day to announce that Solaris 2.0-for-Sparc will be delivered to OEMs within the week. It looks like its got a few tricks up its sleeve about Solaris-on-Intel as well: expect announcements of some OEMs. Meanwhile, the Solaris-for-Sparc promised to OEMs reportedly includes SVR4, ONC+, OpenWindows 3.0 with Tool Talk, the desktop metaphor and Open Look interface and multi-processor support that the OEMs will have to fine-tune to their machines.

Meanwhile, the latest issue of RISC Management claims that "the multi-threaded SMP capabilities that are the core of Solaris 2.0 will not appear until the fourth calendar quarter - in time for the first multi-processor Sparcstation shipments, but a year behind schedule."

As with any PC product, hardware endorsements are as important as software, so at its UnixWare early access announcement last week (UX No 388) Univel sewed up a bunch of supporters like WangTek and WangDat, UltraStor, SMC, Microfield, Maynard, Future Domain, DPT, Digiboard, Comtrol, Computone, Ciprico, BusTek, Arnet, Always Technology, Adaptec and 3Com. Voice Processing Corp backed up the operating system with its VPro-4 speech recognition board; PostSaver Systems with its barcoding software and Pittsburgh Powercomputing with its X Server products.

The Banco Popolare di Bergamo, one of Italy's oldest banks, will be replacing all of the character-based OA software used in its 240 branches with Applix's Aster*x on Sparcstations and link to Oracle's RDMS: the \$18m deal is reportedly worth \$1m-plus to Applix which has to convert the software to Italian.

Insignia Solutions Ltd, a sturdy member of the tiny band of small UK computer and software companies making their mark across the Atlantic, reports from its Mountain View, California Insignia Solutions Inc base that it has raised \$4.75m in "mezzanine" financing from Technology Venture Investors of Menlo Park, California, which gets one seat on the board of the High Wycombe, Buckinghamshire company's board; the investment is its first in a foreign company. Insignia has shown consistent profitability for the last five quarters and in calendar 1991 had sales of \$14.5m - £8m, an 80% increase over the previous year.

Siemens Nixdorf Informationssysteme AG is tracking the move towards distributed, networked systems by US corporations with the creation of a new Systems Integration Group at Burlington, Massachusetts, which will target telecommunications, government, retail and manufacturing markets.

Electronic News hears that Stratus Computer Inc is readying new Intel Corp i860-based fault tolerant systems for introduction later in the year: Stratus currently offers two uniprocessor machines, and will likely bring out its first multi-processor, based on the faster i860XP part.

Santa Cruz Operation Inc says that Zenith Data Systems will ship its Open Desktop Release 2.0 as an optional feature of its new Z-Station and Z-Server computers, pre-installed, pre-configured, tested, and supported with a choice of third-party communications options on the Z-Station tower, or bundled with some Z-Station desktop machines.

IBM says we got it all wrong last week about the delivery date of the first of its RS/6000 multi-processors being in July. They say it's too soon considering that they just started work with Bull on them, as we ourselves noted. They also say maybe our sources got it confused with the fact that the so-called High Availability 6000, which strapped together two of them for special orders, will become a regular product this week.

Veritas has arranged to support Destiny with a cut-down version of its file system dubbed the Journaling File System and aimed at the desktop: the full product will come along later as a server upgrade.

Compaq has come out with a new version of its SystemPro server and cut prices on its existing SystemPros by up to 21%: the new 33MHz 80486-based SystemPro is claimed to deliver up to 70% better server performance at up to \$5,000 less than current SystemPro models - the new models are from \$12,800 to \$23,000. The company also signed to resell Novell Inc's NetWare Version 3.11 network operating system on the servers.

San Jose, California, Motorola Inc's Commercial Systems Division has won a \$5m deal from Plano, Texas-based Paging Network Inc, the paging services specialist, to install its Unix-based Motorola 68040 systems in 40 of its offices nationwide. Each of the Motorola dual-processor systems will support 40 to 60 X terminals, and will handle billing and office automation applications previously run on a Datapoint host system.

The initial version of Destiny will reportedly not support multi-processing.

Groupe Bull SA will this week reveal details of UniKix, a software solution enabling existing IBM CICS/Cobol/Vsam applications to run on Unix platforms within its Distributed Computing Model.

The Polish Telecommunications Co, previously the Polish Post, Telegraph and Telecommunications Company until it was separated from the Post last January, looks like being one of the first to run IBM's mainframe version of AIX on its E9000 Series mainframe.

Proud of the speed with which it can run Windows 3.1 applications on Sparc systems using its SunPC hardware and software combination, SunSelect vice president and general manager Carl Ledbetter could still not resist speculating that future technology for running PC applications from Sun would "go way beyond the current generation, without the need for a card". Others suggested that such functionality would be integrated at the motherboard level, and that Sun was working on the technology independently to its current emulation partner, the UK's Insignia Software of High Wycombe.

The International Association of Hewlett-Packard Computer Users' annual conference takes place in New Orleans, Louisiana, between August 23-27.

In the UK, Lotus Development UK Ltd will begin shipping version 1.2 of its 1-2-3 spreadsheet for IBM's RS/6000, DEC RISC/Ultrix and HP workstations from next month.

BusinessWeek's June 1 cover story on Intel, which puts its rushing out the P5 in a highly positive light, makes passing mention of an 80586 machine it's designed under the code name Panther that OEMs can license describing it as "a PC with workstation power." We wonder whether this has anything to do with an "upgradeable" machine DEC seems to be using where you could yank out the 80486 and substitute a P5. The same article claims Intel could reach its turn-of-the century 100m-transistor chip a year or two early.

Hot off the rumour mill: Cypress Semiconductor Corp is now seriously talking about Alpha. DEC needs someone to produce the chips, and most of the semiconductor manufacturers are already tied, but Cypress may be in a position to straddle camps and/or dump Sparc.

DEC/Fujitsu discussions are now rumoured as "over" - Fujitsu is not dumping Sparc, but would have loved to go to Alpha instead - two to three years ago.

Sun will come out with the Tsunami machine (Sparcstation 2+), a low-end colour machine for \$5,000, running 20-30% faster than the SS2.

There has been speculation that Sun will not build another generation of desktop workstations, but will instead design and license. Designs such as the SS2+ and the SS10 can be more cheaply produced by the cloners who have volume access to the colour monitor market - such as Tatung, CompuAdd etc. Any such move would be accompanied by an OEM/rebadge deal.

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OLIVETTI TO ENTER WORKSTATION MARKET - CONFIRMS PLANS TO USE DEC ALPHA RISC

Ing C Olivetti & Co SpA plans to pitch at the top-end of the volume workstation business with high-performance machines built around Digital Equipment Corp's Alpha RISC that will compete with the likes of Sun Microsystems Inc, Hewlett-Packard Co and IBM Corp - if it can figure out how to market the things. Talking to Unigram at Olivetti's week-long promotional fair in Rome last week, Lucino Pinto, research and development director, said the Italian group "will sign an agreement with DEC for Alpha," though full details of the deal have not yet been worked out, and no time scales were offered. Pinto confirmed that a prototype Alpha box would be around by the end of the year (UX No 376) - other officials said the emergence of shrink-wrapped non-proprietary Unix environments - with the added incentive of Unix System Laboratories Inc's Destiny and Microsoft Corp NT already scheduled for Alpha - will open up the workstation market sufficiently for it to stake a claim. Indeed, Pinto said Olivetti is working closely with Microsoft on a client-only version of NT. It sees no problem with adding the Alpha architecture to the MIPS Computer Systems Inc and Intel Corp-based systems it currently offers, a trail that DEC is already blazing in any case, but it has to figure out whether and how it will be able to address the window of opportunity it reckons the industry is now creating with the latest round of hardware and software announcements, and of course, how deep it would have to dig into its back pocket. Olivetti said its use of Alpha would definitely be restricted to the high-end workstation market: it "has other designs" when it comes to servers, hinting that it may bring out a product in that area based on the parallel processing technology of Kendall Square Research Corp, the Waltham, Massachusetts-based company in which it has a stake (see page three). The Alpha project replaces an Intel Corp-based i860 workstation that Olivetti built in prototype quantities and originally planned for volume manufacture. That effort was shelved when the future of Intel's RISC became clouded. Whatever happens, Olivetti's commitment to the MIPS-based technology it already employs is not in question. New R3000A, R4000MP Pyramid machines - details on page three.

\$2,000 POWERPC "BY YEAR-END:" PORTABLE, DESKTOP AND SERVER SYSTEMS TO FOLLOW

Following the news that the IBM Corp and Apple Computer Inc PowerPC RISC effort is coming on in leaps and bounds (UX No 384), rumours floated on the airwaves last week that the first boxes built around the architecture will be out by the end of this year. By all accounts there are initially four implementations of the PowerPC in models 601, 603, 604 and the 620. The 601 - to be released in limited quantities by the end of the year - is the low-end desktop offering, a slower machine than the recently announced IBM RS/6000 220 desktop, with a performance rating of 40 SPECmarks and a price tag of \$2,000. It is still not clear whether the PowerPC has had the multi-processing guts ripped out of it, though Michael Slater editor of **Microprocessor Report** informs us modifications made to it include having 38 opcodes deleted, which means that all instructions that use multiply and quotient register, difference or zero and three integer operand instructions have all been wiped out. It's been done to make room for the Motorola Inc 88110 Mbus input/output interface and increased cache. Meanwhile, Apple is predicting that it will have at least 70% of Macintosh applications recoded in time for the first batch of volume PowerPCs to hit the streets in 1993, using AT&T Bell Laboratories spin-off, the Holmdel, New Jersey-based Echo Logic Inc, to do the recompiling. A model 603 will be a cheap, low-cost portable system appearing sometime late in 1994 along with the mainstream desktop PowerPC iteration, the 604. A high-end offering, the model 620, destined for the workstation and server markets, will apparently have a performance rating of 100 SPECmarks and is expected to rollout the door mid-1993. The PowerPC, says Slater, will not turn too many heads in the desktop arena, however, he believes the Apple contingent will be its guiding star "it won't be in the SuperSparc league, but on the matter of price alone it will definitely make an impact".

DAY OF DESTINY: ROEL REWRITES THE RULES

Unix System V Release 4.2 - now the official name for Destiny - the desktop version of Unix from Unix System Laboratories Inc - finally saw the light of day at a full-dress industry event in San Francisco last week. What emerged, aside from the technology, which has been widely previewed (summary inside), was a seminal move by USL president Roel Pieper to unify the industry around a desktop Unix to challenge Microsoft Corp NT - threatening to sweep the boards when it finally arrives. As such, it was an impressive effort, marred only by the glaring absence of Sun Microsystems Inc (about to launch its own competitive SVR4 Solaris operating system this Tuesday), and the Santa Cruz Operation Inc, whose leadership position is severely threatened by Destiny's imminent arrival. IBM Corp was also absent, while Hewlett-Packard Co contributed only a lukewarm endorsement, with no precise commitment to implement the technology. However, USL believes that HP will adopt it within the next three or four months. DEC surprisingly came out with the stronger, if more bewildering statement that it "will be working with USL and their technology partners to combine Digital's Alpha technology with Unix SVR4" - seemingly contradicting its position of the day before (see page five). Nonetheless, USL believes that their collaboration, awkward perhaps for DEC's press agents, will be serious, in depth and direct. USL won the day by persuading Open Software Foundation chief, David Tory, to speak, revealing that USL and OSF were working together to ensure that the OSF Application Environment Specification and SVR4 would be aligned and compatibility maintained. USL again endorsed OSF layered products such as Motif and DCE, and has even taken the baton from OSF for the commercialisation of ANDF - the Architecture Neutral Distribution Format, see below. OSF's singular appearance changes the rules the industry has been playing by for the past few years, narrowing the gap between the two camps, and allowing more room for the players to manoeuvre. Apple Computer Inc, a new face in the crowd, also sent observers. USL is believed to be near to an unprecedented agreement with Apple for the Macintosh interface.

...ADOPTS DRA'S TEN15

USL has taken up the baton of Architecture-Neutral Distribution Format technology from OSF, and has signed with the UK's Defence Research Agency - the originator of the ANDF technology - to commercialise it for release with SVR4.2. The goal is to market and distribute technology with SVR4.2 enabling software vendors to write, package and distribute one single version of their applications that can run unchanged on laptops, workstations, servers, mainframes and even supercomputers, from different vendors and based on different microprocessors. USL the DRA intend to make TDF specifications publicly available.

USL LAUNCHES DESTINY AS SVR4.2 - PREPARES WAY FOR ENTERPRISE VERSION

The lineage of Unix System V Release comes from the SVR4.1 Enhanced Security release, from which it inherits B1/B2 security, but SVR4.2 extends the modularity of that release with the isolation of processor-specific source code modules from the main body of common code. Accordingly, SVR4.2 will support multiple architectures from a single source tree. It will be the code base for SVR4.2 ES/MP (Enhanced Security/Multi-processing), aimed at enterprise computing environments, which will add multi-processing support. Dynamically loadable modules allow printers, disks and other devices to be installed while the system is running, which also reduces RAM requirements. SVR4.2, with its integral desktop manager, optimised performance, and modularity that allows it to run as a client in only 4Mb memory, 60Mb disk - highly impressive when compared to its current competitor, OS/2 - ships in July in source code form for OEMs, in its Intel version only, for AT, EISA and MCA buses. Sparc and MIPS versions are due out by the end of the year. USL declined to reveal pricing until Univel Inc - joint-owned by USL and Novell Inc - rolls out the end-user shrink-wrapped Unixware version in September-October, but as Unigram reported last week (UX No 389), OEMs are expected to be able to get it out of the door for around \$350.

USL, FUJITSU AND TANGENT TO FORM UNIX ON-LINE INFORMATION COMPANY

A worldwide on-line information systems network for the Unix System V market is to be established as a joint venture between Unix Systems Labs, Fujitsu Networks Industry, Stamford, Connecticut and Tangent International, New York City. The three plan to form a new company, Unilinx, aiming the service at end-users, hardware and software vendors, system integrators and the like. What's on offer will include information on Unix hardware and software products, service providers, systems integrators and consulting organisations. Peter Watts, currently the president of Tangent, will head up the new venture, which will use ISDN technology, allowing for electronic software distribution and simultaneous voice, data and image computer conferencing, all areas on which Unilinx has it long range sights. It claims it will stick to commercially-led Unix information not treading on the toes of existing non-commercial Unix networks such as Usenix, or more broad-based commercial services in the PC world. Unilinx services should be up and running by the first quarter of next year.

GRAPHICS, EMULATION AND DATA INTEGRITY MAKE UNIX MORE PC-LIKE

Included within the SVR4.2, Moolit (Motif/Open Look Intrinsic Toolkit) allows developers to build applications that can switch dynamically between Open Look and Motif look and feel. It is conformant with the Open Look Intrinsic Toolkit (OLIT) already in use by Sun Microsystems Inc. The desktop manager supports drag and drop, and includes graphical file systems management and administration. The optimised X-Winserver speeds up the performance of X-Windows: DOS and Windows emulation facilities have been built into the kernel. Inclusion of the Adobe Type manager and Type 1 fonts allows for the use of existing Adobe fonts from DOS disks, and makes it easier for developers to port over applications from Windows, OS/2 and Mac's. And the new journaling file system (from Veritas), ensures that, if the machine is shut down unexpectedly, the file system is not damaged. It also reduces startup time to under 40 seconds. For the software developers, there is a new C optimised compilation system, R2.0 for Intel, a graphical debugger, and the Windowing Korn shell extension. Bundled in is an application builder based on Builder Xcessory from integrated Computer Solutions of Cambridge, Massachusetts. Also included are software drivers supporting SCSI host adaptors from Adatec Inc, Milpitas, California, masking SCSI peripheral integration more simply.

HAL TO PROVIDE 64-BIT VERSION, AS HARDWARE AND SOFTWARE VENDORS CAST THEIR VOTES

The most interesting of a myriad of other partnerships and endorsements comes from HaL Computer Systems Inc, which is working with USL to make the future versions of SVR4.2 into the 64-bit world. HaL will provide the reference 64-bit implementation on its proposed 64-bit implementation of the Sparc processor. The task, said HaL VP of sales and marketing, is "a considerable one". 64-bit Unix implementations will still run 32-bit software. Aside from DEC and Hewlett-Packard Co (see front page), other endorsements from hardware manufacturers included ALR, Apricot, Data General, ICL (providing the Sparc reference port), Intel, MIPS, NEC, NCR, Olivetti (doing the ACE/ARC port), Sequent, Sequoia, Siemens Nixdorf, Stratus, Unisys and Wyse. Dell helped port Motif for SVR4.2, but isn't saying if it will use the product. Software supporters included Banyan Systems, Microport, Software AG, Uniplex and Unisoft. A list of 80 plus independent software and hardware vendors also registered support.

Leaving no stone unturned for its Destiny launch, the telephone company offshoot went so far as to score still another first, announcing SVR4.2 simultaneously in Europe, the Far East, the US and Russia, reportedly at a Unix user group meeting, facilitated by the famed Esther Dyson. It seemed an altogether fitting happening, considering the same day George Bush and Boris Yeltsin were applauding each other in the White House rose garden.

According to a study Unix International commissioned from Dataquest comparing OS/2 and SVR4.2, OS/2 Unix shipments will be higher than Unix shipments on the PC platform, if for no other reason than IBM is bundling it. However, Dataquest predicts that Unix will gain market share from the OS/2 in the desktop workstation market, because it will gain a greater share of the i586 market. Most i586 systems will be used as workstations, predicts Dataquest. OS/2 will get 8.5% of the total workstation market by 1996, it says, with Unix coming in at a hefty 47% and Windows NT possibly capturing 30-40% of the office desktop/workstation market. Meanwhile, Dataquest forecasts \$10bn worth of Unix PC and workstation sales in 1992.

The Santa Cruz Operation was taking a bullish attitude towards the launch of Destiny last week, pointing out that it was a technology, not a product announcement, and saying that it would be a long time before the package would support the large range of peripherals in the SCO catalogue: SCO also claimed to offer pretty much everything offered by Destiny, including DOS/Windows emulation and Motif - which SCO ships, not just supports - claiming its distribution network was mature and widespread, and said it was more interested in the networked and multi-user system market than the PC and Mac replacement that USL is interested in.

DATA GENERAL BUNDLES SOFT-SWITCH

Wayne, Pennsylvania-based Soft-Switch Inc is claiming an industry first with its Enterprise Mail Exchange (EMX) hardware/software electronic-mail gateways running on Unix machines. Soft-Switch's existing products run on IBM mainframes. EMX is based on the 1988 versions of X.400 and X.500 and connects proprietary E-mail systems based on distribution protocols like the TCP/IP Simple Mail Transfer Protocol (SMTP), IBM's System Network Architectural Distribution Services (SNADS) and Message Handling Service (MHS). The switch is bundled with five models of the Data General AViiON family of symmetric multi-processor servers running Unix SVR4. Denying that EMX would be fettered by its platform, Soft-Switch president, Michael Zisman, said that running the software on multiple platforms was "too support intensive". There is also an add-on module, the Enterprise Mail Manager (EMM), a graphical management system for network configuration, operation and maintenance running in an X-Windows and Motif environment. The EMX directory is built on a relational database management system from Oracle Corp. The first release has not implemented all of the X.500 standard's protocols: the Directory Services Protocol, Directory Access Protocol, directory synchronisation, and document translation facilities will be provided in a release at the end of 1992. Prices start at \$40,000 for an unlimited number of users. Larger configurations range in price from \$60,000 to \$300,000. Availability in the United States is third quarter of 1992, and fourth quarter worldwide.

HIGH AVAILABILITY DUAL RS/6000 CLUSTERING SOFTWARE

Sufficient unto the day is never the evil thereof when it comes to IBM Corp, so not content with giving its large systems users pause for deep thought, the company also announced the AIX High Availability Cluster Multi-Processing/6000 software for the RS/6000 Unix box. Multiprocessing is a misnomer, because the software ties together only two RS/6000s, enabling each to back the other up. IBM also announced that it will begin distributing the AIX/6000 on compact disk. The new HACMP/6000 software enables users to choose from three levels or modes of high availability support: in mode 1, it provides failover to a back-up idle RS/6000 for quick restart of an application or subsystem if there is a failure with the primary processor. Each RS/6000 is active in mode 2, running its own applications, but enabling one system to dump its load onto the other should a processor fail. In mode 3, the systems run concurrently, enabling single image access to data from both computers. This concurrent processing requires the 9333 disk subsystem. HACMP/6000 is supported by the new AIX/6000/3.2 release and uses the Systems Management Interface Tool for installation, configuration and maintenance of the RS/6000 clusters. ClaM Associates Inc in Cambridge, Massachusetts, is working with IBM to provide customer installations and support for HACMP/6000. Planned availability is September for modes 1 and 2, and March 1993 for mode 3. Price will depend on the RS/6000.

IBM SELLS UNIX MAINFRAME TO POLISH POST

The Postal side of the Polish Post, Telegraph and Telephone company, which was split off from the Telecoms side back in January, is to become one of the earliest recipients of an IBM mainframe running the firm's AIX Unix implementation. The machine, an ES/9000 9121 Model 190 is to be used in conjunction with RS/6000s as front-end processors and 150 PS/1s and PS/2s as data entry and enquiry terminals, and replaces an ageing key-to-disk 370-type clone system from Rjad. It's task is to run the clearing house for monetary transactions being wired in and out of the country, and will provide on-line facilities for the first time, as well as better monitoring and tracking facilities. According to an IBM spokesman, AIX on a mainframe was chosen because requirements are expected to grow, with other postal functions likely to be taken on. Skilled Unix technicians are also easier to find in Poland than traditional systems people. Both AIX on the RS/6000 and OSF/1 on the mainframe have full National Language Support as does Oracle Forms and SQL, which is being used to write the software. IBM says it competed with Amdahl Corp, Unisys Corp and some of the top-end Unix vendors over the contract, which was signed last December, but won out because of its integration skills. Training is currently taking place, with delivery this month to the headquarters in Bydgoszcz, in the north west of the country, with installation next month.

RUSSIAN UNIX WORKSTATION VENDOR SAPSAN OUTSELLS THE COMPETITION

Speaking at the Expo Comm International exhibition, Sapsan, the only Russian manufacturer of Unix workstations, says it has sold some 1,500 Unix systems in the former Soviet Union since 1989. That is many times more than any Western vendor. Sapsan says its main customers have been in the defence industry. Some 90% of sales have been for databases, electronic mail systems and Computer Aided Design. Sapsan sells only for roubles and uses its dealers to develop software solutions for individual customers. Gregory Ivanov, developer with Sapsan dealer Irbus, says no foreign company yet competes with Sapsan on price or customer support.

OLIVETTI DEBUTS TOP-END PYRAMID BOXES...

As expected (UX No 386), Olivetti used its event in Rome last week - see front page - to steal Pyramid Technology Corp's thunder and introduce a 24-CPU version of the MIPS R3000-based LSX 6500 transaction processing systems which are rebadged MIServers from the Mountain View, California-based company. Previously limited to 12 CPUs, Pyramid has effectively doubled its top-end capability by employing two 37.5MHz R3000A processors on each board. Olivetti said that stringing 24 CPUs together was as high as Pyramid could go with the R3000. New to the line is an FDDI controller, and two of the models - Olivetti's LSX 6540 and 6550 - can now be configured with IPI mass storage subsystems. An early developer release of Oracle Corp's latest database - version 7 - is already available for the 6500s.

...AND REVEALS PYRAMID R4000MP EFFORT

Perhaps a more interesting development is the likelihood that Pyramid will now recast its image as a supplier only of high-end transaction systems. Olivetti unveiled Pyramid-developed boards with from one-to-four high-end MIPS R4000MP CPUs which can plug into its previously announced Advanced Computing Environment LSX 5030 multi-processor, which currently uses up to four 33MHz Intel 80486 parts. Pyramid originally designed the thing as a one-to-eight-processor affair, but scaled back to four CPUs, presumably at Olivetti's request. The R4000 system, based on MIPS' MP multi-processing version of the part, won't be around until later in the year when volume deliveries of that chip are scheduled to begin. Pyramid, which currently offers some MIPS-based Siemens Nixdorf Informationssysteme AG boxes lower down its line, apparently hasn't decided whether it will actually offer its new R4000 architecture as one of its own products yet. In addition, a new LSX 5040 system with up to four 66MHz 80486s is now on offer, and LSX 5000 series customers will in future be able to configure a system of their choosings with Unix, OS/2, MS-DOS, Intel and MIPS options. The R4000 architecture is also compatible with Olivetti's existing M700-10, a MIPS R3000-based RISC offering compatible with ACE's Advanced RISC Computing specification. The 25MHz and 33MHz 80486 LSX 5015 and 5025 models get upgrades to 50MHz and 66MHz respectively - they're rated at \$1,968 and \$1,702 per transaction per-second according to the TPC-B benchmark. The LSX 5000s also get the multi-processing version of Unix which currently runs on the LSX 6500 line, as well as Unix System Lab's Tuxedo transaction processing monitor which it uses up there. Destiny will figure further down Olivetti's range, on personal computers and the M700. Next year it'll put USL extended security/multi-processing version up on its kit, but what with Destiny coming out as SVR4.2, Olivetti reckons that'll be SVR4.3 ES/MP. For fault tolerance, Olivetti has extended its relationship with Stratus Computer Inc to include the company's two Intel 80860-based systems, to be sold as the LSX 4500 worldwide - with the exception of the UK.

KENDALL SQUARE FORMALLY LAUNCHES ITS PARALLEL KSR1

Kendall Square Research Inc, the Waltham, Massachusetts start-up formed by Data General Corp alumnus Henry Burkhardt to deliver highly parallel processing to the commercial market, last week formally unveiled the KSR1 multiple instruction-multiple data parallel machine that has been extensively previewed. The KSR1 is scalable to 1,088 custom 64-bit CMOS processors and the company claims it to be the fastest computer currently available and deliverable, a full KSR1-1088 configuration delivering peak performance of 43 GFLOPS with 34Gb of memory. It runs under a Unix implementation described as compatible with OSF/1 and the company has adopted Unix System Laboratories Inc's Tuxedo transaction processing monitor for it. There is already a KSR1 at Manchester University and the company has established a UK subsidiary; it is now opening for business in Germany and France. It says that several customers have placed orders for KSR1 computers with more than 32 processors, including one from the Cornell Theory Center. It has the capacity to build four KSR1 systems a week, which would represent \$200m or so in annual sales, which implies an average sale price of about \$1m per machine, although the firm sets \$1m as the entry price.

DEC CLARIFIES ITS OSF/1 ON MIPS PLANS - WON'T PORT DESTINY

Following last week's confusing turn around over its OSF/1 for MIPS policy, DEC organised clarification sessions for journalists in Boston and Palo Alto last month "to set the record straight." The sessions largely consisted of assurances from DEC of its continued commitment to the OSF/1 operating system on the MIPS line, in the face of surprisingly strong customer reaction to the news of DEC's recent pronouncements that it would only offer OSF/1 for Alpha (UX No 386). David Stone, vice president of software engineering, claimed that customers wanted to keep their options open, either moving to OSF/1 and Alpha in one fell swoop, or doing it piece meal, changing operating system and chipset one step at a time. Alpha customers are likely to be those wanting high performance workstations for demanding applications such as modelling that need a large address space. Ultrix on MIPS customers are those with existing applications who want upgrades to new chips with minimum hassle. OSF/1 on MIPS customers are mostly policy-led companies who want the operating system to come from an independent source, although there are reasons for changing, according to Stone, including loadable drivers for accommodating new graphics options and shared libraries that reduce the size of the applications.

Daughter board upgrades

Stone also said that DEC would offer daughter board upgrades for its R3000 customers, and would offer similar upgrades for future MIPS generations, such as the R5000. Using daughter boards, he said, protected customer investments in the box and power supplies: it means that DEC has to redesign the ASICs on the motherboard, but leaves plenty of room for additional cache on the back side of the board. Availability dates for OSF/1 on MIPS, he said, had been re-targeted until after the Alpha version, but as the developers version is already shipping, the date change should not impact ISV and customer development schedules too heavily. On support for Unix V.4.2 - Unix System Laboratories Destiny product - Stone said "we have no intention of supporting it." He welcomed the endorsement by USL of OSF layered products, said that DEC's Network Applications Support (NAS) services would be ported to the system by autumn of next year, along with versions for HP/UX and AIX and said that both USL and DEC would be prepared to help anybody who felt like porting Destiny to the Alpha chip. Availability of DEC's Unix system software is as follows:

Ultrix R3000 V4.3	Summer 1992
Ultrix R4000 V4.3A	Spring 1993
OSF/1 Alpha V1.2	Winter 1992
OSF/1 R3/4000 V1.2	Summer 1993
OSF/1 Alpha/MIPS V2	Winter 1993

VXL OF INDIA TO BUILD EUROPEAN BUSINESS WITH LOW-COST UNIX TERMS

Indian computer terminal manufacturer VXL Instruments Ltd has set up base in Rugby, Warwickshire in the UK. The 26-year-old firm, which started out making customised process control systems, now claims to own 80% of the Indian terminals market, specialising in Unix-based terminals and terminal servers. The firm now believes it has virtually outgrown its market and is seeking to supplement its fortunes overseas. VXL has over 200 employees and turned over the equivalent of £3m last year. It sells its products primarily on an OEM basis, its customers in India including the local subsidiaries of Digital Equipment Corp, Hewlett-Packard Co, Groupe Bull SA, Ing C Olivetti & Co SpA, ICL Plc's International Computers Indian Manufacture Pte Ltd affiliate, and Unisys Corp. VXL is also currently supplying terminals for use in a large CMC Ltd project to computerise the Indian Railways. In the UK, the company will offer its existing Unix terminals, such as the five-session VM 2745, and within the next six to 12 months will add a full range of ASCII Unix terminal servers and X-terminals "at a price that they're worth". These will be sold directly to OEM customers, and via distributors and value-added resellers to end-users. VXL is aware that breaking into the UK market will not be easy, but the firm says that its products are priced below that of the competition, since all its products are made very cheaply at VXL facilities in India. For this reason also, the company has no intention of setting up a local manufacturing outfit in the UK - the emphasis here will be on sales, marketing, software and support. The UK operation will be headed by a three-man team made up of marketing director Jay Savoor; financial director Dipak Rao and sales director Chris Gamble.

FUJITSU HAS OFFICE AUTOMATION SOFTWARE SUITE FOR ITS ICL-SUPPLIED SPARC LINE...

Fujitsu Ltd has released an open office automation system, based on an integrated system called IFOS-Lite. The hardware used for this system will be the DS/90 7000 series from ICL Plc, as the server, while clients running IFOS-Lite software can be one of a number of personal computers including the IBM Japan Ltd PS/55 and NEC Corp 9800 series as well as Fujitsu's own FMR series. The system offers electronic mail, electronic diary and schedule management services at the corporate, departmental and individual level and can be configured with six different options including gateway services to other mail centres and host computers. The server with four-line support is priced at \$11,627, rising to \$70,000 for a system with 60 line support. A full package of software options and services is also being configured for it.

...OPENS OPEN SYSTEMS INTEGRATION CENTRE FOR ITS VENDORS

Fujitsu Ltd has opened an Open Systems Integration Centre in its Systems Laboratories in Kamata on the outskirts of Tokyo. The centre has been opened to provide facilities for third parties to validate and convert their software for a number of different multivendor systems, including 27 types of workstation - DS/90 series, the S Family bought OEM from Sun Microsystems Inc, Fujitsu's proprietary A series, the FM G series personal computers, as well as Hewlett-Packard Co Apollo, IBM RS/6000, and Sony News, a number of different personal computers including Apple Computer Inc Macintosh and NEC Corp machines, and various local and wide area network software.

HITACHI LAUNCHES BIBLIOTHECA/TS TEXT RETRIEVAL SYSTEM FOR UNIX STATION...

Hitachi Ltd has developed a high-speed text retrieval system for the company's 3050 Unix workstations. The new system is called Bibliotheca/TS (Text Search) and integrates with Hitachi's new systems concept called Forefront. Bibliotheca has a number of features which are improvements on existing text retrieval systems, including the non-necessity for indexing, the non-occurrence of retrieval noise and suitability for general users since any word can be retrieved. Hitachi says that Bibliotheca is based on Hitachi-developed technology called the hierarchical pre-search method. The system uses X-Windows, and Hitachi's version of Motif; it also includes an application program interface that enables C language programs to be interfaced with the system. The system is available for client-server systems, or stand-alone. It can also be interfaced with Hitachi's Hitfile optical filing system, and its Floraword processing hardware. The price of the client system is \$3,875 while the server version is \$11,627, and both will be available in December.

...MANUFACTURING SOFTWARE FOR SPARCSTATION

C Itoh Techno-Science, a distributor of Sun Microsystems Inc workstations in Japan owned by the giant C Itoh & Co trading house - which is changing its name to Itochu - has developed a Japanese version of computer-aided manufacturing software from US company Point Controls Corp. Advanced Three-dimensional Machining, part of the integrated SmartCAM package, now runs in Japanese on Sparcstations and the NEC PC9800 series, priced at \$31,000. It will go via 23 software firms and machine tool dealers.

SUN OPENS TOKYO TECHNOLOGY CENTRE

Sun Microsystems Inc's telemarketing and catalogue operation, SunExpress, has expanded to Japan starting with the end-user education market: Sun says Japan is its fastest growing geographic market. Meanwhile, the firm has opened a technology engineering centre in Kanagawa Science Park, Tokyo. Under the charge of Ed Ng, it'll build upon Sun's Japanese-derived products and will explore joint development projects in peripherals, displays, input devices, portable products and consumer electronics integration.

METROLOGIE LETS TOPLOG GO IN MANAGEMENT BUYOUT

Paris-based distribution company Metrologie International SA has let TopLog International, its Unix software business also based in Paris, fly the nest through a management buyout. Brian Mulligan, the managing director of Toplog Ltd in the UK, said the reason for the parting was that Toplog wanted to capitalise on its Unix software while Metrologie wanted to concentrate on hardware. He denied that the decision was a result of Metrologie's lingering debts. "Metrologie is very much out of the woods now", he claimed. TopLog says there will be no changes to how its subsidiaries operate in France, Benelux, Germany, UK (TopLog Ltd) and Spain (DSD). Terry Donovan, managing director of Metrologie UK, said there would be further divestments - to be announced in the next few months - of operations which did not fit the company's corporate focus on hardware solutions. Metrologie's DEC business manager, Phil Goodman, said that now TopLog is out on its own there will be no obligation for Metrologie to buy its products. By the end of 1992, Metrologie claims it will have reduced its debt burden from £122.26 million to £59.77 million. In order to simplify the company's structure, Donovan said the same product lines would be sold in the UK as well as via the European subsidiaries. Sales would be customer rather than product led in future. He stressed that Metrologie UK's four trading divisions: Metrologie Corporate, Metrologie VA, Metrologie Volume Products Division and Metrologie Services, would remain intact and that this structure would be copied across the company's other arm's as far as possible. Metrologie is also jostling to be one of the two Solaris 2.0 operating system distributors: it already distributes Interactive Unix.

HEWLETT-PACKARD ADDS BOTTOM-END HP 9000 1210 FAULT-TOLERANT MODEL

Hewlett-Packard Co has extended its HP 9000 Series 1200 line of fault-tolerant Unix systems sourced from Sequoia Systems Inc downwards with the launch of the entry-level HP 9000 Model 1210, claiming that it substantially outperforms fault-tolerant offerings from Tandem Computers Inc, Stratus Computer Inc and Digital Equipment Corp by as much as 100% in transaction processing work. It uses 25MHz 68040 processors for two- to four-way symmetric multi-processing, and can support up to 192Mb of shadowed memory, mirrored disks up to 52Gb and up to 900 users. It is pitched primarily at telecommunications companies and the medical market. The HP 9000 Model 1210 is \$165,000 and it performs up to 40 transactions per second.

MIPS ROUNDS UP SUPPORTERS TO PLOT R SERIES FUTURE

MIPS Computer Systems Inc is desperate to be seen to be non-aligned once it is part of Silicon Graphics Inc, and to that end, it has rallied 12 of the computer industry Great and the Good to help guide the future directions of the MIPS microprocessor architecture and help ensure that it remains competitive and open. The Executive Advisory Board will become part of MIPS Technologies Inc, the wholly owned subsidiary to be created once the acquisition is completed; the board will propose and review enhancements to the R-series architecture and evaluate microprocessor development programmes to help ensure continued competitiveness. The 12 worthies are Stan Shih, chairman of Acer Inc; James Ousley, president of Control Data Systems Inc; Paul Maritz, senior vice-president, Microsoft Corp; Robert Miller, chairman of MIPS, and John Hennessy, its chief scientist; Hajime Sasaki, senior vice-president, NEC Corp; Elserino Piol, vice-chairman and chief operating officer, Ing C Olivetti & Co SpA; Dr Thomas Longo, chairman of Performance Semiconductor Corp; Dr Horst Nasko, vice-chairman, Siemens-Nixdorf Informationssysteme AG; Forest Baskett, senior vice-president, Silicon Graphics; James Treybig, president of Tandem Computers Inc; and D. Hideharu Egawa, vice-president and director, Toshiba Semiconductor Group.

SEQUOIA TARGETS HEALTH CARE

Fault-tolerant Unix system builder, Sequoia Systems Inc, is going after the health care market in collaboration with its partner - Hewlett-Packard - and DataTree and Greystone Technology as the first of several vertical sectors it expects to pursue. It builds on Sequoia's pact with HP to sell Sequoia's series 400 as part of the HP 9000/1200 product line. The four companies will integrate mainframe and personal computer technologies to provide fault-tolerant open systems platforms for 24-hour-a-day processing of patient records, insurance claims, lab data and the like. They will be based on MUMPS database and programming language, using DataTree's client/server software and Greystone's host-based system software which will be adapted to Sequoia's systems (UX No 386).

COMPUTER ASSOCIATES TO BUNDLE UNIX SOFTWARE ON HP KIT BY YEAR-END

Following its decision to move into the Unix arena (UX No 317), Computer Associates International, is angling to get its first batch of Unix-based applications out the door by the end of the year. In a strategic alliance with Hewlett-Packard Co, CA will bundle its systems management software, CA-Unicenter on all HP Unix systems running HP-UX, with a free 120 day site licence. HP has by all accounts spearheaded the firm's move into the Unix world, according to Mike Maunder, general manager of CA's mid-range products, "HP is the powering force behind our move into Unix". CA-Unicenter will operate under OSF's Motif graphical user interface and includes features such as single point security; performance monitoring, which will identify bottlenecks and analyse service levels; report distribution; workload scheduling, enabling the system flexible batch queuing functions; tape management; user administration; resource accounting and problem management functions. CA intends Unicenter to be marketed at the mission-critical applications, particularly in the financial and corporate sectors. In a move by the company, it says, to wean itself off relying on the IBM mainframe market, it also hopes to break into the VAX and Unix commercial market by opening up its CA-IDMS and CA-Datcom non-relational database packages. According to CA this can be done by bolting on its recompiled Unix-based relational database CA-DB on to the front of other databases, in effect making the non-relational database function as a RDMS without any rewriting taking place. These two databases will appear in early 1993. CA has also set up a similar bundling agreement for CA-Unicenter with Sequent Computer Systems Inc, however, this version still has a lot of work to be done on it and isn't likely to appear until this time in 1993. To guarantee integrity and fault tolerance, CA has ambled down the road to Tandem Computer Inc, and is currently in the labs developing a Unicenter version for Tandem's Guardian, fault-tolerant operating system. CA-Unicenter is due to go to beta test in July on HP systems - the first releases are expected in October this year on HP's Unix 9000 series 700/800 workstations and servers. Pricing will depend on the number of modules picked up, entry level price is £5,000 and up.

MICROSOFT LAUNCHES ITS SQL BRIDGE FOR BUILDING CLIENT-SERVER SYSTEMS...

Microsoft Corp says it is now shipping Microsoft SQL Bridge, a protocol gateway for building distributed client-server systems in Windows, MS-DOS, OS/2, Unix, Macintosh and VMS environments. SQL Bridge is designed to provide seamless integration of Microsoft and Sybase Inc SQL Server applications, databases and gateways, independent of operating systems and network protocols. It routes client-server requests across networks having different protocols, such as named pipes, TCP/IP and DECnet. It eliminates the need for client workstations to add libraries or protocols in order to access SQL Server data on Unix systems, the company quotes a user as saying: "a single workstation configuration can obtain data from both Unix and OS/2-based servers." It enables Excel, Visual Basic and more than 150 other Windows- and MS-DOS-based tools written for SQL Server to connect to Sybase on Unix and VMS machines using native PC-LAN protocols. Unix- and VMS-based clients on Sun Microsystems Inc, IBM Corp RS/6000, Digital Equipment Corp, Hewlett-Packard Co and other workstations can access SQL Server using the Sybase Open Client interface. It also enables Microsoft SQL Server and Sybase SQL Server to exchange information using remote stored procedure calls and will support all new Windows-based Open DataBase Connectivity - ODBC - applications as well as current SQL Server applications. A release later this year will add support for IPX/SPX and TCP/IP on NetWare and Vines networks and a version of the product for Windows NT is planned. It is available for \$2,500.

...CLAIMS ICL, OLIVETTI, SIEMENS SUPPORT FOR WINDOWS NT

Microsoft Corp has been banging the drum for its forthcoming Windows New Technology operating system in Europe and says it has won "broad support" for it from ICL Plc, Ing C Olivetti & Co SpA and Siemens Nixdorf Informationssysteme AG. Microsoft claims that the support anticipates Windows NT as a strategic operating environment and endorses its Windows Open Services Architecture. Microsoft said that it is working with the European manufacturers to combine its operating system with the existing hardware architecture of each.

ORACLE SEEKS TO PUT THE FEAR OF RETRIBUTION UP RIVALS WITH ORACLE7

The razzmatazz and hype that will attend the roll-out of version 7 of Oracle Corp's eponymous relational database - the company seems to want to call it Oracle7 - has begun in earnest, and last week's blast comes with the announcement that the thing embodies "a revolutionary new technology called a co-operative-server database". The company explains this by saying that a co-operative-server database hides the complexity of a computer network by enabling applications to access data located on multiple computers as if all the data were stored on a single computer, thus simplifying application building and - it is hoped - improving decisions by making access to information easier. The mechanism is claimed to address the problem that a first-generation client-server database does not support a standard SQL query or a standard SQL update transaction that accesses data on more than one server. The Oracle7 co-operative-server database has been designed to support SQL query and update transactions that automatically retrieve and modify data on multiple servers, and to enable a group of low-cost servers computers to outperform the largest mainframe, which will not make the thing very popular with IBM Corp, and should offer high reliability because there is no single point of failure. The intention is that users should be able to increase their system capacity and performance simply by adding another server to the network. A group of low cost server computers running the Oracle7 co-operative-server database can easily support thousands of users running thousands of transactions per second, the company claims, in theory making the system infinitely scalable and addressing the market for emerging very large databases that contain image, text, voice and other multimedia data.

Open and programmable gateway alternatives to reach alien systems

Oracle7 does support both database remote procedure calls and programmatic two-phase commit, but only for use with Oracle7's open gateway and programmable server. Oracle7 provides two types of gateways to non-Oracle data: automatic and programmable. The automatic gateway supports standard SQL operations on many non-SQL systems, such as IBM Corp's IMS database and Digital Equipment Corp's RMS file system, as well as most SQL systems, such as IBM's DB2 and DEC's Rdb databases, the company says. The programmable gateway supports native access to "virtually any" data source via database remote procedure calls. The automatic gateway supports automatic distributed queries and automatic distributed transactions that span Oracle and non-Oracle data sources, so that the savings account described above could be moved to a DB2 database on an IBM mainframe in Los Angeles, and the same SQL query and update transactions that worked when all of the data was in an Oracle database will continue to work. As for the programmable gateway, this is designed to be used when there is no automatic gateway available for a specific non-Oracle data source, such as a file system on a microcomputer robot controller. In that case, the application developer should use tools that are provided as a part of the programmable gateway to write a program to access the data in the robot controller. The tool kit includes a database remote procedure call facility to simplify writing the program when the application program and the non-Oracle data source are on different computers. To resolve the problem that most organisations have multiple networks that communicate using different network protocols, the multiprotocol networking software in Oracle7 is designed to enable any client computer to communicate with any server or group of server computers in the network, regardless of network protocol.

Benchmarks

Oracle reports TPC-A benchmark results of 605.27 transactions per second on a Sequent Computer Systems Inc Symmetry 2000/750, simulating 6,050 users for a \$10,919 per transaction per second cost; 560.87 tpsB at a cost of \$2,970 per tpsB on a Digital Equipment Corp VAX 6000 Model 660; 100.85 tpsB on a Data General Corp AViiON 4635 server for a cost of \$1,588 per tpsB; and 578 tpsA on a Hewlett-Packard Co HP 9000 Corporate Business Server 890 with four processor boards for a cost of \$11,901 per tpsA.

BULL INTRODUCES UNIKIX IN UK

Unikix, the 18-month-old CICS-for-Unix product pioneered by Unicorn Systems Inc and now owned by Groupe Bull SA, is now being launched into the UK for the first time by Brentford, Middlesex-based Bull Information Systems Ltd. Unikix, acquired back in January by Bull's US systems integration arm, Integris, is expected to boost the group's drive towards being an out-and-out systems integrator. Unikix, installed in only six sites in the US although available over there since late 1990 (due to a failure by Unicorn to market the product effectively, says Bull), is a development environment and transaction processing environment for Cobol-based applications developed to run under CICS on IBM mainframes. It provides the capability to implement CICS applications for various Unix environments without source modification, and enables the development of new applications to run on both IBM mainframes and Unix systems. The usefulness of having transaction processing applications down on the workstation, the company says, is to bring for example sales order processing information closer to the salesperson, who can play around with the data in a windows-based environment, oblivious to the complex processing going on behind the scenes. Unikix currently supports Pyramid, Sun, Bull and IBM RS/6000 Unix workstations; further implementations will be directed by demand, says Bull's UK systems integration director Phillip Crawford - a Hewlett-Packard version being the next likely port. Bull says it has invested heavily in getting the product up to date. By enabling IBM Cobol/VSAM CICS applications to run on Unix systems, says Crawford, users are offered the first easy step in moving off their proprietary mainframes; he reckons Unikix facilitates 200-600% long-term cost-of-ownership savings for a typical customer.

Aggressively

Unikix is positioned aggressively against IBM's announced-but-not-available CICS for AIX. Brian Gunn, Bull's business manager for systems integration in Livingston, Scotland, says it could be up to two years before IBM brings out its AIX offering, by which time Unikix will be far ahead in terms of added value. (Our sources say, however, that CICS AIX will be out within the next six weeks, which could shed a different light on matters.) It is Unikix's "openness" which is expected to best differentiate the product - while CICS AIX will support only IBM Unix, Unikix is easily ported to any flavour of Unix required. The product costs anywhere between £4,000 and £250,000; Bull has set up a freephone number to deal with customer enquiries. Bull does have another transaction processing product, BOS/tp, which is Bull's Unix implementation of Tuxedo - this has nothing to do with CICS; it enables existing Bull and RS/6000 customers to run Unix applications with Oracle and so on. Bull says it offers Unikix and BOS/tp to suit different needs, or to users who want both, under its Distributed Computing Model. The firm claims that a good deal of interest has already been shown in Unikix, which is described as the essential tool in Bull's Smart-Sizing programme - Bull's alternative to rightsizing or downsizing. Bull differentiates its approach saying it concentrates on getting the best business productivity from information technology installations, rather than just scaling down bad jobs. Bull reckons its systems integration business is growing at three times the market rate and claims to be the fourth largest systems integration business in Europe. It has 2,000 staff dedicated to systems integration, some 450 in the UK. Fifteen percent of group revenues are systems integration based; last year related revenues grew 67%, and a further 54% growth is expected in the current year. The group's long-term aim is to get into non-Bull sites to deliver its consultancy and networking services. This goal is apparently already being achieved - Gunn is currently working with a Hewlett-Packard site, an IBM RS/6000 and an IBM mainframe site. Alliances are high on Bull's list of priorities: the group wants to talk to any consultancy firms, independent software vendors and systems integrators. Key to Bull's systems integration strategy, of course, is its DCM Distributed Computing Model, based on the Open Software Foundations' Distributed Computing Environment. Crawford claims the Gartner Group rates Bull's model the most open and complete of those available. Unlike IBM's SAA, he says, DCM is open and flexible enough to be customised for each particular site; it allows for customers wanting to integrate other vendors' hardware, which Bull will try to supply if necessary. Crawford notes that while the architecture is useful to represent the business strategy, and while the associated products are necessary building blocks, the model is useless unless it allows for services to put the various pieces of the puzzle together. Bull thinks it has got the mixture right. We'll see.

XHIBITION '92 ROUNDUP

NEW TI CHIP HOLDS PROMISE OF LOW-COST, COLOUR TERMINALS

Texas Instruments Inc is now sampling a new chip that it says will allow colour X-terminals to be sold below the \$1,000 price line - its first product specifically aimed at the X market. The 340X - a streamlined version of the established TI TM34020 graphics chip, offers, according to TI, "all the processing horse power of the 32-bit TM34020, but has been stripped of the 34020-based peripherals designed specifically for PC-based graphics subsystems." The result is significantly lower pricing - \$75 for sampling and below \$40 in volume. Used with the TLC34075 palette chip, supporting various colour combinations and resolutions - including 1600 x 1200 at 60MHz refresh rates - the 32MHz part can be used as the basis of low-cost colour terminals. For mono and grayscale models, there is an optimised version, of the palette chip, the TLC34074. Faster clock speeds are expected later this year. At Xhibition, Tektronix, a TI user for its low-end systems, cut the price of its 77,000 Xstones rated X11 with 15" mono monitor to \$995, and the 14" colour XP17 to \$1,995. Colour systems below \$1,000 could be feasible within a year. NorthWest Digital Systems, Seattle, California, was demonstrating an X Terminal design based around the new chip, called Wildcat 2 - the second generation of its original Wildcat design launched at last year's show. It is said to be the smallest complete X Terminal design available, covering just under 50 square inches of broad space. NDS has signed a licensing agreement for the technology with X Terminal manufacturer Hyundai electronics Corp of Korea. Other TI partners likely to take on the new technology for X-Terminals include C.Itoh, which launched the CIT-XE+ range at the show, ADDS/NCR, DEC, IBM, Megatek, Princeton Graphics, Sun River, Tandberg Data, Visual and Zentec.

NEW X-TERMINALS FROM JAPAN COMPUTER CORP

Japan Computer Corp, based in Tokyo but with a US office in Fort Lee, New Jersey, has introduced a new series of X-terminals. The GlobalX series brings the company into the 3D market for graphics, engineering and business users. They include monochrome and PEX colour X-terminals using the MIPS R3000A processor, with local support for Motif and X11 Release 5. The JCC GlobalXM mono system uses a 25MHz R3000 with JCC-designed ASIC as an X-Server accelerator - it is rated at 120,000 Xstones. 17", 19" and 21" 1280 x 1024 monitors are supported. The JCC GlobalPEX, a colour PEX terminal, uses a 40MHz R3000A with choice of 17" or 20" monitors - but is only available in limited quantities as an evaluation machine, while work on PEX continues. RISC processors are needed to support the additional functionality of R5, it says, which includes additional security, internationalism and localisation, scalable fonts and PEX - the Phigs extensions to X. The company's first R3000-based products were launched onto the market last summer. Prices start at \$2,650 for the XM-17. JCC, a 14-year old company with 100 staff, originally started out as a high-end workstation manufacturer. Its products are distributed in the UK by Chernikeef.

WHITE PINES EXPANDS X-SERVER RANGE TO WINDOWS, NeXT

White Pines Software Inc, Nashua, New Hampshire, which started out offering X-server software for the Macintosh, has now introduced new X-server products for both Microsoft Windows and the NeXT computer, under its brand name eXodus. The Windows product is the result of an OEM agreement with VisionWare Ltd, of Leeds in the UK. EXodus for NeXT, which the company admits "has a relatively small installed base compared to Windows and the Macintosh," is all its own work, and was released in April. It assumes that a user wants to work only within NeXTstep, not on a Unix command line, something it claims other products have failed to realise. Optimistically, the company says it expects the business to really take off once NeXTstep ships for Intel platforms later this year. The company has also upgraded its Macintosh server to version 4.0, claiming better performance. Price for the Microsoft Windows version is \$450, and \$300 for the Macintosh - no prices for NeXT.

CONGRUENT INTRODUCES X IMAGING EXTENSIONS FOR IBM RS/6000

IBM demonstrated imaging extensions to its X-Window software in an implementation produced by the New York-based software house Congruent Corp, The X Imaging Extension (XIE) is the imaging software for X submitted to the X Consortium by DEC as a proposed standard. It speeds up graphics applications by enabling X terminals to manipulate images locally, and includes image rendition facilities supporting bitonal, grayscale and colour images. The work is currently in a review process, expected to be completed by the end of the year. Congruent Corp licenses XIE for the RS/6000 from \$500, and licensees will receive free of charge software upgrades as the standards process progresses. Aside from XIE, other work at Congruent includes high-performance Windows display drivers with Asian language and multimedia extensions.

WINDOWS VERSION OF ALEX GUI TOOLS

UK, Leeds-based VisonWare Ltd's mystery announcement (UX No 389) turned out to be a technology partnership with fellow UK company Alex Technologies Ltd, Ealing, West London: the two are working on a Windows version of Alex development environment, which currently allows an X-Windows front end to be added to character-based applications. Meanwhile, VisionWare Ltd says release 4.1 of its XVision Microsoft Windows-based X-server software is now shipping: according to figures from the X Business Group, Fremont, California, it enjoys a leading 39% share of the MS-Windows X-server market.

SUNPRO HAS C TRANSITION PACK

Readying itself for the next release of Solaris this week, SunPro, a division of Sun Microsystems Inc based in Mountain View, California, will ship its C Transition Pack on July 1. Combining SparCompilers and SparWorks development tools from the SparWorks Professional family of products, the pack helps migrate C applications from version 1.0 to 2.0 of the Solaris operating environment. The announcement is a gentle nudge to developers to move over to the new version of Solaris. Until the end of September this year, the product will be specially priced at £618, which SunPro claims is a 70% saving. Transition Packs are also available for other languages like Fortran (£1,365 - \$2,200), C++ (£1,240 - \$2,000) and Pascal (£1,365 - \$2,200), at a 35% saving. The transition packs include CD-ROM media, user manuals and online documentation. The enhanced SparCompilers have optimisation techniques and parallel instruction scheduling to enable developers to get an 8-12% improvement from the SuperSparc RISC. However, the C compiler now has to be bought separately as it is no longer to be bundled with Solaris: SunPro claims that it is no longer a necessary item for customers. The company has also introduced a network licensing scheme to enable tools and compilers to support different versions of the Solaris environment interchangeably. Version 2.0 of SparWorks, a set of six development tools for all SparCompilers, will also support Solaris 1.0 from September. SunPro is setting up shop in Europe to market software products geared towards software development. Velizy, France is to be the European headquarters with around ten staff and other offices will open in London, Northern European Office, and Munich, Central European Office, by the end of this year. The company is also predicting European prices will come down to the same level as in the US.

ACER ADDS TO ALTOS 80486 LINE

San Jose, California-based Acer Group subsidiary Altos Corp, has announced the addition of two Unix-based workstations to its Altos System 4500 product line. The Altos System 4500-50M and 4500-50E, both built on Intel Corp's 50MHz i486 DX part, have 256Kb of high-speed, 8Gb of disk storage and level-2 cache. Both systems feature 16Mb of memory, Altos SCSI channel adaptor, 525Mb cartridge drive, VGA controller, SCSI-2 hard disk drive and 14" colour monitor. All Altos System 4500 systems built on i486SX or 33MHz DX parts can be upgraded to the 50MHz version, says the company. Running Altos/SCO Unix system V/386 Release 3.2, which is also fully compatible with the Santa Cruz Operation's SCO Unix 3.2 version, the 4500-50M and 4500-50E systems have six EISA slots, 33Mb-per-second EISA I/O bus and SCSI-2 hard drives. Both systems will be expanded to include 256Mb of memory and 16Gb of disk storage by the end of the year. Available now the Altos System 4500-50M and 4500-50E are priced at \$16,700 and \$15,800 respectively.

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SUN's SPARC WEB DRAWN TIGHTER WITH VERSION 9

Version 9, Sun Microsystems Inc's specification for the next generation of Sparc architecture, which includes 64-bit requirements, has been rubber-stamped by Amdahl Corp, Ericsson, Fujitsu Ltd, HaL Computer Systems, Hyundai, ICL, Interactive Systems, LSI Logic, Matsushita, Oracle Corp, Philips International, Ross Technology, Texas Instruments and Sun itself. After taking account of relationships between the various firms in the list, we're left with a core number which can almost be counted on the fingers of one hand. Sun put out the wire to its community describing Sparc as "an open evolutionary process...the only cooperatively-developed, royalty-free architecture in the world." Sparc International - ostensibly there to serve this process - didn't get a look-in on the announcement, and the only contact listed on the message is a Sun flak.

The ANDF installer for Sparc produced by Praxis Systems Plc (UX No 389), was not done for the Open Software Foundation but for the DRA, which owns it. DRA says, however, that Praxis is doing ANDF work on a mystery chip for OSF which it declined to identify, except to say it wasn't the Transputer (the 88000 perhaps?). DRA itself has done installers for the Transputer, 386/486, MIPS, 68K, VAX and is looking at HP's PA-RISC.

Computer Associates is co-sponsoring "The Great Debate" at Alice Tully Hall in the Lincoln Centre in New York on June 22, discussing the need for a US technology policy. Speakers include Gordon Bell, Larry Michels, Roger Sippl, Morgan Stanley senior economist Stephen Roach, Senate Defense Industry and Technology subcommittee chairman Jeff Bingaman, and Harvard University JFK School of Government moderator Marvin Kalb.

IBM Corp is to begin distributing AIX/6000 on CD-ROM, making the product easier to install, it says: IBM has also announced price reductions on memory upgrades for the RS/6000 of up to 41%.

Informix Software Inc has opened an office in Prague, Czechoslovakia: others are said likely to follow in Poland, Hungary and CIS.

UK manufacturer, Cambridge Micro Computers Ltd, has introduced an Intel Corp 80486-based server system running Santa Cruz Operation Inc Open Desktop which it says can support up to 100 workstations - the 20 MIPS, 50MHz machine comes with up to 6Gb disk and will integrate with Novell Inc NetWare, TCP/IP and Microsoft Lan Manager networks, no prices given.

Dell and AST have apparently been working closely with Sunsoft, say sources, and might be a good bet for the mystery OEMs Sunsoft is to trot out this week.

Island Graphics is set to become the first - and so far the only - application for Solaris-on-Intel, to be announced this week at PC Expo.

Solbourne Computer has plucked Charles Barbour, a founder of both Apollo and Stellar, as its vice president of engineering. Solbourne is figuring it'll ship its Viking-based Series 6 in the fourth quarter.

Aachen, Germany-based Parsytec GmbH's US subsidiary in West Chicago has announced Parix, the "second-generation" parallel Unix-based development environment developed for its indefinitely-forthcoming GC Series of T9000 Transputer-based MIMD supercomputers by Amsterdam-based Associated Computer Experts BV: aimed specifically at scientists and research engineers, it can be used on any Parsytec system with 16 or more nodes, which is hooked up to a Sun Microsystems Inc workstation as a front end; a Parsytec 62-node MultiCluster I with Parix is from \$100,000.

Japan's ASCII Corporation has picked up Japanese and Korean distribution rights to Santa Clara, California-based Nimbus Technology Inc's new Mbus board for would-be superscalar Sparc cloners (UX No 383) and other products: ASCII, the lead investor in Chips & Technologies Inc back in 1987, is also considering taking a minority stake in the start-up though that part of the equation has yet to be nailed down. ASCII is run by the man who first brought Microsoft Corp to Japan. Now he's quoted as saying, "Sparc is the way to go" in the workstation market.

Sunnyvale, California-based Ashlar Inc has opened up as Vellum Software Ltd, Cambridge, to sell its 3D CAD applications in the UK.

Tadpole US has picked up a new president, Kenneth Cannizzaro, previously the firm's director of business development: he's responsible for operations and market expansion in the Americas and the Pacific Rim. Founder Bob Gilkes is now simply chairman. Tadpole has also moved into new quarters so it can start manufacturing stateside for orders worldwide.

IBM Corp has an OEM pact for its RS/6000 and AIX Unix from employee-owned Versys Inc, Westwood, Massachusetts, which will call it Solution/RISC. Financial terms were not given. Versys builds integrated multi-user systems with its own vertical software; it is active in the Eastern European market.

The aggregate turnover of the Indian computer industry rose 27% in the year to March to reach \$1,000m, according to the Manufacturers Association for Information Technology; exports of hardware and software totalled \$105m, up from \$88m.

DEC, making a play for the desktop market, has completed its acquisition of Richmond Point, California-based 800-Software, one of the largest PC software distribution houses in the US. With revenues of \$77m in 1991, 800-Software will maintain its current management infrastructure, becoming a wholly owned subsidiary of DEC. 800-Software will continue to market the 12,000 non-Digital products already on its books.

Cisco Systems Inc, the internetworking routers company, has spun off a Japanese subsidiary Nihon Cisco Systems K.K., Tokoyo. Heading up the operation, Cisco has brought in Takatoshi Matsumoto as general manager, who previously headed up similar startups Nihon Sun Microsystems K.K. and System Software Associates K.K. The Japanese office will be responsible for supporting sales and maintenance services for its Japanese distributor Net One Systems Co and OEM partner NEC Corp.

Sequent Computer Systems Inc is apparently more than interested in sticking Microsoft NT on its Symmetry platforms.

Ing C Olivetti & Co SpA and Novell Inc duly announced the signing of a Master Business Agreement, which covers full support of NetWare within the Olivetti Open System Architecture and joint marketing activities between the two: Olivetti is taking NetWare for Unix and will do a version for System V.4 on Intel Corp iAPX-86 and on its MIPS Computer Systems Inc RISC-based machines; it will also take Novell's System Fault Tolerant III technology for some servers, including multiprocessor machines, and they will be fully integrated with Novell's NetWare Management System.

Emeryville, California-based Sybase Inc bought all rights to the SQR, Easy SQR, and Easy SQR for Windows SGL-based proprietary language reporting tools developed by SQ Software Inc. Sybase has been selling and supporting the tools since 1988 under the SQR Family line, which also includes the SQR Developer's Kit developed by SQL Solutions, through its SQL Solutions consulting organisation, but it says that by merging SQ Software's tools directly into its SQL Lifecycle tools product line, it can more effectively support and enhance them. The SQR Family supports Sybase, Oracle, Rdb, Ingres, Informix, SQL Base and SQL Server.

Network Computing Devices Inc got its initial public offering of 2.5m shares, all new, away at \$12 a share, and plans to use the \$28m or so net proceeds for working capital.

OK, so will it be in the next announcement or is it in there already and IBM Corp just hasn't told anybody about it yet? The company reportedly plans to add a Power RISC to the AS/400 processor complex, not to be used as a Unix CPU or anything like that, but in order to soup up performance where the machine is weak - doing complex sums and handling image processing.

A very unhappy MicroMuse Ltd was bemoaning the theft from its stand of a Toshiba Corp laptop computer at the Software Tools show in Wembley, London last week: the machine looks identical to a Toshiba 5200 but was in fact a Sparc LT engineering sample with Solaris loaded and the company warns the thief that it is the only one of its type in the UK and is very traceable.

Several glitches in the slide/film presentation that Olivetti executives made at their bash in Rome last week prompted chief operating officer, Elserino Piol to promise that "next year everything will be handled by Olivetti multimedia devices." we'll remember that.

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NOW STRATUS DESERTS THE 80860 - FOR HEWLETT-PACKARD'S RISC
Fault-tolerant systems manufacturer Stratus Computer Inc will join the exodus out of the Intel Corp 80860 RISC camp after one more iteration and has decided to switch to the Hewlett-Packard Co Precision Architecture RISC. The Marlborough, Massachusetts-based company will use Precision Architecture in future high-end machines which it plans to roll out in 1994 or 1995. The news comes just days before Stratus is due to take the lid off a nest of new symmetric multi-processing systems built around the Intel 80860XP RISC (UX No 389). As many as eight new models are expected on July 13, which according to insiders, will go well beyond dual-processor arrangements. Stratus currently uses Intel's 80860XR RISC in its XA/R line - the XR part has no cache-coherency and doesn't support symmetrical multi-processing - and Motorola Inc's 68030 in its eight-way XA2000 multi-processors. The company scrapped an original plan to use Motorola's 88000 RISC part back in 1989 in favour of the 80860, a decision that Stratus may now be regretting. Its beating a path to Hewlett-Packard Co's door seems to indicate the final demise of Intel's 80860 as a mainstream system-level CPU. Alliant Computer Inc, which used the 80860 in high-end parallel systems recently filed Chapter 11 bankruptcy proceedings. Defending its latest manoeuvre, Stratus says "the move from complex instruction set to RISC was difficult, RISC to RISC is straightforward by comparison." Hewlett-Packard is currently designing its own fault-tolerant systems around the Precision Architecture RISC using the technology of Stratus' deadly rival, Sequoia Systems Inc - Hewlett currently re-badges the Sequoia boxes as its HP 9000 Series 1200s - though it says its agreement with Stratus "will not affect the relationship with Sequoia," where it is a shareholder. Stratus will continue to build 80860- and 68000-based systems up until the 1994-95 time frame - possibly beyond - and plans at least one more iteration of the XA/R line before that. Additional input-output, memory and disk enhancements are also planned. Stratus fault-tolerant systems, which are re-badged by a host of companies, including IBM Corp as the System/88, and Ing C Olivetti & Co SpA as CPS, expects the various OEM arrangements it has to carry on through into its HP era. Although Stratus faces growing competition from HP in its own markets, it says the latter has "guaranteed equal access to the Precision Architecture chip - a level playing field." Stratus' endorsement further bolsters the credibility of Precision Architecture and its 7100 iteration, which Stratus will probably be using. The new machines will run both its proprietary VOS and its FTX System V.4-based fault-tolerant Unix and it will look at Microsoft Corp's Windows NT: applications will be compatible across all the three hardware environments. Meanwhile, Intel's plans for the 80860 CPU family remain clouded. Its 80860 development team moved across to the firm's 80586 P5 effort, where Intel has now focused most of its resources. A high-end 80860 effort, called N12 was cancelled, and a planned N15 part targeted at the graphics marketplace now appears to have been scrapped. Some sources indicate that a high-end effort may be re-kindled after the P5 is out of the door, but sceptics say all future 80860 development has been canned.

SUN ENDORSES X-TERMINALS FROM DOWN UNDER

Under the guise of meeting some of its obligations due to the Australian government under its "partnership for development programme" - where foreign multi-nationals must reinvest some of their profits back into Australian industry - Sun Microsystems Inc has all but embraced its two technology pariahs, X-terminals and the Motif interface. Sun Australia, Sydney, has signed with Labtam Australia Pty Ltd, Melbourne, to port its Open Windows 3.0 environment to a new generation of Labtam X-terminals, called Open Terminals. Sun is paying an undisclosed amount towards the cost of the project, thereby fulfilling some of its operating obligations down under. Although Sun will not sell the Open Terminals directly, it will cooperate with Labtam, as its preferred partner, on contracts that stipulate the supply of X-terminals to be used in conjunction with Sun equipment, and has sanctioned Labtam to use its worldwide distribution network as an outlet for the things. The Open Terminals will use Intel Corp's i960CA RISC and perform at 100,000 Xstones in colour configurations - 130,000 in monochrome. As well as Open Windows 3's Open Look graphical window manager, they'll be able to run OSF's Motif interface, and will also be configured with ISDN software to take advantage of Sun's moves in that direction (UX No 386). Labtam says 100% of Sun software will run on its boxes, which will be around in beta versions by September - with volume ships 90 days thereafter. Users of Labtam's existing i960-based 300 series can upgrade to Open Terminals. Wales, Cardiff-based Metaglyphix Systems Ltd resells Labtam kit in the UK.

UI ACTS AS PEACEMAKER BETWEEN SUN AND USL OVER SVR4 INCOMPATIBILITIES

Unix International is trying to head off further fragmentation in the industry by acting as peacemaker between the new desktop rivals SunSoft Inc and Unix System Laboratories Inc, anticipating some compatibility issues before the mud-slinging turns nasty. UI has drawn up a "statement of SVR4 commonality" that it says it is trying to get both Sun and USL to agree on. It includes mutual conformance to a proposed new Application Binary Interface (ABI) that UI members are working on and should be ready in the next three months. UI is rightly concerned that constantly harping on the about the incompatibilities between Destiny and Solaris will only demoralise software houses and lose applications for Unix. SunSoft is apparently reluctant to align itself to closely with the Unix International Roadmap, seen as too closely aligned with USL. USL and SunSoft are pledged to continue talking to ensure "interface compatibility in new areas of the system software technology above the operating system." Details, page 2, and see below.

UI "TO LOOK BEYOND USL FOR FUTURE TECHNOLOGIES"

Unix International is also preparing to look beyond Unix System Laboratories in its quest for technologies on top of and around the core Unix System V Release 4 (SVR4) operating system, say sources close to the organisation. Believing that its original charter - the establishment of SVR4 as the main focus for future Unix development - has largely been achieved, UI is now looking to build on that success, and, said the source "we've now worked out how". UI spokesman Dave Sandell dismissed the claims as "old news," pointing to the establishment of UI's Atlas framework last year (UX No 331). But Sandell admitted that up until now, all the technology was being sourced through USL, which had the integration expertise. This is perhaps less of an issue now that Unix SVR4.2 has been modularised, and it is expected that UI will in future work more directly with the rest of the industry on interfaces and reference technologies around SVR4 - see page 2. "There is still a perception of UI as a USL club", said Sandell. No announcements from UI are anticipated, at least until Unix Expo in September.

APPLE BRINGS TOSHIBA INTO THE KALEIDA MULTIMEDIA PARTY WITH IBM

Toshiba Corp has now been drawn into the IBM-Apple Computer Inc alliance following the announcement that it and Apple have an agreement to develop multimedia technology, combining Apple software skills with Toshiba's expertise in semiconductors and consumer electronics. The two will jointly license, develop and produce Personal Digital Assistants with the first from the alliance, set for mid-1993, will use CD-ROMs storing text, audio and graphics. Sharp Corp has already signed to make and market the first Apple Personal Digital Assistant, Newton, and Sony Corp makes Apple's smallest PowerBook. Toshiba and Apple will license software from Kaleida Inc, the IBM-Apple multimedia firm, which yesterday named Nathaniel Goldhaber as chief executive: he is a principal in Cole Gilburne Goldhaber & Ariyoshi Management Inc, a high tech venture capital firm.

PowerPC UPDATE

It turns out that the numbers put to the four PowerPC implementations the 601, 603, 604 and 620, detailed last week (UX No 390), refer to chipsets and not systems as was implied. The 601, to sample later this year is destined to be used in the first Power PC Macs and other low cost desktops. This chip implementation, to be available on the open market, is a derivative of an IBM Corp Rios design, which explains why it will be out so soon. The 620 chip implementation, for high-end workstations and servers, will be available in 1994. This will be a full 64-bit implementation, superscalar so that it probably issues two to three instructions per cycle. The 603, for use in portable computers and the 604 for mainstream desktop applications, will be available in limited quantities in the second half of 1993. The Rios RISC has been cleaned up to create the PowerPC, focusing on just what's important for the desktop market. It will be binary-compatible with the RS/6000 Power RISC, since no operating code has been changed. The RS/6000 has basically been revised "with single-chip implementations in mind". Compatibility with the RS/6000 is ensured through trapping of unimplemented instructions. And 64-bit extensions have been added. The first Apple Computer Inc PowerPC systems are expected to sell for under \$2,000 - these will be true Macintosh systems running Macintosh applications. Included in the System 7 operating system for the PowerPC will be a full emulation for Apple 68000 binaries - this will be faster than MC68040-based Macs that cost about four times as much. Slater reckons "Apple is the one company that will make PowerPC happen". He notes that IBM and Apple are collaborating on the PowerPC CPU, and not on systems: Apple boxes will run System 7, not Pink or any new operating system.

88open ROUNDUP

The 88open Consortium Ltd has released a compatibility test suite for applications - in binary and object forms - running under Unix SVR4 on the Motorola Inc 88000 RISC. Software developers - independent or corporate - can have access to the tests and certify their SVR4 applications on the 88000 at no charge, the group says. The Posix and XPG3-compliant ACT/88 for SVR4 adds tests for new Unix V.4 features such as dynamic linking, ELF and streams.

Tom Mace, president and chief executive officer of 88open, believes the proposed Architecture Neutral Distribution Format-type software portability technologies now doing the rounds should be pursued as vigorously as possible, but argues that provision for support and verification must be developed, if the stuff is to become accepted by a still sceptical independent software vendor community. Because the techniques involved imply a separate implementation of the portability software on each different platform - they also mean that what users purchase and what they see on their screen are two different things - there are obvious questions of support and testing that need to be addressed. Further out, Mace believes these portability issues will become redundant as chip technology evolves to the point where multiple architectures can be implemented and supported on a single microprocessor. Although there are some formidable technological hurdles to overcome, the concept is already being put into practice in several projects, most prominently from where Mace stands, in the IBM Corp/Apple Computer Inc/Motorola Inc effort to bring some of the functionality found in Motorola's 680x0 and 88000 processor families onto the PowerPC RISC architecture the three are developing, as well as maintaining binary compatibility with IBM's RS/6000 Power RISC. There will be less people and less distribution issues involved in these efforts than in the ANDF-like solutions, argues Mace, who reckons real on-chip solutions are some four to five years away from commercial realisation. Although IBM, Apple and Motorola have a forged an agreement for the duration of their project, there remain obvious legal implications for a vendor who might want to stick say Sun Sparc and MIPS RISC instruction sets on to a single piece of silicon. Mace believes those copyright and interface issues are now being worked through in the current round of legal skirmishes between Intel Corp and its iAPX-86 impersonators such as Advanced Micro Devices. The upshot, Mace hopes, is that interface copyrights will be broken and will therefore pass into the public domain. Subsequently, who ever can produce the cheapest, fastest part with the most capabilities to mimic other architectures will win out, and "once one does it, the others will be forced to follow."

On the PowerPC effort, Mace says the initial part will come in with around 30% less power than the 88000, though he expects performance to converge over time. PowerPC, which Mace describes as "not elegant, but a good start," incorporates around 15% of the 88110's architecture, re-engineered of course. Meanwhile, the 88110 itself is still only available in developer and very limited edition quantities, despite announcements from the likes of Dolphin Server Technology AS and Harris Corp. Motorola, Mace says, is still cleaning up the part and doesn't want to announce pricing or general availability until later in the year.

Mace claims that some \$1bn of business has now been conducted on 88000-based system products, and claims, as the group often does, that there will be more converts to the cause - this time around there are five or six Intel Corp i860 manufacturers on its hitlist.

88open will open a European office this summer, either in the UK or Germany, which will use space rented in one of its members' offices. The office will coordinate 88open's pan-European marketing, information, exhibition and conference efforts. The group's clutch of porting and testing centres remain intact.

Mace was also able to cast some interesting light on the heritage of Unix System Labs Inc's Destiny desktop - or Unix V.4.2 (UX No 390). He reckons that up to 70% of Destiny originally featured in the modularised Unix System V.3 implementation that was developed by Convergent Technology for the ill-fated Unix PC which it manufactured under an OEM agreement for AT&T. The stand-alone desktop machine which appeared back in October 1984 (UX No 1), was a Motorola Inc 68000-based machine that came with 512Kb RAM - expandable to 4Mb - 20Mb (Winchester) drive, 5.25" floppy drive and 12" mono display with a telephone and modem built-in. The thing retailed at between \$5,000-\$6,000. Although at that time the Unix PC was the most successful Unix product ever, by May 1986 (UX No 79), AT&T was struggling to market thousands of the things held in stock - it had wanted to sell a million of them - and had co-opted Convergent on to the job too. The problem then, as now, argues Mace, is that "Unix systems are developed by Unix engineers who like the complexity of Unix. If you develop something complicated, then you need complicated people." The problem with Destiny is that even at \$350 - which will only buy kernel-level stuff - it is still much more expensive than MS-DOS/Windows, and Microsoft Corp is sure to pitch NT at some attractive price point well below USL's. Mace believes that whilst USL may be able to claim the value-add in Unix "is worth it," the problem is "who wins by saying things like that? Only Apple perhaps."

RISCs: 88000 HOT, ALPHA NOT, SPARC FLYING, 80860 DYING - CHIP GURU MICHAEL SLATER

By Sue Norris

80860: "poorly thought-out"

Michael Slater, industry guru and editor and publisher of the US journal, *Microprocessor Report*, in London last week to give his views on the RISC marketplace, had some disparaging comments to make about Intel Corp's and Digital Equipment Corp's RISC processor offerings. The Intel 80860 he described as a good implementation of a poorly thought-out microprocessor architecture. As a supposedly general-purpose chip, he said, the 80860 falls down on programmability, no thought seemingly having been given to the compiler and operating environment. Slater echoed industry doubts about Intel's commitment to the unsuccessful device, which Olivetti was going to use to build a workstation until the last minute when it scrapped the whole project in favour of DEC's Alpha (UX No 390). The 80860 also formed the basis of Oki Electric's server line until it folded last month. Apart from use in supercomputers and embedded applications, the 80860 is struggling to garner support. Intel was the last to join the RISC bandwagon, Slater notes - repeating a comment made some time ago by Intels' Dave House, that RISC was "the last hope of the have-nots" - now it seems Intel is the have-not of the RISC marketplace. Indeed, as Slater was only too quick to point out, Intel is shifting people from the 80860 development project onto the iAPX-86 line, on which Intel is concentrating most of its resources now.

Alpha: "three years late"

DEC's Alpha, meanwhile, was given a hard time for being late into the market. Three years ago, Slater said, "I predicted that there would be no more major RISC announcements, and then came Alpha - I could still have been right." He is cautious about all the hype that has surrounded Alpha from the time of announcement and warns that too much is being promised by a chip that was designed in the first instance to provide a Unix migration path for VAX users. He said DEC has pulled out all the stops to achieve the fastest possible clock speed - 200MHz in a CMOS silicon implementation - and a pure 64-bit architecture. In striving for this goal, however, DEC has sacrificed cache memory capacity - a third of the chip is actually taken up by clock buffers which dissipate half of Alpha's notably high level - 30 Watts - of heat emission. Although Alpha is packaged to the same die as the Viking SuperSparc, Alpha manages only 16K cache while Viking has 36K. Nothing, according to Slater, will make up for the fact that Alpha is three years late to market. He pointed to a couple of other technical inferiorities, and went on to note that DEC still hasn't managed to convince any of the semiconductor manufacturers to take on the production of Alpha - it looks as though DEC will have to make it itself. According to Slater, the semiconductor suppliers just aren't confident that a market exists for Alpha. Whether or not Slater was aware of Olivetti's endorsement of the Alpha chip, he commented that, since no major workstation vendor had latched onto Alpha, other than DEC itself, there is no-one to really drive the market.

88000: "best, but lacks customers"

Slater pointed to the Motorola 88110 - not yet formally announced due to some lingering problems - as "perhaps the best of the current crop of microprocessors", adding that it is a shame that it won't make an impact because it doesn't have the customers. The 88000 Slater described as the most highly integrated of early RISC implementations with a very clean architecture and no major warts, except perhaps the combined integer-floating point register file.

Its failure to take the market, in Slater's view, was due to strategic and not technical reasons. Adding that no-one seems to know what really happened, Slater went on to say that it was an apparent lack of early commitment by Motorola's management which led to the loss of Sun and others as takers for the 88000. The processor also suffered slow product development and, as a result, potential customers lost patience. This, coupled with internal conflicts at Motorola over the 680x0 program, led to a weak positioning of both product lines. With something of a domino effect, this lack of success in the Unix market, according to Slater, caused Apple to switch to the PowerPC. As strengths, Slater pointed to the 88000's high level of integration, good single-precision performance, multi-processor support and Motorola's advantage of single-vendor control, while as weaknesses, he listed the expense of building a large cache on the 88100/200 implementations and the slow speed of the floating point in double precision mode.

PA-RISC: "fast, but lacks support"

Hewlett-Packard's PA-RISC, Slater held up as being among the fastest workstations shipping today, as having a rich architecture and as having a large primary cache in current implementations. On the downside, despite licences there are no useful chips on the open market and no other workstation vendors to support it. Also, current implementations are costly, the system design for high clock rate primary cache is weak, and there is a lack of strong US partners.

Sparc: "no significant weaknesses"

For Sparc, the weaknesses listed were not significant, except to say that Sparc is unlikely to support Windows NT. Its strengths, meanwhile, include its application software base, Sun's substantial investment, and the availability of second source suppliers.

R-Series: "Sparc means MIPS won't be number one"

MIPS Computer Systems, on the other hand, has the first RISC which will support Windows NT. The R-Series is also supported by a wide range of applications, and the MIPS market is a level playing field, not dominated by a Sun Microsystems. Sun's very presence in the workstation market, however, means that MIPS is unlikely ever to be number one. The disbanding of ACE, of course too, has done little to boost MIPS' credibility, and there exists no major vendor that's committed to MIPS as a desktop processor.

RS/6000-PowerPC: "proprietary, but well supported"

The RS/6000 and PowerPC lines are credited with the commitment of three large industry players, and a high-performance floating point. On the downside, high performance can today only be achieved with a proprietary multi-chip implementation, early PowerPC implementations will not be performance leaders and IBM is caught up in internal conflicts over the AS/400 and its mainframes.

Hobbit versus ARM

Finally, at the low end, Acorn spin-off, Advanced RISC Machines, seems set to battle it out with AT&T's Hobbit RISC in the handheld computer market - ARM has been taken up for Apple's Newton range, while Hobbit is expected to be the RISC target for Go Corp's PenPoint operating system.

OSF DEBUTS MODULARISED RELEASE 1.1

The Open Software Foundation last week announced the general availability of Release 1.1 of its OSF/1 operating system and trundled out the first snapshot of the Distributed Management Environment, for members. OSF also rolled out some future development plans in its Open Road plan. Compiled versions of OSF/1 release 1.1K - integrated kernel - are out on three reference platforms, Intel Corp's 80386-based 302, Digital's MIPS Computer Systems Inc RISC-based DECstation 3100 and Encore Computer's National Semiconductor-based Multimax. Other releases will follow for Intel Paragon, DEC Alpha, Apple A/UX 4.0, Convex MPP, Intergraph, IBM ESA, Hitachi MJ, ACE and HP systems. OSF/1.1 is essentially a modularised effort, in a similar vein to Unix System Labs's Destiny product. It can run on 4Mb RAM and has a range of modules which can be loaded and unloaded as required including NFS, TCP/IP, or a System V file system. Most important, for compatibility's sake, OSF/1.1 includes conformance to USL's System V Interface Definition version 3, which means any application written to the SVID3 base and kernel extensions - the backbone of Unix SVR4 - will run on OSF/1.1 with a strict re-compile, OSF says. OSF/1.1 has increased foreign language support and costs \$85,000 with full distribution rights. Upgrades from OSF/1.0 are \$25,000, binary royalties are \$65 per copy.

Microkernel, DME

Snapshots of OSF's Mach-based micro-kernel are out now, and an advanced technical release is slated for the third quarter. The micro-kernel won't do away with AT&T code entirely, as a server version of the existing OSF/1 operating system will be required to drive the stuff. OSF's Distributed Management Environment, DME, meanwhile, will roll out in a five-step process. The first is the snapshot. A Distributed Services Release is targeted for mid-1993, providing key distributed management services to the DCE technology. In the second half of 1993, OSF will provide the integrated DME framework, management user interface, management object and a developer's toolkit. However, it failed to mention in its release that it has dispensed with the services of IBM's data engine in DME - apparently the object-oriented software is too complicated to integrate with the other technologies. IBM's data engine was to be used alongside Tivoli Systems Inc's Object Management Group-compliant Object Dispatcher technology in the DME server compartment, which maintains objects that contain information about resources on a network as well as routines for managing them. OSF will expand Tivoli's stuff to fill the role.

Open Road

In its Open Road schedule, OSF expects to get OSF/1.2 out of the door for the second half of next year, with improved commercial functionality, real-time and pre-emptive scheduling features. DCE, the Distributed Computing Environment was left pretty much untouched - OSF says it will include object-oriented capabilities by 1995, and there are now some 75-odd source licensees for the stuff. OSF mapped out Motif's future: it plans to start work on the Next Generation User Interface by 1993, which will evolve into a fully object-oriented use interface by 1995. OSF also said there would be significant moves towards converging its style - look and feel - with Windows and IBM's Common User Access user interfaces.

MASPAR MP-2 WITH THREEFOLD POWER "OUT THIS YEAR"

MasPar Computer Corp, Jeff Kalb's Sunnyvale, California-based single instruction-multiple data massively parallel supercomputer company from which Digital Equipment Corp gets one of its supercomputer offerings, is expected to launch the MP-2, its second generation mid-range machine before the year's out. Electronic News hears that the new MasPar machine will offer three times the performance of the company's two-year-old MP-1 system, but at the same price. That would give a peak throughput of 3.6 GFLOPS on a maximum 16,384-CPU configuration costing \$1.2m. The new system will again be based on a custom CMOS microprocessor, 32 of which will be integrated onto one chip. The new processor is expected to operate in 8-bit mode rather than the 4-bit approach used in the MP-1 (processors sourced from Sierra Semiconductor Corp); theoretically, the MasPar architecture could be expanded to 64 bits. In the meantime, the trade weekly reports, Kalb is attempting to get DEC to clarify its supercomputer strategy in the wake of its announcement that it will also sell Intel Corp's iPSC machines. DEC accounts for half MasPar's sales (Kalb would prefer it if that fell to 33%), and the firm is concerned that if DEC fails to position the ostensibly competing parallel lines clearly, potential customers will be confused.

INTERACTIVE LOOKS FOR A BUYER

FOR NORTON UNIX UTILITIES

One of the products that seemed to slip through the cracks when Eastman Kodak Co's Interactive Systems Corp, Naperville, Illinois, sold its packaged Unix division off to Sunsoft Inc was Norton Utilities for Unix. Interactive shared development of the product with Segue Software Inc, Santa Monica, and launched the product back in 1990 (UX No 281,285) for Intel-based machines, with Peter Norton Computing taking royalties (Norton has since been acquired by Symantec Corp, Cupertino, California). Now Interactive is looking for a buyer for the technology, which does not fit with its new brief as a networking technology specialist. Interactive says there is a lot of interest, and that ports of the technology for Sun Sparc and IBM RS/6000 systems are being proposed. One of the interested parties, and one of the only sources that can currently supply the Norton toolset for SCO and Sunsoft's (Interactive) Unix, is Transparent Technology Inc of Los Angeles, California, which specialises in PC/Unix software. Company spokesman Chris Hipsher said there is a huge demand for the product, but that perhaps the most often requested port, for SCO Xenix, is still not available. Hipsher says another glaring omission is an equivalent of the Norton for DOS disk fragmentation utility, but that the Crocodile utility from Australian multiport board manufacturer Stallion fills the gap. The Norton product is in short supply, but Transparent hopes to begin manufacturing software itself in the near future. A solid deal, and possibly a re-launch of the product, will happen by year-end, says Interactive.

PEDDLE'S THSTYME TO DO ITS DEVELOPMENT IN RUSSIA

THStyme Inc, the technology company formed by Commodore Pet developer and Victor Technologies Inc founder Chuck Peddle, has announced a deal with Nauchny Tsentr, Russia's former aeronautic electronics conglomerate. The joint venture, to be known as Unified Technologies, is aimed at transforming this Russian answer to Silicon Valley, in the Moscow suburb of Zelenograd, into a world class producer of semiconductors, peripherals and other computer products. THStyme will act as the exclusive distributor for these Russian-manufactured goods to the world market. Unified Technologies meanwhile will market THStyme products in Russia. The project will be officially launched in Moscow next month, with the first shipments of computer products to the West due in late 1992. Some 20,000 researchers at the base are already working on a top secret new THStyme product set for launch next spring, which Peddle promises "will change the way that people use computers".

HP FOLLOWS SUN ROUTE WITH ISDN FOR WORKSTATIONS

Mirroring Sun Microsystems Inc's efforts in this area (UX No 386) Hewlett-Packard Co has rolled out a new range of ISDN connectivity products enabling standalone workstations to communicate over public or private ISDN networks. Included are the HP ISDN Link/S700 add-on card for its 720, 730 and 750 workstations - with transfer speeds of up to 128Kb per second - HP ISDN server and HP ISDN Link/MS-DOS, which allow PCs to take advantage of ISDN circuit switching services. All ship July 1 - the HP ISDN server costs \$18,400, an HP ISDN Link/S700 add-on card is \$2,800 and the HP ISDN Link/MS-DOS card starts at \$2,600.

PRIME'S PRIMESERVICE UNIT OFFERS

Prime Computer Inc's Framingham, Massachusetts-based PrimeService Inc - soon, as we understand it, to be part of a new quoted company called Computervision Corp - has launched Connection NetWare for Sparc, which it describes as an open architecture version of Novell Inc's NetWare operating system running under Sun Microsystems Inc's SunOS version of Unix. The company says that it enables MS-DOS, OS/2 and Apple Computer Inc Macintosh users to share data, print services and applications on Sparc systems while retaining the existing operating environments; certified by Novell Inc, the product will be sold directly and through manufacturers and resellers. It costs \$5,800 for an unlimited user licence.

RABBIT BREEDS IN EUROPE - AGAIN

by Sue Norris

Rabbit Software Corp, based in Malvern, Pennsylvania, is about to try and cut it in Europe - for the second time.

The 10-year-old public company, 75% owned by venture capitalist Safeguard Scientifics Inc, specialises in Unix, MS-DOS and Windows-based connectivity products for standalone or networked personal computers and workstations. While some of Rabbit's business is done on an OEM basis, with procurers over the years having included IBM, NEC, Siemens, Motorola, Intel and McDonnell Douglas, the firm has also, until recently, been selling its products direct to end users. This new push into Europe, however, will be based totally on indirect sales. Rabbit first set up this side of the Atlantic with a direct sales office in Paris in June 1987. This was closed three years ago - Peter Craine, Rabbit's vice president for marketing and sales, explains that the firm then didn't have any national language support for its MS-DOS products; also, Unix - Rabbit's favoured environment - hadn't taken off in quite the way the firm had expected. The closure of the Paris office was initiated by a management team that had been installed at Rabbit Software by Safeguard. According to Craine, the investor's choice of directors left much to be desired; indeed, Charles Robins, one of Rabbit's technical founders, left the firm in frustration over the new management team that had been drafted in. Robins is now back in the warren, however, following the appointment of a fresh management team in June 1991. Now the company has an aggressive mission, to promote the Rabbit name (which Chuck Robins selected in desperation after a Volkswagen Rabbit came into his line of vision while he was trying to think of something to call the company) and to achieve 50% of revenues in Europe within the next three years. Rabbit has been trading at a loss - last year, net losses amounted to \$2.6m, down from \$3.3m losses in the previous year, on revenues down 20% at just under \$7m; for the first quarter of this year, losses were reduced to \$248,000, from \$800,000, on sales down 13% at \$1.6m. According to Craine, however, losses have now been reduced from once being \$1m a quarter to being now "around breakeven level", and Rabbit should be profitable "shortly". Playing a crucial role in achieving that goal will be the firm's new policy of making sales to end users entirely via a network of third party distributors, which Rabbit promises to support with unflinching commitment.

Europe

The picture for Europe - where currently only 5% of revenues are generated - is expected to be similar. In the UK, Rabbit's distributor is a company called Accent Computer Ltd, based in Burgess Hill, West Sussex. Rabbit admits that its support of Accent has in the past been minimal - now the firm will put all its strength behind its partner, and has appointed a Mr Helmut Weissenbach in Munich to co-ordinate the various European distribution outlets. Backed happily by Safeguard, Rabbit can afford to expand on the back of acquisitions, which the firm points to as being part of its growth policy, whether such acquisitions be based on product or on sales/marketing synergies, in the US and in Europe. Craine says Rabbit has been in talks with various companies, but declined to comment any further. What he did say was that Rabbit has no intention of setting up wholly-owned subsidiaries in any country, because of its commitment now to its previously neglected distribution partners. On the MS-DOS side of the connectivity business, Rabbit sees itself up against the big names - IBM, Novell and DCA. On the Unix side, however, Craine names only small market participants, such as Nynex's SSI division and Ann Arbour, Michigan-based Cleo Communications Inc, as having anything near what Rabbit can offer. Today the firm offers connectivity products supporting Santa Cruz Operation Unix, Unix 5.1, and IBM's AIX - Craine says Sun Microsystems, Hewlett-Packard and DEC flavours of Unix might be on the agenda sometime in the future, though nothing is imminent.

Rabbit recently announced a range of IBM SNA communications products for the Univel UnixWare operating system, initial shipments of which are scheduled to coincide with the launch of UnixWare in the third quarter this year. Rabbit Open Advantage for UnixWare is to include a range of IBM mainframe connectivity options, including 3270 terminal emulation, remote job entry, and APPC. The products are claimed to be capable of operating as a client to Novell's NetWare SAA communications server across Novell and TCP/IP networks. Charles Robins believes UnixWare will facilitate the growth of Unix in commercial accounts because of its ease of use and integration with NetWare. Craine reckons Rabbit will do well out of its relationship with Univel, since it has 10 years' experience of Unix. The firm aims to extend UnixWare integration into IBM networks, enabling access to host applications and development of distributed applications. Meanwhile, Rabbit Software has recently been the source of a minor confusion in the US, following speculation as to which species of animal Ross Perot would choose for his Ross for Boss presidential campaign. The rabbit is proposed The New Republic as a favourite, following an alleged investment by Perot in Rabbit Software - in actual fact, Perot Group investors did once invest in one of Charles Robins' business enterprises, but it wasn't Rabbit.

FORMER DUN & BRADSTREET STAFFERS FORM AGILITY TO ENCOURAGE DOWNSIZING TO UNIX

An allegedly truly open, second generation Unix product range has been announced by new Unix applications software distributor, Agility Business Software Ltd. The Bristol-based company enjoys a value-added reseller kind of relationship with Baan International NV of Ade in the Netherlands. Baan has 400 employees, offices in 15 countries and a turnover of \$60m. Clients include Sony Corp and food manufacturer, Van Melle Nederland BV. Agility is offering integrated financial, manufacturing and contract servicing application software as well as a fourth generation toolset for in-house application development. Consisting of modular packages, the product range is claimed to be completely open to any specific version of Unix and any hardware or database running on open systems. This is apparently achieved via the Baan-shell and toolset at the heart of the system. The B-shell contains in-built drivers that trigger the chip technology and run the independent relational database. The drivers also act as an interface between hardware and software. Agility maintains that customers need only specify their hardware and the right drivers will be provided. Any Windows technology and graphical user interface of the customer's choice can be built into the system. Agility also claims the ability to implement its software for any box within five days. Its products are aimed at companies wanting to move from a mainframe environment to mid-range open systems networks. Although the co-founders, Phil Edwards and Dave Jordan, both come from Dun & Bradstreet Corp, they will be focusing on attracting a new customer base rather than wooing an old one. Operating solely in the UK and Ireland, Agility was set up in April, 1992. It has six current employees, but is hoping to increase this number to 16 by June 1993. All of its products are available now and an average contract value is estimated at £150,000.

SUNSOFT SETS \$800 TAG ON SOLARIS FOR SPARC - NCR, OLIVETTI, EVEREX OPT FOR INTEL VERSION
 With the news that NCR Corp has joined the ranks of those opting for its Unix implementation for the iAPX-86 processor family, Sun Microsystems Inc's SunSoft subsidiary finally took the wrapping off its long-awaited Unix SVR4-based operating system environment last week.

The first implementation of Solaris 2.0 is now available in OEM quantities for Sun's Sparc RISC architecture at \$800. The second, Intel version, was demonstrated at PC Expo in New York, but will remain under the covers - at least as far as users are concerned - until the end of the the year at the very earliest. The two are source, but not binary compatible, and Sparc applications will have to be re-compiled to run on the Intel version, indeed to take advantage of Unix SVR4 features, existing SunOS operating system users will have to migrate their applications to Solaris 2.0 via the Transition pack announced recently by SunPro (UX No 390). As well as NCR Corp, which appears to have favoured Solaris over Destiny, the desktop Unix environment now on offer from parent AT&T's Unix System Laboratories Inc - effectively a rival product - ICL plc, Zenith Data Systems, Ing C Olivetti & Co SpA and Everex Systems Inc join those personal computer manufacturers who have already committed to Sun's Unix offering, including Dell Computer Inc, Toshiba Corp, AST Research Inc, CompuAdd Corp and NetFrame Systems Inc. Included in the \$800 price-tag for a single desktop version of Solaris 2.0-on-Sparc is SunOS 5.0 - SunSoft's Unix SVR4 - plus the Open Network Computing, ONC, environment, NFS network file system, NIS+ naming service, a transport-independent remote procedure call, Solaris Federated Services - which allow third party networks, such as Novell Inc NetWare, Open Software Foundation Distributed Computing Environment and OSI to plug into Solaris 2.0 - multi-threading, symmetric multi-processing, Kerberos security, disk mirroring and striping, real-time support and internationalisation. Development features include Open Windows version 3 (with the Open Look graphical user interface), the object-oriented ToolTalk mechanism for networked data sharing and DeskSet, a bundle of 15 desktop utilities that run under Open Look. Solaris ships in compact disc format, though SunSoft has no doubt that OEMs will offer taped-out versions for both Sparc and Intel platforms. SunSoft is also shipping a multi-processing OEM kit for Solaris 2.0, which it says will allow system manufacturers to take advantage of the symmetric multi-processing features of the kernel, such as multi-threading, and tune and verify it for their specific hardware implementations. That'll come into play when Sun's own symmetric multi-processors arrive - the Sparcstation 10, Sparcserver 10 and Sparcserver 600MP follow later in the year.

Confident

Solaris-on-Intel, work on which only began last January, will be available to developers from the third quarter, and will require a minimum configuration of a 33MHz 80386 with 80387 co-processor, or 25MHz, 33MHz, or 50MHz 80486DX, 80486DX2 or 80486SX with an 80487SX co-processor. It supports ISA, EISA and MCA busses and requires 8Mb RAM and 200Mb disk. Microsoft Corp MS-DOS and Windows emulation will figure on it (UX No 385), and although pricing for Solaris 2.0-on-Intel has yet to be fixed, it is expected to be significantly below the Sparc version. \$800 for Solaris 2.0-on-Sparc sounds expensive compared to USL's \$350 for Unix SVR4.2 (Destiny), but SunSoft claims such a price would buy little more than a kernel from USL, and is virtually useless in such form. Even so, Microsoft Corp is sure to pitch its Windows/NT Unix-killer well below both the Destiny and Solaris 2.0 products, though SunSoft is confident that once networking, graphics, E-mail, a desktop environment and multi-media capabilities are added to NT, it won't be as cheap as many commentators believe. Given the proliferation of multi-user operating systems just coming to market, SunSoft declined to talk percentages about how much of the Unix-on-Intel market it is aiming for with Solaris 2.0, though a bullish Doug Miller, managing director of SunSoft UK, said sales of one million copies a year within two years wouldn't be an unreasonable goal. SunSoft currently does 30% of its business outside of the Sun group of companies and Miller admits that the Interactive Systems Corp Unix variant it markets "is still our bread and butter business." The Interactive product, picked up when Sun acquired that part of Eastman-Kodak Co's Unix subsidiary, is now being pushed at the lower end of the Intel marketplace and further iterations will appear, though not a Unix SVR4 version. Miller fully expects Solaris 2.0 to appear on other CPU architectures in future, courtesy of third parties.

SUN AND USL - UI SEEKS TO MINIMISE THE DAMAGE OF NIGGLING INCOMPATIBILITIES BETWEEN SOLARIS AND DESTINY DESKTOPS

Unix International is working to head off further arguments in the Unix world over incompatibilities, this time within the System V.4 camp itself (see front page). SunSoft already has a burr under its saddle about the recent BusinessWeek article on USL, based on interviews with USL president Roel Pieper, that suggested that all Unix applications run on Destiny - not to mention the unfounded BusinessWeek claim that Sun would support Destiny. That's simply more fat on the fire. Into this simmering fracas strides UI waving a "statement of SVR4 commonality". SunSoft officials like Jim Billmaier were surprised that the eight-points included in the statement were committed to paper, believing them only discussion items for an independent software vendor rally held at PC Expo in New York City last week. Billmaier indicated SunSoft had little difficulty with six of the eight points, non-controversial items such as support of open systems, industry standards interoperability and maintaining ABI compatibility between Solaris and Destiny. SunSoft, however, draws the line at promising to evolve Solaris according to the UI Roadmap and had those words excised. The Roadmap is too identified with USL which is now Sun's competitor, Billmaier said. The proposed ABI, designed to ensure binary compatibility of applications within an architecture and offer a common denominator porting environment that all can work with, embraces media formats, TCP/IP, X11R5, perhaps multi-media and extensions to the graphical user interface. This last point is a touchy issue with Sun, which wants nothing to do with USL's Moolit toolkit. However, UI member companies, who variously use both Motif and Open Look, want libraries for both included in the ABI. Unix International is also hopeful that the ABI, when finalised, will include some kind of desktop commonality. Again another highly touchy point for SunSoft, but even Billmaier allows some concessions could be made here - but only if pieces of Sun's more advanced technology, which is moving for instance to objects, is adopted - a point UI at least seems to understand.

Watered, down, politically correct

UI president Peter Cunningham believes the new ABI could mean up to 75% commonality between the systems for the software programmer, initially on the client side and then moving to the server. However, it does depend somewhat on the application involved: character-based being the easiest, graphical applications harder and the new generation of graphical programs the most particular. SunSoft, which foresees new multiple binaries in Unix's future, is anxious to stress all the current and mostly anticipated differences in its system that independent software vendors have to take account of, claiming developers want their programs running at maximum performance rather than in some watered down but politically correct fashion. Writing to the distinguishing features of the ever feisty Sun, mindful of Microsoft Corp, UI seeks to avoid alienating the developers. It's happy with the amount of convergence they have managed to get, saying that it's a lot easier now to agree than it used to be, pointing to the significance of the networking and X-Windows commonality the new ABI implies.

RETIX HAS OSI, DATABASE TRANSACTION PROCESSING SOFTWARE

Santa Monica, California-based Retix Inc has announced the availability of source code for OSI transaction processing and Remote Data Access, RDA. The TP-920 and RD-930 software will, the company says, allow OEMs and developers to build interoperability into their existing transaction processing and database products. Supporting X/Open's distributed transaction processing model, TP-920 provides interoperability between transaction processing monitors and OLTP systems whilst RD-930 - compatible with OSI and TCP/IP - provides interoperability between database servers and applications.

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EUROPEAN PROJECT TO INTEGRATE CHORUS MICROKERNEL WITH SVR4

A new European initiative to push the future direction of operating systems is set to be announced today, with the announcement of "Overture" - a 14 million ECU (around \$17.5m) project supported by the Commission for the European Communities' Esprit programme. Involved in the project are systems vendors Alcatel Alsthom, Olivetti, SGS-Thomson (owners of the Inmos Transputer) and Siemens Nixdorf, along with technology providers Chorus Systemes, Unix System Laboratories (which has a stake in Chorus) and Unix International are also supporting the effort, which aims to integrate the Chorus/Mix microkernel technology into Unix System V.4. The work is expected to be applicable to the mainstream Unix market as well as real-time embedded systems and high performance parallel processing systems. Object-oriented interfaces will also be added to the Chorus kernel. The project is linked to existing European efforts such as the Open Microprocessor Systems Initiative (OMI) and High Performance Computing (HPC) projects.

IBM Corp has now shipped 700,000 copies of OS/2 2.0 since it announced the product on March 31 and claims it has exceeded its initial unit sales projection - "We're well on track to surpass many industry expectations," it said, but Reuter notes that IBM has previously said it expects to sell "millions" of copies of OS/2 this year but has never provided a specific forecast.

SunSoft Inc president Ed Zander acknowledges the Solaris "endorsements" he got last week from the hardware community are kind of lukewarm and skimpy - see page two - but he still claims, mostly for Destiny's benefit, that he's got the only tested and proven big-time distribution channel, namely Sun Microsystems Inc.

The Hannover Fair's CeBit '93 has picked its dates: March 24-31 of next year.

Apologies: last week's story on the Sparc Architecture Version 9 specification was incorrect, and based upon incomplete information. The spec was not solely Sun's work, as the piece implied, nor "rubberstamped" by the twelve companies that wrote it. Sparc International was responsible for a press release. Full story on page 3.

Spreading its wings to Europe, Young Minds Inc has set up deals with three leading distribution houses to market its range of CD-ROM publishing software. European Marketing, Chevenoz, France, will market YMI's stuff on the continent, UK, Oxford-based Phase IV Systems will head up support services for Europe and sell to VARs - Open Minds AB of Lund, Sweden, will market YMI's educational software.

COGNOS' UNIX PUSH

Ottawa, Canada-based 4GL software supplier Cognos Inc is about to consummate the moves into Unix and distributed computing it's been flagging for a year, with the planned Six By Six launch of six products on six Unix platforms in August. A new version of the company's flagship product, PowerHouse, is main dog in a pack of tools to ship on SunOS, HP-UX, IBM AIX RS/6000, DEC Ultrix, Data General's DG-UX, and Santa Cruz Operation Xenix. This latter is perhaps the most noteworthy from Cognos' viewpoint, since early indications were that this is a port brought forward from 1993. The products are version 7.0 of PowerHouse, the end-user SQL query tool Impromptu, the Powerplay executive decision tool, the non-graphic end-user and reporting tool InQuisitive and the application and maintenance tool Architect. Cognos' core development work is all done on Sun workstations at its Ottawa R&D centre, and as early as last June a version of PowerHouse 7.0 for SunOS was finished and ready to ship, simply awaiting the executive green light. According to Cognos' ebullient senior vice president of R&D Ron Zambonini, porting from one Unix platform to another is a commercial decision only, since it's not a technologically difficult move: "I want to be on every Unix in the world." As part of the same announcement, Cognos, which derives the vast majority of its business from the proprietary mini world - 20,000 of its 35,000 PowerHouse licences worldwide are on its traditional platforms like Hewlett-Packard MPE or Data General MV - is positioning Cognos as a client/server tool, with the Unix platforms as servers and Microsoft Windows 3.x as clients. Cognos will also offer Motif client support sometime soon - but as co-founders of anti-software industry hype body The Software Business Practices Council, Cognos is cautious about announcing anything not shippable within 90 days. The shift is as much based on a desire to snag Unix software sales as by caution about competition from fellow 4GL tool suppliers Uniface and Progress. The company is still chuckling about recruiting Steve Debler, former Progress' VP marketing and number 7 recruit in Progress, as new head of product, corporate and channels marketing. Dutch outfit Uniface "has a good message - it's the same as ours," says Zambonini, part prompting the smartening up of Cognos' GUI capabilities and user-friendliness in version 7. Cognos has just about sorted out one of the big problems software companies with a proprietary platform background face when getting into Unix: pricing. "We've modelled 500 of our customers, and within 12 months all pricing will be by per-user, as the Unix products already are," adds Zambonini. Much of this direction was outlined at the company's first international user group meeting, Cognition '91, in Los Angeles last June, which explains the low-key reaction of journalists and analysts to the roadshow. That shouldn't take away the value of the announcement: Cognos, a company well regarded as technically sound and with much work on exploiting object-orientation quietly under its belt, is offering users a firm bridge into distributed and client/server computing while preserving their existing applications.

Sun Microsystems Inc has a new desktop SBus Expansion Subsystem that provides three more SBus slots for several of the its workstations and servers, and enables use of single and double width boards; it also accommodates up to two 424Mb disk drives and will be available from Sun Microsystems Computer Corp and SunExpress at \$2,500 in July.

Suppose, just suppose now, that Sunsoft's upcoming battle with Microsoft is just a smokescreen. Suppose what Sun is really after with Solaris-on-Intel are all those juicy Intel sites where Sun's aim is really to dislodge Intel with a lever like low-cost Tsunami.

Sun Microsystems Inc is to invest a further £12m in its European manufacturing site at Linlithgow, Scotland: its Sparcstation 10 workstation is to be built at a new 70,000 square foot building, including, for the first time, the printed circuit boards; up to 100 new jobs are expected to be created at the 350-strong operation.

It has been confirmed that Francis Lorentz, chairman and chief executive of state-owned Groupe Bull SA, will this week retire after 10 years in office: his successor will be Bernard Pache, a mining engineer who is currently managing director of Charbonnages de France.

Unix distributor, Irvine, California-based UniDirect Inc, has reportedly cut a deal that will have Dell Computer Corp passing on all calls for application software certified on its machines to UniDirect as leads or orders. Dell will also be bundling a catalogue of all the programs that work on its boxes - along with UniDirect's 800 number - with systems. UniDirect hopes to duplicate the formula with other hardware vendors. The distributor is still negotiating with Dell to resell Dell's version of SVR4 which Dell unbundled some time back.

Sun Microsystems Computer Corp has established Sun Mexico as its 19th subsidiary worldwide, and its second subsidiary in Latin America.

Armchair strategists are currently wondering whether Novell Inc will wait to see if Univel Inc pans out (UX No 388) or makes its move to acquire more of Unix System Labs before the end of the year instead. Reading stories on USL such as the one BusinessWeek just ran, they estimate USL has its mind more on going public or selling out than might be realised. If it's being run for the short-term, they reckon, that could account for a lot of its recent pragmatism.

Vittorio Cassoni, one of three executive vice-presidents at Xerox Corp, died in Milan of a brain tumour at the age of 49. He was at the centre of the controversy that led to the Unix Wars and the creation of the Open Software Foundation while on secondment to AT&T Co from Ing C Olivetti & Co SpA. Shortly after the formation of the Foundation he returned to Olivetti as managing director, from where he joined Xerox just seven weeks ago.

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ROW OVER AT&T-FREE UNIX CODE - UNIX SYSTEM LABS FILES SUIT AGAINST BERKELEY SOFTWARE DESIGN INC

A legal row is brewing around the University of California at Berkeley "AT&T code-free" BSD4.3 and 4.4 operating system releases, resulting in Unix System Laboratories filing a complaint with the New Jersey Federal Court against Berkeley Software Design Inc (BSDI), an independent company in Falls Church, Virginia that uses the BSD software as the basis for commercial products. The complaint alleges false advertising in violation of Section 43(a) of the Lanham Act and unfair competition in violation of state laws. The crux of the complaint is BSDI's statement that no license from AT&T is required for the company's BSD/386 product (UX No 370), or for any product derived from the BSD4.3 Networking Release 2 code from the University of California. BSDI has filed a motion to dismiss the claim, saying that USL has failed to provide any basis for its allegations. It has not, says BSDI, claimed the violation of any proprietary rights, such as patent rights, trade secrets or copyrights, saying that that's because it has no proprietary rights to violate with respect to the Networking Release 2 code. USL, however, is talking very much in those terms, saying that it does believe there is AT&T code within the BSDI product, and that it will protect its proprietary rights in all cases. USL said it was currently evaluating its position over the University of California at Berkeley, but had as yet made no public announcements. Details, page three.

SPARC 10 CLONER TO LAUNCH "WITHIN WEEKS" OF SUN

After playing catch-me-if-you-can for so long, it looks as though Sun Microsystems Inc is only going to get a month's headstart over the pack of Sparc-compatible builders which will be gunning for its superscalar Sparcstation 10 market - if US firm Pinnacle Data Systems Inc, Columbus, Ohio, has its way. The mid-West systems integrator, which specialises in servicing and supporting Sun workstations, looks set to inject some new life into the lacklustre compatible market, promising not only a "true clone" of Sun's Sparcstation 10 workstation - within a month of Sun's first superscalar deliveries - but also an intermediate Sparcstation 10 IPX system, an offering Sun is also thought to be mulling, and Sparcserver too. What's more, Pinnacle says it will deliver its S-10 clone at around 65% of Sun's list price, which would peg an entry-level machine with a 36MHz CPU doing 86 MIPS, 44 SPECint92 and 53 SPECfp92 at around \$12,000 - £9,600. Pinnacle says it will use an LSI Logic Corp superscalar board-set, incorporating the Texas Instruments Inc Viking part, and is shooting for initial deliveries to begin just weeks after Sun's first shipments, which it expects in September. Pinnacle says copyright reasons forbid it from selling clones until Sun can get the real thing out of the door. Where it can, Pinnacle's as yet unnamed box will match Sun's workstation component for component, including memory, disk and screen. It has also signed deals with SunSoft Inc in the US and Europe for the Solaris 2.0 operating system and will become a Solaris support centre for the Sun subsidiary. Pinnacle, which currently offers a Sparc 2 CPU board, will leverage its experience in the Sun spares, repair and trade-in hardware business - combined with the SunSoft deal - to launch itself in to the compatible market proper, backed by a hefty advertisement campaign. Potentially more interesting is a machine Pinnacle is also readying which it says will fill the gap between Sun's current Sparcstation 2 offering and the top-end Sparcstation 10. It'll be a kind of Sparcstation 10 IPX offering - everything an S-2 has, in the same footprint, but with a Viking CPU. Existing S-2 users will be able to upgrade their systems via a board-swapout. Final configuration and pricing has yet to be finalised, the firm says, and it is still casting around for a name, although Series 200 has been mooted. Pinnacle also has plans for clones of Sun's superscalar server range when that comes on stream towards the end of this year and the beginning of next. Just now Pinnacle is putting the finishing touches to deskside and rack-mount cabinet designs for that effort, it says. Again, the server systems will be out around a month after Sun's own efforts - Pinnacle even believes Sun may stretch to an eight-way offering there. Pinnacle, a \$40m outfit with 30 engineers, will sell direct in the US and via a sales agency it is employing. Pinnacle's UK arm, Unix Solutions Ltd, a five-person start-up in Dunstable, Bedfordshire, is currently lining up distribution outlets in Germany, France and Switzerland. It will hold stock and spares and says it could get first machines as early as September from its US parent. Unix Solutions eyes Germany as potentially the biggest European market for initial sales of its clones. The firm says Sun is restricting the number of Sparcstation 10s that will be available over there to just 400 this year. Pinnacle also has a 5Gb RAID system ready to ship for Sparc 2 systems - it will cost from £15,000.

BERKELEY'S HISTORIC CSRG GROUP TO CLOSE AFTER BSD 4.4 RELEASE

Meanwhile, Berkeley's Computer Science Research Group has announced that it is to end its work on BSD 4.4 following the final releases this year. The move, announced at a birds of a feather session at the recent Usenix conference in San Antonio, Texas, marks the end of one of the most influential strands in the development of Unix technology over the years. The reasons why CSRG cannot continue in its present form include lack of funding, changes in the marketplace and a decline in support from the University of California itself. With the departure of key team member Mike Karels last year, that left a team of only four, headed by Keith Bostic and Kirk McKusick, to architect and maintain an increasingly large and complex system. BSD Unix releases formed the basis of Sun Microsystems' SunOs operating system, along with large portions of the Open Software Foundation's developments. Unix extensions from Berkeley quickly found their way into mainstream Unix. Dr Douglas Greer, ex Berkeley and now at the European Computer Research Centre in Munich, said that in the early days of Unix CSRG did a lot to make the system more modern and usable. "The Bourne shell was a good start, but Berkeley added the C shell and Berkeley extensions, such as vi, refining the ideas coming out of Bell Labs. Later the Berkeley file system and some of the networking socket interface work became important". Meanwhile, the next release of 4.4 goes into Alpha release this month. It will be available in a full version, requiring a Unix license, and in "Unix lite" form with just the freely distributable code included. This will be "more complete than earlier free releases, but will still need some work on the kernel." The final version will be out in the Autumn, the final release date depending on when current funding runs out, after which CSRG will close down.

OSF's NEXT-GENERATION INTERFACE: RFT NEXT YEAR?

According to the Open Software Foundation's Open Road plan (UX No 391), it's supposed to have started work on developing an object-oriented Next Generation User Environment, UEC II. OSF says it will be a "highly evolved" version of the Motif GUI. However, describing it is as far as the organisation has got for the moment, though OSF says members are screaming for a bridge that spans all GUI environments. The likelihood is that OSF will issue a Request For Technology in the area some time next year - none are planned for 1992 - and the stuff isn't expected to be complete until 1995. OSF Motif technical manager, Bruce Huie, says OSF "doesn't know how exactly its going to do it yet," but to gauge interest, OSF is holding workshops for members and non-members over the summer, covering application interoperability and interface graphics. It hopes these will mark out some boundaries for UEC II.

AMDAHL ENHANCES UTS UNIX WITH MICRO FOCUS COBOL, TUXEDO

Amdahl Corp has bolstered its mainframe Unix offerings with the launch of a new Cobol from Micro Focus Plc, a new release of the UTS operating system, and of the Tuxedo transaction processing monitor. Amdahl Cobol Release 1.2 is designed to facilitate the migration of Cobol applications from minis, micros and proprietary mainframes and is based on Micro Focus Cobol/2. For those wanting to plunder moribund proprietary bases for applications, as well as conformance to the 1974 and 1985 ANSI definitions, Federal Information Processing Standard 21-2 and X/Open Portability Guide 3, it supports RM/Cobol, Data General Interactive Cobol, IBM OS/VS Cobol and VS/Cobol II, and Microsoft Cobol. UTS on the Amdahl mainframe can also be used for developing applications for other environments - the new Cobol generates an intermediate code that is portable to 250 different hardware and software environments. The new release of UTS is called UTS 2.1 Service Level 4, and is based on Unix System Laboratories Inc's Unix System V.3.1. It adds protection facilities for improved security; supports Amdahl's new 6390 disk subsystem; undertakes diagnostic testing of peripherals more efficiently; has enhanced tape management for conventional and silo tape subsystems; complies with X400 electronic mail standards; and supports Tuxedo and the Amdahl Unitree Release 1.0 hierarchical file management system from General Atomics Corp. Amdahl Tuxedo Transaction Manager 4.2, based on the Unix System Laboratories Inc product, offers support for migrating some transaction processing applications to UTS from IBM Corp MVS systems while maintaining links to corporate databases in the MVS/CICS environment. No prices given for anything.

BOSTON BUSINESS SIGNS UK'S ESSENTIAL COMPUTING - SEEKS ICL BLESSING

Boston Business Computing Ltd, the Andover, Massachusetts-based company that brings VMS emulation features to Unix, has signed DEC software house, Essential Computing, Clevedon, Avon, as its master distributor in the UK. Essential will serve and support the existing half a dozen or so dealers, VARs and system integrators that already offer BBC's software in the UK. BBC is using the UK as a test case, and says if all goes well, similar deals will be struck on the continent. Three years ago, 90% of BBC's business was on MS-DOS platforms, 10% on Unix: that's all changed now and the company says MS-DOS now accounts for just 20% of its revenues. BBC welcomes DEC's latest OpenVMS initiative for its proprietary operating system, because "it keeps VMS alive," (and therefore BBC in business). However, it's not only VMS-on-Unix software BBC offers: the VMS editor, mail system and backup utilities are also available on proprietary Data General Corp, IBM Corp and PrimOS environments. SunSoft Inc Solaris and Microsoft Corp Windows/NT will follow too. As yet it has nothing to offer ICL users who want to retain their VMS look and feels, but BBC president, David Pikilingis, and director of marketing, Edward Gaudet were in the UK last week to try and convince ICL there is a market for VMS emulation software on the company's Unix-based hardware - and to lend BBC some DRS machines to port to. Founded in 1983, privately-held BBC has 15 employees, claims some 20,000 users of its solutions worldwide and expects to do around \$2.5m this year. Essential Computing is a two-year-old nest of refugees from Zeta Systems and turned over £500,000 in its first year. Essential's David Stokes expects the seven employee company to double that effort this year.

DEC REORGANISES IN EUROPE

Digital Equipment Corp has announced the final stage of its 18-month European reorganisation programme. UK chairman Geoff Shingles explains that the latest measures, to be effective from now, will invert the management triangle, reorganising the European operation by industry, rather than geography - "one Europe, one company stance".

CRAY ADOPTS MODCOMP'S REAL/IX REAL-TIME UNIX FOR THE Y-MPEL

Meanwhile, Cray Research and AEG AG subsidiary, Modular Computer Systems Inc, Fort Lauderdale, Florida, have signed an agreement under which ModComp will license its Real/IX real-time Unix operating system technology to Cray. The pact also calls for the firms to collaborate in developing the operating system for use in running real-time applications on the Cray Y-MP EL entry-level supercomputer.

CRAY ENVISAGES UP TO 1,024 ALPHA RISCs IN PARALLEL SYSTEM NEXT YEAR

Cray Research Inc is expected to ship its first massively parallel processor, due in the second half of 1993, in configurations with up to 1,024 Alpha processing nodes, hears *Electronic News*: indeed "several thousand" processors could be supported at a customer's request. While the new line is being based on DEC's Alpha RISC, Cray is reportedly developing 22 bipolar gate arrays - to be made by Motorola Inc - using technology from its Y-MP C90 vector supercomputer range for handling interprocessor communications and synchronisation. Nelson concedes that 1993 ships will be limited to "very few large machines", with volume not expected until 1994. The Eagan, Minnesota firm still isn't saying whether it will use the Alpha in its second-generation massively parallel system planned for 1995.

PRECISION VISUALS DEBUTS PV-WAVE 4.0

Boulder, Colorado-based Precision Visuals Inc, has introduced version 4.0 of its graphics application, PV-Wave. Developed for the low-end of the workstation market, PV-Wave is aimed at aerospace, geo-science, medical and financial markets. Version 4.0 operates as a command language for application developers wishing to integrate or migrate their own sub-routines into the environment, but there is a point and click module available for non-technical users. The company will also provide Montreal, Canada-based Visual Edge Technology Inc's UIM/X Motif front-end and a beefed-up hypertext-on-line help system. Tabletools, a new suite of tools accompany PV-Wave, allowing users to hot link into relational database environments and draw off subset tables using SQL-like syntax. In addition, desktop publishing drivers have been added to PV-Wave to paste graphics into DTP documents. PV-Wave will also include more complex statistical and mathematical analysis modules, stemming from its joint development project with the UK, Oxford-based Numerical Algorithms Group Ltd. Like its high-end counterpart, Advanced Visual Systems Inc's Advanced Visualisation System, PV runs on all major Unix-based workstations - Sun Sparcstation 10 and DEC Alpha ports are expected. With the graphics visualisation market apparently booming at present, PV says it expects the company to report an increase in profits this year of \$19.3m, up \$2.5m from the previous year's \$16.8m. Describing the market as "unquenchable", UK managing director of Precision Visuals, Nick Lewis, says the European market is growing proportionately faster than that in the US. On general release from this month, PV-Wave 4.0 costs £4,000, with the PV-Wave:NAG module starting at £700.

LOCUS TARGETS EUROPE WITH NEW DISTRIBUTED COMPUTING IMAGE

Inglewood, California-based Locus Computing Corp is attempting to raise its European profile, and is re-positioning itself as a specialist distributed computing consultancy, design, development and services outfit. It is emphasising these offerings rather than the connectivity software products for which it is traditionally known - what it now calls a secondary stream. According to Carl Chilly, principal business services consultant, the problem with distributed computing has been that it has encouraged the development of technology for technology's sake, without real thought as to how to implement it effectively in a business environment. This is, of course, where Locus comes in. It intends to offer customers strategic business planning as well as interoperability strategies for the future. It reckons it is well placed given its behind-the-scenes work in helping to develop some important interoperability features for Unix: it also developed the Transparent Computing Facility for IBM's AIX and a remote procedure call test and validation suite for the Open Software Foundation's Distributed Computing Environment. Locus believes the future of distributed computing lies in transaction processing, saying TP will drive the distributed systems market in the same way that databases drove the client-server market. Locus has four offices in the US, which have generated most of its income. The European headquarters are in Hemel Hempstead, Herts, and there is another office in Leeds, but Locus is aiming to broaden its European base by means of acquisitions on the continent: the first is expected by the end of this year.

UNIX LABS PROTECTING ITS SOURCE CODE RIGHTS IN BSDI SUIT

According to Berkeley Systems Design International's Peter Collinson, based at the company's Canterbury, Kent subsidiary in the UK, BSDI "are relying on the Berkeley statement" that there is no AT&T code within BSD Networking Release 2, the basis of its BSD/386 product (UX No 370), and as such they feel they are on solid ground (see front page). But a USL spokesman said that in order to develop a source free implementation of Unix "you would have to find people with no intimate knowledge of the source code. If people develop a kernel independently, that's fine". USL, he said, is increasingly concentrating on ABIs and specifications, he said, but would protect its proprietary rights in all cases". Arguments over intellectual property rights and re-writing code have been doing the rounds of the court system for years. But what really seems to be worrying USL is the commercial use of the code by third parties such as BSDI, which, says USL, may go beyond the channels approved in AT&T contracts with all Universities that Unix source can be used for internal administration and educational purposes - not commercial use. "What's changed", says Berkeley CSRG's Keith Bostic. "We want our software to be widely available to anyone that wants it - a lot of people pick and choose the bits they want". Unix vendors, he said "have always shipped BSD code - Sun, DEC and the Open Software Foundation have all used Berkeley work". But these companies have always taken out a separate source licence with Unix System Labs, something that BSDI does not appear to have done. USL is worried that if it doesn't act now, such a practice may become more widespread. It remains to be seen what effect the moves will have on the Open Software Foundation's plans for AT&T-free versions of its Microkernel-based OSF/2 operating system, using a mixture of Berkeley and Carnegie Mellon code.

MEIKO SEEKS US CASH FOR TERAFLOPPER

Meiko World Inc, the holding company of Meiko Scientific in Waltham, Massachusetts, is "in serious dialogue" about making a private share placing in the US, according to chief executive Miles Chesney. Chesney, also managing director of Meiko Ltd's UK research and development operation in Bristol, says the placing aims to raise a "significant" amount of funds to help finance the project to build a TeraFLOPS-peak massively parallel machine due for shipment next year, for a cost of around \$50m. No further details were given, although as an active participant in the Esprit GP MIMD general purpose supercomputing project, Meiko is known to be closely reflecting the GP MIMD architecture in its own product line.

GOLDMINE RESTRUCTURES - NEW BACKER SOUGHT

The future of newly-formed UK firm, Goldmine Technologies Ltd, Berkhamstead, Hertfordshire, was hanging in the balance last week, as its Swiss parent, Goldmine Technologies AG, Zug, Switzerland, tried to stump up new sources of venture funding for the group (UX No 382). Sources close to the company say Goldmine backer, Swiss entrepreneur Niels Rasmussen - owner of Nercom Informatik - has pulled the plug on any further investment in the firm. Goldmine AG boss, Kurt Halm, admitted the company was being restructured but expected new sources of venture funding to come forward as we went to press. Although the re-structuring shouldn't affect the 10-strong Swiss operation, "jobs may have to go" at the UK arm, Halm warned. He said he didn't know what the UK operation would look like after the restructuring but said most resources would be concentrated in Switzerland: "support and marketing is here, so there's not much point in having it in the UK too." Goldmine UK, a six person outfit, was set up in April by former Sybase colleagues Malcolm Neill and John Rodford together with Brian Clarke, one of the originals at Pyramid UK. Goldmine distributes Aspect, the graphical user interface development system from Open Inc, Colorado Springs (UX Nos 315, 358). Halm said the company had very few paid-up customers for Aspect in Europe, but claimed many organisations have the environment on trial, awaiting a new release, due in September, which will include bit-mapping, enhanced icon support and code generation facilities. Halm said the company is currently negotiating for European distribution rights to two or three other Unix software products.

DEC TO TAKE UP TO 9.9% OF OLIVETTI

Despite all his dissembling about any new industry alliances over the past few months, Carlo de Benedetti told Ing C Olivetti & Co SpA's annual meeting that he had been negotiating with Digital Equipment Corp, and revealed details of the alliance. DEC, which has already snapped up Mannesmann Kienzle and Philips Data Systems in Europe, will immediately buy a 4.03% stake in Olivetti from de Benedetti's holding Campagnie Industriali Riunite for about \$150m - a whacking 160% premium over the market price. Over the next 12 months, it will buy another 1.89% in the open market, and gets an option on a further 4% for another \$150m from Olivetti's shareholders' syndicate by June 1994; that adds up to 9.92%, which if it paid current prices for the shares it buys in the market would represent a total investment of about \$330m. Terms of the commercial alliance between the two are imprecise, although, as had been expected, Olivetti will use the Alpha RISC in future products. DEC already buys Olivetti desktop personal computers OEM for resale in Europe, and notebook computers for sale worldwide. Olivetti also does joint research with DEC and de Benedetti says it is interested in DEC's networking technology. Olivetti's commercial relationship with the Maynard minimaker stretches back to the 1970s, when the Ivrea company used to buy in DEC PDP-11 minis OEM for use as branch controllers for sale with its banking terminals. De Benedetti disclosed that Hewlett-Packard Co had also approached Olivetti for a possible alliance, but declined to elaborate.

SGI CLOSES MIPS' MANUFACTURING SITES

Silicon Graphics Inc completed its acquisition of MIPS Computer Systems Inc, paying 0.52 shares for each of MIPS' 26m shares outstanding. At the \$17.125 issue price that Silicon Graphics sold 3.6m new shares shortly before completion, that values MIPS at some \$231.5m. However, SGI expects to make a loss in its second quarter results absorbing a \$90m-\$110m charge from its acquisition. MIPS' operations meanwhile, are slowly being dismantled by SGI: US reports suggest that 450 of the 685 jobs at MIPS are to go, although there are plans to redeploy at least 250 of those lost at other SGI sites. All MIPS product manufacturing operations were reportedly halted at the end of June and are currently being transferred to SGI's own facilities. All MIPS buildings, except for one in Korea where SGI doesn't have an office, are scheduled to be closed down by August.

...AS ACE BOARD WINDS DOWN

R.I.P. It looks like that \$50,000-a-seat ACE Executive Advisory Board organised back in January (UX No 370), is headed for the dumpster. MIPS' ACE liaison officer and vice president of software technology, Larry Weber, said the sixteen companies on the board won't be sent their third-quarter bills until after all the MIPS-SGI merger details are cleaned up and the need for these funds is reassessed. He suspects the bills may never get sent and that the board will simply become "inactive," with the members content to let the newly constituted MIPS Technologies plot strategy and direction. Weber, by the way, isn't making the jump to the newly merged company.

INTEL NEEDS ANOTHER NAME FOR THE "80586"

Having failed to asset copyright on the 80386 name and 386 tag, Intel Corp is in a real bind over the P5, and according to Computer Reseller News has decided not to call it the 80586. It wants vendors to use the P5 code name until the chip is formally announced, and has invited employees to come up with a new name that stresses 80386 and 80486 compatibility - so the RISC 86 suggestion did not get a warm welcome.

TECHNOLOGY HOLDINGS SOLD TO ICL

The news that ICL Plc is to acquire Warrington, Cheshire-based Technology Holdings Plc for a maximum of £40m seems to set the seal on the success of the management buyout team at what used to be the distribution arm of MBS Plc - a business that MBS top management felt was such a drain on its corporate resources that it couldn't wait to let the company go. Its Open Systems division is a reseller for Digital Equipment Corp, Sun Microsystems Inc and latterly IBM Corp, and added its new parent, ICL, in January, and also has an arrangement with Hewlett-Packard UK Ltd. Under the agreement, ICL is paying £30m upfront for the company. ICL will hand its own third party distribution operations over to Technology, which will continue to be run by Derek Lewis and his team. Adding ICL's business immediately swells annual turnover to somewhere around £250m, putting the company into the number one spot in the UK, ahead of P&P Plc.

UNIX IN EUROPE: SPAIN AND GERMANY FASTEST GROWING MARKETS, SAYS IDC...

IDC's European Unix Expertise Centre, Copenhagen, Denmark, has released figures which show Spain and Germany were the fastest growing markets for Unix systems sales in 1991. Even recession-hit UK managed two points more than the 15% average European revenue growth rate last year. Spain managed 35%, Germany 24%, Belgium 19%, UK 17%, Italy 11%, Netherlands 7% and France 6% with Sweden flat at 0%. The recession, not only affecting the UK of course, has hit hardware sales generally, but it hasn't had a significant impact on the Unix market, because, IDC believes, that in times of a depressed economy and slow investments, information technology purchases tend to move to less expensive, low-end systems, which "might mean Unix systems." Small scale multi-user systems running Unix was the UK's major growth area last year - ICL and IBM significantly increased their market shares. Spain's 35% growth has been fuelled by its catching up from a low base, government investment policies, especially in the workstation arena. Siemens Nixdorf Informationssysteme AG's share of the German market fell, with Sun, IBM and Unisys Corp all riding a wave. Belgium's above average growth rate is explained by heavy investment from EEC bodies says IDC. As a result, one of its primary suppliers, Ing C Olivetti & Co SpA shipped a large number of multi-user systems there. 1991 saw total Unix systems revenue in Europe climb to \$6.9bn from \$6bn in 1990. 1991's growth of 15% is two points up on 1990's 13% - IDC predicts a mean compound annual growth rate (CAGR) of 14% for the next six years, by which time it believes the European market will be worth some \$16.3bn. It expects 1992's growth to decline one point on 1991, forecasts 20% for 1993-95, with 10% for the two years after that. Contrary to Unix-on-the-desktop sceptics, the fastest growing sector will be the Unix PC marketplace with a revenue CAGR of 28% over the period. IDC's figure suggest a compound unit growth of 36% for that sector, with the average cost of Unix PC systems dropping from \$6,000 in 1991 to \$3,800 by 1997. The Unix workstation market is expected to slow - CAGR 18% in value, CAGR 26% in units. Average cost of a box will drop from an average of \$18,500 last year to \$10,500 in 1997. Sales and unit growth of the small scale multi-user systems market is forecast at 6% over the period, with average cost falling from \$38,000 to \$36,400 in 1997. Value of medium scale multi-user systems will reach 10% CAGR - 7% in units - with average cost rising from \$216,300 to \$268,000. Unix growth in Germany and Spain will remain above average throughout the period, with Netherlands, Sweden, Norway and Finland below the mark.

INGRES HAS LIONS' SHARE OF WORKSTATION DATABASE MARKET

IDC also reports that ASK's Ingres relational database last year held the largest - 40.8% - share of the European market for databases on Unix workstations. Oracle weighs in with 24.9%, Sybase 11%, Informix 7.2%, Unify 6.3%, Progress 5.4%, Borland Interbase 3.6% and others amounting to 8%. Ingres, which contributed 62% to ASK's third quarter revenues, is expected to account for some \$243m of ASK's turnover of \$430m anticipated for its year to June 30. Germany has been the jewel of Ingres' crown, with 700 new licences expected to push revenues there up to DM35m from DM27.6m last time around. Oracle remains the largest database player in the overall European Unix marketplace, according to Gartner Group.

"ONLY 8% OF UK FINANCIAL INSTITUTIONS HAVE OPEN SYSTEMS" SAYS KPMG STUDY

KPMG Peat Marwick's London-based management consultancy operation polled 50 domestic and international banks and building societies in the UK. Just 8% of respondents claimed to have already implemented open systems. 15% have plans underway, 10% said they were at the pilot stage and 11% are "seriously considering" it - the other 56% have no open systems plans whatsoever. Respondant's hardware ranged from IBM S/x or AS/400, 25.5%; DEC VAX, 15.5%; IBM mainframe, 13.6%; Tandem, 11.8%; Unisys, 10.9%; NCR, 5.5%; Sun, 3.6%; HP, Bull, Olivetti, ICL, Stratus and Wang, 1.8% and others, 2.7%. Lack of available products, skilled staff and standards appear to be the major obstacles to adopting open systems strategies. A quarter of respondents have "significant investments" in more than five different type of hardware, though only 16% see reduced purchasing costs as a benefit of open systems. Just 17% said they were seriously considering restructuring their IT operations from mainframes to open systems.

IBM GOES TO ULTRA FOR FAST CLUSTER, RS/6000-ES/9000 LINKS

IBM Corp has made no secret that it believes super-fast communications will be essential to the medium-term success of machines like the RS/6000, and the company has turned to one of the pioneers, San Jose, California-based Ultra Network Technologies Inc. It is to resell Ultra's high speed network connections for both mainframes and the RS/6000. Ultra also added two new products for the IBM market, the UltraNet RS/6000np network processor, which provides off-board generation of the TCP/IP protocols; and striping of standard Block Multiplexer Channels for enhanced network performance on IBM mainframes. IBM will resell the two products as part of its Cluster Service Offering, which prepackages RS/6000 workstations, hardware and software from IBM and third-party companies with IBM support services. The UltraNet RS/6000 Network Processor is claimed to deliver effective application performance in excess of four times that of a standard block multiplexer mainframe channel, and an order of magnitude faster than other RS/6000 network connections such as Ethernet, Token Ring and FDDI - in other words it runs at 1Gbps or over 100Mbytes per second, coming close to matching network bandwidth with computer bandwidth. Ultra sees the link being used to connect RS/6000s to ES/9000 mainframes for applications so that the workstation can analyse large mainframe-resident data sets, and for clustering RS/6000s. It also sees it being used to connect RS/6000s to super-computers and massively parallel processors for pre- or post-processing in seismic analysis, computational fluid dynamics and molecular modelling. The RS/6000np occupies a single RS/6000 slot and provides full-duplex 250Mbps fibre optic or coaxial cable serial connection to an UltraNet networking hub. Ships start next month; a single adaptor is \$6,500; package pricing for a workgroup of four, including adaptor hardware, software and networking hub, is under \$10,000 per workstation. The other product, Channel Striping or inverse multiplexing, is a software feature now available with Ultra's standard Block Multiplexer Channel network adaptors, which enables users to access and transfer mainframe data over multiple input-output channels in parallel to a TCP/IP network. The company says that striping and off-host processing of network protocols results in sustained network data rates in excess of 100Mbps, without significant mainframe CPU loading. The Channel Striping option for the BMCnp is available immediately at \$28,800 for one to four channels, and \$31,200 for five to eight channels.

HEWLETT-PACKARD PRICES NEW X-TERMINAL TO TWEAK SUN

Hewlett-Packard Co added a low-end Model 19Ga to its HP 700/RX RISC X Window System terminal family for use with its HP Apollo 9000 Series 700 workstations, and added versions of its X server software for Santa Cruz Operation Inc's Open Desktop for iAPX-86-based systems and for IBM Corp's RS/6000 AIX workstations, and cut prices by up to \$500 on existing 700/RX stations. The 19Ga is out now at \$4,000 and comes with 4Mb memory and a 19" 1,280 by 1,024 monitor that displays 256 shades of grey. It is rated at 86,000 Xstones and is claimed to be \$500 cheaper than comparable stations from Network Computing Devices Inc. Aimed at electronic publishing, software engineering and document imaging applications, it is pitched as a cheaper alternative to Sun Microsystems Inc's Sparcstation IPX - Hewlett says that at \$18,480, an HP 9000 Model 705 with two of the new stations gives a three-user configuration that is 20% more powerful at 37% less cost than three IPXs - Sun doesn't go much on X-stations. The Open Desktop X server software is available now and the RS/6000 software is set for September, at \$700 apiece; only one copy is needed per customer site.

INTERACTIVE INFORMATION BECOMES AVALON - TARGETS CLIENT/SERVER

Interactive Information Systems Inc, Tucson, Arizona has upped and changed its name to Avalon Software Inc. The name change, Avalon says, represents the company's decision to reposition itself in the client/server market. It also announced CIIM 8.5, the latest version of its flagship client/server manufacturing software for Oracle's Version 7 relational database management system. Running on all major Unix platforms as well as DEC VAXes, it will begin to ship on August 15 on Oracle version 6.0. Oracle version 7 will follow. Prices range from \$25,000 up.

NT AVAILABILITY SLIPS TO 1993

Microsoft Corp has now confirmed that general availability of NT has slipped into 1993 - January or February, it says. But those dates in turn depend on manufacturing starting in December, which is still only a "target." The NT betas going to software developers starting this week will lack full implementation of the system's networking features plus support for Unix, MS-DOS and Windows applications. Corporate customers are supposed to get betas in October. We trust Univel Inc and SunSoft Inc will play the hand dealt.

ADVANCED VISUAL ATTEMPTING TO SHRUG OFF THE PAST WITH AVS 4.0

Advanced Visual Systems Inc, the Waltham, Massachusetts-based spin-out from now defunct Stardent Computer Systems Inc, is attempting to put the past behind it and do its own thing with former parent's flagship graphics software environment, the Application Visualisation System. Stardent established AVS Inc in 1991 to muster some extra cash for its crumbling empire - the software, an environment for viewing complex graphics data has always fared reasonably well in the scientific and technical community. Now a separate concern, privately-held AVS survived the eventual crash of its parent and is determined to make its mark as a standalone software house. The Stardent factor, however, is never far behind it. For a start, 80% of its staff come from the former graphics system builder, which was itself born of a marriage made in hell between bitter rivals Ardent Computer Inc and Stellar Computer Corp back in 1989. Rights to Stardent's Intel Corp 80860 RISC-based Vistra desktop were snapped up by Oki Electric Industry Co for its own use - an effort which subsequently bit the dust (UX No 384). Meanwhile Kubota Corp - majority shareholder in Stardent and now a 30% stakeholder in AVS Inc - is left with Stardent's MIPS R3000-based Titan series of high-end graphics workstations. AVS supports the remaining Stardent/AVS installations, but admits it isn't making much money there. With some 2,000 licences worldwide it reckons Stardent/AVS installations account for no more than 10% of its base - too few to make it worthwhile porting future versions of AVS onto old Stardent kit. "If not now, then by next week, we won't be selling a single Stardent licence," says AVS' vice president of marketing, Ian Reid, who wants to migrate AVS to as many non-Stardent platforms as possible. The latest - version 4.0 - of AVS is now available, and upgrades for existing Hewlett-Packard Co, IBM RS/6000, Sun Microsystems Inc and Silicon Graphics Inc users are currently being completed. The company has an existing OEM agreement with DEC, which offers AVS on its Ultrix systems - AVS is confident of pinning down an Alpha RISC port for its solution too. It also claims to have secured a spot for AVS on Sun's superscalar Sparcstation 10 workstations. Version 4.0 includes a generator module, which functions as an application definition framework and allows developers to integrate their own Fortran or C sub-routines into the package. There's also a new data interface, data input facility and dataviewer, along with a real-time animator module. AVS version 4.0 is priced at \$7,500 for a single user licence - version 5, promised to have more multi-user facilities, follows next spring. AVS is courting independent software vendors and resellers across Europe for a push through third party channels. AVS's European operation, based in Staines, Middlesex, is fronted by Peter Collins. The company claims an estimated 150 of its 2,000 installations are in the UK.

KUBOTA DELAYS GRAPHICS SUBSYSTEM

Santa Clara, California-based Kubota Pacific Inc, the US subsidiary of Japan's Kubota Computer Corp, has delayed the release of its plug-in graphics subsystem for the MIPS Computer Systems Inc R3000 RISC-based Titan 1.0 it sells, and the DEC Alpha-based Titan 2.0 machine which it is readying. Due to have been launched at this month's Siggraph show in San Francisco, Kubota attributes the delay to the "over-optimistic attitude of management," and a too-tight timescale. However, Kubota promises to demonstrate what it has of the subsystem at a series of private viewings during the show. Vice president of marketing and sales, Greg Hopwood, says "we'll be showing whatever the engineers have ready. Whether it's circuit boards or diagnostic imaging, there will be something on show." The graphics subsystem is built around custom chips and plugs into the TurboChannel of the host processor: it's intended for the Alpha-based Titan 2.0 - a multi-processor graphics workstation - but it will also run on the MIPS-based Titan 1.0. Kubota has at least half a dozen Alpha chips in the labs, but says it still has a long way to go before there is sufficient software support to bring out the Titan 2.0. The delayed Subsystem is now scheduled to be generally available in the first quarter of 1993.

MICROSOFT PAYS IBM IN DIVORCE SETTLEMENT

Microsoft Corp is expected to pay IBM Corp between \$10m and \$35m in settlement of the disagreement over operating system software royalties. The two companies also reached terms on the royalties IBM must pay Microsoft for OS/2, but refused to disclose details. The settlement unravels the contract signed between the two in 1990 on joint development of OS/2. Under the agreement, Microsoft will continue to provide IBM source code for versions of Windows released before September 1993, and source code in development at that date. IBM will give Microsoft source code for versions of OS/2 up to that date. Both companies are licensed to use this source code in their products for as long as they choose. Agreed royalties will be paid for the use of each others' code for an agreed period of time. After September 1993, IBM and Microsoft will not exchange any newly-developed source code. Microsoft will license the Windows NT product to IBM under standard hardware manufacturer terms, at IBM's option, for use on IBM systems. Microsoft claims that it will be "very, very difficult for IBM to maintain compatibility with Windows after September 1993" under the agreement, but IBM disputes that inference. Microsoft will continue to get royalties from IBM on Windows code for five years after September 1993. Microsoft reckons it has sold 14m copies of the two releases of Windows 3; IBM claims over 700,000 copies of OS/2 2.0. Meanwhile, analysts are wondering how IBM Corp hopes to make money out of OS/2. The royalty it must pay Microsoft is generally put at \$15 to \$20 per copy, and all the blank disks needed to make each copy of the thing, plus printing and packaging cost about \$26, which does not leave much for distribution from the \$49 it charges Windows users, \$99 for MS-DOS users and \$139 for those having neither.

HYPERDESK UNLEASHES OBJECT SYSTEM

Westborough, Massachusetts-based Hyperdesk Corp, has now begun shipping its object-oriented Distributed Object Management System - DOMS - which is compliant with the Object Management Group's Object Request Broker. Hyperdesk says DOMS will allow developers to build, integrate and migrate applications across Unix, Windows and NT environments. Its first European distributor is UK, Maidenhead-based Protek Ltd - others will be named in the following weeks. DOMS is bundled with a choice of either Object Design Inc's ObjectStore object database, or the Informix relational database. Prices start at £1,600 for the Informix option or £2,400 with ObjectStore.

C++ ROUNDUP

Centreline Software Inc's Object Center C++ has topped a new IDC survey: it holds a 57% share of the C++ market according to the research group, ahead of SmallTalk and Eiffel. IDC says 8% of the corporate sector is now using C++ in some form, a further 20% plan to purchase it whilst 33% are in the evaluation stages. IDC estimates 57% of professional software developers are already using C++, 14% plan to purchase and 22% plan to evaluate.

Mountain View, California-based ParcPlace Systems Inc has started to ship its interface development tools for C++ applications on Sun Microsystems Inc's Sparcstations under Motif and Open Look: ObjectKit/C++ is priced at \$1,000 and its ObjectBuilder/C++ interface builder costs \$3,000.

Santa Clara, California-based, Quest Windows Corp has debuted the latest version 3.0.1 of Quest ObjectViews, its object-oriented C++ user interface development tool for X-Windows, supporting OSF/Motif and Open Look: ships begin in the third quarter, prices start at \$2,500 per seat.

Instrumatic UK Ltd, Marlow, Buckinghamshire, has introduced TauMetric Inc's C++ compiler and debugger in the UK: TauMetric acquired the the stuff following its acquisition of Oregon Software last November - prices go from £1,200 on Sun Sparcstations.

Lexington, Massachusetts-based Oasys Inc says its Cross 680x0 tool kit will now support Silicon Graphics Inc's RISC-based IRIS workstations: the tool kit includes the Green Hills C++, C, Fortran and Pascal compilers and Oasys's 680x0 cross assembler/linker.

Framingham, Massachusetts-based Liant Software Corp has released version 2.0 of its object-oriented C++/Views class library for Microsoft Windows, OS/2 Presentation Manager and OSF/Motif environments: it features independent compilers compatible with all C++-based compilers. The Motif version is scheduled for release in July and costs \$1,500, the OS/2-Presentation Manager edition is priced at \$1,000 whilst a Windows copy comes in at \$500.

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SEQUENT GEARS UP FOR PC SUPERSERVER PUSH WITH NT

Sequent Computer Corp confirmed last week reports that it is to move into the multi-processor PC "superserver" business, basing its software strategy around Microsoft Corp's forthcoming NT operating system (UX No 390). The Beaverton, Oregon-based company has been working over the last few months to staff up a new business unit to concentrate on low-end multi-processors, an area it feels offers great potential. Sequent has already dipped its toe into the PC LAN database and application server space with its parallel implementation of Novell Inc's Portable NetWare (UX No 356, 378), something it says is "very complimentary" to the new effort. Sequent won't currently go into details over products, but says it will be "leveraging its technology and knowhow" gained from its line of high-end Intel-based multi-processor Symmetry systems, aimed at corporate users looking to downsize their mainframes. NT supports symmetric multi-processing, and uses the same parallel streams communication architecture model as Sequent. Corollary Inc, Irvine, California, is another Unix stalwart recently attracted by the lure of volume shipments through NT (No 389).

Hewlett-Packard Co is not a company to rush into something just because it is the fashion, but with ICL Plc firmly in the Sparc camp, Groupe Bull SA committed to IBM Corp's Power RISC and Ing C Olivetti & Co SpA's allegiance to the Alpha RISC bought dearly by Digital Equipment Corp - with Hewlett an unsuccessful contender in both the last two cases, the company may well be beginning to think that persuading Siemens-Nixdorf Informationssysteme AG of the virtues of the Precision Architecture RISC is a high priority if it is to be seen to have equal standing with its three closest rivals in Europe. Following the painful and not yet complete absorption of Nixdorf, Siemens' product line is a mishmash of iAPX-86, 68000 family and MIPS Computer Systems Inc R-series processors, and Siemens fabricates the R-series, but the company also had a long-standing OEM relationship with Apollo Computer Inc that continued after that company was acquired by Hewlett-Packard. Siemens is keen to add more logic devices to its semiconductor line, and Hewlett has few licensees fabricating Precision Architecture - and several US chipmakers fabricate more than one RISC family. Having just mopped up the minority in Siemens-Nixdorf, would Siemens be ready to admit a new investor into the company? Well the money would be very welcome at a company that is again finding that computers are a gurgling cash drain, and a single outside investor is very different matter to a host of fractious small shareholders and institutional investors. Before doing any deal, Hewlett-Packard would have to weigh whether it would gain more from what would effectively be privileged access to Siemens' customers than it would lose in self-impact on its already strong position in western Germany.

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Larry Dooling, former president of Unix System Labs Inc, managed to withstand retirement for only six months: he's just become chief operating officer at the five-year-old \$10m-a-year voice systems company Verbex in Edison, New Jersey. Naturally it has some of its stuff running on Sun Microsystems Inc Sparcs and Unix SVR4 systems and will be doing more.

Retix Inc is hosting an OSI Forum in conjunction with the CCTA at The Royal Aeronautical Society, London on July 8th: the agenda includes messaging, GOSIP guidelines, transaction processing, migration strategies and OSI installation.

Sequoia Systems Inc fault-tolerant users have banded together and formed SUG/GEST the Sequoia User Group/Group Exchange of Sequoia Topics: it'll focus on sharing third-party technologies as well as vetting Sequoia products and future technologies.

Next Computer Inc, which has been through a tidy sum already, has gotten further financing: this time a \$55m credit line from Canon Inc and another \$10m from Steve Jobs himself - both are former investors already. If and when the company goes public, any money borrowed under these credit lines will convert to equity at the IPO valuation without any premium or discount. The company says it is now fully funded.

And Next, which claims to have captured 20% of the commercial workstation market, about half its estimate of Sun's share, has named Bernard Wobker its vice president of Europe, stationed in Munich. Wobker, most recently Pyramid's senior vice president for Europe, the Middle East and Africa: Pyramid UK's Martin Lambert is to fill Wobker's shoes.

X/Open Co Ltd has commissioned market research firm Dataquest to undertake an Open Systems survey on its behalf, as part of its Xtra user requirements programme. The study will focus on the supply side of the industry to identify the progress being made towards delivering products that meet users' needs and will investigate how vendors intend to respond to users aspirations in interoperability, data management, on-line transaction processing and network and system management. Xtra meets will be held in Dusseldorf, Germany, (24-26 November) and in Washington, DC, USA (30 November-2 December). The latest recruit to X/Open's now 44-strong User Council is the UK's National Health Service Information Management Centre.

The government-backed Industrial Technology Research Institute (ITRI), in Taiwan is reportedly thinking about taking a second crack at a locally designed Sparc processor: it supposedly came up with 25MHz three-chip silicon in the spring, but was shooting for 50MHz. Electronic Engineering Times also says ITRI is working on a separate multi-chip module that would probably contain a 24MHz CPU, memory management unit, floating-point unit and cache.

The voltage on the power panel which the Object Management Group has planned for its Object World expo later this month just went up a few notches: Lotus' John Landry couldn't make it so they got Sun's Bill Joy as a substitute. OMG will bring him together with rivals Steve Jobs of Next, Joe Guglielmi of Taligent, Jim Allchin of Microsoft and Philippe Kahn of Borland.

OSF's security provider, SecureWare Inc, is bankrolling a start-up and sharing its president with it: Advanced Software Engineering Technologies or ASET Inc is doing a user interface management system dubbed Agora.

If Unisys Corp's iAPX-86-with-everything Unix strategy succeeds in building a substantial customer base, particularly among the company's long-standing mainframe customers, the strategists at AT&T Co, whose NCR Corp is galloping down the same track and has a more extensive Intel Corp-based product line, will have to start weighing up whether a bid for Unisys could be made to make sense: AT&T would likely want a recommended offer, coupled with arrangements for a management buyout of at least one of the conflicting mainframe lines.

Sun Sparc-based machines have 57% of the European RISC-based workstation market according to IDC: MIPS R-series is in second place with 19%, IBM Corp's Power is third with 10% and HP's PA fourth with 8% - its low showing reflecting the fact that most of its installed base of workstations are still based on the 68000 line.

Visix Software Inc has a new cross-platform application development environment, Galaxy, up its sleeve. Fearful of the competition listening-in, a tight-lipped Visix wasn't giving much away, but we understand Galaxy toolkits will allow users to build applications that will be portable across Unix, NT, OS/2, Windows, Macintosh and MS-DOS.

The Zenith Data Systems personal computer subsidiary of Groupe Bull SA has officially announced what everybody that cared already knew: it's out of ACE.

Although stateside gossip recently had it that Hitachi Ltd would soon be ready with Unix on its mainframes (UX No 384), latest rumours suggest that BASF's Comporex Informationssysteme GmbH - a European OEM for Hitachi Data Systems' IBM-compatible mainframes - is tired of waiting, and may be close to signing a deal with IBM for its already proven AIX/ESA 2.1 mainframe version of Unix, which is an implementation of OSF/1.

SunSoft UK has poached Janet Davies from Madge Networks to replace Tony Westray: Davies was formerly with Informix and AT&T's Unix operation.

There is a vogue in the UK for all things Magritte at the moment - the Belgian's work is currently the subject of an exhibition at London's Hayward gallery - this is all we have to say: ceci n'est pas une pipe.

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DIGITAL EQUIPMENT CORP LAUNCHES XPG3-COMPLIANT OPENVMS, UNLEASHES 13 PRE-ALPHA VAXES

Digital Equipment Corp unveiled its OpenVMS environment in Zurich last week - the US launch is this Wednesday - with a host of new VAX systems, enhancements to Network Applications Support software and storage products, new licensing for OpenVMS, and a range of DEClease options. Also, enhanced TCP/IP software improves the ability of OpenVMS systems to communicate with Unix-based systems or any system running TCP/IP. The OpenVMS environment includes 13 VAX/VMS systems, so-called openness for VMS and an Alpha-ready programme to help existing customers migrate to the Alpha RISC systems as they become available. DEC says that it changed the name of VMS to OpenVMS to reflect its X/Open Portability Guide 3 branding, Posix-compliance and its ability to run on several environments as well as VAX and Alpha. Current VMS applications, says DEC, require no modification to run on Alpha. The OpenVMS environment, along with NAS software, OSF/1 and Microsoft Windows NT, are to form the basis of DEC's strategy over the coming decade and beyond, though as DEC UK chairman, Geoff Shingles reflected, "we should have put VMS into the open domain in the eighties." The company also introduced user-based licensing with OpenVMS - licences are offered for a specified number of users or an unlimited number. Existing users will be upgraded to OpenVMS over time. At the top-end are two new VAXes which are upgradable to the Alpha RISC via board swaps from next year.

Lasers

The 7000 and 10000 series "Lasers" are known as Neons for the present - they use the NVAX microprocessor - but become Rubys when configured with Alpha RISC Alpha processors clocked at 150MHz to 200MHz. The VAX 7000 600 systems come with a 91MHz CPU and DEC claims that they outstrip all but the most expensive IBM Corp mainframes. They cost from £200,000 with 128Mb memory, 12Gb disk and 2.6Gb tape. The new VAX 10000 systems, claimed to be alternatives to the conventional mainframe, have one to four CPUs, optimised input-output and battery back-up. They cost from £300,000 to £1m. The rest of the new machines cannot employ Alpha directly, but come with a "guaranteed upgrade price." They comprise the VAXstation 4000 90 desktop; the MicroVAX 3100 Model 90 and VAX 4000 Model 100 servers and VAX 4000 models 400 and 600 distributed servers. Additionally, the Advantage Servers are available in 16 configurations, from the desktop MicroVAX 3100 to the 10000 models, and the Accessworks family provides access from desktops to a variety of databases in IBM, VAX or Unix environments. The VAXstation 4000 model 90 doubles the performance of the VAXstation 4000-60 and offers TurboChannel input-output and three-dimensional graphics. The MicroVAX 3100 90 and VAX 4000 100 act as distributed nodes and the 100 is a new entry-level system to the 4000 family. The VAX 4000 400 and 600 are new mid-point and high-end systems, described as workhorses for distributed client-server networks, and the 100 offers new clustering capabilities. The new DEClease offerings comprise the OpenVMS Alpha Migration Lease for users that need an OpenVMS VAX but plan to migrate to Alpha at some point, and the OpenVMS Alpha Upgrade Lease for those that wish to incorporate Alpha as soon as possible, but want top-end computing today. All the new machines will be available in September. An announcement of the first indigenous Alpha systems is expected around the end of the summer, following benchmarks which will be released in August. DEC says some 300 Alpha systems are currently out on test in the field. Second generation Alpha systems are already in design, according to Peter Graham, corporate Alpha business manager, and which will follow 12-18 months behind the initial tranche of machines. Graham says DEC will sign agreements with "one or more partners for Alpha by the end of the year," but claims it is "not important to conclude a third-party manufacturing deal immediately." Talks US, European and Japanese fabricators are underway. DEC claims 25 OEM design wins for Alpha, with a further 300 said to be evaluating it.

...AS BARCLAYS BANK ORDERS NEW ALPHAS TO REPLACE ITS VAXES

In the wake of its pre Alpha VAX releases, the UK's Digital Equipment Co Ltd, based in Reading, Berkshire, is to supply Barclays Bank Plc with five of its new Alpha-ready VAX 7000/610 models running the OSF/1 operating system. The machines will replace all-in-one VAX servers, also from Digital, at three of the bank's data centres in London, Cheshire and the South East. Barclays claims that the machines will provide data for 4,000 users. The bank also denies last year's claims that it had signed a major deal with IBM to supply RS6000s (UX No 323), saying that it was only "evaluating" the IBM equipment.

ACTIVE MEMORY GOES INTO RECEIVERSHIP - US

MILLIONAIRE TO THE RESCUE

Active Memory Technology Ltd, the ICL Plc parallel processing spin-out, has fallen into the hands of receiver Price Waterhouse and is currently tying up a rescue bid from a mystery American millionaire tycoon. The \$6.5m-a-year company signed on the dotted line at the end of last week "under agreeable terms", and will be bought as a going concern. The troubled 1986 ICL start-up housing the Distributed Array Processing, DAP, technology - built on the single instruction multiple data technique of massively parallel processing - has been in the hands of the receiver, Price Waterhouse, since June 16. The purchaser, according to Price Waterhouse, will keep both operations, its subsidiary set up in Irvine, California and its UK operations running as normal - the headquarters will remain UK-based in Reading, Berkshire. However, it looks like old investors in the company, including ICL which held a 17% stake in the firm have lost their investments. Rated third in the supercomputer market with a significant 16% stake acclaimed to it, AMT's aim to provide affordable supercomputing systems seemingly paid off to the outside world. But the company, it seems, has never had a smooth run of it, spending the majority of its time pulling in venture capital. Perturbed by the lack of enthusiasm from the corporate sector in the UK, AMT's US operation has been the company's life support system for some time. Unable to breakout of the academic circuit in the UK, the US arm maneuvered itself into the military market, mopping up defence supercomputing contracts. AMT's flagship 8-bit floating processor systems, the DAP/CP8 510C and 610C - have an estimated installed base of more than 100 worldwide and sell for £87,000 and £300,000 respectively. Both systems are still generally available, the company says.

SPARCSTATION-2 CLONE, WITH VIKING CPU, FOR £8,000 IN UK

Unix Solutions Ltd, Dunstable, Bedfordshire, the UK arm of US Sparcstation 10 cloner, Pinnacle Data Systems Inc (UX No 392), says it hopes to receive an initial delivery of its parent's Texas Instruments Inc Viking-based workstations within two weeks. First out of the gate will be IPX Sparc 3 - a Sun Sparcstation 2-compatible machine with Mbus and TI's superscalar chip - expected to retail between £8,000 and £9,000. The main problem the cloner will have in getting to volume production is Sun's current monopoly of Viking CPU and memory component supplies. Unix Solutions director, Quing Tsang, adds that its agreement with Sun does not run to supporting software on the Mountain View, California-based company's kit, only on its own, at present.

PYRAMID READY WITH 24-WAY ES LINE, RE-VAMPED SIEMENS OEM DEAL

by William Fellows

Pyramid Technology Corp, Mountain View, California, has been taking something of a backseat role in telling the world about its newest developments lately: most recently Ing C Olivetti & Co SpA was left to deliver Pyramid's latest MIPS Computer Systems Inc-based R3000 and R400MP siblings at its bash in Rome a couple of weeks ago (UX No 390). However, by the end of July, Pyramid will be blowing its own trumpet again, announcing the top-end systems which Olivetti has already shown - with a maximum 24 R3000 processors, two on each board - as the ES server line (UX No 386).

The ES range effectively doubles the power of Pyramid's existing top-end MIServers which come with up to 12 R3000s. Pyramid says it hasn't decided whether it will offer the one-to-four MIPS R4000MP-based low-end servers (which Olivetti has also announced) directly - it'll probably let its OEMs handle those. "It would only confuse our already confused image," a Pyramid official said. Although Olivetti has stolen most of Pyramid's limelight of late, the \$100m OEM relationship with the Italian group is matched by a similar agreement it has over at Siemens Nixdorf Informationsysteme AG. The SNI deal is focused on Pyramid components and its Unix SVR4 implementation, not whole systems per se. But that's all set to change, according to the firm, with the ink now drying on a re-vamped contract which will see SNI reselling complete Pyramid systems. SNI, Pyramid says, has made it clear that it's in the process of formulating a long-term policy of its future chips and technology requirements. That's good news says Pyramid, because SNI is likely to get closer to it in the short term while these issues are being resolved, whatever the eventual outcome. Also, now desperately trying to stem the flow of red ink its trailing - see page three - going to Pyramid for complete systems is a safe option for SNI as research and development budgets are being put through the grinder. Under the deal, Pyramid may even end up reselling SNI's low-end RM400 box. In reaching 24 processor configurations, Pyramid says it has gone as far as it can with the R3000.

Life after the R3000

Beyond the ES series, there are two further generations of systems already scheduled, which will see the Pyramid range move across to the R4000 RISC in various guises. Pyramid says it is happy enough with the specifications for MIPS' next-generation R5000 and R10000 but says it'll wait until it sees the things before it believes the projections. Looking to expand its business into other growth areas, Pyramid is currently formulating a fault-tolerant strategy that will go beyond its current Reliant series, in which two Pyramid systems are siamese-twinning to deliver a claimed 99.975% availability. By what route this strategy will proceed is unclear - technology swapping, OEM or other - however, the company admits that it probably would have been a good idea had Tandem Computers Inc and Pyramid had meshed their respective hardware and Unix software experience in that area two years ago. Pyramid also promises a repost to arch rival Sequent Computer Systems Inc's plans to offer Microsoft Corp NT-based superserver systems (UX No 392). However, it won't go with NT at the low-end, and the plan, if there is one, remains under wraps. In this instance the company concedes its well behind Sequent. Elsewhere, other strategies will roll out in two to three months Pyramid says, and in a year or so's time it claims it'll have servers capable of competing with IBM mainframe class systems.

Better third quarter expected

A company spokesman said he didn't know whether the firm would break even on its third quarter just ended - results are due in a couple of weeks - but an improvement on its second quarter loss of \$7.2m (which followed a first quarter which ended \$18m in the red) is expected. Revenues from its share of AT&T's \$1,400m contract with the Inland Revenue Service in the US will kick in around November, the firm says. UK business now accounts for some 30% of the European total. Last year's business, which was split 60%-40% between direct and indirect sales is expected to level out at 50%-50% this year, according to Pyramid's UK managing director, Ken Jacobsen. In the UK, Pyramid is opening an Open Oracle Financials centre at its Farnborough, Hampshire base, and is supplying hardware to Oracle's systems integration unit.

TWINHEAD PREPARES S-10 EFFORT

Contrary to rumours that Taiwanese firm Twinhead International Corp, may be putting the mockers on its Sparc-compatible business, the company claims it will announce details of a workstation compatible with Sun Microsystems Inc's superscalar Sparcstation 10 by the end of this month. The firm is shooting for end of year deliveries. Meanwhile, Twinhead's Twinstation MP, a dual-processor Sparcstation 2-compatible offering, already out in the US, is due to hit the UK shortly according to director, Allen Wu.

CADRE TURNS TO SOFTWARE MAINTENANCE WITH ENSEMBLE

Cadre Technology Inc has shifted emphasis from front-end computer-aided software engineering with its latest software launch - Ensemble. A toolset for C programmers automating software development, maintenance and testing, Ensemble is "water for the code that's on fire", according to director of product marketing Caine O'Brien, who points out that, while CASE revenues have levelled off recently, the maintenance end of software engineering is still buoyant. "We still believe in structured methodologies", says O'Brien, "but the fact remains that 80% of software developers have not taken them up". The toolset, which Cadre claims is the first integrated solution covering maintenance, test and reuse of existing software, includes six modules: system understanding, a reverse engineering tool for "complete design recovery of C source programs"; function understanding, producing control flow graphs and data and control complexity metrics; the construction module, which automates the building of source code from Ensemble's design environment; test case generation, which automatically builds in test cases at function, unit or subsystem level; test verification; and a documentation module. Ensemble ships in August for Sparc systems, with IBM, HP and DEC by the end of the year. Individual modules cost from \$3,000 to \$6,000. The test verification module ships in the first quarter of next year. 50% of the customers will not be CASE users, estimates O'Brien. Cadre has also introduced a Unix version of its DB Designer database design and re-engineering workbench, and announced a strategic alliance with Oracle Corp to provide re-engineering solutions to Oracle customers.

10% OF UK MAINFRAME USERS "RIPE FOR DOWNSIZING," SUGGESTS HP

Adding to the "are they or aren't they" downsizing dispute, Hewlett-Packard Co's UK marketing manager, Nick Earle, claims users are not so much ditching their mainframes wholesale as running core applications on mainframes and installing others on mid-range systems. It will be at least five years, Earle estimates, before users creep away from their mainframe dependencies, though recent research it has done shows 10% of major mainframe users do want to talk about downsizing their operations. Before the rise of open systems there were five factors which precluded migration to Unix, he argues. Unix was not robust enough, no one believed it was more economical, applications and networking were lacking, and, data security was weak. Today, security is the remaining stumbling block, Earle says, though for that 10% above, data security is probably not crucial. Users are finally coming round to the idea that applications are more important than the platform, he says, citing the UK supermarket chain, Sainsbury's, which took ten months to decide that it would move to Unix, choosing its software before inviting companies to bid for the hardware contract.

MICROSOFT OUSTED FROM LAN SERVER

IBM is preparing to jettison all Microsoft code in future versions of its LAN Server network operating system, according to our sister publication, *Network Week*. The next release of Lanserver, due around September or October should be the last to incorporate work from IBM's estranged partner according to Ray Buckland, the UK manager in charge of Lan Software and client-server systems. As a replacement, IBM is taking the Distributed Computing Environment (DCE) and Distributed Management environment (DME) developed by the Open Software Foundation. These define a set of services covering everything from file sharing to messaging necessary for building applications spread across a network. Despite its cosy relationship with Novell Inc, IBM is categorical that there is no Netware code being used in the development. The label "DCE compliant" won't necessarily appear on the early releases although the technology will form the core of the offering. Nonetheless by 1994 Buckland believes that Lan Server should comply to this new standard for distributed systems. At the same time the company has committed to implement OSF on its other machines. This will be alongside systems application architecture (SAA) - giving IBM users a choice of ways to build distributed applications. The decision is likely to be unpopular among users with mixed LAN Server-LAN Manager installations. Over the past couple of years they have waited patiently while the Microsoft and IBM products converged. Now the likelihood is that they will diverge again. Buckland admits that he feels sympathy for users caught in the cross fire but says "in defence of IBM, it was not us who diverged from the strategy that was laid down" and that those who stick with LAN Server will have a guaranteed migration path towards a DCE/DME-based system. Moreover he adds that, should there be "a significant market demand", IBM will move to ensure that Server and Manager continue to interwork in some measure. Among the goodies promised for the Autumn release of LAN Server is native support for the Macintosh - co-developed, says Buckland, with Apple Computer.

UNIX INTERNATIONAL HAS SECOND EARLY ACCESS VERSION OF SVR4 ES/MP

Unix International has introduced a second development version of Unix System V Release 4 Enhanced Security/Multiprocessing (ES/MP). It now has a fully multi-threaded kernel and can support up to 30 processors. Other enhancements include a compilation environment that allows users to build and install both uni-processor and multi-processor versions of the system, installable reference binaries for the Intel platform, system management commands for administering the multi-processor features and a preliminary version of the application programming interfaces for multi-threaded enhanced security features. General availability of the completed ES/MP release is set for mid-1993. Fujitsu, ICL, NCR, Pyramid and Sequent are all helping Unix System Labs' in development of the environment.

LSI LOGIC ADDS FLOATING POINT TO MIPS R MICROCONTROLLER

"The world's first microcontroller with floating point capability on chip" was announced by Milpitas, California-based LSI Logic Corp last week. The LR33050 MIPS IFX Integer and Floating-Point Accelerator processor adds a MIPS Computer Systems Inc R3010-compatible floating point accelerator to LSI Logic's LR33000 Self Embedding processor and is aimed at embedded applications such as X-terminals, colour PostScript printers, robotics, military and avionics applications where power and space constraints are paramount. The LR33050 is pin- and software-compatible with LSI Logic's LR33000 processor. It is available in 25MHz, 33MHz and 40MHz clock speeds, doing up to 35 MIPS with the fastest clock. Samples of the slower two versions are available now, with volume later this quarter; the 40MHz is one quarter later for samples and volume. Prices start at \$136 for the 25MHz version when you order 1,000 or more parts.

TENON DEBUTS LATEST

MACH-ON-MAC SYSTEM SOFTWARE

Despite last week's action by Unix Systems Laboratories against the University of California at Berkeley's "AT&T free source code" (UX No 392), software based on Berkeley's BSDI code is still coming to market. Tenon Intersystems Inc, the Santa Barbara, California-based Unix-on-Mac vendor has launched version 2.0 of MachTen, its software that puts the Mach operating system onto Apple Computers Inc's Macintosh. Based on Berkeley BSD4.3 Unix and built on Carnegie Mellon Mach 3.0 foundation it supports all Macs from Powerbooks up and runs off-the-shelf Apple applications whilst simultaneously running Unix programs. A novel development, the company claims, it turns Macs into cheap workstations. MachTen will be compatible with Apple's Macintosh System 7 in future releases. The software includes multi-tasking capabilities, internet communications and a distributed file system via Network File System. Whilst files are stored in Mac format, MachTen will allow both Unix and Mac programs to share the same data simultaneously. The software supports Balloon Help and Apple Events. A new control panel provides a Mac-like configuration tool for Tenon's Unix, which can be used to schedule work between Macintosh and Unix processors, reconfigure the network and network servers and set the number of available buffers for Unix data caching. In the same breath, Tenon has also rolled-out X Client and X Server software for MachTen X-Windows. The server software option runs in conjunction with MachTen and MacOS, and sports a built in windows manager that supports up to six X terminals, as well as Macintosh-style tools and Macintosh-style Windows or Motif-style Window functions. On the client side, MachTen X-Windows has a development environment for building X applications: included in the package are X programming libraries, Athena widgets and utilities and configuration files.

NO END IN SIGHT TO LOSSES AT SIEMENS NIXDORF; 3,000 MORE JOBS ARE TO GO

The enormous structural problems at Siemens Nixdorf Informationssysteme AG - a moribund proprietary business systems line coupled with the growing threat to Siemens' own core mainframe business from the accelerating trend towards downsizing and open systems begins to threaten indefinite postponement of financial equilibrium at Europe's largest computer company. Siemens AG said last week that it would take longer than previously planned to reduce losses at its computer and also at its semiconductor divisions, and blamed a continued deterioration in market conditions. In the latest round of restructuring at the company, Siemens wants to cut employment at Siemens Nixdorf to 47,000 from the present 50,000 - but only over an airy "next few years". Siemens also says it expects losses at the semiconductor division to go on, saying that the prospects of it breaking even over the next few years as a result of cost-cutting had been dampened by weak demand. Profits at the semiconductor division are also under pressure from the start-up costs of the joint venture memory chip plant near Paris owned by IBM Corp, in which Siemens is the joint venture partner.

TANDEM TO END MANUFACTURING IN TEXAS, GERMANY

The hard economics of open systems are being addressed in a big way by Tandem Computers Inc, both in products and manufacturing. It is working on a single hardware architecture for its Guardian and Integrity Unix machines using the MIPS Computer Systems Inc R-series RISCs - it uses the R-series in its latest NonStops, but the architecture is radically different from the three-processor voting fault-tolerance of Integrity. And *Electronic News* says it will end manufacture at its Austin, Texas and Neufahrn, Germany plants and hopes to sell its Watsonville, California circuit board plant to SCI Systems Inc. It is looking for a new European manufacturing site somewhere cheaper than Germany, but, in the interim, all manufacturing will be done at its Sunnyvale plant.

"COMMONNESS IS MORE IMPORTANT THAN OPENNESS," SAYS NEW SCIENCE

By William Fellows

Lee Rothstein, director of Southport, Connecticut-based market research firm New Science Associates Inc's advanced network computing service, takes umbrage with a lot of current thinking on open systems. He says that much of his firm's research showed, at an early stage, that open systems concepts "weren't going to cut it," moreover that many "were a myth."

In theory, guidelines for open systems are formulated when a committee of vendors come to some sort of agreement over architectural definitions and create a standard. "However, in reality, each vendor has its own technological axe to grind and the results miss the mark," says Rothstein. The committees "never get to the leading edge because large companies usually don't understand new technology, so they drag their feet on committees until they are able to catch up."

Proven

Rothstein argues that to be able to see the wood through the trees, users should focus on "common systems concepts," rather than open systems. That is, mainstream technologies plus value-added elements. The problem with "open" is its marketing attraction, says Rothstein. Companies are keen to adopt the "open" moniker simply for that purpose: how many suppliers these days describe themselves as open systems companies, when just a few years ago they would probably have sneered at the term. "Vendors aren't attracted to the word "common" it doesn't look or sound good," he says. He advises organisations to go for proven and well understood technologies to meet their basic requirements, wherever possible using architectures which are already known within the company - even if different technologies have been implemented on top. Tried and tested application programming interfaces, data structures, formats and protocols, will usually work in the same way even if they are encapsulated within other architectures. Only when it needs a custom development platform should an organisation opt for the really new stuff. "For the average user, commonness is more important than openness."

Recently, Rothstein believes, there has been an inversion of traditional customer-supplier relationships. Formerly, large enterprises usually had little difficulty in getting their requirements met, whilst small users struggled to get their often very specific needs fulfilled. That situation has gone into reverse, he believes, and to get their needs met in this new world, large organisations are having to reprioritise their suppliers, and increasingly seek out third parties for new technologies.

Breed

Rothstein is keen to talk-up the likes of Legato Systems Inc, Brixton Systems Inc, Sybase Inc and Netwise Inc, companies which he believes have common systems know-how, plus the experience of new technologies in their respective markets. Whilst this particular breed of company may be able to deliver efficient, cross-platform solutions, the trouble is that they are mostly too small to have any major significance for the industry as a whole. Indeed the vendor community has successfully prevented the supply side of the industry from descending into a free-for-all by effectively staking out their respective territories and more or less sticking to them, Rothstein argues.

Nevertheless, some of the more progressive suppliers are now moving down that road in some instances, albeit very gradually. Rothstein picks Hewlett-Packard Co as the best of this bunch. As well as its apparent willingness to take on board proven independent software technologies, the company is also making its own products available on other platforms. "It's the name of the game," says Rothstein, and one that "DEC has begun to understand too." Rothstein positions Oracle Corp as a negative example. He argues the company has tried to monopolise the market by convincing customers that its relational database management system is effectively the computer, making it appear that all other functions and tasks the user may want to perform are bound tightly to the database - requirements that can only be met by other Oracle products.

Get on with it

As far emerging technologies go, Rothstein says although the Open Software Foundation's Distributed Computing Environment may well become part of a common distributed infrastructure, he claims it is still on a very low level as far as developers are concerned. Until the likes of Microsoft Corp and Novell Inc commit to it, its future isn't assured, he argues. "It needs a Novell to go and bundle it at very low cost. If it did, the world of computing would be a better place," he says, mindful however, that "we need do an infrastructure. If people are agreed on it [DCE] then let's get on with it." The trouble with ANDF as he sees it is it recreates a problem of the past by adding an enormous level of inefficiency in its intermediate compiler layer. The old argument that software can't keep up with the rapid advances in hardware performance simply isn't true, he says. The industry needs more and more MIPS to be able to programme at higher and higher levels. If anything, hardware isn't keeping up with the demands of the kinds of software he'd like to see. "There are things we can't yet contemplate doing because even if we did we don't have the processing power to take advantage of them."

Bad

Along with "open", he believes client/server roles have been severely misrepresented by suppliers, their marketing organisations - and to some degree the press corps. In his eyes this has led to "bad software." The ubiquitous MS-DOS and Apple Mac environments have even begun to permeate the client/server world. These, he says, "are not real client/server platforms: they're not powerful enough. We need a DCE-type architecture and more standards in the area to get client/server technologies going." But again, even if the software were written, there wouldn't be enough hardware capable of running the stuff, he says. Users' environments particularly don't have the hardware infrastructures to support most of this technology. Unix is, and will be, indispensable in meeting these kinds of scalable requirements, especially where databases and transaction processing systems are concerned.

Object experts

In any case, Rothstein says, networks will eventually fall apart under their own weight without the arrival of object-oriented technologies. In the future, Rothstein foresees so-called "object experts" in companies. Not people who are experienced in object programming, but who may be expert in legal or manufacturing objects, for instance. By then, objects will be scalable, pastable and interchangeable, he expects.

Although the Unix International/OSF wars seem to have abated at the moment, "there is always an excuse for them to rip each others hearts out, leaving Bill Gates to have the market," says Rothstein. Indeed, "as long as there is no agreement between the Unix factions - and an accepted ANDF-like technology for portability - then NT is winning the battle without entering the fray," he believes. Rothstein isn't suggesting Microsoft will have it all its own way though. "NT is non-trivial. It's a very complicated piece of code and there is a question whether it [Microsoft] can produce a mass market operating system out of something that complex - look at Unix. However, people are willing to wait and see whether Bill can deliver. Novell also has a problem in Rothstein's eyes: "what does it want to be when it grows up? Its networking stuff is good, and cheap, but the network management software and E-mail technologies it's working on are difficult and expensive. How is it going to be able to compete against Microsoft, when Bill Gates is giving that kind of stuff away?" He also wants to make it clear that he's not "a Unix-on-the-desktop basher. If you have full-time desktops and you have to do any development yourself, then we recommend Unix. Why? Because it's there, and you can buy high-performance platforms for it. But mass market Unix? We can't see it."

New Science, a 55-person outfit with offices on the East and West coasts of the US - as well as in London - offers subscription-based consulting and analysis services in seven technology areas.

NOW QUORUM AND APPLE RESOLVE THEIR DIFFERENCES

In what could turn out to be a positive sign for the future of graphical user interfaces, Quorum Software Systems Inc of Menlo Park, California, has resolved its lawsuit with Apple Computer Inc, under terms not disclosed (UX No 385). As a result, Quorum will continue to develop and market its cross-platform compatibility products without threat of further legal action. Quorum's status as an Apple Certified Developer has also been restored. Apple had claimed that Quorum had violated its intellectual property rights, while Quorum claimed it had avoided the infringement of any third-party intellectual property rights, including Apple's. Quorum's Latitude, a software developer tool allowing Mac-compatible applications to run on Sparc-based systems under Solaris 1.0, began shipping recently - other platforms will follow. Apple has been highly sensitive about proprietary rights to its Windowing software, but is said to be considering striking a deal with Unix System Labs over the technology.

CDC "MAY TAKE OVER PORTABLE NETWARE FOR MIPS"

Control Data Corp is said to be considering taking over the development of Portable NetWare for the MIPS chip, sources claimed last week. CDC has already spent a great deal of time and money on an effort to stabilise the product, but faced with pressure from customers trying to use it, is hoping to speed the process up. Development is currently the responsibility of MIPS itself, now of course, part of Silicon Graphics Corp, in which Control Data has a stake. CDC is not the only one to have faced technical problems with Portable NetWare. Launched in 1989 (JX No 221), it was initially slow (being an emulation of native NetWare) and incomplete. Interactive Systems Corp - now SunSoft Inc - began by marketing the product strongly, but later faced a barrage of complaints and problems over speed and stability, and reportedly lost a great deal of money over the venture.

IMPLEMENTORS CASE TOOL PROVIDES BRIDGE BETWEEN RS/6000 AND AS/400

As expected, Reading, Berkshire-based Implementors UK Ltd has released a Unix version of its v1.11 PC-based Computer Aided Software Engineering development and migration environment. This version allows IBM AS/400 users to translate their existing applications into C code and migrate them to IBM's RS6000. Currently tied to the Ingres database, Oracle and Informix versions should follow by the end of the Summer, and Sybase by the end of 1992. The company says it is porting to other platforms in September, hinting at ICL and Hewlett Packard. Applications are developed on a PC and then sent to the target machine. To compensate for the design change in the application, Implementor records and automatically updates each part of the application affected. The company claims that application productivity is increased by at least 200 per cent compared to traditional methods. Graphics-based applications are developed using the company's C-Scape screen handler, which includes application programming interfaces for running Windows 3, Motif or Open Look at the front-end. Aiming at 70 Implementor sales for 1993, Hugh McCartney, the company's managing director said that 75% of business will still come from people developing applications for the AS/400: "We expect people to migrate in two to three years. People will be using AS/400s into the next century". Current UK installations number 50, and users include Tate and Lyle and Dolland and Aitchison.

FUJITSU ADDS SPARC LAPTOP

Fujitsu has added some of ICL Plc's new DRS 6000s to its product line in Japan, where they are offered as the DS/90 7000 series. The new line includes a 90 to 180 MIPS top-of-the-line server model, the 7840/7842; a desktop server entry-level model the DS server 7120; and a laptop workstation with a high-resolution thin-film transistor screen, the DS station 7120, which does not come from ICL but may well be offered by the UK company in future. Fujitsu says it is preparing a 50MHz SuperSparc version for release next spring - presumably from ICL also. The new 7120 DS station will ship this August and costs from \$13,385. Aside from the low-end DS server 7520 at \$12,600, which ships in August too, other models will ship from December and prices range from \$25,100 to \$124,400. The new models will be supported via the company's OIC Open system Integration Centre, which opened on May 11 this year. PFU Ltd, another Fujitsu affiliate, will also be selling the machines which will be supported through UPlazas, PFU's Unix consulting centres. Fujitsu looks to sell 35,000 units of the new models over the next two years.

JAPAN COMPUTER CORP PLANS NEW PLANT TO SUPPORT ITS EUROPEAN X-STATION PUSH

Japan Computer Corp is to build an X-terminal plant in Niigata Prefecture, investing about \$3.9m to construct a plant of 22,500 square feet, which is expected to have a production capacity of 2,000 terminals per month. The current production capacity is being expanded in response to increased demand in Japan and the start-up of marketing in Europe. Japan Computer Corp is forecasting sales to be up this year by 35%, for total revenues of \$23m.

NEC LAUNCHES FIVE WORKSTATIONS AND SERVERS USING THE R4000 RISC

NEC Corp has new MIPS Computer Systems Inc R4000 RISC-based servers and workstations: two new models in its SuperServer UP4800 series and three new models in the EWS4800 workstation series. The new server models - Models UP4800/630 and 620 respectively, use 64-bit RISC R4000 processors with clock frequencies of 60MHz and 50MHz, and performance claimed at 110 MIPS and 95 MIPS respectively. The new workstations are Model EWS4800/130LT which has a 1,280 by 1,024 pixel colour thin-film transistor screen and a performance of 30 MIPS; the EWS4800/350 with a clock frequency of 50MHz and a performance of 95 MIPS; Model EWS4800/215 is an entry-level desktop model with VMEbus expansion slot. NEC plans to use the 75MHz R4000 microprocessor which will be released soon in an upgrade board to be released later this year. Both servers and workstations use versions of Unix System V.4, which will incorporate the Common Japanese Language Application Binary Interface called OCMP announced last month by Sony Corp and NEC Corp. The new products are priced at from \$17,800 to \$128,000 including software, and shipment dates are from late this month to early September. NEC is looking for sales of 30,000 units of the five new models over the next two years.

MICROSOFT AIMS TO MAKE MS-DOS A DEAD END

In another change of tack - there was a time when OS/2 was the whole future as far as the company was concerned, Microsoft Corp is switching its signals and is now making it clear that it expects MS-DOS users to prepare to switch to Windows NT. The company has abandoned or put back plans to bring major architectural changes and high-end Windows features to its MS-DOS environments, the same source reports. This move, observers said, will force MS-DOS users that want the most advanced Windows technology to migrate to Windows NT. The new version of Windows for MS-DOS planned for later this year will not now include the full Windows-32 application programming interface of Windows NT. Microsoft also now plans a new version of MS-DOS for early next year that will lack most of the features that had been expected in the MS-DOS 6.0 release, such as multi-tasking, and the company will now offer its object-oriented Cairo environment only for NT and not for MS-DOS. And PC Week has been looking at the pre-release development kit for Windows NT, shipping this week, and finds that the new NT File System is not yet complete, and neither are the security features that are tied to it. The pre-release version is also missing LAN Manager for NT, but these elements are promised for the corporate beta test programme set for September.

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Sun Microsystems Inc has teamed with Coral Systems Inc to jointly market the company's intelligent network solution for cellular communications services providers: two new products, HLR - home location register - and FraudBuster will be introduced at the end of the year on Sun 600MP Sparcservers.

Sun has followed ICL Plc in adopting Boulder, Colorado-based Exabyte Corp's 5Gb EXB-8500 Cartridge Tape Subsystem, becoming the first US firm to do so.

Microsoft Corp is targeting the top 25% of Sun and RS/6000 application bases for NT, according to an interview with Microsoft's director of marketing Dwayne Walker in SunWorld.

Mentor Graphics Corp is to migrate its electronic design automation software to SunSoft Inc's Solaris 2.0.

Sun is so flush with cash that it plans to buy in up to 7.5m of its own shares, 7.5%; the purchases will be funded from available working capital and the shares will be held in treasury or used for ongoing stock issues for its employee share ownership plans.

McLean, Virginia-based Excalibur Technologies Corp, has duly launched versions of its flagship PixTex/EFS document imaging and retrieval software for Sun Microsystems Inc, Hewlett-Packard Co and IBM Corp RS/6000 Unix workstations. The Sun version will ship in October, to be followed sometime later by releases for the Hewlett-Packard and IBM systems. Prices range from \$20,000 for the stand-alone versions to \$77,000 for unlimited-use server versions.

David Pensak, inventor of Raptor Systems' Eagle Network Security and Detection System, has been asked to serve as Ross Perot's high technology advisor during his bid for the presidency.

Mobium Computer Corp has moved to LSI Logic's 40MHz chips for its new Mirage series of Sparcettes, looking to swap them out when Texas Instruments Inc Vikings become available: the IPS/2 comes diskless at \$7,000; \$8,600 buys 520Mb disk, 16Mb RAM expandable to 128Mb, three Sbus slots, Weitek Corp floating-point unit and a 17-inch 1152 x 900 colour screen.

VenturCom Inc's real-time E-Venix/386 Unix operating system will now support X-Windows, claimed to be a first for an embedded operating system: the company has made it possible to embed Network File System on a diskless single-board computer via the E-NFS facility.

As expected (UX No 375), remote procedure call house, Netwise Inc, Boulder, Colorado, has re-opened a European headquarters, this time in Naarden, Netherlands: it has organisations in the UK, Germany and France.

UK Cambridge-based CADcentre has opened up in Frankfurt, Germany: **Richard Longdon takes the reigns there.**

The UK's Ampersand Systems Ltd, Bristol, is re-launching itself as the Open Systems Centre, and as has picked up IBM's RS/6000 to market.

Independent Computer Solutions Ltd, London, has developed an interface that allows users to integrate JYACC's Jam rapid application development toolset with Cadre Technologies Inc's Teamwork CASE analysis and design system: Teamwork data flow and entity relationship diagrams can be converted into Jam applications using the interface, subsequent changes and adjustments can be automatically reflected back into the original Teamwork model.

RCS Microsystems Ltd, Uxbridge, Middlesex, is offering Tritec Electronic GmbH's SS 40B Sparc 2 CPU board in the UK - no prices given.

San Diego, California-based Cobol house, Acubol Inc, has opened up in Italy - Acucobol Italia srl is located in Piacenza - and is headed-up by David Stockdale and Maurizio Girometti.

Mercury Interactive Corp is moving into Europe with its XRunner and TestRunner software quality testing products, opening an office in Paris: it expects 40% of its revenues out of Europe in 18 months.

Softool Corp, Goleta, California, has released version 2.0 of its CCC/Manager change and configuration management tool for software development, which it will target at the Unix community. Available initially on Sun Sparc platforms, MS-DOS and other Unix versions will follow - prices start at \$16,000.

Micro Focus Plc is now shipping version 3.0 of its Cobol Workbench for facilitating development, debugging and testing of business applications for operating systems such as MVS, VM, DOS/VS(E), MS-DOS, OS/2, Micro soft Windows and all major Unix implementations.

Spooked by Oracle Corp's previews of its new Oracle7 (UX No 390), Menlo Park, California-based Informix Software Inc has launched a new tool kit designed to enable developers to write distributed transaction processing applications that use transaction managers on Unix systems using Informix's 4GL family of tools. The Informix-TP/ToolKit provides a set of library functions that enable developers to link 4GL-based applications to transaction managers such as Tuxedo for client-server applications: it costs from \$500.

Canadian market research firm DMR Group's Australian subsidiary, in conjunction with AUUG - the Australian Open Systems User Group - has carried out a survey of open systems strategies down under, polling some 1,000 organisations on their views of open systems technology. Sales of Unix-based systems are expected to reach 25% of total systems expenditure in Australia by 1994.

Santa Cruz Operation Inc has launched a developers' program for independent software vendors who will use its Novell NetWare connectivity product, SCO IPX/SPX: an early release, supporting Streams, is out now - a commercial release goes out in the third quarter.

Hewlett-Packard Co reports that client/server versions of the Informix and Sybase relational databases running on an HP 9000 Model 8977S achieved 110.42 and 110.53 transactions per-second according to the TPC-A benchmark suite, or \$9,866 and \$8,473 per transaction respectively.

ICL Plc has adopted Gresham Telecomputing Plc's ISAM-XA Resource Manager for ISAM files, which is compliant with X/Open Co Ltd's XA interface: it has been integrated with ICL's version of the Tuxedo transaction processing monitor; the product recognises instructions from Encina and TopEnd as well as Tuxedo so that the different transaction managers can collaborate.

Gupta Technologies Inc is to port its SQLBase database server to Univel Inc's UnixWare and will also make its SQL/API application programming interface available, allowing users to integrate with the likes of Oracle Corp, Informix Corp, Sybase Inc and Ingres products later in the year. SQLBase will be available on Sunsoft Inc's Solaris 2.0 implementation by September.

X/Open is attempting to spice up the UK's independent software vendor community with a "software supplier of the year" award: the winner will be announced during ICL's Software Open exhibition at Birmingham's Metrople Hotel this week - finalists are Firefox Communications, IXI Ltd, Micro Focus, Software AG, Unify Corp and UniSoft Ltd.

To get the message across that it is committed to "downsizing" Data General Corp has launched a worldwide advertising campaign to spread the word: it hopes to zap European business travellers with the ads through CNN International. Sources in the US say Data General will this week take the wrapping off the eight-way AViiON multi-processors it has been dropping hints about for some time (UX No 389). The Westborough, Massachusetts-based firm claimed a lead in the commercial Unix marketplace with its quad-processor Motorola Inc 88100 RISC units a year or so ago (UX No 325). The latest offerings are thought likely to reach 235 MIPS, and will be the last 88100 offerings before the company steps up to Motorola's next generation 88110 part. Set for the fourth quarter, prices are thought to be in the \$200,000 range.

Silicon Graphics Inc is moving on down this week, with the launch of new "RISC PC" desktop systems, presumably ACE systems based upon the MIPS R4000 chip.

DEC says its results for this quarter will reflect the first growth in its business for eight quarters.

Bernard Guidon, Hewlett-Packard Co's commercial general manager for Unix in the US is taking up a new position within HP Europe - a promotion, according to the company - though his role has yet to be finalised.

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DIGITAL EQUIPMENT CORP WORKING ON 1GHz ALPHA CHIP

DEC's ten-year-old Palo Alto, California-based Western Research Lab is trying to design a single BiCMOS chip that will run at 1000MHz, 1GHz, according to the latest **Microprocessor Report**. The project, dubbed BIPS-1, will implement the Alpha RISC architecture and is expected to produce testable silicon before the end of next year. The part is meant to integrate an integer unit, a floating point unit and two levels of cache - the first, 8Kb, the second 32Kb - on a hefty 6m transistor die, the first reported attempt at putting two cache levels on a single chip. The part is specified to dissipate a hot 175 watts at 4.5 volts so Western Research Labs engineers are rigging a little water cooling system sealed inside a low-pressure cylinder. The **Microprocessor Report** notes that "the coffee-warming 30 Watts of the current 21064 Alpha chip pales in comparison to the bacon-sizzling BIPS-1." DEC has never used a Western Research Labs-designed computer architecture, although the unit was originally set up to find ways of building the fastest possible computers.

SILICON GRAPHICS LAUNCHES DESKTOP DEVELOPMENT BOX

Silicon Graphics Inc, Mountain View, California, will this week unveil the Iris Indigo DevStation, calling it the industry's first desktop especially configured for software developers. An entry-level MIPS R4000-based Indigo - see page three - will be fitted out with the Iris Development Option, a package of libraries and tools such as an ANSI C compiler, the Motif tool kit, GL, Display Postscript and X-Windows libraries and Unix debugging and profiling tools, and CASEVision/Workshop, a development environment. Available in September and priced from \$12,000, the DevStation will come with 16Mb main memory, 16-inch colour monitor, 432Mb drive, Irix 4.0.1, Iris ShowCase 2.0 presentation package and the WorkSpace GUI. SGI will also announce CodeVision, a fully integrated visual software development environment. Reportedly built from the ground up, it includes a static analyser, debugger and performance analyser based on an object-oriented architecture. It is designed to facilitate development of multiprocessing and Iris GL applications. It becomes available in three months priced with media and manuals at \$1,500 and with right-to-use licences at \$1,400. Volume pricing is also available. SGI also has a new version of its object-oriented ImageVision Library 2.0 API for image creation, processing and display which supports parallel processing techniques and features multi-threading mechanisms for increased performance and reduced latency. It becomes available in the fourth quarter at \$500 a licence. The company is also adding ClearCase and Track to its CASEVision family of software products. ClearCase is a \$3,000-per-licence large-scale or long-term software configuration management and version control system based on Atria Software's product and Tracker is a \$1,600 PDL-based bug and process tracking system under Motif. Both are available immediately and can be purchased together for \$3,750. New R4000-based Indigos, see page three.

INFORMIX FOUNDER LAUNCHES PROACTIVE SOFTWARE

Roger Sippl's latest venture is now official: ProActive Software Inc has been created to develop and market what it calls a new generation of enterprise-wide customer information resource management systems. The venture, originally styled Information Workbench and based in Mountain View, California, is being funded by Sippl, who provided the seed capital, and venture capitalist Mohr Davidow Ventures, which has kicked in \$1.5m. ProActive's products were developed in collaboration with Mohr general partner, William Davidow. Sippl, who founded and still chairs Informix Software, will serve on the ProActive board. Sippl henchman Steven Goldsworthy, former corporate vice president of product development at Informix, is president and chief executive officer, responsible for product strategy. The company is shy of discussing its product in any detail before its formal unveiling in the next few weeks. Aimed at firms that need to support technical products, the system is meant to manage all the data generated by a corporation across multiple departments about customers, products and how and why those products are used. The application modules, geared for technical support, sales and marketing, quality assurance and engineering, are targeted to replace simple call and bug tracking systems. The system, thought to be called Support Advantage, was developed in C++, uses a client/server architecture and CASE-based analysis. Reportedly it will run initially on Hewlett-Packard Co and Sun Microsystems Inc hardware and on Microsoft Corp Windows or X-Windows or Motif clients and uses Informix, Sybase and Oracle as databases. The company is said to be ready to deliver now.

INDUSTRY LINES UP FOR COVIA COMMUNICATIONS INTEGRATOR

The Open Software Foundation is reportedly courting transaction processing and network developer Covia Technologies Inc, based in Rosemont, Illinois. OSF is thought to want Covia's pioneering transport independent, networked transaction processing software, called the Communications Integrator (CI), which runs across disparate hardware platforms and network architectures. OSF would like to include CI in its DCE and DME environments. Covia says it is hesitant about joining OSF, although "favourable" negotiations are continuing. Reports from the US suggest that Covia's software will also be snapped up by Sun Microsystems Inc, which could OEM CI as an add-on to its Open Networking Computing environment. Covia, owned by a consortium of airlines including major shareholders United Airlines and British Airways, pioneered the technology to port transaction processing airline reservation applications across different platforms and networks. Covia has existing agreements with IBM, Tandem Computers Inc, DEC, NCR Corp and Unisys Corp for CI - those ports are currently in beta test, with NCR's likely to be first out of the gate. Sun was expected to line up alongside the rest of the takers, but didn't complete negotiations in time. The attraction of CI is its power to talk across networking environments and incompatible platforms, without recompiling applications or protocols. CI lies under the application itself, but above the network protocol. It isolates the application at an API level and masks it from routing information, the operating system and network protocols. CI interfaces the two layers, communicates to the underlying network protocols and drops the application into the network. Covia claims. CI is priced at \$750,000, with additional maintenance costs of \$100,000 per platform.

KEN OLSEN, JOHN YOUNG TO RETIRE

After 35 years as president of the company he founded back in 1957, Ken Olsen will give up the reins at Digital Equipment Corp this October, aged 66. DEC's number two in command, vice president of manufacturing and logistics, Robert Palmer is to take over. And Lee Platt, 51, is to be the next president and chief executive officer of Hewlett-Packard Co. Following John Young's retirement on October 2, he will be the third person to hold the job of a 53-year-old company, reportedly selected after a two-year process. HP's chief operating officer, executive vice president Dean Morton, will be retiring at the same time. Young, who turned 66 earlier this year, is leaving under the company's Officer Early Retirement Programme after 14 years as HP's chief executive. The 26-year HP veteran, is currently executive vice president and head of the firm's Computer Systems Organisation. Most of his current responsibilities will fall to HP vice president Wim Roelandt, general manager of the Networked Systems Group.

OBJECT WORLD '92 AND OBJECT EXPO EUROPE

by *Sophie Goodchild*

Object World '92 kicks off this week at the Moscone Centre in San Francisco, California - some used last week's London show Object Expo Europe, as a dress rehearsal for the event.

At Object World, NeXT Computer Inc is expected to announce its membership of the Object Management Group. IBM, already a member, is to announce its support of OMG's Common Object Request Broker Architecture, CORBA. It intends to do this by modifying the object interface definition language in its System Object Model (SOM) for OS/2 2.0 to support CORBA's interface definition language. SOM will also support OMG's object model, the idea being that over time both OS/2 and AIX environments will comply with OMG standards.

DEC's commercial push

Meanwhile, Digital Equipment Corp is shifting its object-oriented software development into the commercial sphere by announcing object-oriented enhancements to its Cohesion software strategy. A new version 2.0 of DECdesign, the graphic and analysis design tool will now run on its Ultrix systems and includes support for the Ptech object-oriented methodology and C++ code generator from Associative Design Technology Inc. Version 2 now also supports the Coad/Yourdon methodology and the enhanced data modelling Yourdon, Gane and Sarson, and Merise techniques. Version 2.0 will be available late summer on VAX OpenVMS and RISC/Ultrix platforms. The Objectivity/DB database from Objectivity Inc, Menlo Park, California, which DEC has offered for a year, will be marketed as DEC Object/DB from September, also under Open VMS and RISC/Ultrix. It comes with three support options: for application developers, end-users and system administrators. DEC will announce a further release of DEC C++ in October which adds support for DEC OSF/1 as well as Open VMS and RISC/Ultrix: an Alpha port is a possibility, the company says. It will include C++ exception handling, a name "demangler" and support for shared libraries on DEC OSF/1.

DEC is also expanding its Rdb Solutions VendorProgram (RSVP) to include object-oriented tools, applications and services. RSVP currently provides applications and services for DEC's Rdb/Open VMS database and related tools. DEC has also set up the Object Database Assessment Team to provide consultancy to customers deciding between an object database or a traditional approach for an application. On the standards side, DEC has announced that it is working with International Software Systems Inc (ISSI), Austin, Texas on an architectural definition and implementation plan for the European Computer Manufacturers Association's (ECMA) Portable Common Tool Environment (PCTE) standard. PCTE was developed by the Commission of the European Communities in 1983, has been implemented across Europe and is now filtering through to the US. DEC says its aim is to implement ECMA with its own products as well as merging US and European standards.

Semaphore, based in Andover, Massachusetts, is previewing a CASE tool from Atrium Inc, Waltham, Massachusetts called Atrium Build. It allows users to generate graphic models composed of object oriented parts and use these to generate C++ code. Atrium Browse analyses existing C++ code and extracts object-oriented features which can be loaded into a repository, which is used to build extra features into the data model as defined by the code. Atrium Build will be available on Sun Sparc platforms in the fourth quarter, no prices given.

La Mesa, California-based Suite Software Inc has added a library of object classes to its distributed object management environment, SuiteDome. The library provides operating system services for all SuiteDome supported platforms including Nextstep, Sun Sparc, IBM RS/6000, HP 9000 and DEC VAX/VMS. Suite Software says its product insulates the developer from disparities in hardware, operating systems and networks through its SuiteDome Architecture Encapsulation Layer. This includes object classes providing basic non-specific operating system services. Ships begin at the end of August, prices start at \$375 for desktop systems.

ILOG SA, Cedex, France, has a C++ version of its constraint-based programming tool Pecos. The company claims it has the same functionality as Pecos version 1.1, written in its version of Lisp. Constraint-based programming is an artificial intelligence technique which finds the optimum way to allocate means and resources. Due by year-end, Pecos C++ costs £7,000 on Unix workstations.

Expersoft Corporation, San Diego, California, is to launch XShell, a portfolio of module building toolkits and an object-oriented, distributed computing integration framework. The product includes a range of toolkits: XRule, XGenetic and XFuzzy. These support problem solving techniques such as rule-based systems, genetic optimisation and fuzzy logic. Developers can build complex distributed software systems that will migrate to new technologies without re-engineering, according to the company. Xshell supports most Unix platforms and X-Windows under Motif. No prices given.

Lexington, Massachusetts-based Oasys Inc will be showing-off its Native Sparc Tools. Integrated with Sun's native assembler/linker, the software development kit for Sparc includes version 1.8.6 of the Green Hills Compilers (C, C++, Pascal and Fortran) and the multi-language, X Windows-based multi-debugger. The initiative was prompted by Sun's recent decision to unbundle its own compiler, the company claims. The product currently supports Solaris 1.0 with 2.0 support under development. The tools will ship in September 1992, no prices given.

Itasca Systems Inc, Minneapolis, Minnesota, is releasing version 2.1 of its Itasca distributed Object Database Management System. It includes a graphical user interface called the Itasca Active Data Editor (ADE), which, the company claims, makes it easy for users to create, edit and browse data. Itasca ADE is Motif compliant and can access data stored by C, C++ or Lisp programmes. The company has added support for DEC and Silicon Graphics workstations along with Sun Sparc and IBM's RS/6000 - it's due in August.

Getting geared up for Microsoft's Windows NT, Inmark Development Mountain View, California, has announced an NT version of its zApp C++ Application Framework. This consists of a library of C++ classes providing an object-oriented environment to create applications. The company claims zApp for Windows NT simplifies the creation of applications by encapsulating the Windows NT application programming interface into C++ objects. zApp is compatible with the Microsoft C/C++ compiler provided with the Windows NT software development kit. zApp for Unix and X-Windows under Motif will be released later this year. Support for other compilers will be added as they become available. Source versions of zApp for Windows NT is priced at \$400.

Popkin

New York-based Popkin Software and Systems Inc says its System Architect CASE tool will be available for Sun, HP, IBM and DEC Unix platforms in December. The product is focused on system modelling and design. It consists of a set of diagramming tools and an integrated project encyclopedia facility. The product is distributed in the UK by Real Techniques and methods, based in Royal Lemington Spa, Warwickshire. No prices given.

Persistence Software Inc, based in San Mateo, California, will be releasing its Persistence 1.0 C++ application development tools in beta in September with commercial ships due for October. Aimed at Oracle and Sybase users moving to C++, the Unix-based product adds object oriented extensions to the two databases. It consists of a Database Interface Generator (DIG), and a Runtime Object Management System (ROMS). ROMS uses object caching to speed up performance while the DIG automates the development of data access methods, enabling a developer to generate code in a day, the company claims. An initial version will support Sun platforms and the Oracle and Sybase databases - other platforms and databases will follow later this year.

Object-oriented pioneer Symbolics Inc is moving its Genera development on to standard Unix platforms with the introduction of NXP1000. The new product consists of the software environment and a hardware peripheral that fits into networked Unix environments and is designed to run on almost any Unix workstation or X-terminal, the company claims. Available in September for \$18,500, the NXP1000 includes the Symbolic 40-bit tagged Ivory architecture, 20Mb ECC memory, 500Mb disk and Genera 8.2 or later. A floating point accelerator, larger disk and memory expansion are options.

STRATUS EXTENDS XA/R 80860 LINE UP, DOWN WITH NINE NEW MODELS

Stratus Computer Inc has duly expanded its XA/R line of Intel Corp 80860 RISC-based Continuous Processing Systems with nine new models, claiming about 2.5 times the performance of comparably-priced members of the 68000 family-based XA2000 Series (UX No 391). The new XA/R line includes the entry-point XA/R Series Models 5 and 10, mid-range Models 25, 35, and 45, and high-end Models 305, 310, 320 and 330. The Models 310, 320, and 330 provide symmetric multi-processing with two, four, and six logical central processing units respectively. The XA/R Series Model 300, introduced last October, and the Model 305 can be field upgraded from fault-tolerant uniprocessors to symmetric multi-processors in the same cabinet. For the telecommunications market, Stratus introduced telephone exchange packaging for all models of the XA/R Series, engineered for the "rigorous processing environments of telephone company central offices". Applications from the XA2000 on ly need to be recompiled to run on the new XA/R models, which run both FTX fault-tolerant Unix and the proprietary VOS. Stratus claims to be the first fault-tolerant system vendor to ship the Unix System V.4 multiprocessing operating system. Models 5 and 25 are shipping now in volume. The 305, 310 and 320 will ship this quarter and the 10, 35, 45 and 330 in the fourth quarter. Prices go from \$124,000 - £106,000 for an entry Model 5 to \$1.039m - £1,011,000m - for the symmetric 330. Stratus expects its OEM deal with IBM to continue to generate around 15% of its reveunes, but wants to grow ICL plc sales of its machines into the commercial sector. Stratus currently offers Unix System Labs Inc's Tuxedo transaction processing monitor, but says its preferred solution is Transarc Corp's Encina, which will be offered as an alternative - Encina is in beta-testing now. Having plumped for Hewlett-Packard Co's PA RISC over the Intel i860 - "because of price/performance" - for its next generation of systems, Stratus plans no further computers using the i860 at this time, but says that depends to some extent on whether Intel manages another iteration of its RISC.

MICROSOFT, APPLE BACK EACH OTHER'S TECHNOLOGIES

The promised agreement between Apple Computer Inc and Microsoft Corp calls for the two to work together on future technologies to help ensure a smooth and long-term evolution for customers of Microsoft applications for the Apple Macintosh - Microsoft has committed to doing versions of its Macintosh applications for the PowerPC RISC. Apple will support Microsoft's Open Database Connectivity applications programming interface implementation of the SQL Access Group call-level interface specification as a standard facility of the Macintosh Data Access Manager, giving compliant applications access to server databases through one set of calls. Microsoft and Apple have also endorsed the combination of Open Database and Apple Data Access Language, via Apple's Data Access Manager: Apple intends to build, distribute and support a Macintosh ODBC/DAL client that will translate Open Database calls and information into Data Access Language functions and requests and enable Open Database applications to access DAL servers, and will develop an ODBC/DAL client for Windows, which Microsoft is to distribute and support. Microsoft will support QuickDraw GX in future versions of its Mac applications and will offer Foxbase+ for the Macintosh. There are also new releases of Microsoft Works, 3.0; Project 3.0; and Mail 3.1.

SILICON GRAPHICS LAUNCHES R4000-BASED INDIGOS - NO MENTION OF ACE...

Mountain View-based Silicon Graphics Inc has fulfilled its promise to bring out a new family of Iris Indigo RISC personal computers based on the 50MHz R4000SC RISC from its MIPS Technology subsidiary. The R4000, claimed to run at 70 SPECmarks, 85 MIPS and 16 MFLOPS, includes tightly integrated support for 1Mb secondary cache, a key element in the performance of the machine. Silicon Graphics claims a near 300% increase in performance over the original R3000A-based family of Iris Indigos. The firm points to the Khornerstone benchmark which measures system balance by testing disk input-output, floating point and processor-intensive tasks. According to the Workstation Labs independent test shop, the Iris Indigo R3000A system has the highest Khornerstone per dollar rating of any competing system and the Indigo R4000 is expected to improve upon this. The super-pipelined 64-bit R4000 enables up to two instructions to be issued per clock. The first five models are the R4000 Iris Indigo Entry at \$12,500 - £10,340, the XS24 at \$20,000 - £16,540; the Indigo Server at \$11,400 - £9,240; the Indigo XS at \$16,500 - £13,650 and the Indigo Elan at \$32,000 - £26,470. Prices include 16Mb memory, colour monitor, keyboard, mouse, 16-bit audio subsystem and bundled tools currently on the Iris Indigo - Showcase, Explorer, media mosaic tools and the Irix implementation of Unix. All Iris Indigo R4000 configurations will ship in volume in September and the R4000 CPU is available as an upgrade to existing Iris Indigo customers for \$9,000. The R3000s have also been reduced, with the R3000 Indigo Entry with 16Mb cut to \$8,000 and the Indigo XS cut with 16Mb cut to \$11,500 - wait to buy until August 1 to get the new prices. There is a new 10Mbyte-per-second 1Gb disk drive to give a maximum internal storage of 3Gb. Fast SCSI II is now standard in all Iris Indigo systems and memory prices have been reduced by up to 36% too. There was no mention of ACE at the launch, the machines are ACE-compatible but without EISA bus and other bells and whistles are not ACE-compliant. "ACE? Don't mention the war," was SGI's reply when the subject was broached.

...RE-ORGANISES AFTER SWALLOWING MIPS...

And now SGI's acquisition of MIPS is complete, the company is re-organising internally to accommodate the changes. The former personal systems and advanced systems divisions have been replaced by seven others, including a volume products division headed up by Tom Furlong, who hails from MIPS, a visual computing division, being run by Mike Ramsey of SGI, a client/server group and an OEM and business systems division. The latter will be handling all the MIPS' systems business plus things like Microsoft NT. SGI says its Irix V.4 operating system, and the MIPS Risc/OS flavour of Unix SVR4 will be merged over the next six to eight months: it expects to have R4000MP multi-processing boxes with up to eight processors out of the door by the end of the year.

...TAKES 15% OF TATA ELXSI IN INDIA

Although former minisupercomputer maker Elxsi Corp disappeared from radar screens a year or three back, its Tata Elxsi Ltd former joint venture with the giant Indian conglomerate J R Tata Sons & Co Pte Ltd of Bombay is still in exisextance, and has just announced a joint venture with Mountain View, California-based Silicon Graphics Inc to expand their collaboration for the Indian market. Silicon Graphics will buy a 15% equity stake in Tata Elxsi on undisclosed terms and will license it to manufacture more of its RISC-based servers and graphics workstations in India. Tata Elxsi, based in the electronics boom town of Bangalore, Karnataka, is already manufacturing compute servers using technology from Silicon Graphics.

IXI RUNS DEC TO GROUND, SETS UP EUROPEAN UNIT...

After months of pursuing its quarry, it looks like IXI Ltd has finally nailed down the OEM agreement with DEC for its X.desktop manager that has been long in the making. Terms haven't been finalised, but an announcement is due in a couple of weeks which will likely see DEC bundle IXI's X.desktop with its systems - the interface manager already runs across DEC's entire range of platforms in any case. Meanwhile, IXI is also in the process of setting up a European operation, which is being headed by Steven Sampson as general manager. The unit will remain at IXI's UK, Cambridge-based headquarters for the foreseeable future. Sampson joins IXI from Cray Europe, though in a previous incarnation he was one of Scott McNealy's original recruits when Sun Microsystems Inc set up its European hub back in 1984. Before that Sampson was involved in DEC's early Unix efforts. Drawing on his experience, Sampson will also spearhead IXI's assault on Sun's user base with the Motif-based Deskworks toolset (UX No 387).

...SAYS OSF MOTIF SHOULD BECOME AN END-USER PRODUCT...

Meanwhile, the future of the Open Software Foundation's Motif graphical user interface is a subject that's concerning IXI, as well as some other corners of the independent software vendor community who's businesses are focused on the emerging de facto industry standard, OSF's major success to date. Although there are moves to define the requirements for a next generation user environment, UEC II (UX No 391), which will be a "highly evolved" version of Motif, that won't be around until 1995, and there are some more immediate issues that need to be addressed, according to IXI. Its main concern is that Motif should evolve from what is now essentially a developers' tool to become an end user product. That's no trivial task given that even the latest, X-Windows X11R5-based release of Motif, 1.2, comes with nine patch releases (as of June). Indeed, reviewing its experiences with Motif in our sister publication, *Unix News*, UK software quality assurance house, Programming Research Ltd, Esher, Surrey, concluded that "improvements are likely to occur only in the event of a complete re-think and re-write." After prompting from its bigger corporate customers, Programming Research decided to make a commitment to use Motif around 18 months ago. However, after exhaustive efforts to produce interfaces using Motif - which it dubs a "deranged widget set" - the company has decided to "stop throwing good money after bad and cease using it until it either improves or disappears." As well as cleaning up the whole environment, the main task, as far as IXI is concerned, is to make Motif portable across platforms. This is not a task for the faint-hearted, and even coping with different releases, as IXI admits, is problematic. Motif also requires more functionality, more hooks, more object-oriented functions, the firm argues, to allow other software to be plugged in, and to encourage the ISV community to write applications for Motif. Ideally IXI would like to see OSF put together an extended application programming interface that would allow other technologies and applications to be brought in. It's been talking to OSF about just these kinds of things, and would (of course), like to do more than simply participate in such an effort if it could, though the smoke signals from OSF read simply "message received," for the present.

...AS DEC TRIES ITS HAND AT BOLSTERING OSF'S MARKETING MUSCLE

IXI might try its luck on Richard Straub, of DEC's OSF & X/Open consortia Open Systems European marketing group, who is trying to put together a re-vamped marketing package for OSF. He, and other OSF plaudits, are concerned that Unix System Labs Inc is doing too good a job of attracting the limelight. It's not that OSF technology isn't good, they argue, it's simply that OSF, and its members, haven't done a good marketing job. Now DEC has re-affirmed its commitment to OSF/1, it's as keen as mustard to spread the gospel, and Straub for one is busy readying proposals he can take to OSF hierarchy. According to Straub, OSF recognises there is a lot more it could do, marketing-wise, but most of its limited resources go on research and development. He wants OSF to move to the position most companies adopt when bringing new products to market: at the same moment they back their latest technology releases with endorsements and supportive product announcements from across the industry.

INFORMIX OFFERS TOOLS TO MIGRATE TO GRAPHICAL INTERFACES

Informix Software Inc has launched a tools initiative designed to provide "painless migration from character-based to graphical user interface-based applications for end-users and developers". Senior product manager Tony Lacy-Thompson explained that although graphical interfaces offer benefits in terms of consistency, easy-to-remember icons and mice for user-driven interaction, these benefits are of little use to those that only use one application, those only interested in data entry and those whose productivity will not be improved. This poses a problem for the software developer who will probably need to write applications for both graphical and character-based environments. On top of this, there is the added dilemma of deciding which graphical user interface to write for - Windows, Motif, Open Look, Apple Mac, Presentation Manager and so on. Informix is coming to the rescue of Informix developers by providing Informix 4GL/GX. The Informix 4GL generates pseudo code which currently runs on Informix RDS Rapid Development System for run-time character applications. The GX product provides the same function as RDS only for graphical applications and the developer doesn't have to take source code and recompile. However, as GX is not a full object-oriented graphical language (something that Informix is still developing) it will not give applications pull-down menus or 100% mouse control in every field. It does, however, provide a graphical look and feel for applications. It is available today for Motif and will support Windows in October. Entry price for the product is between £2,000 and £3,000. Informix also launched what it is describing as graphical framework services that is its OpenCase/Toolbus product based on Softbench technology licensed from Hewlett-Packard Co, an encapsulator for Toolbus so that third-party vendors can encapsulate their tools to run with this software backplane and the Informix 4GL for Toolbus. Toolbus costs £2,000 per developer seat and the Informix 4GL for Toolbus costs £1,500. Informix has not forgotten the end user, and is working on what it terms the Storm project, which is a graphical query and reporting tool that will feature Super Views and a Schema Builder. SuperViews enables the data processing department to provide end users with views of the database table that are already joined and adds information for the end user. Storm has its own data dictionary and leaves control over user access to the database with the DP manager. The Schema Builder will enable all parts of the database schema to be created or modified in a graphical environment.

BSDI SLAMS UNIX LABS LAWSUIT

The issue of whether the US federal courts will sustain Berkeley Software Design Inc's motion to dismiss Unix System Laboratories' suit against it (UX No 392) comes up this week. The judge has reportedly decided not to hear oral arguments, cancelled the hearing set for July 20 and will base his decision, due in 30 days, on the documents at hand. USL is suing BSDI for unfair competition and for falsely advertising that its BSD/386 operating system, a derivative of the Network Release 2 work done by the University of California, Berkeley, is AT&T-free and needs no licence from USL. BSDI lawyers went on the offensive last week circulating court documents among the press along with a press release slamming the USL suit as "harassing and frivolous" and harbouring "chilling overtones for the computer software industry." They claim "AT&T's real motivation is to harass and to attempt to intimidate a potential competitor" and "to maintain a monopoly of the Unix System market by suing anyone who refuses to tithe to them." BSDI bases its claims of no-licence-required on representations made to it in writing by the University's Computer Systems Research Group. Casting itself as a tiny company imperilled by a giant shark, BSDI makes much of the fact that USL has not sued the University nor has it stopped the University from distributing the software. However, they say, "we expect that USL (or its parent, AT&T [sic]) will threaten to review or withdraw research grants made to any university or research institution using or distributing software based on NET2, even though no violation has yet been proven." USL says it is in contact with the University in an attempt to resolve their difficulties "informally" and without recourse to litigation. It declined to discuss who specifically it was talking to or the substance of the discussions. BSDI's motion to dismiss, which makes significant use of the Xerox/Apple precedent, claims USL's failure to sue them for any patent, trade secret or copyright infringement, or even allege such a violation, taints their case. Infringement, BSDI argues, is a necessary first step to proving false advertising or unfair competition. It dismisses the fact that USL has reserved the right to bring such a claim later on, apparently after discovery, suggesting that this means "it does not have a good faith basis for such a claim at this time." USL's suit asks for unspecified compensatory, treble and punitive damages as well as "an accounting and disgorgement of BSDI's profits derived as a result of its wrongful acts..." BSDI is meanwhile bound by a court order not to use its toll-free "800-ITS-UNIX" number.

INDUSTRY SAYS PINNACLE IS "TOO OPTIMISTIC"

Our source on the Pinnacle Data Systems story a fortnight ago (UX No 392) was stretching things a bit when he described the five-year-old Columbus, Ohio firm as a \$40m outfit: a Dun & Bradstreet report on them projects their sales at \$5m. Industry folks are also sceptical Pinnacle can pull off an LSI Logic Corp-based Sparc 10 clone as quickly as claimed. They say LSI is still negotiating "starter kit" rights with Sun Microsystems Inc which is reportedly asking LSI for \$250,000. Even if that's ironed out, the manufacturing kit is incomplete and needs some re-engineering. Then after that it'll be back to Sun for its proprietary (and pricey?) SRams and equally proprietary power supply. Some cloners think Sun regrets making previous Sparcstations too easy to knock off so it's putting some obstacles in the way. They also think Sparc 10 cloning may be a big boys' game. The cost of admission is figured at \$150,000 just to get to the point of manufacturing.

DATA GENERAL ADDS EIGHT PROCESSOR AViiON MONSTER

As expected (UX No 393), Data General Corp last week rolled out eight-way, high-end versions of its Motorola Inc 88000 RISC-based symmetric multi-processing AViiON servers, plus two models at the low end. The Westborough, Massachusetts-based company that says these will be the last to incorporate Motorola's current 88100 RISC - it expects to move up to Motorola's next-generation 88110 processor by the end of the year (UX No 389). With eight 88100s configured in pairs across four boards, a two-level cache system and dual memory bus architecture, the rack-mounted AV6280 unit is rated by the company at 235 MIPS and comes with 128Mb memory. It supplants the existing quad-processor server at the top of the AViiON range. The AV8000-8 is a pack aged version of the AV6280, incorporating the processor board plus a RAID disk subsystem. Both configurations are scheduled for release in the fourth quarter, and prices start at \$200,000 - £190,000. Also announced was a low-end, uniprocessor model, the AV4605 - and a dual-processor system - the AV4625 - which replace the current AV4600 series servers. With 32Mb memory, 520Mb disk and 525Mb tape, the AV4605 is priced at from \$20,000 - £19,000. All the new servers run DG/UX V.4/SMP, the firm's symmetric multiprocessing Unix System V.4 MP implementation. Data General's first use of the 88110 will be in a workstation, followed by 200 to 400 MIPS-rated mid-range AViiON systems in spring 1993 and an 800 MIPS-rated rack-mount machine by the end of next year. The top-end will run to eight and 16 CPU configurations - which is as high as Data General says it wants to go.

SPECS ON INTEL'S P5 CHIP LEAVE DESIGNERS DAUNTED

Developers that have yet to see Intel Corp's P5 microprocessor are in for a shock, because judging by intelligence gleaned by Computer Reseller News in Asia, the new part bears little resemblance to the commodity microprocessors that power tens of millions of personal computers. Intel has already said that the P5 includes two RISC-like pipelined integer execution units and an advanced floating point unit, plus an 80386 execution unit. But the part also has a 64-bit data bus and 36-bit address bus. The bus is clocked at 66MHz and is heavily pipelined - it can continue operating while up to two cycles remain uncompleted. The CPU is said to have some support for out-of-order execution of instructions, which requires very tricky circuitry to reassemble the stream in the right order and avoid dependency conflicts. The part has an enlarged on-chip primary write-back cache rather than the write-through cache of the 80486, which means that the CPU does not have to wait for the cache controller to copy stored data back to main memory. Up to three external caches are expected to be supported. The write-back cache may also be added on a new version of the 80486. But the feature that really marks the P5 out from its predecessors is the integrated floating point processor that is claimed to offer three to five times the performance of the one in the 80486, giving the P5 its reputation as a RISC-killer. The part is thought overall to outperform the 50MHz 80486 2.5 times on optimised code. Intel is expected to come out with its own building block chip sets that will work with both the P5 and the 50MHz 80486: one will support the EISA bus for servers, the other, for workstations, will use Intel's new PCI bus which has a 32-bit multiplexed burst-mode architecture to provide high bandwidth for graphics, networking and compression chips. Many of the Asian designers the US trade weekly talked to were worried about the 66MHz clock frequency, because at that speed, stray radiations become a serious problem and it is unlikely that garage operations are going to be able to knock up boards using the chip that will work. Apricot Computers Ltd, which always likes to be first with Intel's latest chip, will reportedly announce a P5-based machine in September, but with the enormous leap in complexity in the microprocessor, the other major worry has to be that it will take early users of the chip at least 18 months to find all the bugs in it and for Intel to correct them.

PARALLEL PROCESSING: NCUBE 2E ENTRY AT \$30,000

NCube Inc, one of the small band of sturdy massively parallel processing pioneers, reckons that it may need to crash the entry price of its machines to popularise the concept, and last week announced the nCube 2E series, starting with just eight and going to 128 of the company's proprietary processors, with an entry price of \$30,000. In full configuration, it is claimed to offer "five times the performance of mainframe systems" - but that depends on users writing applications that can keep all the processors popping, and that is the hard part. The nCube 2E series is designed to operate as a stand-alone system or as a networked extension of existing computing resources, integrating into environments of supercomputers, mainframes, minicomputers and workstations from multiple vendors. Using the nCube Parallel Software Environment, applications developed for an eight-processor nCube 2E system will run unchanged on an nCube 2S computer with as many as 8,192 processors, so serious potential users can make an affordable investment in the thing to decide whether they really like it before making a real commitment. A fully configured nCube 2E will deliver up to 1,280 MIPS and 422 MFLOPS, the company says. The nCube 2E comes with from 32Mb to 4Gb memory and up to 24Gb of disk. It has up to 64 input-output channels, supports TCP/IP and Ethernet, has C++, C, and Fortran libraries with VAX extensions, supports Oracle in a client-server environment and fits in a desk-side cabinet 29" by 18" by 30".

RETIX ENABLES OSI-TCP/IP CO-EXISTENCE

Retix Inc, Santa Monica, California has a new version of its OpenServer 400 Unix software which enables coexistence between OSI (Open Systems Interconnect) and TCP/IP (Transport Control Protocol/Internet Protocol) based networks. OpenServer 400 1.4 uses the RFC 1006 Internet standard that specifies the transport of OSI applications over TCP/IP networks. Retix claims version 1.4 allows users to implement enterprise wide messaging without the need to change existing software and systems. The OpenServer 400 message server links different PC LAN messaging systems to each other, to mainframe and minicomputer-based systems, and to public mail networks that support X.400. Version 1.4 has been designed to take advantage of the multitasking facilities available under Unix. It also allows simultaneous use of OSI and TCP/IP stacks on the same LAN adapter, which means users with existing TCP/IP networks can employ OSI-based X.400 messaging without eliminating their existing networks or incurring large implementation costs. OpenServer 400 1.4 for Santa Cruz Operation Inc Interactive Unix costs from \$6,000.

INTERGRAPH JOINS THE CONTROL DATA- VOLKSWAGEN ICEM SYSTEMS GmbH PARTY

Volkswagen AG and Control Data Corp formed ICEM Systems GmbH as a joint venture to develop manufacturing software based on CDC's ICEM Integrated Computer-Aided Engineering & Manufacturing package in November 1990. Now Control Data Systems Inc and the Wolfsburg automaker have signed a letter with Intergraph Corp, Huntsville, Alabama for a joint marketing and technology agreement to develop simultaneous engineering software for the automotive, aerospace, and discrete manufacturing markets using ICEM and Intergraph's I/EMS software products. Volkswagen will be the first customer to implement resulting technology. Intergraph will form a European Centre of Competence for the Automotive Industry, co-located in Hannover with ICEM Systems GmbH.

UNIFY READIES TP, OBJECT VERSIONS OF ITS 4GL

Unify Corp, Sacramento, California, has previewed a new version of its fourth generation language database and independent toolset for on-line transaction processing applications. Speaking at ICL's Software Open Show in Birmingham in the UK last week, Unify said it expects to launch Accell/TP and Accell/Object next month. The two developments have been backed by cash from ICL, which will take the software as part of its existing OEM agreement. Unify claims Accell/TP is a database-independent toolset for implementing on-line transaction processing applications, supporting its own Unify 2000 database offering, as well as Oracle, Informix, Ingres and Sybase - it runs under Motif, Windows 3.0 or Open Look. Unify says the software offers data dependent routing, fault tolerance and integrity, along with debugging and administration functions. Accell/TP also allows applications built using Accell/SQL - its current product - to run under Unix System Labs' Tuxedo transaction monitor, without recompilation, it claims. Eager to hound down deals with users of the major databases, the company is laying low with Accell/TP on its Unify 2000 database for the time being. With an announcement planned for August, Accell/TP should be generally available in the Autumn - no prices have been set. Development kits are available in limited quantities. An object-oriented version of Accell/TP - Accell/Object - is planned for the first quarter of 1993.

COMSHARE DEBUTS NEW EIS SYSTEM

Comshare Inc, Ann Arbor, Michigan, this week releases version 3.0 of its executive information management system, New Commander, for Mac System 7, OS/2, Windows 3.1 and Unix. An EIS package designed for the client/server environment, New Commander will allow users to access data from SQL or non-SQL-based database systems irrespective of the platforms they reside on, as well as operating from its own proprietary database, Commander modeller. Comshare uses Scripts, a technique it has developed to port commands from the application to the database. New Commander includes status and exception reporting, ad hoc investigation, an executive reminder system, and Redi-mail - its electronic mailing system. Comshare says it supports Hewlett-Packard, Sun, DEC, IBM and ICL Unix platforms, along with MS-DOS and IBM mainframes. Available as a desktop package or as a builder kit, it's scheduled for release this month - prices start at £20,000 for the desktop and builder software combined or £2,000 for the builder kit alone.

BARCLAYS HAS "JUST NINE RS/6000s"

The latest update to last week's Barclays Bank story (UX No 393), is that five of DEC's Alpha-ready VAX 7000/610 machines are replacing 20 VAX 8000 and 6000 boxes at three Barclay's datacentres. According to Barclays Computer Operations, Barclay's services arm which manages the data centres, the old kit was installed over a period of one to four years. The reason for the upgrade, claims BCO, is to manage the data centres better. They are accessed by 3,000 UK users and 6,000 international users including Barclays Network Services. The new machines will run E-mail, time management and office software. As for its Alpha plans, BCO hinted that the new kit could be upgraded to Alpha technology in a year's time but it will not commit to any definite Alpha policy. As for its liaison with IBM, Barclays claims it only has nine RS/6000s, which have been used for evaluation as part of its open systems strategy.

AMDAHL ADDS HURON VERSIONS FOR UTS, UNIX ON 80486

Amdahl Corp believes that its Huron applications development and production system is a winner, and rather than leave it stranded on the mainframe under MVS, it is taking it along in the direction the market is moving with two new versions, one that runs under its UTS implementation of Unix System V on its mainframes, the other for Unix workstations, the first version of the latter being for 80486-based machines under Unix. Both are initially aimed at customers that already have, or commit to taking, the MVS version. Amdahl plans to follow up with versions for IBM Corp's RS/6000 in the second quarter of next year, and versions for other Unix machines led by Sun Microsystems Inc's Sparcsystems, and also for IBM's OS/2, will follow. Huron is designed as a completely integrated system that enables users to develop applications, run them in production and adapt them to changing business requirements. The new versions of Huron for Intel Corp workstations and for UTS are available immediately to customers that also license Huron to write applications under MVS. The Sunnyvale, California company says that the initial licence fee for the workstation version of Huron is \$10,000. Fees for mainframe versions, for use with either MVS or UTS, or a combination of the two running in different partitions on the same host, are from \$525,000 to \$1.4m, depending on processor size.

NOW DEC TURNS TO AUSPEX

Although unconfirmed at the time, rumours that DEC had struck up a deal with Auspex Systems Inc, the Santa Clara, California network server company that already counts IBM among its customers, have turned out to be correct (UX No 384). DEC is to purchase \$8m of Auspex systems over the next 12 months to support its networked Unix workstations. Auspex says it has already shipped 12 systems, worth \$4.5m, to DEC customers around the world. Auspex's NS 5500 and NS 3000 NetServers support up to eight Ethernet networks and up to 200 workstations per server. DEC will sell, install and service the Auspex servers.

COMPAQ, SUN, DEC SET TO FOLLOW IBM OUT OF ICL'S TECHNOLOGY - BUT WHY WORRY?

With IBM UK Ltd taking away its RS/6000s and PS/2s and Digital Equipment UK Ltd ready to end its agreement with ICL Plc's Technology Plc personal computer and workstation distribution acquisition, there has been much frenzied speculation that Sun Microsystems Inc and Compaq Computer Corp are ready to withdraw their products too, and that ICL has dropped a very big brick on its foot in buying the company. Getting ICL to comment on or explain anything much is a fruitless task, but counter-arguments are easily marshalled to the chorus of derision that has greeted the aftermath of the acquisition. The first is that ICL paid only £30m upfront for a business that carried a buyout tag of £29m three years ago, and had substantially increased volume in the interim. The other £10m in the price depends on performance, and if that is rotten, ICL will need to pay no more. That £30m bought some £130m of distribution business, and knocking that amount out of the UK market would leave a big hole if all the third party suppliers do take their toys away. But all that business is not simply going to vanish: ICL will be refilling the channels with its own personal computers and DRS 6000 and DSR 3000 Unix machines before they even empty of third party machines - and by using a captive distribution network, ICL should be able to improve overall profitability. There may be a significant fall in volume in the first year or so, but while the third party suppliers to Technology may feel that they have no alternative but to withdraw their products, they look like being the net losers as a result, while ICL sheds crocodile tears all the way to the bank.

SUN SHADOWS HP TRADE-IN PROGRAMME

Sun Microsystems Inc is taking out after Hewlett-Packard Co with worldwide trade-in program aimed at moving Apollo/Domain users to Sun's RISC-based boxes: Sun will accept any Apollo or HP workstation in working order. They must be turned in within 30 days after taking delivery of a Sun IPX or SparcStation 2. Sun claims its trade-in values range from \$3,300 to \$6,800 compared to \$1,000 to \$4,500 under HP's own Open Migration trade-in program. The Sun boxes on offer come standard with a 19-inch Trinitron colour monitor, 424Mb pre-installed disk, 32Mb internal (16Mb for the IPX), GX accelerated graphics, audio and Solaris. Sun is claiming more expandability and a superior upgrade path to anything HP is offering. Trade-in customers can upgrade to Sparc 10 when available, saving 25% off a Sparc 10 Model 41, it said. An HP spokesman claimed the Sun program had "a million holes" and was based on "half truths," pointing out that Sun was offering no migration tools or interoperability whereas HP is giving Apollo users the same look and feel and middleware when they shift to HP boxes. He figures Sun only has price in its corner and claimed Apollo users, the last of the die-hard zealots opposed to Sun on religious grounds, won't be budged simply on price.

HITACHI ADDS NETWORK COMPUTING DEVICES X-TERMINAL

Hitachi Ltd has entered the X Window System terminal market with launch of the HT-3451-G11, based on a 20MHz Motorola Inc 88100 RISC, claiming performance for it of 70,000 Xstones. The new terminal is built around OEM parts procured from Network Computing Devices Inc of Mountain View, California, and engineered for production by Hitachi. It is designed for use with the company's 3050 Creative Workstation business workstation series, as well as the small desktop engineering workstation series the 2050G/FS, the latter for computer-aided design and other engineering applications. Hitachi's Unix workstations are built around the Motorola 68000 family. The new X-terminal offers a large user memory of 30Mb, and fits in with Forefront, Hitachi's heterogeneous systems integration schema announced in February.

SCO MOVES ON UK ACCOUNTING MARKET

The Santa Cruz Operation Inc has signed up six UK software vendors to provide packaged, multi-user accountancy solutions running on SCO Unix, including installation, training and maintenance, in addition to hardware and software through Basingstoke, Hampshire-based outlet Frontline Distribution Ltd. The six are Pegasus Group plc, Multisoft Financial Solutions Ltd, Sage Group plc, Systems Union Ltd, Tetra Ltd and Misys plc's TIS Software Ltd. First out of the gate is Pegasus which is offering its Unifacts accounting software on a four-user SCO Unix-based Intel platform - with Lotus 1-2-3 and Wordperfect - for £10,000. Initiatives with the other five firms will follow later in the year. SCO claims 31% of multi-user accounting systems costing under £50,000 installed in the UK run on its flavour of Unix, whilst London-based market research firm, Ovum Ltd - which says accounting is by far the largest application software sector in the UK - forecasts an annual growth rate of around 23% for the Unix-based accounting software market to 1995. SCO and Pegasus are hoping to take advantage of an increased demand for computer-based accounting solutions expected when new accountancy regulations come into force in the UK next year, which will make it very difficult, the two claim, for companies to perform accounting tasks, like payroll, without a computer. Presently, only some 2,500 of Pegasus' 80,000-odd users are running their accounts on Unix of any kind.

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The Hungarian Unix Users Group, HUUG, and the John von Neumann Computer Society, NJSZT, are organising HUNIX '92, an international Unix conference and exhibition in Godolla (15 miles west of Budapest) between September 28th-30th. There are some 30 seminars scheduled for the three days, including Unix communications, TCP/IP administration and the Hungarian experience of implementing client/server architectures. The one-year-old HUUG claims more than fifty members, half of which are user organisations.

Meanwhile, Budapest-based Graphisoft, the privately-held Hungarian software outfit which claims to have sold more CAD packages on Apple Computer Inc Macintosh platforms than any other firm during 1991, is thought to be readying Apple A/UX 3.0 and Microsoft Corp Windows versions of its ArchiCAD software for release in around six months time.

At Siggraph '92 in Chicago (July 26-30), Hewlett-Packard Co will unveil new three-dimensional client/server graphics programming tools based on the PEX 5.1 and PEXlib graphics extensions to X-Windows for use on its workstations.

Active Memory Technology Ltd, the ICL Plc Distributed Array Processor parallel systems spin-out, which went into receivership last month (UX No 393), was sold by the receivers to a Cambridge, Massachusetts investment company, Cambridge Group Inc controlled by Norton Garfunkel. The Reading company will be renamed Cambridge Active Memory Technology Ltd.

Unacknowledged, it's been that way for several years, as we have regularly tried to point out here as others wrongly gave the crown to Digital Equipment Corp, but both the **Wall Street Journal** and **Datamation** magazine have at last come round to agreeing that Fujitsu Ltd is the world's second-largest computer company - with NEC Corp and Hewlett-Packard Co both now challenging DEC for the third place.

Oracle Corp is reportedly readying a glass shattering plunge into the Microsoft Corp Windows 3 world with Oracle Business Manager, a set of client/server front-end tools for integrating Oracle applications with other Windows applications such as Lotus Development Corp's 1-2-3 for Windows and the Microsoft Word processor, and to run queries on the data locally and do graphs.

A source claiming good authority says to tack another year on the Apple/IBM "Pink" project over at Taligent: that would stretch things out to somewhere around 1996 we imagine.

Kubota Pacific Computer Inc, Santa Clara, California, has teamed with Codar Technology Inc, Longmont, Colorado, to develop a ruggedised, high-performance, three-dimensional graphics system based upon DEC's Alpha RISC. First products are expected early next year and will be marketed by both companies, reports say.

Taiwan's Computer and Communications Research Laboratories is reportedly actively pursuing an Alpha licence.

The few people left that Intel Corp hasn't non-disclosed about the P5 will be able to glean some details at next month's Hot Chips Conference in California: the P5 will be previewed and presentations made on Alpha, a 200-MFLOPS PA-RISC, HyperSparc, the ARM 600, something that looks like Sun's Tsunami and LSI's single-chip 33020 X terminal controller. It'll be at Stanford University August 10 and 11.

ComputerWorld's gossip column thinks Microsoft Corp is working on a project that would let applications written to the Win32 API run on Apple Macs: it says the programme will run on System 7 and let users recompile Win32 apps to get an instant Mac program. The project is code named Alar, the name of an apple pesticide.

Japan's quixotic Fifth Generation Computer Systems project is being replaced this fall by a \$800m Real World Computing project that will explore massively parallel processing, optical and neural computing and soft logic in an attempt to create a concept or architecture that distributes data as it is in the brain.

New York-based Congruent Corp has ported programs in the GNU Unix tool library to Microsoft Corp NT in both its MIPS Technologies Inc and Intel Corp flavours as a \$200 ToolBuster kit including RCS, a source code control system, and GNU Emacs text editor.

Taiwan's recently established Open Systems Software Inc (OSSSI), a joint venture between Hewlett-Packard Co and the island's Institute for Information Industry (3I) and Pacific Wire and Cable Co, will distribute Independence Technologies Inc's OLTP and system management software locally. OSSSI is meant to develop OLTP applications and provide software integration services as well as distribute third-party packages.

SunSoft Inc has gone to Highland Software for its Flexible License Manager for Solaris 2.0.

Dataquest Corp, which has been without a president for some months, has recruited Judith Hamilton for the job: she was formerly a senior vice president and general manager at Locus Computing Corp.

The C++ in Action conference and exhibition is set for September 21-25 in Santa Clara, California.

The Larkspur, California-based Bristol Group has come up with what it calls an affordable database and project planner for Sparcs: Power Base is priced at \$400 for a single license; \$1,000 for a server license and six packs for \$1,500. The thing will make phone calls, fax, send E-mail, post or express mail, address envelopes and post reminders. It works with either Open Look or Motif.

Unix Expo has nailed IBM vice president, Jim Cannavino, general manager of Personal Systems, as its keynote speaker.

Larry Ellison's having quite a month: not only did Oracle finally get version 7 out, his house got a to-die-for spread in **Architectural Digest**. Very Japanese.

For months we said Microsoft Corp NT was gonna be big and fat and Microsoft said "Perish the thought!" Guess what? It's gonna take 12Mb to 16Mb to run that sucker. Stick that on your average desktop.

Rumour has it Sun Microsystems Inc may can the ISDN feature on its Sparc 10s.

Silicon Graphics says it's giving a lot more headroom to software these days and is organising around it. The same is true of NT in the wake of the recent NT developers' conference. It also wants to get into the high-end Apple space and migrate those users over to "real machines" that let them realise some of their hopes and dreams. It can't imagine going below the \$5,000 mark, however.

Next Computer Inc's NextStep 80486 environment failed to make its target beta date the end of last month as well as the June ship date for NextStep 3.0 on its own hardware, now due next month. Beta for the 486 version has stretched to September with OEM delivery rescheduled for the fourth quarter and the likelihood of shrink-wrap pushed into 1993. Next is still cash flow negative, hence the need to get that other \$55m in the form of a credit line from its investors (UX No 392).

SunSoft Inc's Solaris 2.0-on-Intel has also slipped three months: originally due in September, SunSoft is now saying it'll get to its OEM customers by the end of the year blaming the delays in acquiring Interactive for botching the schedule.

X/Open Group Co Ltd last week selected IXI Ltd, Cambridge, as its UK software supplier of the year (UX No 393).

Cypress Semiconductor Corp has announced its Mbus-based SparcSet chip set, designed by Nimbus Technologies (UX No 383), for cloners. It'll be able to take the Cypress HyperSparc chip when that's ready; until then modules like the 33MHz 6001. It's priced at \$250 in quantities of 100. A complete design kit depends on quantity but starts around \$50k.

Hewlett-Packard Co will release a new set of TPC-A benchmark performance results this week: top of the pile is 578 transactions per second achieved on a top-of-the-range, four processor HP 9000 Model 890 Emerald server running Oracle Version 7.0, that's \$11,901 per transaction.

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Number 395

IBM AD/CYCLE STRATEGY IN DISARRAY AS IT TURNS TO AIX CASE

IBM Corp issued a statement last week confirming that it is "expanding the role of AD/Cycle to support application development at the workgroup level" - moving to the local area network-based software engineering environment it is already offering for its AIX Unix users - but managed to avoid mentioning what was intended to be the core of AD/Cycle, Repository Manager/MVS at all. The company is understood to have abandoned development of the Repository altogether, and the switch of strategy leaves the whole AD/Cycle concept in complete disarray, though the company says that it is reaffirming support for the AD/Cycle tools available: to do anything else would leave the company open to all manner of retaliation from AD/Cycle International Alliance Members. The company claims that customers say that they want to do their development at the workgroup level in an open systems environment, on a range of hardware and under different operating systems, and to share data in a decentralised development environment, rather than have it all tied to the Repository on the mainframe server. IBM indicates that it will salvage what it can from the collapse of its strategy, saying it will bring together "the best platform functionality from our AD/Cycle and AIX CASE work." IBM says that it will bring into AD/Cycle "many of the features existing in the recently delivered AIX Software Development Environment Workbench/6000" - which sounds like a signal victory for and endorsement of Hewlett-Packard Co's approach since Workbench/6000 is based on the Softbench Broadcast Message Server licensed from Hewlett-Packard. IBM, which had insisted that there would be parallel and separate development strategies for MVS and OS/2 on the one hand, and for Unix on the other, now says that the switch will lead to a consistent development environment for OS/2 and AIX. A single object-oriented class library for user interface code will make it easier for tool builders to move between the CUA91 Common User Access standard of another collapsed IBM initiative, Systems Application Architecture, and Motif in AIX CASE. IBM also says that AD/Cycle and AIX CASE tool builders will be able to support both OS/2 and AIX development systems "with a minimum of incremental effort" which seems to suggest that the same will apply to applications developed with either, making it easier for users to hedge their bets by making their new mainframe applications migratable to the generality of Unix environments. IBM will indeed also incorporate the Portable Common Tools Environment from the European Computer Manufacturers Association. An AD Information Model for sharing development data will use an object-oriented database, IBM commented.

ACE IS OVER AND OUT - MIPS RiscOS REACHES END OF LINE

In case you hadn't figured it out already, or have been vacationing in the Amazon rain forest, ACE is well and truly dead. Insiders say any semblance of an organisation has been abandoned. There are no more meetings, no more phone conferences and the remaining participants are getting their money back (UX No 392). In the meantime, public relations impresario, Regis McKenna Inc, has been hired to distract attention away from ACE's bevy of erstwhile operating systems and on to the Advanced RISC Computing hardware. The reason being that some weeks ago MIPS Technologies Inc kidnapped the ACE application binary interface and substituted MIPS RiscOS for all the other previously official ACE operating systems. In return, MIPS promised to pay for everything the ACE loyalists, largely the die-hards in the old Unix SVR4-loving Apache Group, needed for an independent software vendor recruitment drive: all the machines, all the binaries, all the technical support. The offer probably saved Sony Corp, which was reportedly ready to rustle up some 50 machines and software, costing in the neighbourhood of \$250,000. The ISV programme supposedly kicked off last week despite a quiet little ruling handed down a few days before by MIPS' new parent, Silicon Graphics Inc, that says RiscOS 5.1, due in the fall, is the end of the line. After that, the system, regarded pretty much as Unix SVR4 with proprietary extensions for real-time and multi-processing, goes on a maintenance-only basis. This new twist, hardly an enticement to any self-respecting software developer, would seem to open the door for Unix SVR4.2 to make a move at the next Apache pow-wow in August. That is, if it can overcome the notion of some Apaches, who reportedly think some provision ought still to remain for Microsoft Corp Windows NT. When will they learn?

NOBLE CLAIMS TRANSPORT INDEPENDENCE FOR EZ-RPC

Two-year old Natick, Massachusetts-based networking outfit, NobleNet Inc, last week launched a transport-independent, remote procedure call (RPC) compiler - EZ-RPC - at Sun Microsystems Inc's Open Software Expo in Anaheim, California. NobleNet describes the EZ-RPC as an "open" C-based source code generator, which enables developers to distribute specific subroutines of an application - accessing the same RPC libraries that run under the Network File System - across multi-vendor networks to which ever host CPU is best suited to process the call. It is claimed to support Sun's RPC, as enshrined in the company's Open Network Computing environment, as well as the Hewlett-Packard Co/Apollo version of RPC found in its Network Computing Systems (and of course in the Open Software Foundation's Distributed Computing Environment). Code generated by EZ-RPC will run on different protocols without modification, NobleNet says, although a tailored version for DCE will be available when OSF's DCE technology finally arrives as a bundled, commercial package. While wrinkles may be beginning to appear on Sun's ONC - and the market waits on a fully-configured commercial DCE package - NobleNet is positioning itself to mop up the interim business, targeting developers with mixed proprietary and open architectures and non-communicating RPC's. The privately held company's main concern for the time being is, it says, to get the toolkit on to as many platforms as it can, and is eagerly offering itself up to OEMs - Sun being the prime target of its attention, with three million ONC licences under its belt. Muscling its way into the Unix market, with a \$10,000 price tag and no run-time fees, NobleNet is looking to take fish out of the net of its main rival, Boulder, Colorado-based Netwise. Netwise's RPC-Toolkit costs a hefty \$40,000 plus run-time fees for its network RPC library. Netwise is eager to bolster the Unix side of its business, but admits "NobleNet has obviously seen the light with RPC technology that the rest of us didn't.. they're going to be tough to beat". The toolkit runs on Sun DEC, IBM, Hewlett-Packard Co Unix workstations and under Santa Cruz Operation Inc Unix and SunSoft Interactive Unix.

INDUSTRY HOGS WORK ON OBJECT STANDARDS

by William Fellows

Unix International, the Open Software Foundation, X/Open Group Co Ltd, ISO, the Network Management Forum and the Object Management Group are co-operating in a joint effort to define some generic specifications for managing resources (as objects) in distributed, object-based systems. The loose grouping, which has only met on two occasions, is known unofficially as HOG, the Hilton Object Group, after its inaugural meeting at the Boston Hilton last year.

HOG's first aim, explains X/Open's Martin Kirk, was to ensure that the various participants were not all working separately on the same things - but at the same time, that all the appropriate ground was being covered. Members of HOG are seeking to define and describe specifications for objects that will be common, interoperable features of future, productised distributed object (and object management) infrastructures. All are agreed that laying down some ground rules now will improve the prospects for interoperable products in the future. Kirk says only one set of definitions is required to describe objects that are managed in a system, whether they be a system accounting mechanism, a device driver, a processor, a file system or a user. Once basic definitions have been established, individual groups or companies can take the work forward and do specific implementations - for a Motorola Inc processor, a DEC user or an SVR4 file system, for example. HOG will define an object's attributes - what parameters can be set and what information can be retrieved; the "methods" associated with that object - what can be done to it and what it can do; and its notification - what the object emits (such as warning to tell the system that a file is nearly full, for example) and what it can be read to. HOG members stress the group is concerned only with generic definitions, and whilst OSF is said to be taking a lead role in new work, HOG members have already agreed to endorse those previously established by the Network Management Forum. Under the auspices of a previous coming together of the same organisations found in HOG (plus one or two others), the Forum has already put together a set of Open Management Interoperability Points - OMNIpoints - which define interoperable network management products. In the library are 35 generic classes which have already been accepted by the industry and are being customised by vendors to suit their applications. When more of the outstanding work is complete, HOG will meet again to decide what can be used. "Much more will happen next year," says Kirk.

WizDom

The commercial marketplace, however, does not wait on the outcome of standards efforts, which are traditionally interminably slow processes. Austin, Texas-based Tivoli Systems Inc's distributed systems management software, WizDom, already incorporates proprietary object definitions in its schema, although Kirk believes Tivoli, and other players in this market are sure to map their conventions on to HOG's specification: he says there should be no problem achieving this. Indeed Tivoli - who's software already lies at the heart of the Open Software Foundation's Distributed Management Environment and Unix International's distributed vision of the future, Atlas - has already agreed to make WizDom compliant with the Object Management Group Request Broker specifications under its agreement with SunSoft Inc. Sun Microsystems Inc's software arm is using the framework as a component of its Project DOE, Distributed Objects Everywhere, which is a joint development effort with Hewlett-Packard Co (UX No 378).

Atlas

Meanwhile, Unix System Laboratories Inc is claiming that it will be first out of the gate with a commercial version of WizDom by mid-1993. WizDom forms part of USL and Unix International's distributed vision of the future, Atlas, where it lines up alongside OSF's DCE, to which USL will add "at least" half a dozen ready-to-run system management applications by the time it comes to market. Already penned in are the Siemens Nixdorf Informationssysteme AG's print manager and NetLabs Inc's NetLabs/Manager. Add backup and restore, startup and shutdown and software installation to that for starters. Whilst DCE gets UI's blessing, it describes OSF's own Distributed Management Environment as "too large and unwieldy," although it supports its general aims. OSF's DME includes WizDom for systems management and Hewlett-Packard Co's OpenView for networking, which UI says means separate management databases and collection of licences from Tivoli, HP and OSF for DCE. The cost, it believes, will be huge. UI wants a simplified structure, and expects USL to expand WizDom to do what HP's OpenView accomplishes.

TCP/IP

To maintain the advances that it has made in the last few years, Unix needs not only a "viable" desktop environment, argues UI, but an attractively sized market for developers to aim at. A common set of robust application programming interfaces for graphical user interfaces and networking would do to start with says UI, which it believes it could get most of the community to commit to, even if each has a different implementation (UX No 391). To start the ball rolling it says it'll have a new API for TCP/IP defined by year-end - there isn't one at present - with interface and desktop extensions to follow early in 1993.

LSI PRE-EMPTS TSUNAMI WITH 40MHZ SPARCKIT: SPARC 2 CLONES "FOR UNDER \$6,000"

LSI Logic Corp is trying to help Sparc cloners compete against a Sun machine that hasn't been announced yet, the low-end colour box based on the now-fabled Tsunami chip. This week LSI will announce a 40MHz Mbus SparKit it says will let a cloner bring a colour Sparcstation 2 compatible to market for under \$5,000. LSI is guessing the Tsunami box, due this fall, will offer the same performance as a Sparcstation 2 with colour for between \$5,000 and \$6,000, according to product marketing manager Hiral Gheewala. LSI says a SparKit box would offer 8MB internal and a 224MB hard drive at under \$5,000, a price point cloner Tatung Science & Technology figures can be pulled off. The SparKit LSI is announcing is the self-same kit it was supposed to come up with almost two years ago - one that would have produced a Sparcstation 2 clone for \$18,000. The only change made to the design in the intervening time was making the device surface mount rather than CPGA, LSI said, a factor that contributes to its cost-effectiveness. Since it is LSI's own proprietary design rather than Sun's this time around no royalties will have to be paid to Sun, another factor in its economy. Lastly, LSI has put Super VGA graphics capabilities on board, providing cloners with other savings. The SparKit-40/Mbus manufacturing kit reportedly includes manufacturing diagnostics and everything a cloner needs to knock off a Sparcstation 2 compatible for \$10,000. Being Mbus-based, the unit could house a uniprocessor Viking chip and produce a low-end Sparc 10 clone priced between \$12,000 and \$13,000. The SparKit-40 chipset itself includes a new L64831 integrated integer/floating point unit, reportedly offering the highest floating point performance in its class, MMU, DRAM control, Mbus interface, Mbus-to-Sbus interface, Sbus DMA and Sbus graphics controller. SparKit-40/Mbus supports Solaris 1.x from SunSoft and will sell for \$630 in quantities of 100 kits a month. Production shipments started this month with volume expected in August. LSI is making the single-chip L 64831, designed specifically for uniprocessors, available as a separate product either surface mounted for \$168 or CPGA for \$206 in 100 quantities. LSI estimates its floating point at 15% over the existing LSI part and 25% better than competitors'.

...PERFORMANCE TECHNOLOGIES THE FIRST CUSTOMER

Rochester, New York-based Sbus and VMEbus product maker Performance Technologies Inc is apparently LSI Logic Corp's first capture for its new SparKit-40/Mbus. Performance Technologies was showing off a new system last week targeted at OEMs and integrators active in the real-time and embedded markets. The PT-SYS5000 Sbus/System features up to eight Sbus slots. The 29 MIPS system includes memory expandable from 2Mb to 64Mb, two asynchronous serial ports, an Ethernet port and a SCSI-2 subsystem. It can be configured with or without disks. Delivery begins in late September priced at \$5,500 for four Sbus slots or \$6,000 with eight. LynxOS is an option.

NOW HYUNDAI READIES SPARC 10 CLONES

Determined not to be left behind as things begin to hot up in the Sparcstation 10 clone market, South Korean giant Hyundai Electronic has announced plans to release its first Sparc 10 effort in October, along with other Sparc-compatible products. The company, whose workstation and systems business is now housed in a wholly-owned subsidiary called Axil Workstations in San Jose, California, reckons Sun Microsystems Inc will only have a month's headstart on it in the SuperSparc market. Hyundai's Sparcstation 10-compatible, the HWS-S310-30, uses Texas Instruments Inc's 33MHz "Viking" SuperSparc and will come with a base configuration of 32Mb memory, 434Mb disk and 19" colour display, priced at \$14,000 against Sun's Model 30 which is \$20,500. The Hyundai HWS-SS10-41, with the same configuration is expected to debut at \$19,000 - Sun's Model 41 costs \$27,000. Without memory, disk or display the SS10-30 is \$9,000, \$13,400 - SS10-41. Add-on memory modules are \$700 for 16Mb and \$2,800 for 32Mb, it says, in contrast to Sun's \$13,000 and \$64,000 respectively. Rumours of a laptop version are also doing the rounds. Axil says it is also working with third parties on Sun-compatible applications. Hyundai, meanwhile, is already partnering Metaflow Technology on the high-performance Thunder Sparc, formerly the abandoned LSI Logic development, Lightning, and has poached staff from Sun, IBM, MIPS, Pyramid Technology and Opus Systems to aid that effort. Hyundai has also been helping Empress Software do a Korean version of its RDBMS and 4GL under X11 and Open Look. It'll become an Empress VAR when the implementation is finished and bundled with its Sparc and Pyramid machines. Hyundai plans to port the system to other platforms as well.

UNIX SOLUTIONS DUAL-CPU SPARC 2 CLONE FOR \$11,000...

Sparc-builder, Unix Solutions Ltd, Dunstable, Bedfordshire, says it expects to receive an initial Sun Microsystems Inc IPX-type workstation from its US partner, the Columbus, Ohio-based Pinnacle Data Systems, by the second week in August. As a prelude to its promised Sun 10 SuperSparc clone (UX No 392), the thing will initially come with one or two 40MHz Cypress Semiconductor Corp Sparcs of the sort used by Sun in its Sparcserver 600MP series. A two processor configuration should deliver 57 MIPS. With two Sbus slots, one Mbus slot and 1Gb disk, Unix Solutions quotes a price of \$11,000 for delivery in September.

...FEELS THE HEAT FROM UNIX SYSTEM LABS OVER NAME

With its current penchant for clamping down on perceived violations of its copyright, AT&T's Unix System Laboratories Inc is now coming down on Unix Solutions for its use of the Unix logo in its company name. There is "a conflict" with USL, says Unix Solutions Ltd, which is seeking legal advice on the matter. Although the UK company is presently just a European outlet for Pinnacle's products, there are on-going talks between the two about formalising a closer relationship. USL's action looks likely to speed up the pace of this convergence, which may see it become Pinnacle UK before the end of the year, though that depends on how well the two companies work together in the interim, says Unix Solutions' Quing Tsang.

BRISTOL READIES HYPERHELP

Microsoft Corp Windows-on Unix start-up Bristol Technology Inc (UX No 385), is gearing up to announce HyperHelp 2.0 next month, its unbundled, on-line Unix/X-Windows help facility which it hopes will become an industry standard. A hypertext-based facility for Motif and Open Look, new features include FrameMaker file support, a new Open Look viewer, Postscript support, multimedia capability and Windows 3.1 help compatibility. The upgrade also includes a single-function application programming interface to help developers add HyperHelp to their applications. Pricing is \$4,000 for a binary license, \$25,000 for source code. HyperHelp is used by Lotus, Autodesk, Bell Labs, BBN Software, Intel, Merrill and internally at Boeing and EDS.

NEW SPARCS TO FLY AT HOT CHIPS

Folks at the Hot Chips Conference next month will be regaled with papers on a Sun Labs project called Sparc90 and a Massachusetts Institute of Technology research project called Sparcle. The futuristic Sparc90 is a design for a low-cost single-chip Sparc chipset intended for embedded applications. Sparcle is a professor's notion of how to create a multiprocessor CPU based on Sparc. Being academic in origin the likelihood of Sparcle coming to pass is probably pretty dim. Sparc90 on the other hand is a Sun-sanctioned exercise but probably depends on someone wanting to make it happen.

NOW HEWLETT-PACKARD LICENSES WINBOND FOR PRECISION ARCHITECTURE

Hewlett-Packard Co has a second licensee after Oki Electric Industry Co for fabrication of the Precision Architecture RISC for low-end and embedded applications, in the shape of Winbond Electronics Corp, Taiwan. Winbond will design, manufacture and sell the chips for use in low-priced, high-volume products such as X terminals, printers and multimedia applications. It is the second largest Taiwanese semiconductor designer and manufacturer and a major supplier of the Taiwan personal computer industry and was chosen because of its ability to offer an entree to the Chinese-speaking markets in Hong Kong, China, Malaysia, Singapore and Taiwan. It has also joined the Precision RISC Organisation as a senior member. Winbond Electronics Corp, based in Hsinchu, is a five-year-old \$100m-a-year subsidiary of Walsin-Lihwa Electric Wire & Cable Corp.

SEQUOIA'S LOW-END SERIES 40 WAS PART-FUNDED BY SAMSUNG

Sequoia Systems Inc's fault-tolerant Unix systems business needs a bit of tweaking in the unhelpful climate, and the Marlborough, Massachusetts company has added a new low-end model, the Series 40, which comes with up to four Motorola Inc 68040 microprocessors and has a starting price of under \$160,000. The development of the Series 40 was jointly funded by Samsung Electronics Co Ltd, Seoul, South Korea. Users can upgrade from an entry-level Series 40 supporting 40 users to a top-of-the-line Sequoia Series 400 that can support thousands of users. The company has also enhanced the performance of the Series 400 by 30% to 40%. Hewlett-Packard Co, a Sequoia investor, distribution and technology development partner, is reselling the Series 40 as the HP 9000 Model 1210 into the telecommunications and health care markets. The machine incorporates new, more integrated and lower cost technology into the same symmetric multiprocessing architecture as the Series 400 and is designed to be cost-effective for between 40 and 400 active users. The processors are clocked at 25MHz with 256Kb of non-write-through cache, and they come with 16Mb to 192Mb memory, with support for up to 88Gb disk. Sequoia is also now supporting Unidata Inc eponymous implementation of the Pick database for Unix on its Series 400 fault-tolerant Unix machine. UniData tightly integrates Unix and converts Pick and Prime Information environments to take advantage of Unix, SQL and other open systems facilities. UniData is based on the next-generation nested relational data model, which is claimed to solve many of the problems of conventional relational databases and create a bridge to object-oriented databases. UniData for Sequoia Series 400 will be available in September with pricing based on size and class of individual systems and number of users.

AUSTRALIAN ROUNDUP

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SCO AND UNIVEL JOCKEY FOR POSITION DOWN UNDER

Working out of the Novell Inc office in Chatswood, Australia, Brad Jelfs hasn't taken long to find the most important distributors for the UnixWare offering from Univel Inc, but his fast work has no doubt brought forth well-hidden explosions at his old office at Epping. The solo Univel rep and ex-SCO employee has lined up Sydney-based Com Tech Communications as prime distributor and MUA Pty Ltd as associate distributor for UnixWare, matching existing arrangements under which the Santa Cruz Operation Inc has distributed its desktop Unix in Australia. MUA says it accounted for at least 25% of SCO's revenues in this area. So what are Com Tech and MUA doing, jeopardising their relations with SCO in order to market a competitive type of Unix for the Intel-based personal computer? SCO says SCO Unix and UnixWare are not direct competitors, but both Com Tech and MUA plan to take UnixWare to their current SCO users and show them what it can do - and how it can run SCO applications. Some suggest that Com Tech, as Australia's largest Novell distributor, has chosen to side with its most important partner and tough out the inevitable coolness from SCO. It may consider it will get better marketing support from Novell and the Univel partnership than it has previously had from the relatively small SCO operation here. Then there's Brad Jelf's claim that more than half the installed NetWare base is interested in integrating with hardware running Unix. "It speaks volumes for the market scope of UnixWare," he said. Now he's marketing the desktop Unix as something of a downsizing platform, as existing Unix mini and mainframe users will be able to take advantage of well integrated Unix on cheap Intel PCs. "Users who have been successfully running applications on systems which are now nearing the end of their life cycle, such as the NCR Tower, will now be able to right-size to UnixWare platforms. "So far comments from Com Tech and MUA suggest that SCO will still be sold by both companies, but neither tried to shy away from the fact that their decisions will hurt SCO. Jelfs originally helped SCO to set up in Australia and has been poached by Univel to be its number one employee in the Asia/Pacific region, responsible for everywhere except Japan.

MITSUI OFFERS SUN UPGRADES

Mitsui Computer has launched a major campaign to attract Sun 3, Sun-386i and older Sparcstation users to upgrade to the Sparcstation 10 machines due soon, backed by what Mitsui terms an "aggressive" pricing policy which has a "no penalty" upgrade path to the latest Sun Microsystems machines. Under the program, Sun users will get an upgrade immediately to Sparcstations, with the prospect of getting Sparcstation 10 power when these machines are finally released. To attract those users who might otherwise be waylaid by clone vendors with their own Sparc 10 equivalents out soon, Mitsui's sales director David Wallis promises an upgrade which could save the user up to \$10,000 - but with no details of what it will actually cost them. "The offer allows Sun-3 and Sun 386i users to move up to a Sparcstation IPX or a Sparcstation 2," he said, offering either a full system swap or a CPU exchange. "Sun-3 and Sun-386i users will be able to keep their old systems for 90 days to allow for porting of software and data. We are also offering upgrades to the Sparcstation 10 which will be shipped in September.

SUN SIGNS FOR APSCORE'S PICK APPS

Sun Microsystems Australia has signed an agreement with Apscore International to develop the latter's Pick-based Cue-Bic Financials suite of software for the Sun platform, becoming yet another part of the increasingly complex web of agreements made by Sun under its Partnership for Development Program with the Federal Government (UX No 391). Under the terms of the agreement, Sun will provide Apscore with resources to develop its Pick-based software to run on SunSoft Inc's Unix, and will help Apscore to market the resulting Pick products overseas. Apscore's General Manager, Steve Salmon, said the agreement makes good business sense, given the strong Unix trend in the Pick market. He said Apscore was one of the first companies to port its products to the Pick look-alike databases UniVerse and UniData, and now the Sun agreement will let them better support these products on Sun hardware. Apscore is concentrating on re-developing its products so that they are more GUI and database independent, with an emphasis on object orientation - thus linking with Apscore's other interests, including its representation of the ObjectStore object oriented database in Australia on the Sun platform. The products presently undergoing re-development for Sun are Apscore's 4GL and expert system-based solutions - financial, loans and insurance. "We will also develop conversion methods for our clients, and the Pick and Pick look-alike market, providing them with an open alternative," Salmon said, believing that with Apscore's help, customers will be able to port code and data from Pick to Unix in a matter of days.

OPENTEC SETS SPARC PLAN

A new player in the Sparc clone market is Sydney-based Opentec, formed to market the new machines coming from Hyundai Electronics new workstation division in California, the first machine being a 100% compatible clone of the Sparcstation2, the company says - see page three. But more importantly in the competitive Sparc clone marketplace, Opentec is claiming to have beaten other workstation developers to the punch by preparing a machine based around the Texas Instruments Viking/SuperSparc chip. John Ashton, managing director of Opentec, is promising a SuperSparc machine within a month of the availability of Sun's Sparc 10, with volume shipments from both companies expected around September/October. "Dare I say it, but they are truly leadership products - with their 96 MIPS desktop system being offered locally at just \$35,000," said Ashton. However, he noted that cloning Sun's machines will be only a part of Hyundai's operations.

SOFTWARE AG BACKS UNIXWARE

Users of Software AG's Natural, Adabas and Network products will be offered the chance to take on UnixWare clients or possibly servers following the promise of support for Univel's operating system as early as the end of this year. It's all part of responding to "one of the major issues facing businesses today", said Ken Burrows, the MD of Software AG's local distributor, SPL Australia - "how to integrate powerful LAN-based environments with current production systems." According to Burrows, Software AG is building the next generation of distributed programs with graphical front-ends. It's a significant endorsement for Univel from one of the large system world's software heavyweights, with over 4500 installations worldwide for its Natural 4GL.

DEC LOSS FOR YEAR COMES OUT AT \$2,795m

The restructuring charges that Digital Equipment Corp is taking with its year-end figures are so enormous that they swamp everything else, but even before them, business was lousy with a fourth-quarter operating loss of \$188.1m before the restructuring charge of \$1,500m. The charge of \$1,500m was primarily for getting rid of surplus employees, plant consolidations and related administrative costs. Giving his swansong, president Ken Olsen said that the company faced an economic slowdown in virtually every major geography, particularly in Europe and Asia. Product revenues declined because of continuing weak economic conditions, highly competitive pricing and the negative impact of foreign exchange rate movements, although the company continued to ship more computer systems than a year ago - but at a lower average price per system. The shortfall was filled by growth in services revenues. John Smith, senior vice-president, operations said that while the company's goal was to return to profitability as soon as possible, "for the remainder of 1992 we remain cautious about both revenues and profits due to the uncertainties in both the industry and worldwide economies." He said that where total headcount was 126,000 at the end of fiscal year 1989, over the last two years, the company has added 11,000 employees, primarily through acquisitions while reducing overall headcount so that at June 30, headcount was 113,800, for a total reduction of more than 23,000 since 1989. Over the past few years, total occupied floor space has declined by 9.2m as a result of facilities being closed or consolidated. Total cash was reduced to \$1,300m, from \$1,900m at the beginning of the year, primarily because of restructuring costs, acquisitions, investments and the operating loss. Gross margins were just 41%. The company reported a fourth quarter net loss of \$1,855m, up from a loss last time of \$871.3m, after restructuring charges of \$1,500m this time, \$1,100m last, on turnover down 1.0% at \$3,905.8m. Net loss for the year to June 30 was \$2,795.5m, struck after a \$489.5m charge for a change in benefits accounting, up from a loss last time of \$617.4m, on turnover up 0.1% at \$13,931m.

READIES TRIUMPH WITH ALPHA LITE

Meanwhile, DEC watcher Terry Shannon of Gander Resources claims DEC taped out an Alpha Lite LC (for low cost) chip last month and believes it is for the so-called Triumph Alpha PC which he says is scheduled to move next March. However, he wouldn't be surprised if it was announced at DECUS in Cannes in September and first shipments came right after the first of the year. He also claims DEC, leery of its margins, has reworked its low-end Alpha price structure to pitch the machines against Hewlett-Packard Co rather than get into a price struggle with Sun Microsystems Inc. He says we're looking at a \$20,000 Sandpiper and a \$25,000 Flamingo at the entry-level now. DEC had a prototype Alpha PC at Microsoft Corp's Developers Conference earlier this month running an EV-4 chip which he finds hard to believe will be commercialized because of its heat dissipation.

SUN RETAINS ITS LEAD IN JAPAN

Sun Microsystems Inc retains its market-leading position in the Japanese workstation market, according to figures released by the Nikkei Industrial News last week. Excluding its OEM partners, which include Fujitsu Ltd, Toshiba Corp, Fuji Xerox Co, Nippon Steel Co, Matsushita Electric Industrial Co and other powerful players, Sun had an 11.4% share of the market last fiscal, putting it in fourth place, but if the OEM sales are included it shoots to the top with a 22.7% share. Yokogawa Hewlett-Packard Co was second with a 15.5% share, but that is down five percentage points, with the beneficiary NEC Corp, just behind with 14.5% and up 7.2 percentage points, achieved mainly as a result of installation of an army of 6,000 workstations at Daiwa Securities, as well as sales to systems houses. Sony Corp was next with a share of 11.8%, down 5.5 points, although in units, its sales increased - Sony attributes its decline to lower sales of systems based around its News workstation as the central computer. Total shipments were 40% up from the year earlier at around 110,000 units.

INTEL P5 MICROPROCESSOR PUT

BACK TO FIRST QUARTER 1993

Intel Corp has put off first deliveries of the P5 microprocessor to the first quarter of next year from the fourth quarter this year, but says that the move has not affected progress on the follow-on P6, which it had said would start sampling as soon as the fourth quarter of next year, suggesting it will come very hot on the heels of the P5. Intel stresses that there are no problems with the P5 and that it is taking the opportunity of strong demand for the 80486 family to spend longer testing the highly complex new chip in the hope of avoiding the bugs that plagued the 80486 in its early days. The P5 will share the same production lines as the 80486. By using the time to improve the production process, Intel will be able to make more of the chips available initially than it usually can when it launches a new part, Paul Otellini, vice-president of the company's microprocessor group noted - a shortage of 80386s in the early days caused disenchantment with the company at many customers for the chip, who encouraged other companies to clone the chip in the hope of ensuring steady supplies. Apricot Computers Ltd had been planning to announce "the world's first" P5 machine in September. Spurred by the competitive market, Intel is thought to be pitching the first P5 boxes at \$6,000: the company has reportedly priced the P5 at around \$700 in 1,000 quantities versus the 80486DX which goes for \$536, according to Computer Reseller News.

CROSSROAD WILL INTEGRATE IBM, HP, SUN UNIX APPLICATIONS ON THE NETWORK

Crossroad Systems Inc, an 18-month-old Boston, Massachusetts-based start-up, has come out with a new development framework for integrating heterogeneous applications into a single environment on Unix networks. The software currently runs on AIX, HP/UX and Solaris 1.0. The Crossroad architecture enables developers to configure connections between existing applications and directly supports the dynamic reconfiguration of connections and flow of data in the network, according to chief executive officer, Alek Mesarovich. The product, targeted at Fortune 500 developers, consists of three components: the Motif-compliant CrossFrame interface builder; the CrossScript scripting language; and the CrossLink network services builder, a programming environment for dynamically establishing peer relationships between applications on a network through a mechanism called agents. The agents transform isolated software applications into modular building blocks for creating a coherent networked system. CrossFrame and CrossScript are tightly integrated supporting a single high-level programming procedure to develop both the interface and underlying application. CrossScript, which offers lower level programming support and combines features of C, C++ and C-shell, also manages the CrossLink network agents and directly connects them to the user interfaces. The software is immediately available priced at \$7,500 for a development license, \$500 for a run-time license, and \$500 to \$5,000 for Crossroad-built turnkey agents. The company, which has garnered about ten customers so far, has turnkey agents available from Sybase, Lotus and Unix E-mail. Sun Microsystems Inc distributor ERI is reportedly using Crossroad to create a canned database publishing system using Frame and Sybase.

TEKTRONIX AND ADDAMAX TEAM ON SECURE X-TERMINALS

Tektronix Inc, Wilsonville, Oregon, and trusted Unix house, Addamax Inc, have inked a co-development pact to produce a line of secure X-terminals. Addamax is porting ATX, its secure X-Windows subsystem, to the TekXpress family of X-terminals to create a line for B1 and networked compartmented mode workstation (CMW) environments. Addamax said it will integrate a trusted TCP/IP networking product, ATN, to the terminals assuring CMW compliance, compatibility and interoperability with other trusted systems including DEC and Sun CMWs. ATX, the foundation of the secure X-terminals, is based on the Addamax CMW, currently under evaluation by the National Computer Security Center and the Defense Intelligence Agency for B1 and CMW ratings. It is based on SVR4 and supports both Open Look and Motif. The two companies intend co-marketing their work through their respective distribution channels, with Addamax providing the software support and maintenance. The only other secure X terminals come from Network Computing Devices Inc which is using Addamax software and Human Designed Systems, whose security comes from Addamax competitor SecureWare Inc. The HDS/SecureWare offering is only accredited as a single-user CMW.

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The Weekly information newsletter for the UNIX® community worldwide

It's (more or less) official: Ken Olsen was pushed into resigning by the board: the Wall Street Journal hears of a meeting with employees at which Olsen discussed how he was unable to make the necessary organisational changes at DEC, in particular failing to get engineering groups to report to marketing, and then said "that's why I was fired".

Pier Carlo Falotti, head of DEC Europe and touted last year by The Wall Street Journal as Ken Olsen's possible successor, tendered his resignation June 30, an action The Journal said last week precipitated Olsen's resignation ten days ago (UX No 394). Falotti, long frustrated with Olsen, has decided to go to ASK as CEO. Fearing a wholesale decimation of its executive ranks, The Journal said, DEC tried to persuade him to stay but failed. His resignation was announced within hours of Olsen's. ASK has attracted other ex-DECies like Jake Jacobs but failed to keep him. ASK founder Sandy Kurtzig stays on as chairman.

The gossip pegs Monday July 27 as the day DEC could announce additional layoffs with some people saying this round could force out as many as 15,000 people worldwide along with the closure of maybe ten manufacturing plants.

A point missed in last week's story on DEC's effort to design a single 1GHz chip is that the cooling agent is a mixture of water and alcohol (UX No 394).

Fremont, California-based Link Technologies Inc and Westborough, Massachusetts-based Visual (the merged Visual Edge Technology Inc and Gipsi SA) will next month release two of four new X-terminals they have co-developed. The LX400 is a 14" Motorola Inc 68020-based 1,024 x 1,068, monochrome display with from 2Mb to 10Mb RAM which costs \$1,000. A colour version, the 68030-based LX1200, has from 6Mb to 37Mb RAM, 1,080 x 1,024 resolution and costs \$3,000. Two other 68040-based, mono and colour models are planned by the end of the year.

Sic transit gloria mundi. The once-great Computer Systems News, which had to suffer the indignity in its declining months of being called Systems and Network Integration, gives up the ghost this week but not before it reports that IBM will turn up at AutoFacts in November with a new-fangled massively parallel machine that runs both AIX/ES and MVS and is based on a new (possibly hybrid) chip developed at the Thomas Watson Lab.

Industry gadfly Judith Hurwitz in her new vehicle ToolWatch predicts "NT will stumble." Good concept, bad timing, she says, not expecting Microsoft to deliver the scalable, rich operating system developers are looking for from them for "at least three years, and more likely five." She also thinks Taligent will prove a great boon to both its parents.

NetWorld '92 is set for the Dallas Convention Center in Texas October 18-19. Fax +44 (0) 71 439 1105.

PC Week quotes Microsoft's vice president, systems strategy John Lazarus as saying that IBM has rights under a previously secret codicil in their settlement last month to port NT to the RS/6000: Microsoft is encouraging them to do it: IBM basically told the weekly, "No way."

Sparc chip set house Nimbus Technologies Inc last week was getting set to acknowledge what is already street gossip: that Cypress Semiconductor Corp, or rather its Ross Technology Inc subsidiary, got Nimbus off the ground with an initial "joint development" investment round about \$1.5m. It took no equity but got marketing rights, hence its new SparcSet chip set (UX No 394).

Old Hewlett-Packard Co hands say that back in their day Lew Platt never looked to be a contender for the presidency: they are gratified to see him elevated since he came up on the Unix side and wonder how much should be read into that.

What started as an innocent Uzi water gun raid on a SunSoft staff meeting by Sun Labs principals will reportedly culminate today in a soggy mother of all water fights between "Fast Eddie" Zander's Commandos and Wayne Rosing's Vapourwearers with Scott McNealy in the umpire suit. Is it any wonder Solaris 2.0 on Intel is late or is the summer heat just making us cranky?

Unix System Laboratories Inc is taking the initiative with the mass market/commercial issue and is trying to persuade the industry to stage a concentrated show of force at Comdex this fall. What it and The Interface Group have in mind is a Unix Distributed Computing showcase in the South Hall annex, a mini-conference with its own programme similar to the way they handled networking and multimedia last year. With Comdex's gargantuan draw and the current state of the personal computer business, it's the only sensible thing to do. They need to know who's game by August 3. Call (908) 522-5186 in the US if you're interested. They could accommodate 200 booths, 50 at the minimum.

Referring to our recent SPECmark comparisons (UX No 387), IBM points out that its RS/6000 models 340 and 560 run at 32MHz and 50MHz respectively, whilst its top-end 970, which also runs at 50MHz, has a higher SPECmark rating due to its increased instruction cache - from 8K to 32K.

This year's UniForum Asia show is hosted by UniForum Singapore, and is being held at the Marina Mandarin Hotel from August 25-28.

Silicon Graphics Inc says it's giving a lot more headroom to software these days and is looking hard at NT in the wake of the recent NT developers' conference; it also wants to get into the high-end Apple Computer Inc Macintosh market and migrate those users over to "real machines" that let them realise

Like Sun Microsystems Inc before it, NCR has gone to Oracle Corp for its manufacturing and financial management software for its own manufacturing groups: the software will be installed in up to 14 NCR manufacturing sites in the US and abroad.

Datapro's 1991 workstation user-ratings study ranks Hewlett-Packard Co's 700 as the industry's best overall workstation family, surpassing Sun Microsystems Inc. HP came in number one in overall satisfaction based on usage and selection/purchase criteria and placed second, but ahead of Sun, in service and technical support.

Sequent Computer Systems Inc, reporting second quarter net profits of \$3.0m against a loss last time of \$19.8m, on sales up 44.1% at \$72.2m, says that in the UK, sales were up 90% on the year-ago period, and rose 89% in the quarter, 87% in the half, across Europe as a whole.

A new Ukrainian Unix Users Group has been formed - most members are from the Soviet Unix Users Group: Alexander Shekhovtsov, TechnoSoft, 7 (044) 266 7028 - als@vl.ts.kiev.ua.

Well Digital Equipment Corp always said it would catch up with IBM Corp, come what may, and the company has just about done it: IBM's loss for 1991 was \$2,827m and DEC's loss for the year \$2,780m.

Take a look at Spain,
the fastest growing UNIX market
(35% growth 1991) Source: IDC

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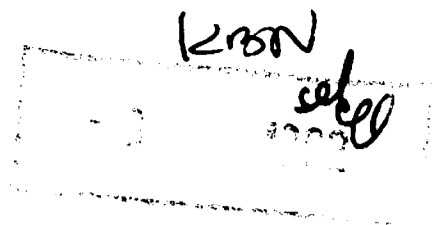
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NOW UNIX SYSTEM LABS TURNS THE HEAT ON UNIVERSITY OF CALIFORNIA OVER BERKELEY CODE

In an unprecedented action against one of its own educational licencees, Unix System Laboratories has filed suit in the US federal courts against the University of California, Berkeley, charging the prestigious institution with breach of contract, copyright infringement, misappropriation of trade secrets and Lanham Trademark Act violations. The move makes UC Berkeley a party to USL's existing suit against software start-up Berkeley Software Design Inc (UX Nos 392, 394) for unfair competition, deceptive trade practices and false advertising. USL has now amended that suit against BSDI to include additional charges of copyright infringement, trade secret violations and inducing breach of contract.

Harassment

BSDI's response to the amended suit, which was served last Thursday, was to declare it "totally without merit" and "another step in [USL's] harassment campaign." BSDI, an alleged spin-off of UC Berkeley's Computer Sciences Research Group, author of the famous Berkeley code, is attempting to commercialise a 386 operating system called BSD/386 based on the university's Network Release 2. Berkeley and BSDI claim NET2 is AT&T code-free and owes no licensing fees to USL. USL says it "knows for a fact" NET2 contains proprietary AT&T code. USL also says UC Berkeley rebuffed every proposal it put forward over the last few months to resolve the dispute without recourse to litigation. According to USL, the school effectively rejected a proposal for a full comparison of Berkeley versus USL code by unbiased third parties by demanding that the evaluation be limited only to USL-specified snapshots and by selecting as arbiters for its side members of the Computer Systems Research Group whose credentials, USL claims, were already tainted. CSRG, in what appears to be a form letter over the signature of CSRG team member Marshall Kirk McKusick, made written representations to BSDI on April 30, 1991 that Berkeley software "may be freely redistributed...." and "requires no previous licence, either from AT&T or The Regents of the University of California." The university reportedly picked McKusick as one of its evaluators.

Public opinion

Had that proposal been acted on, McKusick, CSRG senior programmer and past president of Usenix, would have found himself in another conflict of interests since he is believed to be a secret director of BSDI. BSDI, which the USL suit suggests is in collusion with CSRG, declines to publicly identify any of its founders or investors declaring such information "proprietary" on the basis that BSDI is a closely held company. No names appear on BSDI's papers of incorporation except the company's nominal president Rick Adams who was described to Unigram last week by Donnalyne Frey, BSDI's spokesman, as merely a figurehead, soon to be replaced when BSDI completes its current search for a chief executive. Adams, she said, is actually the president of UUNet Technologies, a long-established company currently distributing BSD/386. Donnalyne, well-known as Usenix's erstwhile spokesman, should know since she is in fact Mrs Rick Adams. Besides McKusick, there are other ties between CSRG and BSDI. According to an April filing with the Virginia Commission on Corporations, where BSDI is headquartered, CSRG senior programmer Keith Bostic and former CSRG mainstay Mike Karels, the acknowledged architect of the university's 4.3 BSD release, are also directors of BSDI. BSDI describes Karels simply as an employee, claiming he joined the company after BSD/386 was established. Another director is Don Seeley, an employee of UUNet Technologies, the supplier of UUNet. Clearly USL will argue that CSRG staff gave themselves permission to commercialise the system and will doubtless note a violation of the university's established code of ethics which requires university personnel with a financial interest in a university decision to disqualify themselves. BSDI, meanwhile, is attempting to try the case in the court of public opinion. The week before last it put the full text of the initial complaint (but not the expanded suit) on UUNet ostensibly because so many were asking to see the exact wording. More details on page four.

USL "EYES SANTA CRUZ"

The rumour mill claims Unix System Laboratories Inc has been sniffing around the Santa Cruz Operation Inc over the last few months - with takeover in mind. Our arm-chair strategists say USL must achieve critical mass practically overnight to ward off the threat from Microsoft Corp's NT and ensure a successful public offering in the next year or so. SCO, whose revenues are thought to be double USL's and whose board reportedly wants to cash out, makes no secret of the fact that it has been contemplating its own initial public offering (IPO) for some time. However, its founders, Larry and Doug Michels, are now said to be reluctant because the future is uncertain - it's a heck of a time to have to start posting quarterly reports. The Mexican stand-off between USL and SCO is thought to be price. SCO has never been known for its realism. If the deal ever comes to pass, it will probably have to be a stock swap: USL doesn't have the cash.

SYBASE'S MULTI-MEDIA GAIN

Emeryville, California-based relational database developer Sybase Inc has reached a definitive agreement to acquire Palo Alto-based object-oriented multimedia tools developer Gain Technology Inc - previously known as Cayenne Systems - for 2m new Sybase shares, valuing the target at about \$56m. The aim of the deal is to combine Gain's tools - which include the GainMomentum applications developer and GainExposure software demonstration tool (UX Nos 363, 365) - with Sybase's SQL Server technology to enhance ease of use for client-server computing. Privately-held Gain is 100% owned by its directors and 100 employees. It was profitable on turnover of \$3.2m for the quarter to March 31st. Sybase says it plans to run Gain as a subsidiary at its existing base. The news appears to scotch rumours that Sybase was looking to spend its money on fellow database vendor Unify Corp, which over recent years has also majored on database independent development tools, although more geared to character-based and transaction processing applications. Unify director Tony Bowden denied that there was any truth in the rumours last week, but said that Unify was "signing deals on Sybase left right and centre".

DU PONT PIXEL LAUNCHES IRIS/GL FOR SPARC

Du Pont Pixel Systems Ltd, Weybridge, Surrey, has launched PX/Iris GL, a compatible implementation of Silicon Graphics Inc's three-dimensional graphics library for Sun Microsystems Inc workstation users. SGI's Iris GL has already been endorsed by large sections of the industry, including DEC, IBM, Microsoft Corp and Intel Corp, as a standard for their high-end graphics developments. Du Pont Pixel, formerly benchMark Technologies, started work early on this project - before a reference implementation suitable for other CPU architectures was available from SGI, so it did a bottom-up re-working of GL optimised for the Sparc RISC processor. Although GL is gaining ground as a de facto standard it does not support PEX, the Phigs extensions which allow developers to write distributed, three-dimensional graphics applications for X-Windows: "because PHIGS is years behind the marketplace," insists SGI. For its own purposes, however, DEC is working on a PEX version of GL for use on its systems. PX/Iris GL is based upon version 4.0 of SGI's environment and will migrate to version 5.0 reference implementations - with the OpenGL programming interface - which SGI is now delivering to its OEMs. Version 5.0 is claimed to be more portable, with better application programming interfaces: "commercially cleaned up", is how SGI described it. PX/Iris GL will run on most Sun workstations with a colour frame buffer under Open Look or Motif - it doesn't require one of Du Pont's Intel 80860, Sbus-based graphics accelerator boards. Du Pont hopes to sign distributors like Frontline Distribution Ltd, Basingstoke, Hampshire, to peddle the thing in the UK - its US reseller network will handle the things in North America. Du Pont will also market SGI's Iris Explorer visualisation development system to Sun users alongside its graphics subsystem products. As benchMark Technologies, the company was primarily a technology OEM and developer of graphics accelerators, as Du Pont Pixel it wants to become much more involved in software publishing. It says it has half a dozen ports of packages to GL from large software house which will be released for PX/Iris GL users within three months - it'll also help smaller firms without its marketing muscle bring their applications to market under PX/Iris GL, which is priced at £3,250 for a development licence - £320 for a run-time version. SGI claims some 1,600 applications now run on GL. Du Pont has also concluded a deal with RasterOps Corp which sees the Santa Clara, California-based company handing all of its Sun Sbus products over to Du Pont in return for Du Pont's GL implementation, which RasterOps will productise for the Apple Computer Inc Macintosh market. RasterOps' Sbus products are TC, a framestore card, TC Pip, a 24-bit frame store card and video mix and a TV card that grabs video images for processing on a workstation. These fill in the gaps, Du Pont says between Sun's own 8-bit frame store card and its own high-end options. In the face of recent doubts surrounding Intel's future plans for its i860 RISC, Du Pont says it is now under non-disclosure for a new iteration coming down the line - though there's no hint of silicon just yet.

...NAG PORTS EXPLORER TO SUN, DEC, HP, IBM

Separately, Silicon Graphics has also licensed Iris Explorer to UK, Oxford-based Numerical Algorithms Group, which will turn the stuff around for Sun, DEC, Hewlett-Packard and IBM workstation users. NAG regards Iris Explorer as one of the three leading visualisation packages on the market, the others being Precision Visual's PV-Wave and Advanced Visualisation Systems' AVS.

SUN TURNS SUNVISION OVER TO AVS

After having to take development and marketing of its VX and MVX Intel Corp 80860-based graphics accelerator boards back under its wing after the collapse of its partner in that area, Fremont, California-based Vicom Systems Inc (UX No 381), Sun Microsystems Inc is hoping for more success with its SunVision graphics software environment which it has now turned over to Advanced Visual Systems Inc. AVS Inc, Waltham, Massachusetts, will assume all future development and marketing of the product and other packages based upon it, and is to integrate SunVision into its own Advanced Visualisation System. SunVision functions will be offered as AVS modules and as portable libraries for building applications on Unix workstations which support AVS. AVS has also undertaken to port the SunVision imaging library - IPLib - and volume visualisation tool - SunVoxel - to Solaris for Sun as well as to the Mountain View, California firm's XIL video and imaging software foundation library. SunVision 1.2 is available from AVS now. In the past, Sun has turned over high-end graphics products to third parties because it has deemed growth at the high-end of that market to small to warrant its continued investment (UX No 357).

DEC CLEARS UP ITS DESKTOP

STRATEGY WITH IXI DEAL

As expected (UX No 394), IXI finally got its "multi-million" OEM deal with DEC to the announcement stage last week, a process it has been working towards for quite some time. While DEC Europe has long been a strong advocate for X.desktop, DEC US originally opted for the rival Visix Looking Glass product (UX No 306), and more recently began evaluating HP's Visual User Environment (UX No 377). X.desktop had the edge over VUE because of its availability under VMS, aside from any uncomfortable feelings DEC might have had opting for a product from one of its biggest competitors. DEC has licensed X.desktop, and both companies will work together to supply and integrate the product for DEC's Motif-based Ultrix, Open VMS and OSF/1 platforms, both MIPS and Alpha. Deals for existing DEC customers are currently being negotiated. DEC's input into the product will be in the fields of usability, multi-media and document management, but the company is also considering how X.desktop might relate more closely to its other desktop platform, Microsoft Windows and NT. IXI has its eye on the very same area, but is still working on the details. For the record, IXI's other OEMs are IBM, NCR, NEC, SCO, Fujitsu, Bull and ICL, accounting for one third of IXI's business. There are currently over 200,000 copies of X.desktop out there, meaning, says IXI's Ray Anderson, that over 75% of Motif users are now using X.desktop as their desktop manager. That makes it "almost" a de facto standard, he says.

INTEGRATED COMPUTER SOLUTIONS' WIDGET DATABOOK FOR MOTIF

Integrated Computer Solutions Inc has published the Widget Databook, a collection of XT-based widgets and other objects that speed the development of graphical user interfaces. A widget is a user interface component, such as a pushbutton or scroll bar, and the Widget Databook includes those commonly requested by developers when designing applications for OSF/Motif-based interfaces. The databook provides descriptions and pictures and a CD-ROM disk includes the binary code for each widget. Unlike common widgets that offer basic functionality, the company says that the Databook widgets range from generic types not available in Motif to industry specific widgets. The widgets described in the databook can be used with BX, Integrated's graphical user interface builder, and with any graphical user interface builder that runs under X Window and Motif. The Widget Databook, available now at \$10, includes access to six public domain widgets provided in source code form, but additional widgets, provided in binary form, can be accessed by obtaining the required access code from the Cambridge, Massachusetts-based Integrated Computer Solutions at prices between \$200 to \$3,000.

UNISYS LAUNCHES NEW UNIX-TO-SNA PROCESSOR

Unisys Corp has launched a major new product line that is designed to integrate Unix and IBM Corp Systems Network Architecture networks across heterogeneous networking environments. The Communications Access Processor is designed to enable mainframe users to add Unix systems to their SNA networks without the risk and high costs of redundancy or re-engineering networks - existing SNA networks and terminals can be used to access Unix, and the processor also provides complete SNA-Unix integration from the desktop devices in each environment, preserving the current user interfaces of each environment as well as integrating multiple network architectures over one SNA backbone, managed by IBM NetView; a CAP 200 for 30 lines is \$70,865, CAP 250 for 180 is \$94,392, from September.

SIEMENS NIXDORF HITS MORE SNAGS

The launch of Siemens Nixdorf Informationssysteme AG's new multiprocessor computer line has been delayed. Topix Abteilungsrechner & Workstations reports that an announcement regarding the B20, on which Siemens Nixdorf has been pinning so many hopes, was planned originally for the autumn. It now seems set to be pushed back at least three months, as the chosen central processing units are causing problems. It therefore seems possible that the B20 will be equipped directly with Intel Corp's P5 chip rather than upgradable 80486 CPUs. However, work on the MIPS Computer Systems Inc R-series RISC-based B20 line is going ahead somewhat quicker, with a launch expected by the start of 1993. The multiprocessor version of the R4000 central processing unit is expected, finally, in November. Even MIPS' owner Silicon Graphics Inc is said to want to speed up its multi-processor work by using the P5 chip.

HP MAPS OUT PLUNGE INTO OBJECTS...

Hewlett-Packard Co is racing down the object-oriented programming road and last week it inaugurated a distributed-object-computing programme that it says will accelerate its efforts to develop and deliver a distributed object computing environment for heterogeneous networked systems. The company is building on the Object Management Group's Common Object Request Broker Architecture standard, and says its new environment provides the benefits of distributed object technology without requiring users to adopt a new operating system. The planned environment will integrate all the company's framework products, which currently include its NewWave, Visual User Environment, OpenView, OpenODB database and C++ and the SoftBench development environment. First software is expected to be ready in the first half of 1993.

...LICENSES OpenODB TO INFORMIX

Hewlett-Packard has also signed its first licensee for its OpenODB object-oriented database management system: Informix Software Inc is to integrate OpenODB it with its Informix OnLine relational database, making OpenODB available on several of the hardware environments on which Informix runs. Hewlett will share other object-oriented technologies for distributed object environments with Informix, which will integrate them into its Open Case/ToolBus environment, which is already based on the Hewlett-Packard SoftBench software development framework. Informix looks to OpenODB to enable it to provide customers with an easy evolution to object-oriented technology that enables them to use data already stored in the Informix-OnLine database.

BANYAN VINES UP ON SCO

Westborough, Massachusetts-based, Banyan Systems Inc and the Santa Cruz Operation Inc yesterday launched Vines for SCO Unix - seen by observers as SCO's reposte to the shrink-wrapped UnixWare collaboration between Unix System Labs Inc and Novell Inc - targeting SCO's large base of Intel Corp system users. The agreement to develop Vines for SCO was made public at last year's SCO Forum. Vines for SCO Unix - unlike Banyan's vanilla implementation of Vines which functions as an integrated network operating system incorporating AT&T's System V Unix - sits on top of SCO Unix in a layered configuration engineered by SCO. According to Banyan, Vines for SCO includes increased security, management and administrative functions, the StreetTalk global directory, intelligent messaging, terminal emulation and client services over its standard product. SCO is determined to stick close to the Intel trail, whilst dismissing UnixWare as "server-centric," saying "Unixware won't hit the Intel market... it is not comparable to Vines' enterprise-wide networking capabilities." With both Vines for SCO Unix and UnixWare due in September its going to be an interesting duel. Vines for SCO will be marketed as a Banyan application, and sold by both companies via their usual outlets. Banyan also took the opportunity to announce that its StreetTalk global directory will also support Novell NetWare by the end of the year. Vines for SCO Unix goes from £3,500 to £12,500 for a fully configured package.

SUPERUSERS CARVES OUT GURU NICHE FOR DANISH MARKETPLACE

10-year old Danish company SuperUsers, which has its headquarters in a 16th century castle overlooking the sea North of Copenhagen, is carving out a niche for itself as a Unix "knowledge house" for Scandinavian and European countries. The company, now employing 15 staff, is run by Unix "guru" Brian Eberhardt, and concentrates on training, product development and consultancy. Its own products include bespoke systems for the likes of the Danish Girobank (in conjunction with Control Data Corp, also very active in Denmark), and X-Windows system monitoring and debugging tools, such as XSpy. It also provides a channel to supply and support international products for the Danish marketplace - on the books at the moment are the UIM/X GUI builder from Teleuse, VisionWare's XVision, Glockenspiel's C++ range and Code-Center/ObjectCentre from Centerline. Superusers recently collaborated with Uniras to interface its graphics software with UIM/X. The company works with multiple hardware platforms, including Sparc, DEC, HP, Intel and Control Data - it is about to take possession of a dual processor 4680 CDC machine - along with X-terminals from NCD, Tektronix and Tandberg.

PRIME COMPUTER TO CLOSE DOWN ITS

MINICOMPUTER MANUFACTURING BUSINESS

The effort by management of Prime Computer Inc's core computer business has failed and the company has decided to close the business, once one of the most successful of the clutch of second-line US minicomputer manufacturers. The company says the attempt at a buyout failed because the managers realised that it would take longer than they had planned to develop a new generation of the 50 Series minicomputer line. The decision means that 300 to 400 more people will eventually lose their jobs, although the company plans to continue offering support to existing users through its PrimeService business. Already over 400 people have been shed since the beginning of the year, and the Prime Computer Inc that is going public on revised terms and will change its name to Computervision Corp, will end up with 5,900 people, and annual sales of some \$1,200m, mainly computer-aided design software and maintenance. The computer unit that is being closed had sales of just \$169m last year, down from about \$1,200m at its peak, shortly before Prime completed a hostile takeover of the original Computervision company back in early 1988. Prime was born in the early 1970s, structured around the PrimOS operating system, which was developed on Honeywell Inc minicomputer hardware under a government contract, which meant that when people on the development team wanted to take it into the commercial world, they were able to buy the operating system for a nominal sum, and developed a new processor optimised to run it to create the 50 Series, the customer base for which will now be subject to a flock of companies wanting to win users over to their open systems. Prime's Natick, Massachusetts headquarters has been sold and it is now headquartered at the old Computervision base in Bedford, Massachusetts. Prime was brought down when to escape a hostile bid from MAI Systems Corp, it agreed to one of the last - and most doomed - leveraged buyouts in the computer industry by a group led by J H Whitney & Co, just before the boom fell on such transactions, which saddled Prime with a debt burden that at the time looked unsustainable - as so it has proved.

HP BITES BACK AT SUN'S CARROT...

What better way to liven up these lazy summer days than a little trade-up rumpus between Sun Microsystems Inc and Hewlett-Packard Co. HP has decided not to take Sun's move on its Apollo base (UX No 394), lying down and has decided to retaliate in kind. Under a new PowerUp Programme, it's offering Sparc users (and their own Apollo customers) up to a 44% credit if they switch to Series 700 Snakes. They have to trade in a minimum of 20 workstations by March 31, 1994 and place the orders by January 1, 1994. HP claims to have a better handle on the situation, providing a one-step upgrade and 18 months to plan and implement the migration. HP pooh-poohs Sun's programme for focusing solely on discounts and wanting to move Domain users to "ageing members of Sun's product family" then on to Sparcstation 10s in two step process that would require going first to Solaris 1.0 and then to Solaris 2.0. It also takes a shot at Sun's December 31, 1992 deadline as not being enough time.

...BUT HP FOLLOWS SUN TO LIKEN

Xcelerated Systems Inc, the San Diego, California-based Unix-on-Mac company is building up a quite head of steam on its rivals like Quorum Software Inc. Now its has won favour with Hewlett-Packard Co which is endorsing Xcelerated's Likem emulator for its Series 700 workstations, claiming the software rivals the performance of the Macintosh IICI on Mac applications under Unix. HP is not allowed to sell Likem direct so it will put it through resellers. Productivity Computer Solutions Ltd of Wakefield, Yorkshire has both the Hewlett-Packard and the Sun Microsystems Inc versions of Likem under an agreement that it signed last week. Available now, prices start at \$900 - £445 in the UK. Other European distributors are the Bristol Group GmbH, Morfelden and IPS GmbH, Bremen in Germany; Real Connection Oy, Espoo, Finland; StationSoft, Paris and KonsultHuset, Gothenburg, Sweden.

100,000 USERS HAVE YET ANOTHER BERKELEY VARIANT - 386BSD...

by *Maureen O'Gara*

Besides Berkeley Software Design Inc's BSD/386 operating system, there is another body of 386 code making the rounds. That code got started in conjunction with the same University of California lab that BSDI's did and traces its roots first to 4.3BSD Tahoe and ultimately to the same NET2 subset source. This code is confusingly named 386BSD after the original 386BSD project kicked off in the university's Computer Systems Research Group in 1989. The man who says he named both pieces of software is former 386BSD project leader and principal developer of BSD 2.8 and 2.9, Bill Jolitz. Jolitz reportedly mortgaged his house to start the initial 386BSD project and subsequently finished it in his own time. The code and its rationale were published over the course of a year in Dr Dobbs' Journal beginning in January of 1991. It was also picked up by Dr Dobbs' sister publication Unix Magazin in Germany. The full code has been available on InterNet for the last two months and was to go on CompuServe last week, according to Dr Dobbs' editor Jonathan Erickson. He estimates that 386BSD is currently in the hands of 100,000 people. Jolitz, interviewed by Unigram.X last week, says that his 386BSD, at least in its initial versions, was encumbered. He also says that 386BSD is the basis of BSDI's BSD/386 which he worked on in 1991 at CSRG initially under the financial sponsorship of UUNet Technologies. Last summer his cheques started coming from BSDI. He claims he was never officially hired by BSDI and signed no employment contract with the firm, which he believes is the brainchild of UUNet chief Rick Adams and former CSRG staffer Mike Karels who was best man at Jolitz's wedding. However, Jolitz was apparently crucial to the project since none of BSDI's principals, alias CSRG's staffers, knew much about 386 Berkeley and couldn't maintain it. 386BSD was originally intended to be "a university curiosity," Jolitz said, a non-commercial, non-industrial strength way for students, faculty and researchers to have access to Berkeley code on inexpensive machines. Increasingly through last year it became apparent that what CSRG wanted was "basically the same thing as BSDI:" an unencumbered commercial system. Ultimately, he says, he opposed it since it would mean terminating the 386BSD project, an action CSRG has taken, as well as having him renege on a published promise to produce freely accessible 386 code. He broke with BSDI in November, he says, but not before Usenix mysteriously refused to allow him to present a paper on his 386 work and BSDI offered to cut him in - in return for the title to his house. The first tack he regards as a way for CSRG/BSDI to limit competition. The second tactic he regards as an attempt to keep him in line. He says he attempted to bring what was happening to the attention of university authorities such as CSRG's faculty overseer Susan Graham and its Office of Technology Licensing but was sluffed off. He claims the university is guilty of "incompetent stewardship." He subsequently received letters from CSRG and university counsel claiming that all the work he had contributed to Berkeley since NET2 was "University proprietary," a phrase he had never heard before. In November he was asked to destroy all his own work and anything in his possession having to do with Berkeley or 386. He says he complied and rewrote the current 386BSD Release 0.0 from scratch. He says he receives no money from BSDI for his code though he alleges BSDI has told its customers that he does. Jolitz does not believe NET2 is encumbered.

...AS BSDI PUTS THE WORD ON THE NET

The week before last, BSDI put the full text of Unix System Labs' initial complaint (but not the expanded suit) on UUNet, ostensibly because so many people were asking to see the exact wording - see front page. As might be expected, the move has stirred up a hornet's nest of academic fear and loathing against USL and has created a cadre of naive tech weinees ready to form a lynch mob. For all their thousands of lines of protests, however, no one has flat out denied USL's intellectual property rights. USL's suit asks the courts to oblige UC Berkeley to abide by its license from USL. It also wants the school to recall all copies of NET2. USL is seeking an unstipulated amount of actual and compensatory damages from UC Berkeley as well as legal fees. It wants the same from BSDI plus punitive damages. BSDI is reportedly getting set to move from a beta to a gamma version of BSD/386 either this week or next. It says it has distributed over 300 copies of the beta system to an assortment of users including hackers, old DOS buffs and big brand name computer makers. BSDI is also getting ready to expand its distributor base.

SOLBOURNE ENDS DIRECT SALES IN EUROPE

Following a decision earlier in the year to scale down its workstation business, (UX No 368) Solbourne Computer Inc, Longmont, Colorado, has pulled the plug on its direct sales operations in Europe, claiming "lack of business." The decision can only fuel speculation that it is suffering badly in the heat of an overcrowded Sparc-compatible marketplace that it once had to itself. The firm quotes the recession and increased competition as reasons for its departure and describes its European sales division, headquartered in Swindon, Wiltshire, "as no longer appropriate." Significantly, it says there has been slowing down of sales of its Sparc server systems over the last few months, and expects its European turnover for the coming year to remain flat at \$15m. All direct European sales operations have been re-directed to corporate headquarters under the charge of Neil McNeil - formerly international marketing manager for the Middle East. The company will now rely on its indirect reseller channels across Europe. To mop up what's left of the direct sales budget, Solbourne will establish a chain of technical support offices across Europe, and admits it's a less expensive way of keeping the European market aware of its presence. The UK office will also support the Benelux countries - French and Scandinavian offices are due to open in the Autumn. Solbourne meantime, is steeling itself to launch Series 6 symmetric multi-processors, based upon Texas Instruments Inc's SuperSparc chip, in October. The machines are due to go into beta test in August and will run Solbourne's SunOS MP implementation. No word on pricing yet.

OBJECT DESIGN RALLIES LEADERS TO ITS PARTNER PROGRAMME...

ObjectStore object database developer Object Design Inc, Burlington, Massachusetts used the Object World show to launch its Object Design Partner Programme for ObjectStore, designed to advance the integration of ObjectStore with the best object-oriented development tools available. The range of tools offered by initial Partner Programme members covers the complete development cycle, including a variety of languages, graphical user interface builders, design and analysis tools, programming environments and re-usable class libraries. Companies so far signed on as members include Borland International Inc, CenterLine Software Inc, Hewlett-Packard Co, Lucid Inc, Fluent Inc, Oberon Software Inc, ParcPlace Systems Inc, Progress Software Corp, Spatial Technology Inc, STEP Tools Inc and Visual Edge Inc. Public domain class libraries also will be part of the tool catalogue, the first to support ObjectStore being the libraries from the US National Institute of Health.

...OBJECTSTORE FOR NCR 3000

Object Design also announced that it has done an implementation of its ObjectStore object-oriented database for the NCR Corp System 3000, making it the first object database on NCR kit under Unix System V.4. It will start shipping in September and pricing will be on a per-user basis, with a typical four-user configuration including server and client licences, training and technical support costing \$11,000. The two companies are already best friends, having been partners in the initial joint submission to the Object Management Group for its request for object request broker technology, which was of course later combined with technology from Digital Equipment Corp, Hewlett-Packard Co, Hyperdesk Inc and Sun Microsystems Inc to become the Common Object Request Broker. ObjectStore is already on computers from Sun Microsystems, IBM, DEC and Hewlett-Packard under Unix and computers running Microsoft Corp Windows 3.

GRESHAM HAS DATASERVE RPC FOR VME TO UNIX/VMS ACCESS

Gresham Telecomputing has increased the scope of its Dataserve range of ICL communications products with the addition of client versions of the product for VME, VMS and Unix-based systems, with a Windows version following later in the year. DataServe for VME, the base software product, provides what is basically a remote procedure call mechanism for VME, and opens up corporate data stored on ICL's IDMSX mainframe data stores to different environments. Unix applications, such as Ingres or ICL's OfficePower, can make use of the client service for direct access to remote VME data, and Dataserve can work in conjunction with transaction processing monitors such as Tuxedo or Gresham's own tp+. Gresham also has plans for a VMS server version of Dataserve. Without access to corporate data, says Gresham, companies are unwilling to begin the shift over from proprietary systems. Gresham is an ICL software partner in the UK and Europe. Cost of the VME to ICL DRS 6000 version is £2,000, with a £300 per annum annual maintenance fee.

OBJECT WORLD '92: STEVE JOBS AND THE OMG 1, MICROSOFT 0

Two thousand, seven hundred people turned up for the opening session of Object World '92 in San Francisco a couple of weeks ago, Katy Ring was one of them.

As expected Object World '92 got off to a dramatic and bitchy start with the opening panel session which, on the day, featured Paul Allchin, Microsoft Corp's vice president for advanced products, Philippe Kahn, founder of Borland International Inc, Steve McKay, SunSoft Inc vice president for user environment software and Joe Guglielmi, head of Taligent Inc as the great and glorious warm-up act for NeXT Inc's Steve Jobs who topped the bill.

Lord's Prayer

Developer conferences these days seem to harbour a deep-seated resentment of Microsoft and, unfortunately, Allchin is not the most charismatic senior executive that Microsoft could have fielded - frankly he killed himself by an overlong demo (and let us not forget that Gates himself is probably the only competitor to Jobs' title of demo king) that crashed a couple of times. He also died by labouring the Windows strategy that we can all repeat like the Lord's Prayer and by demoing that well known object-oriented tool (NOT!) Visual Basic. Allchin began by admitting that Microsoft has had a problem communicating its approach to object technology and claimed he was on the panel to put the record straight: there are objects in Windows NT because there is an object management system in the kernel - its simply not exposed to users. Object Linking and Embedding, better known as OLE (as Kahn commented "the only object-oriented thing about OLE is its name") is taking the initial baby steps towards object technology, but as far as Microsoft is concerned all object roads lead to Cairo. Cairo is, of course, the code name for the next generation Microsoft object layer comprising an object model, and object-based user interface (Windows lest anyone forget is event-driven), a fully distributed object file system and an integrated object management system. OLE will be replaced by Cairo services that will use the same programming model, the same behaviour between shell and application link and the same class model so no changes have to be made to applications. Cairo will interoperate with DCE and will have a distributed directory integrated with the object management system and the object filing system. The beauty of this approach from Microsoft's point of view is that it is evolutionary and scalable handling 1 byte to 1Gb objects. However, as Jobs asked rhetorically "can the horse evolve into the automobile?" Under attack from all the panellists and with a hostile audience Allchin admitted that Microsoft would be slower in the innovation stakes than its competitors when it came to object technology.

No concern

Kahn and McKay made their presentations with dignity but neither gave any new insights into their companies' strategies. Joe Guglielmi explained that Taligent is not building an operating system, rather it is building a total development environment for objects. It is starting with objects at the bottom or system level and then building in real-time features. Taligent has no concern with legacy systems - building adaptors and bridges from the past is seen as the role of Taligent's parent companies Apple and IBM. Guglielmi reckons that it is the system software that is slowing down innovation for applications and hardware. However, that is not the only level that Taligent is addressing. It is also adding object and application layers on top of the operating system. It will provide application, document, user interface, development tool, testing and system frameworks. ISVs will take these core frameworks and add features from their areas of expertise. There was some scepticism as to whether performance would be good enough in a system built from the bottom up in objects. Guglielmi believes that performance will not be a problem. Currently, Taligent needs to work with others in the area of distributed object models. However, Guglielmi would not commit in public to any of the OMG work in this or any other sphere.

ObjectWare

At this point it was Jobs's turn to take the stage claiming that NeXT is Taligent today. He pointed out that the client/server bottleneck is caused by the development time. His pronouncement that "when your application is not done in two years its running at zero MIPS no matter what hardware is running on your desk" was greeted by cheers from the audience. Moving swiftly on he coined the phrase "objectware" to refer to the hundred or so third-party objects that can be bought off the shelf to run in the NeXT environment. Chuckles of delight greeted his suggestion that "as the Microsoft monopoly puts programmers out of business they can move to writing objectware for NeXT." Rubbing salt into Allchin's wound, spontaneous applause greeted Jobs's demonstration of NeXTStep, where as the Visual Basic demo was nearly slowclapped off. And finally, the man of the morning announced to more cheers that NeXT has joined the OMG and that NeXTStep 3.0, shipping in a few weeks, is already fully OMG conformant mapping via IDL to the OMG object model. What is more Jobs has finally addressed the necessity of object storage by announcing a deal with Object Design Inc for ObjectStore to be ported to NeXTStep and for ObjectStore to be embedded in the NeXT operating system.

Fairytales

Allchin tried to get revenge by responding that if fairytales were true Jobs's nose would have grown. He had misjudged the audience, which, sitting rapt in Steve Jobs's hands greeted this comment with boos and hisses. There was simply no stopping Jobs when in full charm mode. He apologised for NeXTStep 3.0 being 60 days late, claimed that Mach is object-oriented and that a bit of Unix is only dragged along in NeXT for compatibility. An 80486 version of NeXTStep 3.0 will ship in the next six months when those oft-promised OEM deals with the likes of Dell Computer Corp will be announced. As for a version for the Sparc, Jobs said he'd love to port to this chip but that Scott McNealy has said "I'd rather stick needles in my eyes than work with NeXT." The concluding score? Jobs and the OMG 1, Microsoft 0. We await the rematch with interest.

ORACLE'S OBJECT DATABASE ORIENTATION

After hearing so much about objects and Oracle Version 8.0 - object prototyping work has been going on at the firm since 1988 - at the moment it doesn't look as though Oracle will create a separate object-oriented database product, although Oracle's object guru, David Beech, believes it may eventually make marketing sense to do so. OO Oracle will in any case be upwardly compatible with the relational model which will remain a subset of the database. A relational flagger may be added to flag when a developer is leaving the relational subset, but Beech believes there is no inconsistency between the two basic models. Beech is not concerned about starting from a theoretical object model to build version 8.0. He is more concerned with the industry-wide slow progress in inter-language communication and believes Oracle could impose one kind of object system that would have a big influence on OO programming languages. If these languages conformed to one type of object database system then persistent objects could be shared between applications. Meanwhile, providing bindings between C++ and SQL3 (SQL3 does not exist but is a label for the ANSI SQL standard that will emerge in 1995/6) is one of Beech's chief interests and Oracle is investigating various styles of binding between the two languages. One thing is clear none of this OO stuff is imminent in Oracle as SQL 3 is pencilled in for 1995/6 and an object storage manager will most likely follow that.

ROUNDUP: WHO, WHAT, WHERE, WHEN

After surviving the acquisition by SunSoft Inc of the greater part of his former employer - Eastman Kodak Co's Interactive Systems Corp - where he was European director, before going to become manager of Northern Europe for Sun Microsystems Inc's software subsidiary, industry veteran Doug Miller last week resigned from the company "to pursue other interests" after Peter Watkins was moved from SunSoft's Mountain View, California headquarters to take up the newly-created position of general manager for SunSoft in Europe; Watkins is also responsible for Northern Europe (which includes the UK) until a replacement for Miller is found.

Meanwhile Dennis Peck, the erstwhile president of Interactive Systems Corp and the man who presided over the sale of half of it to SunSoft Inc, has joined Sequent Computer Systems Inc as senior vice president of marketing, a position that's been open for over a year.

Retirement seems fashionable this season: next to go is Interleaf Corp CEO David Boucher who will hang around as chairman but give up his CEO role to company president Mark Ruport.

Former director at Groupe Bull UK, Fred Bullock, has been appointed general manager of Swindon, Wiltshire-based Kode Computers Ltd, which sells Sanyo Icon and Dolphin Server Technology Triton Unix kit.

Tandem Computers Inc veteran Steven Wierenga has been appointed vice president of engineering of Auspex Systems Inc.

Kaleida Labs Inc, the IBM Corp-Apple Computer Inc multimedia joint venture, has now appointed its senior management team and opened new offices in Mountain View, California. Brad Beitel, the chief technical officer is a 25-year IBM veteran who has focused on multimedia since the early 1980s. David Kaiser, vice-president, engineering, was previously vice-president, product development at MacroMedia Inc, the company formed by the merger of MacroMind, Paracomp and Authorware. Dan'l Lewin, vice-president, sales and marketing comes from Go Corp and was previously co-founder with Steve Jobs of NeXT Computer Inc. Lawrie Lieberman, vice-president for corporate and business development is from Apple's Corporate Development and Strategic Investment Group, and was one of the principal architects of the Kaleida venture.

On August 11th, long-serving press relations officer at Sun Microsystems UK Ltd, Ellie Pendrich, is moving over to become European marketing and communications manager for SunPro, one of the SunTech enterprises: Alison Dendy takes over the role for the time being.

Thoroughbred Software International has set up a German office in Herrenberg under the charge of Lothar Jaus.

Unidata Inc, which has opened a new office in Saint Cloud near Paris, says it will be porting its relational database to DEC's Alpha RISC.

San Jose, California-based Frame Technology Corp is extending its operations to Europe opening its European headquarters in Dublin, Ireland: the office will directly market its FrameMaker suite of products and provide a range of technical support services.

Austin, Texas-based CompuAdd Corp is opening a European headquarters in Bristol, UK, to co-ordinate the company's various European activities, which will be headed-up by Robert Todd as general manager.

UK, Dudley-based open systems outfit, Largotim Holdings Ltd, has opened up in Ireland following the acquisition of Irish firm, Radiant Ltd, formerly part of Radius plc: Largotim says its next move will be into Eastern Europe.

The Meta Group is putting together its Second Annual Application Development Strategies Conference, set for September 14-16 at The Buttes in Phoenix, Arizona. Entitled "Enterprise Re-Engineering Using Next Generation Applications," the seminar promises to focus on the business desktop, born-again CASE, object-orientation, client-server, development strategies and productivity and databases.

The Federal Computer Conference, which reckons the federal market is worth \$29.4bn, is scheduled for December 8-10 at the Washington Convention Center in Washington, DC.

Usenix is hosting the third annual Unix Security Symposium September 14-16 at the Sheraton Inner Harbor Hotel in Baltimore, Maryland along with the Computer Emergency Response Team: Usenix is holding its annual Winter 1993 Technical Conference at the San Diego Town & Country Hotel in California January 25-29.

Sun Microsystems Inc turned biblical for the virtual reality display it mounted at Siggraph last week: equipped with a headset, the wearer got swallowed up and landed in the belly of a fish.

X/Open's annual International Forum on Open Systems, Xtra 92, is set for November 30 through December 2 at The Capital Hilton in Washington, DC.

The third annual Downsizing/Rightsizing conference and exhibition is scheduled for September 28-October 2 at The Crowne Plaza Hotel in New York City.

88open is trying to pull together a meeting of consortia chiefs this month to mull over the kinds of business, customer and anti-trust issues they all share.

Santa Cruz Operation Inc is circulating a 135-page spiral-bound octavo-sized "SCO Hardware Compatibility Handbook," listing the 200 systems and 800 peripherals it supports and tweaking SunSoft Inc for being able to do the same for Solaris 2.0 on a single sheet of paper.

The Petrotechnical Open Software Corporation - the alliance of open systems users from the petro-chemical industry has publicly endorsed X/Open's XPG portability specification in its Software Integration Platform Specification volume 1 - Base Computing Standards version 1. X/Open says 500 products from 27 companies now comply with its XPG brand.

**TATUNG IS READY TO TAKE ON
SUN'S SPARCSYSTEM 10s**

San Jose, California-based Tatung Science & Technology Inc is still very much in the Sparc-system-building game and has revealed product development plans that include introduction of three new series of MBus-based superscalar systems in the next six months. The new systems include the COMPstation 99, the Super COMPserver and Super COMPstation, each to be priced 25% to 30% cheaper than comparable systems of Sun Microsystems Inc. The systems will offer full binary compatibility and Solaris 2.0 as the operating environment. The COMPstation 99 Superscalar Series in September is to feature up to two 36MHz or 40MHz processors and do 64.7 SPECmarks. The Super COMPserver will follow, using up to four 36MHz, 40MHz or 45MHz processors, eight SBUS slots, up to nine drive slots; Super COMPstation will have up to four CPUs.

**ICL GOES TO XYLOGICS FOR
COMMUNICATIONS SERVERS**

It's becoming fashionable to buy in rather than build specialised servers - IBM Corp and Digital Equipment Corp are both doing it, and now ICL Plc has gone to Burlington, Massachusetts-based Xylogics Inc for the Annex Three and Micro Annex XL communications servers under an OEM agreement that will see the UK company marketing them as the DRS local network terminal server line with its DRS 6000 range of Sparc-based and DRS 3000 iAPX-86-based Unix systems. Other OEM customers for the communications servers include Siemens Nixdorf Informationssysteme AG, NCR Corp, Sequent Computer Systems Inc, Intergraph Corp and Unisys Corp. The Annex servers are the latest generation of the NS32000-based line that Xylogics bought from Encore Computer Corp back in 1988 (UX No 211). The servers tie modems, printers, terminals and other devices to local area networks, enabling the devices to be located any where they are needed. The Annex Three is a modular communications server offering from eight to 64 ports with security options such as audit trails, two levels of password protection and the ability to restrict access to network resources. The Micro Annex XL is a compact device with eight or 16 ports designed for small workgroups and remote sites. The value and the duration of the OEM contract was not disclosed.

FIRST TOOLSET FROM PROACTIVE

Roger Sippl's latest venture, ProActive Software Inc, Mountain View, California (UX No 394), has now launched its first product - what it calls a new generation of enterprise-wide Customer Information Resource management systems. The system is described as a comprehensive family of enterprise-wide, client-server applications and tools designed to help companies improve customer satisfaction for competitive advantage. The company says that Support Advantage for Windows 3.1, the first of six Customer Information Resource applications, is available now, as is the ProActive Toolset, an object-oriented customisation environment. The system was developed by database experts Sippl and company co-founder Steven Goldsworthy, former corporate vice-president of product development at Informix, in collaboration with Dr William Davidow, co-author of Total Customer Service: The Ultimate Weapon and general partner at Mohr, Davidow Ventures, which has invested \$1.5m in the start-up. ProActive's system will support multiple SQL relational databases - Sybase, Informix, Oracle, Unix systems and Windows 3.1, X Window and Macintosh user interfaces. It also features its own workflow engine and Query-by-Example facility. Developed in C++ with a client-server architecture, it is built around a Dynamic Application Dictionary and the ProActive Toolset, which enables users to customise applications without changing source code. Coming up are Quality Advantage for quality assurance, SLT Advantage for sales management, Product Advantage for product marketing management, Customer Advantage and Field Engineering Advantage. Support Advantage, available now for Sybase, is designed to replace simple call tracking applications and home-grown and paper-based systems that have limited functionality, flexibility, and ease of use, and is aimed at Technical Support, Customer Service and Help Desk professionals in high technology, telecommunications, finance and medical equipment. It uses the database to access, capture and track complete profiles about customers, the products they have installed, and how they use them. It uses Object Linking and Embedding to link and attach multiple data types such as facsimiles, documentation, graphics, manuals, and technical bulletins to a customer case. It builds a library of catalogued solutions to previous cases, which can be searched using Query-By-Example. It's from \$25,000 depending on number of users and hardware. The ProActive Toolset for customising the application in C++ starts at \$15,000. The company was originally styled Information Workbench and Sippl provided the seed capital. It claims strategic alliances with Hewlett-Packard Co and Sun Microsystems Inc on the hardware side.

RECOGNITION HAS OBJECT PROGRAMMING TOOL FOR NEURAL NETWORKS

UK firm, Marple, Stockport-based, Recognition Research Ltd, is launching a new object-oriented visual programming environment for neural networks. Netbuilder will, according to the company, allow developers to build information analysis systems using multiple neural network and statistical analysis modules. The neural networking technique, developed in the 1970s, mimics the biological neural network, enabling a system to "learn" by example, to recognise patterns and data and to classify data by association. Recognition, has launched Netbuilder to give the neural networking a more conventional look and feel, it says. Data operating in the Netbuilder environment is stored as a self-contained object module. Using an X-Windows interface called Netbench, an application is built by linking up multiple instances of these objects. Netbuilder also includes Netlib, a library which stores the object modules and Netmake - a CASE tool which allows a developer to build a shell of an object module. Once the application is built it can be committed to the neural network, and automatically trains existing neural networks in the environment. Available on Sun Sparcstations, Netbuilder is out in September and costs £4,000 for single users.

ORACLE LAUNCHES RELEASE 9 OF ORACLE APPLICATIONS

Oracle Corp hasn't been in the applications business that long, but the company is already onto release 9 of its Oracle Applications suite of financial, government financial, manufacturing, and personnel applications. The new release makes installation and upgrading less of a pig, improves performance, tightens integration between modules, and adds a new graphical user interface - the Business Manager - the company says. Oracle Applications Release 9 currently operates only with Oracle 6, but will be certified to run with Oracle7 when that finally comes out in a production release. Oracle Applications products cost between \$26,000 and \$166,000 per module, depending on the number of users.

POSTMODERNIST C++ LIBRARY FOR OBJECTS UNDER TCP/IP

PostModern Computing Technologies Inc, a 10-month-old Palo Alto, California-based software start-up with strong ties to Stanford University, is reportedly beta testing its set of C++ NetClass libraries for TCP/IP-based object transport among some 40 odd sites including Los Alamos Labs, Bell Labs, American Express, JP Morgan, US West, Shearson Lehman Japan and Ericsson AB. The company believes its development tool, dubbed NetClasses, is the only one to support direct C++ object transport in addition to remote method invocation (RMI) and fault tolerant peer-to-peer connections. The libraries run initially on networks of Sparcstations and are being ported to other hardware. The libraries are designed to allow programmers to move object between applications using TCP/IP and an asynchronous interprocess messaging paradigm. NetClasses transports generic C++ and National Institutes of Health (NIH)-derived objects as well as NetClasses Typed Objects which are run-time configurable objects whose structure is specified by programmers in external files using an abstract syntax notation. The NetClasses Distributed Services libraries form a connection management mechanism organised so network service providers don't have to set up explicit port numbers and remote procedure call connections. Instead they simply "advertise" themselves on the network, PostModern said. Agents are active processes on the network that monitor network service advertisements and manage connections between information producers and consumers. The NetClasses RMI libraries allow methods to be invoked programmatically on objects from remote machines. They can be built on top of the software's Distributed Services package. Developer kits go for \$3,000 and run-time versions start at \$500.

FUJITSU READIES MASSIVELY PARALLEL MACHINE

Fujitsu Ltd is preparing to plunge into the massively parallel processing market with a machine that it claims delivers 300 GFLOPS peak using "only a few hundred processors": on current plans, it will be the first major computer manufacturer to enter the market with its own machine rather than one bought in. The company has been familiarising itself with the technology with its own experimental highly parallel scalar machine called the AP1000, and it clearly does not trust the literature - it says that it was this machine that taught Fujitsu scientists that "parallel supercomputing requires a radically different approach to programming". Having experimented with parallel scalar and parallel vector processing, and straight vector processing, the company concludes that while vector parallel processing is very efficient over a wide range of applications, conventional vector machines offer superior performance for many applications, so the company will continue to develop its USL SVR4-based Unix, UXP/M and proprietary MSP-based VP and VPX machines. However, Fujitsu reckons its Unix UXP/M systems business now accounts for 60% of worldwide sales, whilst its proprietary MSP-based VP systems hold onto a dwindling 40% stake. The company says it has a worldwide installed base of 160 systems, two thirds of which reside in Japan and at least 30 systems are thought to be in Europe. The company's planned highly parallel vector machine will consist of an array of proprietary vector processors, each the size of a large briefcase and each delivering GFLOPS performance, to get TFLOPS performance out of hundreds rather than thousands of processors. The company plans to launch its first machine before the end of the year: it will run its Unix UXP/M implementation and can be used with Fortran.

INGRES PLANS TO ADD MULTIDIMENSIONAL DATA SUPPORT

Ask Computer Systems Inc's Ingres Corp plans to enhance its relational database management system to manage multidimensional data by the end of next year. The Alameda, California company has signed a development agreement with ESL, part of TRW Inc's Sunnyvale-based Avionics & Surveillance group and a developer of spatial data management applications, under which it will integrate the new capabilities into the database. Multidimensional data refers to information such as maps, genetic diagrams and physical characteristics like height and weight and it is used in applications like geographic information systems and medical imaging. Ingres will collaborate with ESL to expand the Object Management capabilities of Ingres, and ESL will act as a value added reseller and systems integrator. Ingres will expand its database to include multidimensional data types, operators and access methods.

unigram · X

The Weekly information newsletter for the UNIX © community worldwide

Last Tuesday or Wednesday the traffic on UUNet over this BSDI suit (see front page) got so heavy the protesters formed their own group (alt.suit.att-bsdi) - and this before the news hits the fan that the University of California, Berkeley is being brought up on charges too. The group, reminiscent of the old drug-happy hippy-freak Unix culture that was so enamoured of free software, was at one point calling for a boycott of AT&T services. Sources say Unix System Labs didn't exactly want to sue the university, but basically has no choice and regards this as a test case.

Now that NeXT Inc has joined the Object Management Group, it's threatening to submit its technology for consideration - only OMG doesn't know what technology NeXT means. Possibly it might have something to do with interoperability at the class library level or maybe a little something for OMG's next RFT on services. OMG figures it was easier for Next to join the organisation than to continue to explain why it wasn't a member.

Sun Microsystems Inc is spreading its favours around, and after doing a big deal with Oracle Corp on its manufacturing software, has now signed a new unlimited use licence for various database products from Sybase Inc, Emeryville, California for deployment in its operations.

Mac-on-RISC house Quorum Software Systems Inc said last week at Siggraph that it has started shipping Quorum Latitude, its developers-oriented cross-platform compatibility tool, for Silicon Graphics Iris machines.

Software biggie Software AG is putting in an internal Industry Standards Program Office to guide it in implementing such things and communicate same to its customers: its initial focus will be on applications development, database and repository management, networking, GUIs and operating systems.

Wang UK Ltd has signed an OEM agreement with UK firm JSB Computer Systems Ltd, Macclesfield, Cheshire, to distribute its MultiView Unix-to-Windows connectivity software in the UK, Middle East and English-speaking regions of Africa.

Intergraph Corp has decided it will standardise on Menlo Park, California-based Versant Object Technology Corp's eponymous object-oriented database, reselling the product and using it in some future products. The Huntsville, Alabama company is to use Versant "across many of its product lines" although its specific plans are still in evaluation.

Toshiba Corp is still working on a fault-tolerant Sparc box using Sequoia Systems Inc software but ended talks on buying Sequoia's Motorola Inc kit OEM in the meantime.

Sun's biggest US distributor Access Graphics has taken on Hummingbird's HCL-exceed PC X servers which offers a Sun interface with X Windows applications and can run on top of PC-NFS: IBM Canada has also picked up the product to run off networked hosts like the RS/6000. Meanwhile, Xerox has piggybacked on to Access with its ScanWorx high-speed document recognition system for Sun platforms trying to get into reseller channels.

Showing true even-handedness, Lotus Development Corp has joined both Unix International Inc and the Open Software Foundation.

An undisclosed part of IBM Corp's settlement with Microsoft Corp gives IBM rights to put Windows NT on the RS/6000, according to PC Week, and Microsoft is urging IBM to do so.

With OEM deals already struck at Hewlett-Packard Co and Silicon Graphics Inc, Natick, Massachusetts-based Atria Software Inc, developer of ClearCase, a Unix software configuration management system which began shipping last month, has raised \$4.1m in a second round of venture funding: two of the firms, Marix Partners and Sigma Partners were original investors in Atria back in 1990, they're joined by Highland Capital Partners and Morgenthaler Ventures.

In the UK, Pyramid Technology Ltd, Farnborough, Hampshire, is to supply House of Fraser Stores Ltd - which owns Harrods - headquartered in Swindon, Wiltshire, with a Pyramid MIServer 4/2 and MIServer 12/6, beating off competition from NCR, Sequent, IBM and Bull. The MIServer 4/2 running Unix SVR4 will be installed at the company's Victoria offices in London running an in-house management information system used by the central buying office to analyse stock and sales information.

Sun Microsystems Inc has gone to Digital Tools Inc, Cupertino, California for its AutoPlan graphically-based Unix project management system for use internally: the value of the contract was not given.

Siemens Nixdorf is moving its Comet business software library over to its Sinix-based RM machines by making its Cross Basic migration software available on the RISC-based hardware.

Empress Software claims to have the first RDBMS and 4GL running on MACH on a 486: The port was done for TRW Financial Systems which is standardising on MACH.

The Mountain View, California-based Unicode Consortium has merged its multilingual encoding standard with the recently approved ISO 10646, developed by the International Standards Organisation: the idea is that computers all over the world should agree on which number stands for which character so they will be able to communicate other in any language.

The government of the Republic of Hungary will become the first East European administration to adopt an open system strategy across the board, saying it intends to use X/Open Group Co Ltd's XPG brand in procurement and is to join X/Open's user council: a government action plan on information technology has been put together with the assistance of the European Commission and individual national governments within the EEC.

And the Australian Queensland Government Information Policy Board and the Malaysian Government Administrative Modernisation and Planning Unit have both endorsed X/Open's XPG3 branding specifications as part of their open systems architecture requirements.

Silicon Graphics Inc reports that Digital Equipment Corp will be the first company to license its Iris Inventor object-oriented three-dimensional tool kit, which will be available to licensees in the first quarter of 1993. Iris Inventor is designed to simplify interactive development of three-dimensional applications, and to reduce both programming time and support requirements.

Five-year-old graphical user interface house XVT Software Inc in Boulder, Colorado has picked up \$1m in first-round financing from JMI Equity Fund Ltd in Sugar Land, Texas: the company says the money will be used to underwrite further development of portable interactive design tools and portable object-oriented tools.

Network Computing Devices reported a net loss of \$192,000 on record net revenues of \$28.8m, an increase of 120%, its first quarter as a public company. The period covers the second quarter ended June 30. The loss was attributed to its acquisition of Spectragraphics' GSS Division and its PC technology in April.

The ECCS Products Group unit of ECCS Inc, based in Tinton Falls, New Jersey has a new family of fault-tolerant network storage subsystems using RAID technology: ranging in capacity from 200Mb to 8Gb they will be pitched at users downsizing from mainframes to Unix environments and Novell Inc NetWare networks - prices start at \$4,800 for RAID 1 going up to \$13,750 for RAID 5, from this month.

Glockenspiel Ltd, Dublin, has released version 3.1 of CommonBase its C++ framework for developing object-oriented applications. CommonBase - the database equivalent of the firm's CommonView graphical user interface application builder - supports SQL and ISAM under MS-DOS, Windows, OS/2 and most flavours of Unix.

DEC UK's workstation product manager, Tom Yeates, says sales of VAXstations running VMS exceeded targets by two and a half times over the last quarter, something it attributes to increased confidence in VMS due to the launch of the Alpha chip.

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HEWLETT-PACKARD SNUBS UNIX LABS' DESTINY...

Hewlett-Packard Co, for all the speculation Unix System Labs Inc put in play that it would win its adherence to Destiny, says it's not going to adopt the SVR4.2 code. Lack of any customer interest, particularly since the Destiny roll-out in June, is the reason. "No one has called," HP says flatly. Its customers are focused on the whole distributed environment, not just the kernel, it says, rekindling its determination to implement the Open Software Foundation technologies such as the Distributed Computing Environment and Distributed Management environment in HP/UX. OSF is a great success, HP alleges, because of the market "pull" it has managed to generate for Motif, DCE and DME. HP's decision on Destiny was made despite its awareness that Unix, key to its own strategy, needs greater "uniformity," or at least less fragmentation than it has currently garnered, to succeed in any big way. Hewlett-Packard is taking a similar "wait-and-see" attitude with respect to Microsoft Corp's Windows NT, denying rumours that it will endorse the Microsoft operating system any time soon. Apparently NT must first prove itself in the marketplace before HP considers porting it to PA-RISC. HP, recalling what happened with Microsoft's last operating system, OS/2, remains sceptical that Microsoft can pull NT off over night. Its own experience indicates how long it takes to build a robust usable operating system.

...SUPERSCALAR SNAKES "SET FOR SEPTEMBER"

Back in June (UX No 387), Hewlett-Packard Co was dropping large hints that it would be announcing and delivering new Snake workstations and upgrades based upon its next-generation PA RISC 7110 chip, Thunderbird, sometime before its fiscal year ends in October. At that time it hadn't made up its mind whether it was going to deliver an immediate response to Sun Microsystems Inc's Sparcstation 10 announcement - and ship systems later on in the year - or make a big splash in the Autumn with deliveries pretty much straight after. Last week, sources within HP confirmed that September 15th is the day the firm has chosen to cut and run to the end of its year with two new workstation models thought to be based upon the 7100, possibly a 740 Coral II (Coral is the 750) and 725 King Cobra II (King Cobra is the 730). The super-scalar 7100 will operate at up to 100MHz and do better than 120 (old) SPECmarks, the company claimed at its announcement (UX No 373).

ICL, SUN, MICROSOFT IN AT BIRTH OF SUPPORT STANDARDS BODY

The explosive proliferation of industry bodies continues and the latest brings together ICL Plc, Bell Atlantic Business Systems Services Inc, Hewlett-Packard Co, Microsoft Corp and Sun Microsystems Computer Corp, and the ill they aim to alleviate is the lack of international standards for service and support information in distributed computing environments. To that end, they have formed the Distributed Support Information Standards Group and say the standards it will seek to establish will address the concerns of organisations responsible for service, support and management of networked systems. The idea is that the standards should lead to increased uptime for users, and are also intended to aid computer and network operating system companies and hardware vendors that implement the standards, as well as those that use system management applications. The aim is that the open services standards should help service providers to deliver the same types of remote services cost-effectively for systems in a network as are available for centralised systems. The members, and several other participating companies, were brought together by Bell Atlantic Business Systems Services because it believes the lack of centrally available information on what is on heterogeneous networks, and where, is snagging the promise of networked computing. The Group will co-ordinate efforts with established consortia pursuing related projects and aims to hold an interoperability demonstration in the autumn; the group is operating out of Bell Atlantic's Frazer, Pennsylvania base.

DATA GENERAL TO SELL NEXT WORKSTATIONS WITH AViiON

In an alliance that could well go a lot further, Data General Corp has signed with NeXT Computer Inc to resell NeXT workstations with its AViiON servers, and the two companies will collaborate in development of client-server systems. Data General will do a version of NeXT's NetInfo network administration software for its servers, and says it should be ready by the end of the year. The product is not shipping yet, but it seems highly likely that when it is ready to go, DG will also announce support for the NeXTStep 486 object-oriented operating environment on its Dasher personal computers. And given that NeXT plans to switch to the Motorola Inc 88000 RISC that is the basis of the AViiONs for the next generation of the NeXT Computer System (UX No 379), the field seems set fair for a closer alliance.

IBM "SQUABBLING OVER RS/6000 MP DESIGN"

IBM's RS/6000 multi-processor effort is pinned down between the crossfire of two opposing internal factions, according to reports received from our spies. IBM Kingston is supposedly moving heaven and earth to scuttle IBM Austin's plans for machines Kingston complains are too fast. It would apparently prefer the company to go with high-performance machines of a Kingston design, and is doing whatever it can to sabotage and embarrass Austin. The smart money is still betting on Austin, however, reckoning it'll have a 250 MIPS box ready for beta test by the end of the year and the backing of the company to go with it.

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SUN SPOTS

Sun Microsystems Computer Corp has launched SunSolve, software which it says gives Sparcstation users on-line access to service information such as technical bulletins and problem/resolution databases. Available on CD-ROM, SunSolve contains a database of system problem symptoms and resolutions as well as bug/patch descriptions. Sun/HelpDesk, meanwhile, is a service product that assists Sun resellers who deliver support through the SunPartners service programs in setting up their own help desks, so that they can support their users.

The latest issue of the *Microprocessor Report* takes a deserved pot shot at Unix as still being insufficiently standardised that it may have missed its opportunity to make any credible dent on the desktop - Solaris and Destiny notwithstanding. It also theorises that Microsoft Corp's Windows NT presents the biggest dilemma for Sun: if its application base migrates to NT, Sun would be forced to provide NT, thereby ruining the prospects of Solaris-on-Intel and seriously weakening SunSoft Inc. If it doesn't port to NT, how could it defend its position as an open systems company, the newsletter asks, anticipating that Sun may find itself in the "embarrassing position of being one of the only significant RISC systems vendors not offering Windows NT on its systems."

In an apparent effort to make Solaris 2.0 almost indistinguishable from Destiny, SunSelect last week announced the immediate availability of NetWare Sunlink software, for integrating Novell Inc NetWare networks with Sparc and Solaris environments. The product, based on NetWare for Unix 3.11, allows MS-DOS, Windows and OS/2 NetWare systems to share data, files and print services with Unix workgroups. NetWare Sunlink will offer the only available transparent NetWare gateway to NFS files. Oracle Corp and Ingres say they are supporting the product. NetWare Sunlink will move through Sun direct worldwide, SunExpress, Computerland Corp and Access Graphics Inc in the US, Merisel DNS Inc and Scheidder & Koch in Germany, Bacher in Austria and selected Novell distributors in the UK and France. A ten-client right-to-use licence goes for \$1,000 and a 250 user license costs \$11,000. SunSelect figures its first market is the existing Sparc base 25% of which has NetWare.

The product development venture, SunSolutions, a new moon circling Sun Technology Enterprises, last week debuted its first product, ShowMe, its computer conference software: based on Open Look, it says it can be deployed for on-line meetings and collaborating on compound documents in real-time over a TCP/IP network. The software is shrink-wrapped and reportedly channel-ready. It is to ship this summer priced at \$350 for a single-user floating network licence with documentation. A license for ten users costs \$2,870 and \$5,975 for 25 users. It will be distributed by Sun, SunExpress, Access Graphics Inc, Arrow Electronics Inc and Qualix Group Inc.

WordPerfect Corp and SunSoft Inc have signed a technology sharing agreement to cooperate on developing future versions of WordPerfect software for Solaris.

Sun Microsystems Inc and Xerox Corp are teaming to develop and market document and information management solutions for the manufacturing and utilities industries combining Sun Sparcstations and Xerox software.

Sun Microsystems Inc has taken a licence for Digital's Tools' key project planning product AutoPlan, for internal use.

For a go-go company like Sun Microsystems Inc, fiscal fourth quarter figures - profits off 43%, sales up just 3% - are lousy, and a company that a year ago looked a shoo-in to pass the four billion dollar mark this year, struggled to only \$3,590m. The explanation has to be that the company shot itself in the foot by announcing the Sparcstation 10 machines with such a long lead time, many would-be customers are holding back and waiting for them, and that things will not really start to pick up until those start shipping around September time - which suggests that dullness will continue for the current quarter. Several analysts lowered their fiscal 1993 earnings estimates on Sun after the figures, which were below expectations. Alex Brown & Sons lowered its rating to neutral from strong buy and cut its fiscal 1993 earnings estimate to \$1.80 from \$2.80 a share.

BOARD VENDORS FEEL THE PINCH

Dark clouds seem to be hanging over the intelligent input/output board manufacturing crowd, as the strain of an overcrowded marketplace begins to take its toll. A series of shake-ups here has already seen two leading vendors, Georgia, Roswell-based, Computone Systems Inc and the UK firm Specialix Ltd, Byfleet, Surrey, reining back their operations in attempts to re-position themselves. Computone, which spent the last year re-organising, has, in a further "belt tightening" effort, recently cut 20% of its 138 strong workforce. The redundancies were, the company says, incurred largely by its manufacturing operations, which it is currently scaling down and moving out to a smaller site in Alabama. Feeling the pinch, Computone also revealed that it has abandoned four of its add-on products from its flagship Intelliport and distributed cluster control line. "We're just getting rid of some dead wood," explained a Computone official. Over in the Specialix camp, founder and vice president of research, John Pettitt, has left to start up his own business - but not, Specialix claims, as a competitor. Pettitt was responsible for co-developing the firm's pilot I/O controller. Reshuffling its pack, Specialix has brought its research and development operations back to the UK under the charge of technical director Tony Beaumont. Although the company is trying to limit the damage of Pettitt's departure, Specialix competitors cite other reasons for what they see as the company's loss of direction. It is, they say, confined to the asynchronous market, whilst the technology is moving towards software add-on products and local area network connectivity. Digiboard's European managing director, Bob Poorman, says, "hardware is the easy part... software is the magic. Specialix's RIO [high-end transputer-based multi-port board] may look great on paper, but its not up to form in reality". Indeed, as number one player the market, St Louis Park, Minnesota-based Digiboard Inc, seems to be revelling in the disarray - it claims to be mopping up many of Computone and Specialix's European deals. Poorman attributes the company's success to its "feet on the ground philosophy", which he claims is where Computone and Specialix have come unstuck. "These companies have deviated from their core business... serial connectivity is where the money is, not the high-end multi-port market." Trapped in a cost-cutting spiral, Computone and Specialix - plus Chase Research Inc which is rumoured to be courting a buyer - are being forced to streamline their organisations. Whilst the I/O controller makers maintain Unix is the fountain of life for their businesses, their market seems overpopulated. The race is now on, the vendors say, to get into LAN and WAN markets. Digiboard and Computone are expected to launch LAN-based add-in cards before the end of the year.

SCOPUS PROTEAM TAKES ON SIPPL'S PROACTIVE
Emeryville, California start-up Scopus Technology Inc, a potential competitor to Roger Sippl's new company ProActive Software Inc (UX No 396), is peddling ProTeam, a client/server-based application designed to automate software houses and departments. ProTeam, reportedly integrates engineering, quality assurance, technical support, sales and marketing, together in an enterprise-wide Sybase database of product and customer information. ProTeam modules now available include SupportTeam, for call tracking and customer support, QualityTeam, for bug tracking and quality control and ViewTeam, for graphical analysis. ProTeam, services include notifying the right people when certain events occur, search and retrieval and custom report generation. ProTeam applications run on any X-Windows clients or any server capable of hosting Sybase including Hewlett-Packard Co's, IBM's, Sun Microsystems Inc's and MIPS Technology Systems Inc's machines. Client licenses cost less than \$3,000 a user in typical configurations. A typical configuration supporting four technical people and 20 engineers would cost about \$45,000.

MOTOROLA COMPUTER GROUP LAUNCHES 88110-BASED RISC BOARD

The Motorola 88110 RISC is not actually out yet, but the company's Computer Group has had enough of third parties announcing new machines using its parent's chips long before it gets a crack at them, and the company is first out of the gate with a single-board computer using the forthcoming 50MHz 88110. The MVME197 VMEbus single board computer is aimed at OEM customers requiring Fibre Digital Data Interface, Ethernet, SCSI and graphics interfaces. Motorola rates the new board at 70 Specmarks on the Specmark89 benchmark, which reflects both integer and floating point performance - about three times the performance of the comparable 88100-based MVME187 board. It runs Unix System V/88 4.0, and according to Electronic News, has 121 components, down from 134 on the predecessor board. This is achieved with six new applications-specific circuits, one of which is a bus switch that converts the 32-bit data bus of local peripherals designed for 68040 systems to the 88110's 64-bit system bus. The company is offering the board with 32Mb of memory at \$10,000 in sample quantities; it's out now. Data General Corp hopes to have 88110-based AViiONs out by the end of the year, but has forborne to preannounce them ahead of time.

MICROSOFT DESCRIBES CAIRO: DEVELOPMENT KITS IN EARLY 1993

Microsoft Corp has been talking a little more about its planned Cairo - now called Windows Cairo - object-oriented operating system, and far from being a distant prospect, it looks as if it will come hard on the heels of Windows NT, with a professional developers' kit available as soon as early next year according to the late Systems & Network Integration. That is expected to be followed by a beta test programme later next year and commercial release in 1994. The paper quotes Microsoft officials saying that the 130 to 140 developers working on it are trying to develop an operating system that will provide a consistent means of accessing information with seamless integration of everyday tasks. The multi-threaded operating system is to have an object-based user interface with an intuitive method for naming files, native object linking and embedding routines and simpler systems management facilities for tasks like deinstalling unwanted programs and directories. It will have a communications structure based on remote procedure call specifications. The query structure is being designed to enable users to find information using near-natural language commands, and will include artificial intelligence technology to automate search routines by making assumptions from experience on user preferences. Pointers will enable a file to be held in a single location rather than separate copies being spread around the system. It will be scalable across a range of systems. From the way Microsoft is talking, it will beat Taligent Inc's Pink environment to market by a distance, but the company is risking confusing the market by bringing it in so soon after Windows NT.

HEWLETT-PACKARD BREAKS UP ITS NETWORKED SYSTEMS GROUP

Hewlett-Packard Co announced last week that it has realigned its Computer Systems Organisation to provide closer co-ordination among its units. The Networked Systems Group has been replaced by four new groups: Systems Technology, Workstation Systems, Systems and Servers and Integrated Systems Groups. The Networked Systems Group Marketing Organisation was also merged with the Worldwide Sales and Marketing Group. Worldwide Customer Support Operations reports directly to Lewis Platt, executive vice-president and chief executive-elect. The new Systems Technology Group will focus on developing technology for the Computer Systems Organisation's products and will include the Systems Technology, Open Systems Software, and Information Networks Divisions, Telecom Networks Operation, Grenoble Networks, User Interface Technology, R&D/Strategic Alliances and Quality/Productivity.

HP'S DELAYED POSIX-COMPLIANT MPE/IX BEGINS SHIPPING TO END USERS

After some delays, Hewlett-Packard is now ready to begin shipping the Posix compliant version of its proprietary MPE operating system, MPE/ix, on its HP 3000 line of commercial systems. Developers kits began shipping last November (UX No 362) when HP promised to have the end-user version ready by June. Early copies are now ready to go out the door, although unlimited shipments must wait until November. MPE/ix is Posix 1003.1 and 1003.2 compliant, the Unix shell interface coming compliments of Mortice Kern Systems Inc, Waterloo, Ontario (UX No 368). MPE/ix sits alongside of MPE, meaning that a mixture of MPE/ix, Posix and original MPE applications can be run on the same machine, exchanging data from the same or different databases. The company claims that porting applications from its HP/UX Unix line is much easier now that MPE/ix is in place - hence the surprising number of software houses that HP persuaded to work on both Unix and MPE/ix versions in its recent drive for high-end commercial software (UX No 386). It claims 100 packages from the mainframe world have been ported or are on their way, including the likes of Software AG and SAP. Sales of MPE/ix are likely to be made primarily into HP's existing installed base, reducing the pressure for those users to change architectures. But HP also hopes for sales from heavy transaction processing users, taking advantage of MPE's 20% to 30% performance advantage when running commercial TP applications, and from mainframe downsizers, more comfortable with MPE's mature systems management infrastructure when compared to Unix. Future Posix extensions to MPE will include security and transaction processing interfaces. Aside from Posix, MPE now supports all the main interoperability communications standards - OSI, TCP/IP, SNA etc - something HP regards as more essential to an "open system" than applications portability. It has plans for others, such as AppleTalk, in the near future. Meanwhile, the latest version of MPE, release 4.0, is due out at the end of this month.

OLIVETTI BRINGS IBIsys OPEN OFFICE SYSTEM TO UK

Ing C Olivetti & Co SpA has released a new version of its Integrated Business Information System, IBIsys, in the UK. IBIsys integrates a variety of applications at both client and server level enabling transparent communication via a Unix host. The system combines either LSX 5000 or LSX 3000 servers with any MS-DOS or OS/2 personal computer. The LSX 5000 runs the Olivetti Unix V.4.0 operating system and the LSX 3000 runs the X/OS implementation of Unix System V. The base product provides object-oriented filing, electronic mail, diary and administration services such as printing and word processing. Additional modules can then be added to customise the system in accordance with an organisation's requirements. The present upgraded Release 4 features two enhancements: image processing via two new components, enabling users to manipulate images with text, voice, graphics and data files; and workflow tracking which seeks to break down paper-driven procedures into a sequence of automated steps. Release 5 of the office system is expected next year. IBIsys has been available for four years and has around 15,000 customers scattered across Italy, Europe, Canada, South Africa and Australia. Olivetti envisages that with time, it will be considered more as a brand name for systems integration, adapted for specific customer needs, rather than a rigidly defined product. With this in mind, the company is actively seeking systems partners with specialist knowledge of its target vertical markets - finance, local government, retail and the legal sector. The system in its most basic form costs around £900 per user - the greater the number of additional modules, the higher the price - and is available through Olivetti's newly formed Document Management Division, based in Putney, south west London, as well as from some of its partners.

IBM "PLANS SOFTWARE DRIVE WITH MACH 3"

IBM Austin, or at least some faction there, is seriously interested in becoming a system software supplier - a viable alternative to Microsoft Corp and Unix System Labs - and sees remarketing Mach 3 as the way to do it, according to a report out of an OSF Research Institute meeting in Boston the week before last. Of course it still has to sell the idea to management and our source thinks Austin is still 24 months from a product, but the notion could be IBM's answer to Microsoft's NT. Austin would apparently give Mach, said to be free of AT&T code, multiple personalities like OS/2 or OSF/1. Whether the OSF Research Institute would be a technology source for Austin was still unclear at press time.

UNIX INTERNATIONAL TAKES STOCK OF SVR4 PROGRESS SO FAR

by William Fellows

Unix International says its Unix System V Release 4 Enhanced Security/Multi-processing - ES/MP - effort (UX No 393), will coalesce various projects that have been underway using the standard SVR4 kernel since it was introduced to the world back at Unix Expo in 1989.

The base SVR4.0 kernel was taken forward into a multi-processing release which supports up to 16 processors, SVR4 MP. At the same time, but separately, a Unix kernel with multi-level security enhancements, SVR4.0 MLS, was re-worked to comply with the US government Orange Book B2 security requirement - with B3 extensions - emerging as SVR4.1 ES (though it hasn't really gone out to end users yet). A massive amount of effort went into these parallel developments, according to Nick Price, technical director of Unix International Europe. Although SVR4 MP was the first technical success for the UI technology committees, Price says SVR4.1 ES should be regarded as UI's technological lynchpin for the future. SVR4.1 ES involved a complete re-architecting of the SVR4.0 kernel - to make it more robust for a start - and it now also embraces dynamic loading. Once dynamic loading was incorporated as a working feature - allowing operating system components, such as drivers, X-Windows and file systems, to be configured independently - the idea of a modularised, desktop operating system fitting into 4Mb RAM became a possibility, and work began on SVR4.2 (Destiny). Indeed, the SVR4.1 ES work cleared out much of CPU-specific code that had crept into SVR4.0, resulting in what is now a clean porting environment, according to Price.

Superuser

SVR4.1 ES also removes the concept of a "superuser" from Unix. Although the convention itself hasn't been stripped out of the operating system entirely, the need for it has been all but eliminated. Unix now provides the user with access based upon the least privileges he or she requires to carry out their tasks. So whilst superuser still resides in Unix, it is no longer needed to be able to perform system administration, for example. If SVR4.1 ES was pulled by US government security requirements, then SVR4.2 was pushed out of that effort. SVR4.2 went from a first snapshot last November to an end user product which is due by October/November this year. With SVR4.1 ES as the generic source base for all future products, and UI's goal is to reduce time to market with each technology release and push the operating system on into the commercial market. SVR4.1 ES, SVR4.2 and SVR4MP will converge in SVR4.2 ES/MP. It includes B2 security with B3 extensions, support for up to 32 CPUs, SVR4.2's modularity and, by the time a full release comes to market, should include compliance with the next release of X/Open Co Ltd's portability guide, XPG4.

Threads

As well as providing a multi-threading kernel - where processes are allocated across the available CPUs - SVR4.1 ES/MP will, more importantly says Price, also support user-level Threads. The drawback of multi-threading is that it only allows whole processes to run on individual CPUs and is unsuited for particularly large applications. If, for example, an overnight batch file runs on a multi-threaded, multi-processing system, the task (process) is still only available to one CPU, which means the rest of the processors will probably remain idle during that time. Break processes down into smaller sub-components - known as Threads - and these individual tasks can be distributed across CPUs (and therefore distributed networks). To encourage developers to write more modular software that can take advantage of systems that support Threads - a Thread can be any part of an application or programme that is not dependent on the result or outcome of another (that can be treated as a task in its own right) - Posix has a committee working on a Threads application programming interface standard.

PThreads, or P1003.4a, is expected by the end of this year, and Price says SVR4.1 ES/MP will conform to it as when the thing is ratified. Pthreads itself is a set of C routines, a library of requirements for system calls and functions that a Thread can recognise. Threads can run on uni-processor systems as well as multi-processors, but can obviously be employed to greater advantage on the latter. It is particularly applicable to large database and on-line transaction processing systems, says Price, which are often composed of very large applications and tasks. Another advantage of Threads is that the fast emerging object model fits nicely on to it. Each thread - with its associated "method" (location address, data route and other information) - can be regarded as an object in an object-oriented system.

Posix

One of the problems with many systems as presently marketed, observes Price, is that companies with products which comply to the basic Posix 1003.1 interface standard promote their products as "open systems." The Posix interface is a collection of some 103 C language calls to the kernel that a product must observe for compliance. Whilst operating systems as distinct as Unix SVR4 and DEC's OpenVMS embrace the Posix standard, each has thousands of other calls beyond the specific Posix requirement, says Price, which means that it is not sufficient just to port an application to Posix and assume that it will then run on any Posix-compliant system, because it won't. It is inconceivable that a developer would use just 103 calls in any case, says Price, warning that "Posix doesn't mean portability." The problem is just as apparent within the different flavours of Unix that abound. Price recounts the experience of one UI client which bought a range of "open systems" equipment supporting Posix, assuming that applications would be portable across the mix of SVR4, Ultrix, HP-UX and AIX environments that came with the kit it purchased. Not only is it problematic (and doubly so for the user) to port an application from AIX to SVR4 for example, but trying to manage the different environments on a network is even more difficult.

Micro-kernel

Outside its base SVR4.0 kernel activities, UI is still hard at work on a microkernel version of Unix, which will it hopes will broaden the attraction of Unix to the telecommunications market for example, with its embrace of real-time and parallel systems. "It's much easier for a company to run a standard operating system on a telephone switching system," says Price, "because the systems management stuff has already been developed and can run on it too." He argues that while the monolithic kernel maybe be sufficient for most of today's operating system requirements, a micro-kernel incorporates things like replication and fault resilience, which standard systems software doesn't embrace. A micro-kernel uses inter-process communication and virtual memory and is able to split operating system functions across CPUs or distributed systems. It is a message-passing system rather than interrupt driven. UI (via Unix System Labs) is using Chorus Systemes SA's already established Chorus/Mix SVR4 micro-kernel as the basis of this work, although that's no guarantee that future SVR4 releases will incorporate a micro-kernel. Stage one, according to Price, is to investigate a micro-kernel version of SVR4.2 ES/MP - after which Unix System Labs may look at it. UI has real-time, parallel processing and object-oriented groups working on micro-kernel plans and will produce a requirement document in each area in October. The groups are open to anyone.

SYBASE COVETS OBJECT TECHNOLOGY, JOINS OMG VIA GAIN

Apparently inspired by its recent acquisition of Gain Technology Inc (UX No 396), Sybase Inc, Emeryville, California, is expected to join the Object Management Group, taking over Gain's membership rights by default. What the company will contribute or take from OMG is unclear, even to Sybase itself at the moment; it says it is keeping an eye on developments. When, and how it will make its relational database technology compliant with OMG specifications, has not even been discussed, the firm says. However, the nub of Sybase's interest in the group is thought to be focused at what it can do to make its client/server technology more object-oriented and therefore steal a march over competitors like Oracle Corp and Informix Software. Sybase believes mainstream object-oriented products are at least three to four years away - even then they will then be predominantly front-end affairs to meet the industry's demand for snappy graphics, multimedia and user-friendly interfaces, rather than back-end data engines. Sybase UK's marketing director, Keith Dixon, says "object-oriented technology as a complete set is still immature and is far too complex to incorporate into existing software. This is where the work of the OMG comes in." In the meantime, Gain is to take over responsibility for Sybase's object-oriented front-end development projects.

AUTOTROL PREVIEWES STEP-COMPLIANT MOZAIK OBJECT ENVIRONMENT

Autotrol Technology Inc, Denver, Colorado, debuted Mozaic at Object World last month, its environment for integration and development of engineering applications. The company claims the object-oriented system is the most extensive implementation of the Standard for the Exchange of Product Model Data, STEP, International Standards Organisation standard. The display system uses STEP presentation objects to display geometrical objects through PHIGS and PEX. There is a Common Object Request Broker Architecture-compliant distributed object management system to provide a hardware-independent communications link between applications, resources and data for integration - Autotrol is evaluating the object request broker implementations from HyperDesk Inc and DEC. The user interface management system enables developers to prototype hardware-independent, user-configurable graphical user interfaces for their applications in real time - a user can switch from Open Look to Motif without recompiling. The company claims the use of the CORBA as the backbone of the system allows resources to be plugged in and out without affecting existing applications, so that the newest technology components can be used. Mozaic is scheduled for the first quarter 1993 for manufacturing companies in the US and Canada and will be released to third-party systems integrators in Europe in the second quarter.

VERSANT PUTS ITS OBJECT DATABASE ON NEXT COMPUTER SYSTEM

With its object-oriented NeXTstep environment, the NeXT Computer System from NeXT Computer Inc is an obvious early port of call for object database vendors and Versant Object Technology Corp has announced plans to put its database on the NeXT line. The Menlo Park, California firm is doing the implementation for WiTel Inc of Houston, but it will be generally available in the fourth quarter at \$6,000 for a development licence. The Versant client-server database gives transparent multi-user access to objects distributed anywhere in a network.

LUCID TARGETS EUROPE

Lucid Inc has begun a major push into the European market with its Energize C++ programming environment for object-oriented development (UX No 366). To take Energize abroad, Michael Sayer, former managing director of RAIR GmbH, has been named vice president of international sales and marketing, and will operate from European headquarters in the UK. Lucid has signed five European distributors - ELSA Software, France; ENEA DATA AB, Norway; C.S.E. Austria, Germany and Switzerland; Mesarteam S.p.a., Italy; and Engineering Software Ltd in the UK.

QUALIX HAS \$100 C++ KIT FOR SUNS

Qualix Group Inc, San Francisco, California, has launched a \$100 C++ starter kit for Sun Sparcstations which can be used to build simple applications, which includes version 2.1 of the GNU compiler from the Free Software Foundation. The company has also formed a new Unix programming tools division, which will market a range of third party products.

MICROVITEC IS FIRST PAST POST IN EUROPE WITH ALPHAWINDOWS

As expected (UX No 371), Microvitec plc, based in Bradford, West Yorkshire, will be the first European company to ship an AlphaWindows terminal, the MCG3500, in September. Microvitec's Slough-based distributor, Logitek Ltd, will supply the product along with Getech Ltd, Ipswich, Suffolk. Microvitec's sales and marketing director, Brian Haynes, said the plan does not infringe Logitek's agreement with Wyse Technology not to distribute Microvitec terminals. The MCG3500, compliant with the Display Industry Association's (DIA) version 1.2 AlphaWindows standard, comes separately as a 'pizza box' at £475 or integrated with monitor, keyboard and mouse for £850. Microvitec hopes to sell 5,000 units by end of the year and predicts 50% of ASCII/ANSI terminals sold will be Alpha-based in two or three year's time. JSB Computer Systems Ltd, Macclesfield, Cheshire, is providing its MultiView Mascot AlphaWindows manager for the Alpha effort: the company hopes to support all Unix operating systems and DEC's VMS by the end of 1993. Microvitec's first user is London-based International Petroleum Exchange, an oil futures and options company, which is to install 50 AlphaWindows terminals in September. Sean McMullan, IPE's Systems Development Manager, said "they are considerably cheaper than X-terminals and we do not need full graphical capabilities." Information feeds like Reuters international exchange services will be supplied to the terminals by six dedicated IBM RS/6000s. Although it has yet to join the DIA, IBM said it is evaluating AlphaWindows technology and is in "active discussions" with a UK company - thought to be Microvitec - about a possible OEM deal to be announced by the end of the year.

...BUT LINK GETS THERE FIRST IN US

On the other side of the Atlantic, Link Technologies, a subsidiary of Wyse Technology Inc, based in Fremont, California, is now shipping two AlphaWindows efforts, the colour WT80 and monochrome WT6 terminals. With 14-inch screens, both provide up to six simultaneous applications from any Unix host with JSB's Mascot as the window manager. The WT80 is priced at \$1,000 and \$700 for the WT6.

EUROPEAN CASE MARKET GROWS AT SLOWER RATE

A report on the European CASE market by London-based market research outfit, Ovum Ltd, shows average growth for the top 20 CASE vendors dipped to 28% in 1991 from 39% in 1990. It says the two market leaders ADW, developed by KnowledgeWare Inc - but marketed by Ernst & Young in Europe - and Softlab GmbH's Maestro, failed to show any growth at all during 1991 but were still able to maintain their top positions. Texas Instruments Inc's Information Engineering Facility, Oracle CASE and Andersen Consulting's Foundation all had good years, the report says, increasing revenues substantially. Ovum positions ADW as the leading CASE solution in Europe, with 13% of the market. Maestro has 11%, IEF and Oracle CASE 9%, Foundation and Compagnie Generale d'Informatique SA's PacBase 8%, Verilog Inc's Age 6%, Cadre Technologies Inc's Teamwork 5%, Bachman Information Systems Inc's Bachman Designer, Intersolv Inc's Excelsior and LBMS Inc's Systems Engineer 3%, with others accounting for the remaining 22%. A second survey on the German CASE market, in which 151 organisations were polled, showed that those already using CASE had invested DM 800,000 on average so far and plan to spend a further DM 120,000 on average over the next 12 months. Although most had planned to see a return on their original investments within a year or two, the actual timescales were three years or more in most cases, the report says. The CASE survey is part of Ovum's Software Europe service which costs £1,245 - \$2,315 - for a year's subscription. The German CASE report is priced at £5,000.

SERVIO OPENS LONDON OFFICE

Meanwhile, Servio Corp is setting up a European bridgehead for its GemStone object database in London: AI International Ltd, Berkhamsted, Hertfordshire, will continue to distribute GemStone throughout the UK.

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Lotus Development Corp is to develop Unix versions of its next generation 1-2-3 spreadsheet and Ami Pro word processor for Digital Equipment Corp's Alpha RISC workstations. Lotus has also decided to use the DEC systems as the development environment for Unix versions of Ami Pro. Lotus will develop and support the desktop applications, and DEC will help market worldwide.

Oracle Corp, has started shipping the developer's release of Oracle Version 7 in the UK on Hewlett-Packard, IBM, NCR, Pyramid Technology, Sequent Computer Systems and Sun Microsystems Unix implementations along with DEC VAX/VMS.

With NEC Corp taking 5% of Silicon Graphics Inc, which in turn is taking 10% of Control Data Systems Inc while NEC mulls a small stake, the three are as close as this and NEC is reportedly discussing selling low-end R-series workstations OEM to Silicon Graphics and taking high-end three-dimensional Iris models in return.

The PEX Interoperability Committee has announced version 5.1 of the PEX the extended X-Windows protocol for distributed, three-dimensional graphics applications and of PEXlib, the low-level application programming interface for rendering, which is available to the general public for the first time, it says.

Unix System Labs is apparently looking at the Tiny 386BSD boot disk (the one that's been circulating in the academia, which derives from Bill Jolitz's work and is not from Berkeley System Design Inc) checking that it doesn't infringe their property rights. Meanwhile, BSDI's only reaction so far to our story last week is to claim Bill Jolitz was a founder of BSDI.

People say Microsoft Corp is making sure there's a back door in the Alamo: in case Windows NT can't cut it, they claim there's an internal research and development effort up in Bellevue making sure the company has a 32-bit multi-tasking version of MS-DOS to fall back on.

Unix System Labs Inc reportedly had a meeting with SunSelect last week: thinking is they're looking for some help speeding up their PC emulation.

Although Xcelerated Systems Inc may have beaten it to Hewlett-Packard Co's door (UX No 396), now that it has settled its difference with Apple Computer Inc (UX No 393), Quorum Software Systems Inc is back in the running with its Latitude Mac-on-Unix solution. Already available for Sun Solaris-based systems the Menlo Park, California-based company has released a version of its software which allows Macintosh applications to run under Unix on Silicon Graphics Inc's MIPS RISC-based Iris Indigo and 4D workstations and servers - no prices given.

Digital Equipment Corp is very much an also-ran in X-terminals with its VXT 2000 line, but the firm says it wants to become the dominant player in the market and to that end is following leader Network Computing Devices Inc in going after OEM business - minimum 3,000 units. According to Electronic News it has no OEM customers as yet, but it has two deals cooking. One is thought to be with Ing C Olivetti & Co SpA.

VAX/VMS systems management house, Maryland-based, Raxco Inc, has signed a letter of intent to acquire some of the Unix software of its neighbour, Virginia-based Systems Centre Inc. The products include Backup.Unet, Print.Unet, Ubackup, Uqueue and Usecure. The transaction is expected to close in the third quarter.

IBM Corp is reportedly getting set to trade in its graphics for stuff OEM'd from Kubota Pacific Computer Inc: we're told to expect the announcement before the end of the year - at Super Computing '92 perhaps.

Boasts from DEC that its Alpha RISC is at least 1,000 times scalable, are beginning to look like pure hubris: maybe they might be able to snap eight processors together on a bus eventually, but reportedly all its got now is four and supposedly that's not working too well.

William Koch, whose investment group owns 36.4% of Kendall Square Research Inc, has become chairman in place of company founder Henry Burkhardt III, who remains president and CEO.

Mountain View, California-based, Clarity Software Inc, has cut a porting and distribution agreement with Sumisho Electronics Systems Inc in Japan, a deal valued at \$500,000 in its first year: Sumisho, an affiliate of Sumitomo Corp, the giant trading company, will help Clarity translate Rapport - its Unix office automation software - into Japanese, then sell it locally.

San Jose, California-based, Frame Technology Corp, has agreed to acquire Chicago-based Datalogics Inc, planning to make it a wholly owned subsidiary after exchanging a million of its common shares for all Datalogics' privately held stock. The company is a specialist in database publishing, highly illustrated technical documentation, military specification manuals and automatic pagination of large generically coded documents.

According to US reports, Apple Computer Inc is planning to allow Macintosh users to upgrade their systems to RISC when the PowerPC begins shipping next year, and is negotiating with third parties to make upgrade boards available with from 50 MIPS to 100 MIPS performance depending on which version of the chip is used: prices are expected to start at \$2,000 to \$3,000 for Mac II users - a mid-range series of Apple PowerPC systems are thought to be in the works for next year with prices starting at around \$5,000.

Hewlett-Packard Co has won a \$125m contract with Europe's largest telecommunications carrier, Deutsche Bundespost's Telekom, Darmstadt, for 1,000 PA RISC Unix workstations, printers and plotters: the German giant will move some applications over from the IBM and Siemens Nixdorf mainframes it uses.

San Diego, California-based Metrosoft claims to be developing the first commercial multi-track MIDI audio software for NeXT workstations: MetroTracks can accommodate up to 32 virtual tracks, eight of which can be mixed simultaneously depending on hardware configuration, is compatible with most third party audio products supported by NeXT, cost starts from \$600 and ships in September.

The next Microprocessor Forum is set for October 13-15 at the Hyatt Regency Hotel near San Francisco Airport: the not-to-be-missed event promises to have the goods on the first IBM and Apple Computer Systems Inc's PowerPC chip, previews on Intel Corp's P5, Motorola Inc's 68060 and Tsunami, and the first embracing discussion of Hobbit, ARM, the next-generation Intel SL and pocket electronics in general. Larry Tesler, head of Apple Computer Inc's Newton line is keynoting. Presentations will include Sparc Version 9, potential Alpha implementations and a low-cost Hewlett-Packard Co single-chip PA RISC. The Forum kicks off with two all-day seminars on RISC and the Intel Corp iAPX-86. Space is limited. Discounts are available for registering before August 15. Call (707) 823-4004.

Hewlett-Packard Co last week launched the first interconnect board under its February agreement with IBM Corp under which the two committed to adapting fibre optic interconnection boards for linking computers to peripherals and computers to computers developed by IBM for the AS/400 and RS/6000 to meet the ANSI Fibre Channel standard. The HOLC-0266 optical-link board, priced at \$500, uses cheap compact disk lasers, transmits at 266Mbps and will be independently marketed by both partners.

There's going to be another hungry mouth to feed out of your advertising budgets come October. International Data Group, parent of ComputerWorld and International Data Corp, is starting a monthly management magazine called Open Systems World in October, saying it'll have an initial circulation of 120,000. It's also done a publisher's version of reverse engineering with Reed International Plc's Cahners Publishing subsidiary, that will see Systems Integration Business folded and Reed taking on Digital News and blending it with its own Digital Review. Open Systems World, to be written by Digital Review's old staff, is apparently picking up some of System Integration's circulation and advertisers - but for a book that's supposed to debut in October, as space sales types say they haven't seen hide nor hair of its space reps on the street.

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NOVELL NEGOTIATES FOR A BIGGER STAKE IN UNIX SYSTEM LABS

Novell Inc and Unix System Laboratories Inc are negotiating for Novell to acquire additional shares in USL, sources say, seeming to confirm reports previously heard by Unigram.X (UX No 388, 391). Novell, one of thirteen companies to take a minority position in USL last year, is currently its largest single shareholder outside of majority owner AT&T, and currently owns about 4.6%. It remains to be seen whether or not Novell would acquire all of AT&T's remaining stock and at what price. Apparently the \$325m valuation put on USL last year for purposes of the private placement is being reappraised. USL's other stockholders, Sun, ICL, Amdahl, Fujitsu, Motorola, NEC, Oki, Toshiba, Olivetti, Tata and 3i, may not have a say in what eventually happens or whether Novell takes it all. The negotiations - and with them USL's desire to conserve cash and pretty up its balance sheet as much as possible - might explain why it has so far put little muscle into marketing Destiny since its announcement in June (UX No 390). USL is believed to be interested in aligning itself more closely with Novell to strengthen its forces for the war against Microsoft Corp's NT, a herculean effort AT&T may not be as willing to put its back into. Previously AT&T has talked about decreasing its ownership by going public, an event that was unlikely to take place for at least another year. That avenue is now regarded in some quarters as not nearly as strategic as cuddling up with Novell, despite the disappointment USL employees might feel in not being able to cash in their stock and options that way. Novell believes systems software is one of the least assailable markets to be in during the coming decade. It would have bought up all of USL last year if it could have got it, Novell executive vice president Kanwal Rikki previously told Unigram. As a historical footnote, it's also interesting to observe that Novell went after Santa Cruz Operation Inc back in 1990. USL figures - see page three.

SCO "READY TO STRIKE A DEAL WITH USL FOR SYSTEM V.4"

According to sources at the highest level, the Santa Cruz Operation Inc has "bitten the ideological bullet," and is prepared to step out on the Unix SVR4 road - if it can cut the deal it wants with Unix owner USL. SCO, which got its Unix System V.3.2 licence relatively cheaply, is apparently trying to win concessions from Unix System Labs Inc in return for its endorsement of SVR4, having behind it the leverage of its Unix-on-Intel base that would give USL a commanding share of the overall market. However, sources say SCO finds doing business with USL is "like running into a brick wall." USL is apparently unwilling to budge on standard pricing, knowing full well that SCO is trying to pull together an agreement for SVR4 by the time of its showpiece SCO Forum in Santa Cruz this week. Other sources say that even if SCO does manage to cut a deal for SVR4 - leaving OSF/1, the other possible route, by the wayside - its future intent is to move to a micro-kernel architecture, and which flavour of that it might go for still hasn't been decided. If SVR4 is adopted, it's unclear whether SCO would start with its existing V.3.2.4 implementation and add SVR4.2 features, or start with SVR4.2 and add backwards compatibility with its SCO Unix and Xenix offerings. Whether or not a deal would be forged before the start of SCO Forum was unclear as we went to press, but whatever happens, SCO says there will be an SCO V.3.2.5 product released before any SVR4 offering is made available.

DEC'S FULLSAIL MAY WIN THE RACE FOR FIRST DME MANAGEMENT SOFTWARE

DEC this week will bring out DEC FullSail, the first comprehensive application put on the market for managing distributed Unix systems. It is intended to become an actual OSF Distributed Management Environment (DME) product, probably one of the first, as that technology becomes available, according to Unix systems management director Roy Shiderly. At initial delivery in September FullSail will run on Ultrix 4.2 or later platforms, moving to DEC OSF/1 and then Sun platforms six months later. Others will follow. Motif-based, the three module programme is meant to simplify day-to-day systems management of user accounts, file systems and systems performance. The software, developed over the last two years at DEC West in Washington, should free systems managers to be proactive in identifying and preventing potential systems problems while reducing the cost of systems management. An administrator should be able to oversee 50 to 100 systems, accessing FullSail from any workstation or X terminal on the network. The application maintains a database of management and configuration information that is used for batch process management requests, preventing configuration errors and adding new systems. A fully customisable front-end groups the systems in a network into management sets according to criteria and policies, however arbitrary, determined by the administrator. It will produce the hard data needed to analyse resource utilisation and will trigger an alarm mechanism allowing managers to control access. FullSail incorporates a client/server architecture and uses standard protocols including TCP/IP and RPC mechanisms including Apollo's and Sun's. Pricing is \$300 per client licence and \$6,000 per server for the database licence; \$2,000 per server for the application modules licence. Computer Associates is believed to be working along the same lines for the HP platform.

X/OPEN CAE TO EMBRACE FOUNDATION'S DCE

After months of dallying, X/Open Co Ltd has finally endorsed the Open Software Foundation's Distributed Computing Environment as its standard for distributed computing architectures. Even though X/Open no longer has any formal relationship with the Foundation, following the Cambridge, Massachusetts-based group's withdrawal from its board at the end of last year, the open systems standards body has nailed down an agreement with OSF which will see all DCE specifications integrated into its Common Applications Environment, CAE, interfaces over the next 12 to 18 months. First specifications to come across will be the DCE Remote Procedure Call, which is based upon Hewlett-Packard Co/Apollo's Network Computing System technology. That flavour of Remote Procedure Call is however very different from one that is already widely implemented by users of Sun Microsystems Inc's Open Network Computing system. X/Open, which has already endorsed the Network File System component of ONC seems unlikely to recognise Sun's version of RPC at the moment - although the DCE agreement does not preclude it - but says it will ensure "co-existence and interoperability" between the two, though it hasn't figured out how it will do this yet. "It's a problem we still have to solve," said a spokesman: it may want to look up the latest crop of hopefuls such as Covia Technologies Inc, Locus Computing Corp, and NobleNet Inc which have recently begun to offer just such solutions. X/Open is pushing the DCE specifications through a fast track procedure for adoption, which means they go straight to a vote by its members rather than through a prolonged period of technical evaluation, work already done exhaustively by OSF in any case. Any comments will go back to OSF which has final say on whether any proposed changes are acceptable or not. The agreement stipulates there will be no fundamental alterations to DCE and any changes are likely to be in areas like internationalisation. X/Open vice president and chief technical officer, Mike Lambert, expects the process to be "relatively painless" - more an exercise of integrating DCE into existing CAE specifications. The interfaces to DCE will ultimately appear as an XPG Distributed Computing Profile with 5 groups containing a total of 12 specifications. Over the coming year or so X/Open will introduce a range of XPG profiles - the XPG portability guide is a subset of CAE - to cope with the volume of technology areas it now embraces (there are 37 XPG specifications in total). A standard XPG base brand will not require DCE compliance. X/Open says it is taking DCE on the same terms as it has taken object specifications from OMG. X/Open signs with UN - see page three.

ADDS RUNS TO INTEL RISC FOR NEW X-STATIONS

Applied Digital Data Systems, NCR's terminals subsidiary, will be trading in its allegiance to Motorola Inc 68000 chips and switching to RISC with the Intel Corp 80960 for a new line of X stations it plans to introduce September 1 and then show off later in the month at Unix Expo. ADDS is hoping the new 3533 XLRs, a nine-model family including monochrome, grey scale and colour versions developed under the code name Viper, will offer some of the fastest machines on the block. Reportedly they're getting 107,000-Xstone performance on monochromes right out of the box with no tweaking and 92,000 Xstones on colour.

...AS NCD LAUNCHES NEW MIPS X-TERM

Network Computing Devices Inc's UK operation in Maidenhead, Berkshire, has debuted the Mountain View, California company's latest X-terminal which uses MIPS Technologies Inc's 33MHz R3000 RISC. The 15" monochrome NCD15r has a resolution of 1,024 x 800, comes with from 4Mb to 20Mb RAM, NCD's X11 server software and costs £1,470. European sales accounted for 25% of NCD's revenues last year - the company expects that figure to rise to 40% this year as Europe begins to catch up with the US in its adoption of X-Windows-based technologies. NCD claims to have shipped 25.9% of the 96,610 X-terminals thought to have been installed worldwide during the first six months of this year. With offices in London serving central Europe, Paris serving the south, NCD is getting up a German office in Munich to serve the North, to be headed-up by former Wyse Technology Inc staffer Achim Herber.

...AS HDS TAKES ON RIVALS WITH NEW DISTRIBUTION STRATEGY

King of Prussia, Pennsylvania-based Human Designed Systems Inc wants to steal a march on its competitors in the X-Windows terminal market with a new distribution strategy that it says will offer significantly lower end-user prices than competitive products, quick delivery, nationwide on-site service, and a money-back guarantee. Up to now, distribution has been via system integrators to the Federal and commercial markets, but it is now lowering retail prices for all its ViewStation FX Series of X terminals by 30% to 50% when it sells them direct. Under the new pricing, the 80960-based ViewStations start at \$1,000 for an FX15 15" mono terminal putting up 1,024 by 864 pixels; a 19" colour FX19CT with 1,280 by 1,024 pixels now costs \$3,200. Shipments for any standard product will be within three weeks of order, installation assistance and free telephone technical support are included, as is a one-year warranty that includes free software upgrades.

ISLAND ADDS MULTIMEDIA GRAPHICS

Island Graphics says it has added multimedia features to IslandPresents, the graphics packages it introduced back at UniForum, and has started delivering it for Sparc-based systems fitted with Open Look and Open Windows 3.0. Versions for Solaris 2.0, Sparcs running Motif and HP 9000s are expected this autumn. The software can now display full-screen presentations and drive large screen displays. On-screen presentations can include transitions such as fades and wipes and can be annotated with music or voice segments recorded with SunSoft Inc's Audio Tool. A single-user license will go for \$1,000.

INTEGRATED MICRO PRODUCTS SIGNS CIC IN JAPAN AS NEW DISTRIBUTOR

Integrated Micro Products Ltd, of Consett, County Durham, has signed the CIC reseller and systems integration subsidiary of Chiyoda Joho Kiki to market its XMP921 68040-based fault-tolerant Unix computers in Japan. CIC is budgeting to sell 100 machines over the next three years. Chiyoda Joho Kiki was the Japanese distributor of ICL Plc's DRS series of Unix machines until ICL was acquired by Fujitsu Ltd. Integrated Micro Products also has a distribution agreement for its kit with CJK Corp of Tokyo.

RAYTHEON SIGNS FOR ALPHA

Patriot anti-missile system maker, Raytheon Corp, has licensed DEC's Alpha chip intending to build a line of military-specification compatibles around it. It may even make the chip in the future. Raytheon already makes military versions of DEC's mid-range VAX 6000s and the Alpha license expands on that deal. The mil-spec machines are reportedly due less than 12 months after DEC brings out its first commercial Alphas later this year. Raytheon is said to have first orders in hand.

LOCUS HAS TRANSPORT-INDEPENDENT NETWORK APPLICATION ENVIRONMENT

Inglewood, California-based Locus Computing Corp, has introduced Transparent Network Computing environment, TNC, the latest incarnation of its transport-independent distributed systems architecture (UX No 271), which will be competing for space with similar technologies from NobleNet Inc and Covia Technologies Inc (UX No 395). TNC, a layered configuration, sits above distributed networking environments such as Sun Microsystems Inc's Open Network Computing environment, the OSI stack and the OSF's Distributed Computing Environment, interfacing between the application and the remote procedure call (RPC) mechanism. Its existing technology - the Transparent Network Facility that it developed for IBM's now defunct RT 6150-T25 machines (UX No 312) - interfaces to the network at a lower level. Operating in clustered environments, TNC will give the impression that an application, distributed around the cluster, is functioning as a single entity and will assign request calls to the most suitable processor without the user being aware of the destination. Locus claims DCE and ONC solutions still demand applications to be modified for their respective application programming interfaces in order to function. To get around this, Locus has written extra kernel-level facilities, including a remote execution function call which will communicate with different RPCs, and has made modifications to the file system - allowing current applications to migrate across to DCE and ONC without re-coding. TNC still needs to be tailored by OEMs for specific Unix flavours, although the company says it plans to bring out a shrink-wrapped version in the future.

SPECIALIX WINS IBM AGREEMENT

Input/output board manufacturer, Specialix Ltd, Byfleet, Surrey, says it has secured an agreement with IBM for its Transputer-based RIO multi-port I/O controller which IBM will use in the RS/6000. Noting the slow take up of the high-end RIO, Specialix says RIO was "over engineered" and brought to the market before its time, saying it will have to wait until multi-processing technology takes off before it sees any real installations. Specialix is also courting an OEM agreement with Ing Olivetti & Co SpA for RIO - Specialix claims to have 80% of the Italian I/O board market. The company plans to add SNMP and PPP network protocol extensions to its XIO and SI range of I/O controllers, plus enhancements to all of its other boards. Specialix is planning to debut a new board at SCO Forum this week.

DEC WINS MOLECULAR SIMULATIONS FOR ALPHA RISC MACHINES

DEC has been ahead of the field in cultivating computer-aided drug design and other molecular modelling companies, and its latest is Waltham, Massachusetts-based Molecular Simulations Inc. The two will work together to provide three-dimensional molecular modelling applications under OSF/1 Unix for DEC's Alpha workstations and servers, including forthcoming Alpha-based massively parallel machines. Molecular Simulations claims the largest installed base of three-dimensional modelling software for computational chemistry applications. DEC's interest is fuelled by the fact that the Aberdeen Group in Boston projects that the market for computational chemistry products will grow to over \$2,000m in 1996 from about \$500m in 1990. DEC has an existing relationship with Molecular Simulations and a similar one with Molecular Design Ltd, which offers chemistry database products for the VAX.

SILICON FORMS OEM GROUP FOR MIPS BUSINESS

Now that MIPS Technologies Inc is in its back pocket, Silicon Graphics Inc has gone ahead and acted on its promise to service MIPS' OEM business which accounted for the bulk of its revenues. SGI has set up a new OEM Operations organisation under the supervision of Todd Johnson, formerly director of SGI's business development group, who reports to SGI vice president, John Kohler, general manager of the company's newly created Business Systems Division. The unit is responsible for maintaining relations with existing MIPS OEMs - Control Data, Daikin Industries, Digital Kienzle, Siemens Nixdorf and Tandem - and finding new business. It is to manage the transition from MIPS RISC/os to SGI's IRIX operating system.

UNIX SYSTEM LABS WAIVES \$7m SOURCE FEES FOR UNIVEL - REVENUES UP BUT ACCOUNTS SHOW A LOSS FOR THE YEAR

Unix System Labs' annual report arrived on our desk last week, and makes for some very interesting summer reading. For instance, the 176,000 shares (21.7%) USL sold in its private offering in March 1991 went for \$57.2m. USL repaid approximately \$13m to AT&T from the proceeds and the remainder allows it to fund its cash flow requirements. Net revenues for the year ended December 31 totalled \$76.6m, up 10% over 1990 and 21% over 1989. However, the company ran at a net loss of \$28.7m as opposed to the \$2.7m in profit it got in 1990 or the \$4.2m it tallied in 1989. Operating system revenues were up \$1.8m to \$61.7m, though revenue growth has not increased at the same rate as unit volumes shipped because of volume discount schedules. Foreign revenues grew 16% or \$4.4m to \$32.3m. Revenues from non-System V products such as Transaction Processing and Networking were up \$5.2m or 54%, most of it attributable to Services. Costs increased 262% to \$43m due largely to a \$26.8m write-off of capitalised software development costs in excess of estimated net realisable value. But even excluding the write-off, cost of revenues increased \$4.3m or 36% while gross margins continued to decline to \$33.5m versus \$57.7m the year before. Development costs are its largest outlay totalling \$11.7m in 1991, down from \$22.4m in 1989. However, USL finds the royalties it pays third parties for using their technology, particularly those sent to Microsoft Corp for its Xenix functionality and Sun Microsystems Inc for its BSD functionality, on the increase and likely to rise further. They hit \$3.9m in 1991, up \$1.4m. Total marketing and sales expenses increased as it turns itself into a market-driven company to \$24.3m, up 45%. Working capital was \$37.3m at the end of last year. USL's November investment of \$1m in Chorus Systemes, an investment that was subsequently increased, gave it a 7% position. In December it put another million into the Univel Inc joint venture with Novell Inc, where it has a 45% ownership interest, and committed itself to providing another \$4m to fund ongoing operations. USL says it is waiving source code fees due from Univel worth up to \$7m during the 30-month period after Univel commences operations. It is unclear from the annual report whether the clock has already started ticking. USL's total assets amount to \$99.87m including \$46.5m in cash.

...AS UNIVEL ANNOUNCES 23 DISTRIBUTORS

Meanwhile, Univel Inc, the Unix System Labs/Novell Inc joint venture, will start unwrapping its distribution channels this week when it announces that it has signed an initial sixteen distributors in the US and seven overseas. They are all Novell distributors. The American companies lined up to resell Univel's shrinkwrapped UnixWare include BDS, Costa Distributing, FoxTech, Gates/FA Distributing, GBC Technologies, InaCom, Ingram Micro, JWP Information Services, Merisel, MicroAge Computer Centers, Microware Distributors, MultiMicro, PC Distributing, Tech Data, Vitek Systems Distribution and Vitronix. International distributors, which Univel believes will eventually outnumber US sites, include InterQuad, Softservice and TopLog in France, Akam Data in Holland, Diode in Spain, Jardine Network Systems in Hong Kong and ComTech in Australia. Univel will also unveil a Univel Education programme whose syllabus includes a self-study video Univel Reseller's Kit; a two-day hands-on desktop course UnixWare Personal Edition Installation and Configuration; a two-day hands-on server course UnixWare Application Server Installation and Configuration; and the five-day Univel Instructor Certification Session. The Personal Edition and Server courses are offered through Novell.

X/OPEN TEAMS WITH UNITED NATIONS

Having a busy summer, X/Open Co Ltd has also cut a prestigious five year deal with the United Nations Institute for Training and Research to promote the use of "modern information systems" in "developing and recovering" countries. Under the programme, Unitar and X/Open will organise a series of three-day symposiums with hands-on technology training tailored for local and regional needs. Unitar will invite the delegates from the government agencies and commercial entities in each country. The idea is to get Western hi-tech companies to sponsor the events, and X/Open is about to begin on a 90 day roadshow to drum up industry support. It says the symposiums will provide firms with badly needed frontiers into the territories where the gathering are to be held. How many of the forums are eventually scheduled depends on the level of sponsorship, but the first is already planned for "recovering" East European countries which takes place in Budapest in the second quarter of 1993. Other confirmed venues are Santiago (for South American countries in the third quarter) and Cairo (for North Africa and the Middle East in the fourth quarter). According to the agreement there are to be four events a year, each with a minimum 150 participants. The United Nations has already passed resolutions calling for the acceleration of technology transfer to developing countries and X/Open's Chief Operating Officer, George Shaffner says UN country ambassadors are now jockeying for rights to host a symposium. X/Open is in separate discussions with the UN over the organisation's internal use of open systems, and there is speculation that X/Open's involvement with the UN might eventually see X/Open president Geoff Morris being elected to the UN's advisory board. Before this could happen X/Open would have to establish a formal relationship with the UN after meeting initial requirements, such as proving - to the UN's satisfaction - its status as a non-governmental, not-for-profit organisation. After being measured against a second string of acceptability criteria - and assuming the UN takes to Morris and that a seat on the board becomes available - there would be a ballot, though no movement on this front is expected until next year.

ARCHIPEL CLAIMS FIRST TRANSPUTER BASED DISTRIBUTED UNIX SYSTEM

Archipel SA of Paris claims that it has the first Inmos International Ltd Transputer-based distributed Unix system, built using Chorus Systemes SA's Unix System V-compatible microkernel technology on Archipel's Volvox-TS line of multiple instruction-multiple data parallel processors. Volvox-TS uses the T805 Transputer and will move up to the T9000 in due course. It comes with up to 64 processors, and the T9000 version will take as many as 2,048 processors; the machines come be configured as hypercubes, rings, or binary trees, and come with standard SCS and Ethernet interfaces. The Volvox will be the reference machine for the Chorus microkernel on the Transputer and is due next month.

BULL READIES GCOS EMULATOR FOR MULTI-PROCESSING RS/6000s

Groupe Bull SA Bull will not develop Posix compliance for its proprietary GCOS operating system, according to Ian Fowler, Bull UK's product marketing manager. Instead its Boston, Massachusetts-based unit is developing an emulation product called HVX which will enable GCOS 6 applications to run under AIX on the forthcoming multi-processor RS/6000s that it is developing in conjunction with IBM. HVX will be out in the fourth quarter of next year, by which time the long-expected multi-processing RS/6000 boxes should be on the street. HVX is currently in alpha test on uni-processor RS/6000s, but it will only be delivered for multi-processors, Fowler says, because GCOS 6 applications need the power multi-processors can offer. Bull evaluated translation tools from UK firms Sterling Business Systems, High Wycombe, Buckinghamshire, and from Liverpool-based Fraser Williams, but decided it needed an emulator to enable GCOS applications to fully function. Bull's rebadged RS/6000s are claimed to be 5% cheaper than IBM's - it will add more peripherals to leverage the mid-range market, it said.

WYSE ADDS TO MP LINES

Wyse Technology Inc, San Jose, California, will this week add new models to its mid-range and high-end Intel Corp-based, symmetric multi-processing Unix systems. The Series 7000i Model 740MP with up to three 80486DX-33 processors is rated at 80 MIPS, supports from 64 to 175 users and starts at \$19,100. The high-end Series 9000i Model 960MP comes with from one to eight 80486DX2-50 CPUs is rated at 320 MIPS, comes with from 16Mb to 384Mb RAM, supports from 250 to 400 users and costs from \$40,000. Both run Unix V.3.2 or SVR4.0MP with SVR4.2 Destiny to follow. An entry-level Series 6000i Model 645 with one 80486DX-33 processor supporting 16 to 64 users costs \$8,400. All ship this month.

CRAY LAUNCHES C++ COMPILER

Having adopted Silicon Graphics Inc's Iris Explorer object-oriented application building environment last month, Cray Research Inc now has a C++ compiler to go with it. The Cray C++ Compiling System is an enhanced supercomputer version of Unix Systems Laboratories Inc's C++ Language System 3.0.1, and operates in conjunction with the existing Cray Standard C Compiler. The C++ Language System runs on the full line and has been licensed to two undisclosed customers.

ENCORE ADDS A DISTRIBUTED REAL-TIME EXECUTIVE UNIX

Encore Computer Corp, Fort Lauderdale, Florida has joined the real-time Unix fray with the launch of its Distributed Real-Time Executive for development and control. DRTX runs on the company's new RSX 90 systems, and users of the company's proprietary Concept/32 real-time minicomputers are offered a cost-effective upgrade option. As a development environment, the new DRTX targets both the 88000 RISC-based RSX and Concept-based 90 Family and Encore offers a complete software engineering environment and a Macintosh-like graphical user interface. No word on pricing for it.

MODCOMP WINS X/OPEN CERTIFICATION FOR REAL/IX

AEG AG's Fort Lauderdale, Florida-based Modular Computer Systems Inc reports that X/Open Co Ltd has completed the certification of its Real/IX real-time Unix operating system, and claims that it is the first real-time Unix to be registered with X/Open under its test and verification programme for open systems.

DOWNTIME "COSTS US BUSINESS \$4,000m A YEAR" - STRATUS REPORT

A survey of leading US businesses sponsored by Stratus Computer Inc of Marlborough, Massachusetts, which has an interest in spreading alarm and despondency about these things, suggests that computer downtime cost the country at least \$4,000m in lost productivity and revenue last year; and with 75% of respondents indicating that their businesses are becoming increasingly reliant on computing systems this figure looks set to grow. The sample comprised 450 information system executives from major corporations in the telecommunications, travel and transport, insurance, manufacturing, banking, securities, and retail industries who were questioned about the costs and other impacts of online computer system failures. The results showed that businesses lost \$3,400m in annual revenue due to computer failure. An average hourly revenue loss of \$78,191 was identified though some individual companies put losses at \$500,000 plus. Further significant costs resulted from lost productivity with 37.3m lost hours (translatable into more than \$400m if you take the average hourly wage as \$10.53); 60% of companies included overtime costs, and 7.6% added fines to their expenses. It was found that customer dissatisfaction and lost productivity due to computer downtime were considered to have a greater impact than the quantifiable loss of revenue due to downtime. Lost customers, dissatisfied corporate management, and lost data also were deemed significant. The findings indicated that, on average, computer systems crash nine times per year, per company, and that those systems stay down for an average of four hours.

MICROKERNEL UNIX SVR4 STILL IN THE AIR AS UNIX LABS WEIGHS OBJECT TECHNOLOGIES

Speaking at a Unix Labs Pacific System Software Technology Seminar held recently in Tokyo, Michael Miracle, the director of the Unix System Development Department at Unix System Laboratories Inc in New Jersey and the person responsible for the development and testing of the System V.4 ES/MP release, said that Unix Labs was currently involved in internal debate and discussion with customers about the release of a microkernel-based version of System V.4. He was not currently ready to commit that the release after System V.4 ES/MP would be a microkernel-based one. The decision to go ahead or not would be based on a business assessment of the development costs against potential revenue, and the decision would be strongly influenced by customer input. While Unix Labs's value-added reseller and equity relationship with Chorus Systemes SA has prompted speculation that the Chorus microkernel would be used as a matter of course, Miracle said that in the US, and certainly in government circles, Carnegie Mellon University's Mach was a popular choice. Other issues being considered for inclusion in future versions of Unix System V included object-orientation, where Unix System Labs was looking at Choices from the University of Illinois and ISIS, a product for virtual synchronisation from Cornell University - these technologies are needed for distributed systems. Unix Labs is also examining object-oriented frameworks for coarse-grained serverising of ES/MP.

IBM JAPAN'S RS/6000-BASED VIRTUAL MACHINING CENTRE FOR AUTOMAKERS

IBM Japan Ltd, Mazda Ltd, and French company ESI SA have jointly developed a virtual machining centre that IBM Japan is marketing. The system is designed for testing of machine tool pressings of car parts on a workstation. The system is called PAM-Stamp and runs on the RS/6000. The software interfaces with crash simulation software PAM-Crash, which is used by almost all car-makers in Japan. Price for a standard configuration system running on the high-end RS/6000 Model 560 costs around \$243,000.

FUJITSU DOES SPARCSTATION VERSION OF ICAD

Fujitsu Ltd has developed an S-family - Sun Microsystems Inc Sparcstation - version of its ICAD mechanical design software. Known as ICAD/MX, it uses the Open Look graphical user interface with icons and button menus, and other features such as multiple windows. Three-dimensional solid rendering functions use the feature parametric technique. It has interfaces to a number of products such as Cadam, I-DEAS and Unigraphics and is from \$13,000; Fujitsu looks to sell 3,000 systems over three years.

SRA LAUNCHES JAPANESE VERSION OF UNIX FRAMEMAKER

Major software house SRA Ltd has released a new Japanese version of Frame Technology Corp's Framemaker desktop publishing software, which includes peculiarly Japanese functions such as vertical printing and automatic numbering of Kanji and other characters. The new version, Japanese Framemaker 2.1X, is available on the Solbourne Computer Corp Sparcsystems from Matsushita Computer Systems Ltd, on Sony Corp NEWS workstations via Rikei Ltd, and on the Okistation 7300 through Oki Electric Industry Co Ltd.

LUCID REELS IN LISP DEALS

Compiler house Lucid Inc, Menlo Park, California, has won a contract from the US defence agency, DARPA, to integrate Lisp, C and C++ environments for various image-understanding projects currently underway. The company says it is also taking control of the Common Lisp interface manager for Apple Computer Inc Macintosh computers and is to become an Apple value-added reseller for Macintosh Common Lisp. The interface, MacCLIM, which it will distribute and support, comes from International Lisp Associates and costs \$500 - Macintosh Common Lisp, which it will support, is Apple's implementation of the language and also costs \$500. Without pausing for breath, Lucid says it has also signed with Artificial Technologies Inc, Elmsford, New York, to market and support the consulting firm's Lips-based tools - including a Motif-based toolkit - and has released XLT, a set of X-Windows-based tools for its own Common Lisp environment on Sun, HP and IBM workstations.

AST MANHATTAN RUNS SCO MPX 2.0 - "CAN MIX AND MATCH CISC AND RISC"

AST Research Inc, Irvine, California, will use the stage set by the SCO Forum in California this week to roll out a new multi-processor system in a bid for a piece of the collapsing \$30bn mini-computer market. The fully symmetric multi-processor, officially dubbed the AST Manhattan SMP, will be the first implementation of SCO MPX 2.0 to support symmetric hardware, the company said, indicating it collaborated with SCO on its development. An AST spokeswoman claimed Manhattan's architecture incorporates a processor-independent design that would allow unspecified RISC chips to be substituted for the Intel Corp 50MHz 80486DX microprocessors that will kick off the line. This swap-out, however, which the spokeswoman attributed to the processor being kept separate from the I/O, would depend on AST developing one of its Cupid upgrade modules to handle it, according to sources close to the company. They said AST has no current plans for such a development. Provisions to go to Intel's P5 when it is available will doubtless be made. The spokeswoman said Manhattan would be available with up to four processors. Each order will apparently be custom configured. A uniprocessor with 1Gb disk should begin shipping in the US in November priced at around \$25,000. AST plans to make the box available running other operating systems as well including Microsoft NT, Novell SuperServer, Banyan Vines and perhaps Solaris 2.0.

SPARC CLONERS CRY FOUL

The powers that be over at Sun Microsystems Computer Corp and SunSoft Inc are starting to collect complaints from cloners and resellers over the way SMCC salesmen are hustling volume accounts, not playing by the rules and nosing compatibles out of upgrade sites. SMCC is allegedly telling customers SunSoft products can only be run on Sun hardware, making it harder for Sparcettes to snare the upgrade business. Their premise directly contradicts SunSoft's stated position to its OEM customers that the operating system is transferable.

SUN SNARES MIPS VP FOR SPARC DRIVE

Sun Microsystems Inc pulled off another recruiting coup last week enticing MIPS vice president Chet Silvestri into the Sun fold as vice president, technology sales, a newly created slot reporting to Joe Roebuck, SMCC's vice president of worldwide field operations. Ironically, Silvestri will manage a new group devoted to securing Sparc chip, board and system design wins, especially in market segments where Sun has little history such as embedded real-time. Silvestri's role will be to bring focus to a task that Sun has previously handled only on an ad hoc basis. During his six-year tenure with MIPS, Silvestri did the same kind of job. He said he left for the thrill of a start-up rather than the tedium of maintenance, indicating Silicon Graphics, MIPS new master, did not consider making the MIPS chip a universal standard as much of a priority as Sun does the Sparc.

FAXIMUM AND HP WORK ON CLIENT/SERVER FAX SOFTWARE

Vancouver-based Unix FAX pioneer Faximum Software will announce an agreement with Hewlett-Packard this week at the SCO Forum that will have the pair jointly developing a true client/server FAX software product for Unix workstations. Faximum is contributing its FAX software expertise and existing server technology while HP kicks in with human factors engineering and client/server technology. Each will market what results independently. The product will utilise TCP/IP networks to connect clients running an X-based Motif user interface to a FAX server supporting one or more external FAX modems. The client/server protocol has been developed by Faximum and is network- and host-independent. This will reportedly allow FAX clients and servers to run on different architectures and versions of Unix and still work together. The product will support PCL and Postscript emulations as well as FAX viewing under X. Special patented technology will be used to route incoming FAXes to the appropriate client workstation automatically. Faximum will port the product to a number of platforms including SCO's Open Desktop.

IBM PAID SEVEN FIGURE SUM FOR INTERACTIVE CODE TO HEAD OFF COMPATIBLE THREAT

There are many things now riding on IBM's AIX Unix implementation(s): the PowerOpen operating system for PowerPC platforms will be based upon AIX 4, some AIX technology will find its way into Pink - the object-oriented environment out of IBM/Apple Computer Inc's Taligent joint venture - Pink stuff will find its way back into PowerOpen Unix and Apple is committed to AIX for its future Unix requirements. So it is perhaps not surprising, though it wasn't made public at the time, that IBM last year paid a seven figure sum to what was then Interactive Systems Corp for the substantial body of Unix development work that Interactive provided to IBM's Advanced Interactive Executive, AIX, effort. IBM bought up the technology outright before going public on its agreement with Apple to ensure that no enterprising outfit could subsequently go off and get a licence from Interactive that would allow it to develop compatible versions of PowerOpen, AIX or even Pink.

NOW LOTUS DOES APPLICATIONS FOR HP

Girding its loins for a deeper plunge into the commercial market, Hewlett-Packard Co last week announced a strategic relationship with Lotus Development Corp that will see Lotus Notes, cc:Mail, Ami Pro and Freelance Graphics ported to its first native Unix platform, HP/UX. HP is assisting. Lotus promises that the prices of the Unix versions of the software will not be significantly different from their PC forebearers. Client versions should be identical. Initially Lotus will supply the software through its own channels, recently bolstered in a search for more sophisticated resellers. HP, however, intimated the relationship might expand to include bundling. The software will of course be ultimately ported to other Unix platforms and probably NT. A Sun version of cc:Mail is already announced and Ami Pro and 1-2-3 as is also promised for DEC's Alpha platform running OSF/1 (UX No 398). HP plans to have cc:Mail work with its own OpenMail with cc:Mail as the interface.

COROLLARY BACK ON INTEL TRACK

Irvine, California-based Corollary Inc is to launch a new multi-processor board set based upon Intel Corp's 80486 DX2-66 CPU at the SCO Forum in Santa Cruz, California, this week. Utilising Corollary's Extended C-bus and the EISA I/O bus, the 486/smp XM is a dual-bus subsystem which can support up to 10 processors. The personal computer-compatible set supports up to 256Mb RAM by virtue of the firm's Extended C-bus and will run Santa Cruz Operation Inc's SCO MPX 2.0 and Unix System Labs' SVR4.0 MP. A base configuration with a 13-slot EISA backplane, 486/smp EISA bridge, 486/smp I/O and smp Memory/256 is priced at \$12,500 - SCSI and serial I/O can be added for \$7,500.

PUZZLE SOFTWARE ALLOWS UNIX BOXES TO ACT AS NETWARE SERVERS

Morgan Hill, California-based Puzzle Systems Inc has brought out SoftNet Utilities, software that will allow HP, IBM, SCO and Sparc platforms to act as Novell Inc NetWare-compatible file servers as well as run Unix applications. First shipments, priced between \$1,300 and \$3,000 depending on the number of users, are for Sparc machines, with the others to follow by the end of the year. Puzzle says NetWare 2.2 and 3.11 server emulation is selectable. Personal computer clients can directly and transparently access the Unix file system and printing resources. Conversely Unix users can access NetWare print resources. Each package includes a MS-DOS terminal emulator for NetWare clients to access Unix hosts via the IPX protocol.

uni gram x

The Weekly information newsletter for the UNIX ® community worldwide

Unix International Europe's technical director, Nick Price, wasn't taking a swipe at the whole Posix standards effort in last week's piece (UX No 397), he just wanted to point out that the Posix P1003.1 specification alone is no guarantee of portability.

As expected (UX No 395), Performance Technologies Inc, Rochester, New York, has announced a Sparc system for real-time and embedded markets based upon LSI Logic Corp's SparKit-40Mbus: the PT-SYS5000 SBus/System comes with four - \$5,500 - or eight - \$6,000 - SBus slots and will run Lynx Real Time Systems Inc's LynxOS real-time Unix implementation.

San Francisco, California-based PeerLogic has announced a port of version 3.1 of Pipes for SunOs: Pipes, the company's distributed computing framework, is claimed to support asynchronous, object-oriented messaging, a dynamic, global naming service and multiple operating systems and transport protocols - prices start at \$700.

RDI Corp, San Diego, California, has piggybacked on Sun's exclusive Canadian distributor, Merisel, to peddle its BriteLite Sparc portables.

The Open Software Foundation is holding an end user forum in Brussels on September 29, followed by a special interest group on the 30th, which will focus on the telecommunications marketplace.

C++ World, The Users Conference, is scheduled for November 16-20 at the Meadowlands Hilton in New Jersey.

The August issue of **RISC Management** warns its readers not to believe any Intel Corp hype about the P5 being 64-bit. "It isn't!", it claims. "The address bus is 36-bits and integer registers 32-bits." However, the newsletter, which figures the chip will start life at 50MHz, reckons that performance will come in close to the R4000. RISC Management also claims Microsoft Corp has a Sparc version of NT running.

PC Week columnist Will Zachmann writes: "...a good hard look at Windows NT leaves little room for optimism that it will deliver useful symmetric multi-processing capabilities anytime soon, either on the desktop or on a server. That isn't because NT doesn't support SMP. It's because NT supports SMP in a way that has very limited utility for most users.... NT's SMP implementation is not for existing iAPX-86 personal computers at all.... New hardware with new system board designs using new interrupt controller architectures will be required to make effective and efficient use of Windows NT's symmetric multi-processing capabilities.... [It's] a case of 'all dressed up and nowhere to go.'"

John White, president of Texas Instruments Inc's Information Technology Group, will be keynoting NetWorld 92, October 14-15, in Dallas.

Netwise Inc has picked up \$8.5m in third-round venture capital from eight firms including Hancock Venture Partners and the Japan Associated Finance Co, both of whom are new to the company: the money will be used for further development.

Australia's Collaborative Information Technology Research Institute is looking for a joint venture partner in North America for Atlas, its C-based database management system. Call (213) 467-3532.

The first Unix Reseller Show & Conference, set for May 4-6, 1993 in Dallas, is apparently coming out of the blocks stronger than anticipated. So far it's collected some 40 exhibitors and they're the kind of brand names show managers love: DEC, HP, Sun, SCO, USL, UI, Unisys, NCR, Compaq, Univel and MIPS/Silicon Graphics. Software houses have been slow to respond but the square footage sold to date is reportedly ahead of schedule. Interested parties should call (609) 987-9400.

Colorado-based CERAM Inc can now put 960MB of external storage on a Sparc pizza box with its TurboSwap products: the peripherals are said to improve price/performance and response time significantly on fully loaded systems by eliminating latency.

Attention, international players. Unigram.X has just published its annual statistical survey, "Unix Users in the UK 1992." The most significant Unix users in Great Britain were asked about their Unix installations, intentions and preferences. The data collected covers issues such as brand name awareness, future expenditures, purchasing considerations, satisfaction, software usage, levels of systems failures and porting and migration plans. The 62-page report, which sets out to establish both market share information by vendor and key trends, attempts to pinpoint where the real opportunities lie and provides some nifty competitive data. We think it's essential reading but then we would say that wouldn't we. US price is \$200 - call (516) 759-7025. UK price is £175, call (0)71 867 9880. Volume discounts available.

Digital Review, soon to turn into **Digital News & Review** because of a merger with **Digital News** (UX No 397), claims DEC is going after Wang, Unisys and IBM customers with a migration scheme that would allow applications running on System/36, System/38, Wang and Unisys CISC systems to run on Alphas. The tools, it says, are an outgrowth of DEC's VAX Environment Software Translator (VEST) programme. DEC expects to add other systems such as the AS/400 down the road.

We hear a PowerOpen consortium is in bud and will probably come into full flower in the fall: petals include Bull, IBM, Apple, Motorola and Thomson at least.

The X Business Group is predicting sales of PC X servers will top 175,000 units this year, up 300% from 1991, when total shipments were 58,500, with database application by far the most popular.

Chips & Technologies Inc, San Jose, has decided that the iAPX-86 microprocessor market is getting too crowded, and rather than go head to head with Intel Corp and what is becoming a horde of clonemakers, it has decided to redirect its Super386 design to the single chip processor and embedded control markets.

Sun Microsystems Inc has signed a long-term lease for three buildings in Chelmsford, Massachusetts to consolidate the four existing offices it has in the state. It said that the move is not expected to impact the 1,100 employees that Sun has in the state. The new facility will house the operations currently spread between Billerica, Andover, Methuen and Westford, and should be completed by the end of 1993. Sun also plans to lease another building and has further options nearby.

We had a little chat with Unix System Labs president Roel Pieper last week and he didn't exactly rule out the possibility of USL making a takeover move on Santa Cruz Operation Inc (UX No 396): however, he said, it wouldn't be a good business value unless both firms were committed to going in the same direction. He didn't want to usurp any announcement by SCO (see page one) and was still talking in terms of how SCO might gracefully go to SVR4 and whether the companies' two technologies might be blended. He probably still won't believe he has a deal until he hears Doug and Larry Michels make a public commitment with his own ears.

Meanwhile, rumour, and this is only rumour, mind you, has USL president Roel Pieper becoming president of Novell Inc.

IBM is saying it's delivered a million copies of OS/2 and predicts it could reach two million by the end of the year: Microsoft Corp voiced scepticism about the number to **The Wall Street Journal** to which IBM VP Jim Cannavino retorted, "A stork didn't bring [the one million copies] and I assure you I haven't cooked the books."

Applix Inc is moving to get itself well distributed: this week it will announce it's got Merisel handling Aster*x state-side and that it's pulled off an exclusive five-year \$15m deal with K K Ashisuto, Japan's second largest software distributor.

OSF's business manager for DCE, Jon Gossels, says X/Open's endorsement of DCE - see front page - "demonstrates the industry-wide support for DCE as a de facto standard." Indeed, most X/Open members have already committed to DCE in one way or another, including Unix International and Unix System Labs. Even Sun is providing hooks for prospective DCE users in the Federated Services for its Sunsoft sibling's Solaris operating system. The move is unlikely to open the way for X/Open to adopt OSF Motif as a standard for graphical user interfaces because "the desktop battle still isn't won," X/Open says, admitting that it "missed the bus," on that one.

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UNIX SYSTEM LABS AND SCO REACH "STRATEGIC INTERFACE AGREEMENT"

Unix System Labs and The Santa Cruz Operation were patting each other on the back last week, their leaders having emerged from a late night session in the midst of SCO Forum with what they called a "workable plan to come together." For months SCO has resisted adopting SVR4 even though SCO co-founder Doug Michels recently told Unigram.X he had finally "biten the ideological bullet" and was prepared to step out on the SVR4 road provided it could get the right terms (UX No 398). At SCO Forum the pair announced a "strategic" interface agreement-in-principle that will have SCO licensing for a "fair price" all the SVR4.2 technology surrounding application development tools such as compilers, debuggers, C++ and linkers. USL president Roel Pieper told Unigram the pact will allow SCO and USL to present a common uniform environment to ISVs. This environment will apparently appear in a future version of SCO Unix, however, it was unclear at press time whether that software would be SVR4. An official statement the companies were hammering out also at press time was unlikely to clarify that point. Pieper said it was not in SCO's best interest to announce it was going to SVR4 now since it had no product and the admission would kill its business. He explained that he was interested in SCO being as strong as possible for the mutual fight against Microsoft. He also characterized the proposed agreement as "a practicable managable first step" toward harmony and indicated that he and Michels had formulated "concrete and exact steps" for the future. It's not important whether it's "SVR4 or SVR5," he said, "it just means Unix will be bigger."

SUN "DEVELOPING ITS OWN X-TERMINAL" AFTER INDUSTRY TALKS

Sun Microsystems is apparently considering taking back every nasty thing it ever said about X terminals and entering the business. For the last year at least it's been talking with X terminal vendors such as Network Computing Devices, Tektronix, Visual Technology and Human Designed Systems under non-disclosure. However sources say that all these talks, which don't appear to have progressed much beyond soliciting proposals from some, have come to nothing and that Sun is now resolved on developing its own terminal, an activity already believed to be underway, perhaps at its East Coast facility, long a champion of such a product. One possible obstacle to an OEM deal is the narrow margin that such a low-end product would entail. Another is the amount of control Sun would want to exercise over future technology. Reportedly it wanted a leg up on the business to reduce its development time and eventually aimed to take over the whole project. Then too, Sun has more than a touch of the "not invented here" syndrome. The only quality Sun is known to have wanted in an X terminal is that it be Sparc-based, something no existing X terminals house offers. To save itself time in getting to market, it could write some software and cannibalise one of its diskless workstations for an initial offering. The effect of Sun entering the market, which the other vendors anticipate will be in the next six to 12 months, could significantly stimulate it. X terminal makers simply cannot imagine Sun not entering the business since it must defend its historical market, the desktop. As it is, Sun remains the only major player to snub the box, yet X terminals leader NCD hangs a significant share of its machines on Sun sites or on heterogeneous systems involving Suns, while rivals HP has no problem with selling combinations of workstations and X-terminals for a considerable price-per-seat advantage. But Sun will have to eat its words and may have to declare a product like its News windowing system dead.

Grass routes

Up until now it has maintained a purity of vision that sees a workstation not a terminal on every desk. Many inside of Sun at the grass roots level have not agreed with that corporate gospel, hence the repeated attempts to wheel one out the door only to see those plans aborted by management and marketing. Such a fate could await this current effort. Sun could simply cut prices on its diskless workstations to fend off the X terminals crowd, says X Business Group analyst Greg Blatnik, but he doesn't really believe it, preferring to think they will join the fray instead. Clandestinely Sun, which will only admit to tracking the industry, has already done some X terminals deals, sources say, including its agreement with Labtam in Australia (UX No 391). X terminals sales, one of the liveliest computer sectors, are growing at 100% a year, according to X Business Group figures.

OSF STARTS WORK ON NEW-GENERATION MOTIF

The Open Software Foundation has unofficially put out a Request For Technology for its next generation graphical user interface, UEC II, (UX No 392). Responding to the demand from the market that Motif should evolve from essentially what is a developer's toolkit to more of an end user product, OSF has kicked off its efforts by announcing the GUI Application Interoperability Architecture (GAIA) initiative. Getting the ball rolling sooner than expected, OSF held a series of technology workshops in Cambridge, Massachusetts last week to formulate a standardised architecture to support application interoperability on the X-Window system. According to OSF, the base specification for UEC II will be developed from the Object Management Group's Common Object Request Broker Architecture (CORBA) - which, the OMG says, provides a standardised interoperable layer interfacing the application and the graphical user interface. Incorporating this object-oriented technology in UEC II will enable applications written in different Motif environments to communicate with each other by treating services such as e-mail, fax, and file naming as objects, OMG says. CORBA will also bring real-time functionality to the Motif environment. Existing applications developed in Motif 1.2 environments will be compatible with future Motif releases, OSF claims.

Object Widgets

The Object Management Group meantime, is currently developing CORBA 1.2 specifications which will add security, lifecycle, naming and persistence functions to the architecture - CORBA 1.2 is scheduled for release in 1993. Specifications for e-mail and word processing will follow in 1994 - CORBA 1.1, 1.2 and 1.3 specifications will all be UEC II-compliant. OSF meantime, has also put out a call for object-oriented widgets for the GAIA architecture. Object-based widget libraries will enable UEC II and Motif 1.2 applications to integrate as interactive objects for rich text and PC-like user interface controls. The request for widgets falls into two categories: a rich text widget to support editing of text with various colours and typefaces; and control widgets, which will provide equivalent functionality to PC user interfaces, spin button, field stepper and thermometer slider. Submissions for widgets are due by September 4. OSF which is said to have already started coding for the GAIA specification, has slated the middle of next year to deliver the first snapshots of the specification.

SUN JUGGLES WITH ITS EUROPEAN DISTRIBUTION STRATEGY

Revamping its Sparcstation distribution strategy, Sun Microsystems Europe Inc, based in Bagshot, Surrey, has opened a European product distribution centre (PDA) in Montfoort, Amsterdam, Holland. The company is also to set up PDAs in North America and the Far East with dates to be decided. European distribution was located at Sun's Linlithgow manufacturing plant in Scotland (UX No 300), also responsible for CPU production. According to Sun's European marketing manager, Steve Raby, distribution staff from Linlithgow will be relocated to Holland, avoiding redundancies. He said that the move would give Linlithgow more room to concentrate on CPU manufacturing. Machine assembly will continue at the plant, with ready-made parts supplied by outside contractors, and finished products will be shipped to Holland for distribution to customers. Holland was chosen as "it has the freight forwarding expertise and can get products to customers quicker", claimed Raby, who said that Sun would continue to expand the Linlithgow manufacturing plant and has already opened new buildings there. A Sun spokesperson also confirmed that the company was to terminate its contract with ICL Ltd for Sparcstation circuit board manufacture at ICL's Kidsgrove plant (UX No 291). Sun will be manufacturing the boards itself from now on. Mike Redfern, ICL's International Manufacturing Director, refused to confirm this: "It's business as usual. Some contracts come to an end and others begin. We are already negotiating new OEM deals with Sun". Inside sources also say that Sun is intending to cut back on its Value Added Resellers (VARs) with a major contract being review in October. David Thompson, Sun's indirect sales director, claimed that the review is "to rout out rogue VARs who falsely say they have added value". Fifty per cent of Sun's business comes from indirect channels and this will remain so in future, said Thompson. He also denied that Sun was to ditch its distribution contract with Technology plc, now owned by ICL (UX No 394).

INFORMIX SIGNS \$9m DEAL WITH DEC

Informix Software has signed a pan-European contract with DEC to supply its relational database software - Informix-Online and Informix-SE - for DEC's Ultrix systems and Alpha-based machines. Under the terms of the \$9m contract, customers will be able to purchase Informix products from Digital as well as from traditional DEC resellers. Informix's full line of development tools will also be supplied including the developers toolkit, Informix-4GL, Informix-SQL and Wingz - a graphical spreadsheet. Connectivity products offered on DEC Unix-based systems will include Informix-Star, which works with Informix-Online to deliver distributed database capabilities; and Informix-Net, which provides connectivity for Informix database software in a client/server architecture.

SIEMENS NIXDORF CUTS 6,000 MORE JOBS

Siemens Nixdorf Informationssysteme AG last week put numbers on its next round of job cuts, saying it will shed 6,000 from its 49,200-strong workforce between September this year and September 1994. The new round is intended to save the firm \$680m. It adds that over the period, other areas will expand. In the first round, 3,300 jobs have gone since the middle of 1991, saving \$410m.

IBM's PARALLEL PLANS INCLUDE NEW VERSION OF AIX/ESA, MVS IN ROM, OS/2 AT DESKTOP

IBM Corp has begun briefing key integrators and software developers on its enterprise-wide client-server strategy. According to Computer Reseller News, the new generation machines will be highly parallel systems using hundreds rather than thousands of processors in massively parallel configurations. The machines may be demonstrated in November, but shipments are unlikely to begin before next year. Core to the strategy is the ability to use multiple operating systems and IBM is believed to be developing a new version of AIX/ESA that will run on both the RS/6000 workstations and highly-parallel servers. IBM has yet to say when the new operating system will ship, but users will be able to tie in the PowerPC, providing a single operating system from the desktop through departmental servers to highly-parallel enterprise servers.

MVS, OS/2 and AIX

The new machines will run MVS, enabling users to maintain mainframe databases and regardless of whether the operating system is MVS or AIX, both will act as servers for OS/2-based desktops. Further, that integration is to be made more seamless over the coming year when IBM will begin merging OS/2 and AIX, enabling them to use the same database and share application development tools. The chip technology is said to come from IBM's Yorktown Heights research centre, and the report suggests that it will be scalable from deskside towers to supercomputers, and IBM may target the Cray Research Inc market. Nonetheless, critics say that getting to market in a timely manner may be difficult, and in addition to competition from the likes of Hewlett-Packard Co and NCR Corp, there is widespread concern that proprietary machines like IBM's AS/400 will supplant the mainframe before IBM can establish cost-effective highly-parallel systems. Some analysts express concern that the new systems will be less secure and incapable of doing donkey work like batch processing. Meantime, sources in the UK say that IBM's highly-parallel computer system will come with 16 boards per rack and 32 engines per board, 10 MIPS per engine. MVS, believe it or not, will run out of ROM and the chips, contrary to the report in Computer Reseller News, will be based on CMOS technology and sourced from Intel Corp.

NOVELL DELAYS NETWARE 4.0 DELIVERY

Novell Inc will push back delivery of the beta version of NetWare 4.0 until September, according to prospective beta testers that have spoken to Microbytes Daily: at least two potential beta testers were told by sales reps that the 4.0 beta version, originally due last week, will be delayed while Novell improves the software's interface and ramps up staffing on the 4.0 support hot lines; also, one of the crucial issues Novell has yet to resolve is how easily network administrators will be able to migrate from their existing versions; 4.0 is expected to include major enhancements to the operating system's administration services, including audit trails for all file activity and a new retrieve-based user directory.

TIMING COULD BE KEY TO NOVELL-USL NEGOTIATIONS

The industry's reaction to news of the Novell/USL negotiations (UX No 398) is less one of surprise at the possibility that Novell might effectively buy Unix than at the timing. Armchair strategists reckon that the terms AT&T can demand now for all or part of USL are less than it could get when both Univel and SVR4.2 have proven themselves. Theoretically, the company's total valuation, based on estimated 1992 revenues of \$90m, could range from a low of \$270m to a high of \$720m, but more probably lies around \$500m give or take. The number used for last year's private placement was \$325m. One way for Novell to increase its current minority position in USL might be for it to convert its shares in Univel, where it controls 51%, into USL stock. For AT&T to be seriously contemplating selling off Unix it would have to be guaranteed a self-sustaining source of the software, since so many of its internal operations, like telephone switching, are Unix-dependent. Having assured itself of that source, however, doesn't translate into a positive factor - merely a neutral one. It would have to decide whether or not Unix is integral to its corporate strategy and, if not, whether now was the most appropriate time to cash in its chips. There was some fretting over the question of whether trading one parent for another rather than going public would put Unix right back where it was when the Open Software Foundation was formed. Other voices, however, dismissed such concerns by pointing out that the Novell is a software company with a benign reputation and the neutrality of running on anyone's platform. If it comes to pass, Sun, which wishes it had done the deal with Novell, and presumably The Santa Cruz Operation - though see page 4 - won't be happy. Hopefully Bill Gates will have a few restless nights too.

X/OPEN SHIPS XPG4 TEST SUITE, READIES SYSTEMS MANAGEMENT API

As expected (UX No 385) standards body X/Open Group Co Ltd, based in Reading, Berkshire, is now shipping its VSX4 test suite. Products complying with this will receive XPG4 branding, version 4 of X/Open's specification for open systems. Developed by Unisoft Ltd, based in London, VSX4 incorporates nearly 2,000 extra tests and over 200 extra lines of code. It is now fully aligned with Posix 1003.1 1990 and development capability for the federal FIPS151-2 extensions. Also provided is testing for multi-lingual capabilities and wide character support. VSX4 runs under the OSF/UI test-case harness (Test Environment Toolkit), which attempts to provide an industry agreed common test environment for systems and conformance testing. In the first quarter of next year, XPG3 mode will be added to enable the transition from VSX3 to VSX4. X/Open will also publish its Management Protocols Applications Programming Interface (API) which allows access to Simple Network Management Protocol (SNMP) and Common Management Information Protocol (CMIP) standards. The API allows applications to be migrated between them and for objects to be managed on remote systems. The specification is expected to become part of the Omnipoint initiative, a distributed management protocol coordinated by the Network Management Forum.

WANG FILES FOR CHAPTER 11

Saying that it wanted to reorganise as an 8,000-employee company with \$1,400m in annual sales, Wang Laboratories Inc last week filed for Chapter 11 bankruptcy protection from its creditors. The planned downsizing means that 5,000 more employees from the current 13,000 - down from 31,000 three years ago - will lose their jobs; the sales target of \$1,400m a year compares with \$1,900m now. Wang hopes to continue to operate without interruption during the reorganisation process. Wang will meantime focus on its big service business and developing selling software and will sell computers made by others, including IBM. It will shrink its manufacturing operations, "considerably", but will continue to do VS assembly. The overseas operations of Wang have not filed for bankruptcy. Meanwhile IBM Corp, which took a 3% to 4% stake in Wang for \$25m last year and agreed to consider a 12% to 16% stake if its AS/400 and RS/6000 OEM deal was successful, will not be investing more money.

MICRON FRISC RISC CHIP EFFORT FLOUNDERS

An effort by \$500m-a-year semiconductor maker Micron Technology Inc to develop its own 64-bit superscalar single-chip RISC processor has floundered, taking with it the subsidiary built a year ago to house it. The FRISC chip, which also gave its name to the operation responsible for it, had reportedly reached working silicon and was being put on graphics cards and SBus accelerators for the Sun marketplace when Micron pulled the plug. The FRISC was apparently intended to go into systems eventually. A Micron spokesman said the company ceased investing and re-assigned engineers to other projects last month because it wasn't getting the "best bang for the buck." It is unclear whether FRISC Inc sold anything or even attempted to, or whether Micron will try to peddle the technology to someone else. RISC watcher Andrew Allison remembered FRISC as a merchant chip attempt and says he laughed at Micron months ago when it announced the subsidiary because it didn't have the resources or market presence to pull off a new proprietary architecture. FRISC got its name from a design that included on-board floating point and interleaved memory. FRISC Inc had apparently produced a 80MHz chip capable of 80 MFLOPS single-precision at 64-bit and 160 MFLOPS at 32-bit. Sustained performance was said to be 38 MFLOPS to 42 MFLOPS double precision.

RAID COMPANY PINS DOWN OEM DEALS FOR HIPPI DISKS

RAID pioneer Maximum Strategy, headquartered in San Jose, California, last week claimed its new fourth-generation HIPPI-based RAID technology will dramatically increase the performance of supercomputers, minisupercomputers and high-performance workstations and enable new applications, especially new commercial supercomputing applications, by virtue of its faster access to independent blocks of data. Its Strategy Gen 4 RAID (Redundant Array of Inexpensive Disk) storage combines the performance and capacity of up to 40 standard high-performance 5.25-inch drives strapped into one fault tolerant storage server. Maximum has cut Gen 4 OEM deals with IBM and Hughes STX. Cray Research Inc, Convex Computer Corp, DEC, Intel Corp, MasPar, NEC and Silicon Graphics Inc are evaluating it. The system will also be marketed to selected users. Pricing begins at \$178,000. Beta shipments start this month. Maximum's technology allows programmable RAID level partitioning, so systems can simultaneously support RAID levels 1, 3 and 5 or user-defined partitions. Each RAID level is good for a particular kind of data. For instance, level 1 is best for smaller blocks such as file system information and level 3 is best for main memory swaps. By partitioning, Gen 4 claims to soup up performance. Gen 4 also endows supercomputers with RAID level 5 storage using a 64Kb block size making its use appropriate for the first time. Its implementation reportedly supports up to 500 I/Os per second and each I/O request addresses 64KB of data. While storage systems for other computing markets can provide comparable numbers of I/Os a second, the size of these I/Os are typically 512 bytes or 128 times smaller than Gen 4's I/O size, Maximum says. Gen 4 will support sustained transfer rates of up to 90MB/s. Its level 3 implementation offers throughput up to 85MB/s for both reads and writes. Total formatted capacity ranges from 10Gb to 60Gb. Cost-per-megabyte is \$8 compared with \$15 to \$30 for currently available supercomputer disks. Maximum, the first company to ship a RAID storage product, is one of only two sources of HIPPI-based RAID storage servers. The other is IBM which uses Maximum technology in its product line.

BIGGEST SCO FORUM HAS SANTA CRUZ OPERATION CONSOLIDATING ITS RELATIONSHIPS

SCOForum '92 is the largest of the eight annual technical and marketing seminar weeks held by the Santa Cruz Operation so far. Over 2000 delegates were in attendance with about one third coming from outside the US - this year a contingent of about 30 represented the former communist countries of Eastern Europe. SCO now claims to have shipped over 650,000 Unix systems - more than any other vendor. Aside from its last-minute agreement with Unix System Labs (see front), SCO was strengthening some other key relationships in preparation for the highly-competitive months ahead for those in the operating system software business. Paul Lavin reports.

Now SCO cosies up to Novell

SCO is now shipping SCO IPX/SPX, its first Novell connectivity product. SCO has licensed the NetWare transport protocol from Novell to provide users on PC LANs with access to SCO Unix System V/386 Release 3.2 or Open Desktop 2.0 servers and desktops via terminal emulation. According to Doug Michels, executive vice president and cofounder of SCO, SCO IPX/SPX is just the first of a number of proposed SCO-Novell products. "Yet to come is a Netware client for Unix users that will allow access to Novell Netware LANs - that will be very interesting for users that want better integration between PC LANs and mission critical Unix applications." Michels praised Novell's move towards Unix integration: "We love 'em.", he said. Michels mentioned that Novell was using SCO's training program to get their LAN VARs up to speed for USL-Novell joint venture Univel's forthcoming UnixWare program.

Locus boosts speed of Microsoft Windows under Unix

At its Forum '92 event, The Santa Cruz Operation demonstrated technology from Locus Computing that will allow SCO users to run protected mode Microsoft Windows 3.1 and its applications under SCO Merge. Windows applications are starting to require Windows 3.1 and protected mode. Currently Merge can run Windows 3.0 in real mode only. Running on a 33MHz 486 under SCO Unix, Windows appeared to be every bit as fast as a copy running in its native DOS environment. A Locus spokesperson said its goal is 100 per cent of the speed - and felt that it could achieve it. Availability of Merge 3.0 was quoted as first quarter '93. Locus is working on running Windows 3.1 in enhanced mode for a later release. Merge is part of the SCO ODT bundle.

PC users to have software video compression and decompression

Keynote speaker Andy Grove, CEO of Intel, announced that by the end of this year, every PC user would have access to software based video compression and decompression. This was apparently an Intel product, but was the product of a big software company he was sure we were all familiar with. In late 1990 Intel launched two chips suitable for building into motherboards to do compression/decompression in hardware for a cost of less than 100 dollars. Despite the tremendous cost savings progress, no one bought them. PC margins have grown so slim that no one was incorporating them into PCs for multi media applications as there were no applications that could provide value to a user that bought them. The software comp/decomp is then seen as a way of pushing the boat out for future Intel processors that will have video handling capabilities built into the main CPU itself.

AST's Manhattan multi-processor is a "shrink-wrapped server"

As expected, AST formally announced its Manhattan SMP multi-processor PC' (UX No 398, 377) - it made its first appearance at CeBit in Hannover this spring. Manhattan SMP carries up to four 50MHz Intel 486DXs with 256Kb of external cache on a 64-bit wide CUPID processor bus. The system comes with 16Mb of ECC memory that can be expanded to 1Gb when 16Mbit chips are in full availability. Disk capacity starts at 1Gb and can reach 32Gb. Manhattan SMP includes many fault resilient features such as hot swappable fans, disks and power supplies. AST founder Safi Quorshi said "This machine is designed to meet the requirement of companies committed to downsizing by replacing their minicomputers with equivalent computing power based on PC architecture." Quorshi commented that companies would only do this when they were satisfied that both the PC product and the company selling it had the proper standing. AST is set to hit \$1 billion in revenue in 1992 despite the recession, according to Michael Krieger, AST's director of advanced systems marketing. Intel's Michael Pope said the the AST Manhattan was spot on for an emerging market for what he termed shrink wrapped servers - application server sold with pre-installed operating system and database software. Intel sees this as a key development in the proliferation of client-server computing.

SCO hands its 3270 emulation business over to Cleo

SCO has signed a contract with Ann Arbor, Michigan-based Cleo Communications as a sales and support agent for SCO's UniPath SNA- 3270 product from this September. Unipath is an IBM 3270 emulation package for SCO-based systems. After August 31st, SCO will no longer sell or ship the product, passing all orders, inquiries and support requests over to Cleo, a division of Interface Systems Inc specialising in IBM connectivity. Cleo says it will continue to maintain and support the product "for several years", but hopes to upgrade SCO users to its own 3270LINKix product, which offers greater functionality.

SCO offers upgrades to Unix and Xenix users

SCO announced a major upgrade program for SCO Xenix and Unix users, allowing them to trade up to SCO Open Desktop 2.0. Current SCO ODT personal system users will now have an upgrade path to the Server System. Sales policy for the ODT Small Disk System have yet to be finalised. According to SCO Marketing Manager Mike Skelton, the Small Disk Systems will be sold in bundles to accommodate large users wanting to bring their legacy desktop PCs up to full client server computing. The SDS needs only a networked 386SX with a 40Mb hard disk - most of the ODT files are held on a server.

DEC SELLS CUPERTINO MICROMODULE PLANT

Cupertino, California-based MicroModule Systems Inc has announced the completion of its agreement to acquire the assets and technology of DEC's high-density micromodule chip technology (MCM), and manufacturing plant in Cupertino. The start up company which opened its doors in June, as an independent supplier of multichip packaging and subsystems, bought out the DEC operation as a going concern. DEC still holds a minority equity position in the company, which is staffed by ex-DEC employees, and remains a customer of its multichip modules. The cost of keeping the micromodule manufacturing operation was according to MicroModule Systems "burning holes in DEC's pockets", with DEC unable to find enough business within its organisation to justify the plant staying open. The plant which used to manufacture MCM's for the DEC VAX 9000, will now produce chips for DEC's Ultrix systems. According to the company's product manager, Howard Green, "it's a fair assumption to make that the company will be doing implementations for the Alpha, but we're still negotiating terms." The technology itself - originally developed by IBM to produce a higher speed packaged dye on silicon for its thermoconduction module - takes multiple silicon or ceramic wafers and lies a high density raw dye on top of it, which binds a series of chips in a single package. With the first chips hot off the press, the company is targeting the workstation and personal computer markets, especially systems houses and telecommunication specialists. MicroModule Systems has also developed accompanying software to test the sub-strates of the dye and the finished micromodule itself.

HP PREVIEWES 7100 PA RISC AT INTEREX

This week Interex, Hewlett-Packard Co's user group, will be having its annual meeting in sultry New Orleans and HP is expected to take it into its confidence and announce the first implementation of the PA-RISC 7100 chip in a new single-processor non-Unix business system dubbed the HP 3000 Series 987. The chip is expected to wend its way into HP's Unix-based Snake workstations next month with the introduction of the Coral II and King Cobra II (UX No 397). The company described the 100MHz part at the recent Hot Chips conference as registering in excess of 70 SPECint92 and 130 SPECfp92, the highest yet claimed. HP will compare the 987 to IBM's top-of-the-line AS/400 E90 midrange system, chortling over the estimated 60% cost-of-ownership a 987 user will save over three years. The 987 will let HP compete against the whole AS/400 family and gives the company added ammunition to continue its assault on the downsizing mainframe market. HP estimates the 7100 chip will boost performance of the 3000 by 30% in transaction processing environments over the preceding 977 model. It promises three to four times the performance of an AS/400 E90. The 987 can be purchased as a pre-configured integrated package including HP TurboImage and Allbase/SQL databases and a 100-user license for \$320,000. A base system with hardware and OS is \$220,000. Shipments begin in September. Other 3000 boxes can be upgraded to a 987 with a board swap for a third of the cost of a new system.

LSI LOGIC SELLS VIDEO LOGIC ARM

Munich, Bavaria-based Spea Software AG has rallied the Glenwood Capital venture capital company to help it to acquire the assets of the Video Seven graphics board subsidiary of LSI Logic Corp, on undisclosed terms. Assets from the purchase will be combined with Spea's US subsidiary, whose name will be changed to Computer Visualisation Technologies Inc; it will market both the Video Seven and Spea graphics product lines for personal computers. The new company will be based in Fremont, and will employ management, engineering and customer support personnel from both Spea and LSI Logic's Video Seven group. Computer Visualisation Technologies will use Video Seven's established distribution channel to sell the combined graphics product lines in North America with European distribution handled by Spea Software AG.

PRECISION VISUALS SIGNS UP CONVEX

Boulder, Colorado-based, Precision Visuals Inc has announced that version 4.0 of its graphics visual analysis data software, PV-Wave, will now support Convex Computer Corp's line of supercomputing machines. The move by Precision to break out of the workstation market into the higher echelons of data analysis is, the company says, the first in a series of developments the firm is working on in the supercomputing arena. PV-Wave is designed to visually display statistical and complex data by means of multi-dimensional graphics and tables. The software is available in two versions, either as a command language for application developers wishing to migrate their own sub-routines into the environment, or as a point and click configuration for ad hoc users - Convex will take the command language version. Precision and Convex are currently co-developing vectorisation and parallel extensions of PV-Wave, which will add increased real-time and processing functionality for complex statistical analysis. Precision plans to release a vectorised version of PV-Wave in December for Convex machines - beta tests are scheduled to begin in October. Parallelised configurations aren't panned in until 1993. Precision will also provide Canada-based, Visual Edge Technology Inc's Motif implementation, UIM/X, as a graphical user interface front-end. A licence for PV-Wave is priced from £12,000 to £22,000 depending on CPU configuration.

WAVETRACER ADDS HIPPI INTERFACE

Wavetracer Inc has added a HIPPI, High Performance Parallel Interface, for its Zephyr deskside massively parallel computer: this will enable users to address real-time, interactive visualisation of large scientific computing problems at the desktop. It supports visualisation of three-dimensional data sets for applications such as satellite and medical imaging, molecular modelling, and image compositing. The Wavetracer HIPPI input-output module reorganises and transfers data between the Zephyr and HIPPI-compatible peripherals and systems, achieving a sustained data transfer rate of 100Mbps by exploiting the Zephyr's high-band width architecture; at the same time, Wavetracer announced a HIPPI Visual Display Processor plug-in option board that supports high resolution and high frame rate visualisation. The Zephyr will also support industry-standard HIPPI visualisation devices available from other vendors.

IBM PREPARES SCSI-2 FOR THE RS/6000

IBM Corp is planning to introduce new technology that is intended to increase the input-output transfer rate of the RS/6000, helping eliminate bottlenecks between the microprocessor and disk drive. Computer Reseller News says that the second generation SCSI, SCSI-2, will be added by the Austin, Texas team and that it will provide transfer rates of up to 10Mbps. It is a necessary step if IBM is to remain competitive in networked environments because it enables data to move at the same speed between the CPU and peripherals as it moves over Ethernet. Nonetheless, commentators say that while SCSI-2 will alleviate transaction processing problems, it is insufficient to handle multi-media applications which involve moving full-motion video images on a network.

SHORT-LIVED EXPLAIN RUNS OUT OF CASH

After less than six months in the X Window market, eXplain Solutions Ltd, based in London, has folded. The company's managing director, Howard Sayles, says that the company ran out of money because of a lack of short-term contracts. "We could find people who wanted £3m worth of business over a few years, but failed to get any quick profit deals. Although we broke even, we could not pay our wages and decided to call it a day". He claims this is typical of the market in general, because taking on X is a major strategic decision: "X Windows is still embryonic, and with the recession people are delaying their decision making". A former Metrologie employee, Sayles says eXplain was restricted from attacking the Metrologie X terminal customer base. Now he is working as a sales director for Acer/Altos UK Ltd. Former eXplain colleagues, Lisa Hammond and Brian Mulligan, are still looking for new positions.

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The more things change, the more they stay the same: taking a leaf from our own book, *InformationWeek* says it procured an internal IBM memo written June 26 by the director of advanced workstations and AIX systems Jeff Mason telling staffers not to push System/3x users to the RS/6000, which he himself is responsible for, for fear of undercutting sales of the company's highly profitable higher margin AS/400s. It's truly gratifying to see that despite all this talk of reorganisation Big Blue is still willing to eat its own children.

Microsoft claims to have shipped more than 10,000 NT developers' kit in the month since they were first put out.

Meanwhile, the company is reportedly preparing to demo some previously unseen systems management functionality in NT this week at a conference in Boston including software distribution, performance monitoring and inventory control.

IBM is now saying the Taligent operating environment, its joint venture with Apple, won't be able to run OS/2, Mac or AIX applications until a year after its first release. It will only run native programs when it appears, which even IBM now admits will be probably in 1995. It's reportedly trying to recruit ISVs to write those programs now.

The second largest American X terminals contract, involving some 40,000 units, is due to be awarded next month when they let AFKAC 3000.

Paris-based Non Standard Logics has implemented its XFacemaker graphical user interface builder on SCO's Open Desktop. Looking forward to the end of Brazil's protected computer market in October, Tandem has set up a wholly owned subsidiary there, its 21st worldwide.

The US-based Bull HN Information Systems is going to market Unidata's RDBMS on its DPX/20s, the first product introduced as a result of its alliance with IBM.

Sunrise Software International announced that its ezX 3.2 generates Ada source code for programs using Motif. The software is a user interface management system that supports screen layout, colour editors, font editors, image editors, presentation tools and dynamic dialog management that claims a 20:1 code reduction ratio when used.

☉

SunWorld latched on to a rumour circulating in Silicon Valley that says NeXT has completed a Sparc port.

Industry guru Marc Schulman has left UBS Securities to set up his own consulting operation, The Technology Strategies Group, whose primary customers are expected to be computer industry managers from both the hardware and software side. He can be reached in Connecticut at (203) 329-2839.

Cypress has just got the first silicon on the HyperSparc CPU, according to *Electronic Engineering Times*, and it's reportedly almost completely functional. That gives Cypress two of the three pieces it needs to complete the chipset: the 620 CPU chip and 627 cache SRAM. Still lacking is the 625 MMU/cache, a redesign of an older model that gave it trouble and caused delays in the past.

The MIT-originated Sparcle CPU project described at Hot Chips (UX No 395) proved to be an old LSI single-execution 40MHz Sparc CPU simplified for fine-grain multiprocessing in a highly parallel MIT system called Alewife. Enhanced communications features implement a parallel-processing technique called block multithreading speed performance. It is not expected to be commercialised.

SunSoft last week launched the SunSoft Press, a publishing group to develop, market and distribute books on Solaris and associated Sun products to users in partnership with publishers Ziff-Davis and the Professional Technical Reference Division of Prentice Hall, part of Simon & Schuster. The companies say the books will be available starting this fall in national bookstores in the US like B Dalton and Barnes & Noble as well as from Sun Express. Titles will also be published in European and Asian languages.

Add Adcomp Data Systems in The Netherlands to the list of European distributors Univel has signed to handle UnixWare: Adcomp claims sixteen offices in eight countries. The IBM/Apple/Motorola alliance named its Texas headquarters Somerset, after the county in England where King Arthur and the knights of the Round Table planned their quests, its press agents tell us. They must have all walked out on the movie before they saw how the tale ends.

CrossWind Technologies is expected to take a step backwards at Unix Expo next month and announce a character version of Synchronize, its X-based time/task management tool, the first Motif-based commercial application on the market. The company says you can't just sell technology alone to commercial accounts and its Fortune 500 and government customers have lots of PCs and Macs and a whole lot of character terminals. So CrossWind is adopting a client/server strategy with Unix on the server and clients running the native Mac, Windows or OS/2 interface. Both the X and character versions will be shipped together so users can upgrade for free. Pricing is the same at \$100 a user.

Wags are saying HaL is bringing new meaning to the phrase "computerless computer company."

V-Systems has significantly upgraded its FxServer Fax software combining a command line interface with an "lp" spooler design structure and adding group requests, VGA viewing, Class II modem support, a menu-driven interface, automatic cover sheet generation and support for Postscript and Epson printers. It also had an FxVision module for X Windows-based systems management.

Bell Atlantic Corp's Bell Atlantic Integrated Systems Inc has entered the network integration market with the formation of a new unit that will provide initial planning and needs analysis, product integration, network implementation, post-implementation support and education services. Bell Atlantic Network Integration will provide these services to customers throughout the US from its headquarters in Frazer, Pennsylvania and through the existing network of 338 field service offices operated by the Bell Atlantic Business Systems Services arm.

Walnut Creek, California-based PeopleSoft Inc has put its PS/HRMS personnel management system onto Sequent Computer Systems Inc's Symmetries running Oracle and says the PeopleSoft Financials client-server financial accounting applications announced in April, will move to Sequent computers later; the two will team to sell applications on Symmetry running Oracle.

Frame Technology Corp, San Jose says it has been named as a defendant in a suit alleging breach of oral and written contract with respect to sums allegedly owed to Meridian Systems Inc, which provides sales representative and value-added reseller services; Frame said the suit is without merit and it will be defended vigorously.

In the wake of Wang's going Chapter 11, a bon mot dropped from Scott McNealy's lips to the effect that things are so bad in Massachusetts now they don't even bother to plough Route 128 when it snows.

Versant Object Technology is now developing a 32-bit OS/2 2.0 version of its object DBMS for release in the fourth quarter. Over the winter, IBM picked Versant to supply object management technology for its AIX CASE framework.

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Interactive Information Systems in Tucson, Arizona, developer of the CIIM family of integrated manufacturing, distribution and financial software, has changed its name to Avalon Software Inc.

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TIVOLI DEBUTS DME-COMPLIANT MANAGEMENT APPLICATION BUILDER

Tivoli Systems Inc, Austin, Texas, next week will wheel out a new developers toolkit, the first commercially available programmers' kit for building system management applications compatible with the Open Software Foundation's Distributed Management Environment, it says. DME uses Tivoli's framework, its object-oriented Management Environment, as its central technology. Tivoli is also introducing a new set of management applications that plug into the framework and promises major productivity gains in managing distributed systems. The applications and toolkit will be available initially on Sun Sparcstations running Solaris 1.0. The programmes include Tivoli/Courier for automatically distributing software updates throughout a network from any point and Tivoli/Sentry for remotely monitoring portions of a network or the entire system. Both programmes are based around a simple graphical interface. Tivoli is calling its new programmers' toolkit the Advanced Development Environment (ADE). It lets developers construct user interfaces, model system resources, create new objects and build communication hooks into other applications. The need for writing complex systems management scripts is supposedly eliminated. Applications created with the toolkit are fully architecture- and network-independent, are fully interoperable across networks and will integrate with the DME standard when it becomes available next year. Tivoli has also built a toolkit for non-programmers called the Application Extension Facility (AEF) so they can customise Tivoli applications and migrate existing systems management programmes to a standard. The company has also updated Tivoli/Works, its core applications for primary resource and security management, introduced earlier this year, to Release 1.5. It now supports Motif and its management of NIS netgroup maps and its interface have been enhanced to include more user feedback, detailed error messages, expanded notification and auditing services and faster installation. The company is offering Works, Sentry, Courier and AEF together with a year's support and two days of on-site training and consulting as the Tivoli Start-Up Package priced at \$30,000. Another package including Works, Courier and Sentry starts at \$375 a node for a 500-node licence. AEF is priced at \$3,000 per site and ADE starts at \$26,500 for a three-seat developers' installation. ADE includes documentation, a build environment with files for compiling and linking ADE apps, debugging tools, run-time libraries, training and hotline support. Availability for all products is October 1.

HEWLETT-PACKARD EXPLORES CLUSTERING WITH CONVEX

Clustering of RISC computers is seen as a promising new area of activity and Hewlett-Packard Co and Convex Computer Corp are reportedly studying an expansion of their alliance to include the joint development of a clustered computing environment for HP's Precision Architecture RISC workstations. The clusters would also use the Richardson, Texas minisupercomputer builder's C series scientific multiprocessors as servers, with the target market being high-end engineering customers that need supercomputer-level performance. Convex is developing a Scalable Coherent Interface high-speed bus to link processors in a future generation of its machines, and this is likely to be used to link the workstations to the C-series machines in the cluster. HP agreed to take a small stake in Convex earlier this year under an agreement that includes Convex using the PA RISC family in a massively-parallel computer system it is designing, and also involves each company taking some of the other's products on an OEM basis. The latter part of the wide-ranging agreement has not yet been consummated.

ICL SHIPS NEW DRS MODELS, QUIET ON VIKING

ICL Plc is now shipping the four new Sparc RISC-based DRS6000 servers it announced back in February (UX No 371). They all run the recently-released version 6 of the company's Unix SVR4-based DRS/NX operating system, though Unix Systems Labs' Destiny will appear on them during the first quarter of next year. The four are the desktop models 450, 750 and 752 and desktop 240. The first two incorporate the so-called CPU2 dual-processor 40MHz Sparc set from Cypress Semiconductor, the 752 employs two of them, whilst the 240 is a Sun Sparcserver 2-type uni-processor. The 240 has up to 96Mb RAM and 1.2Gb of disk and is the size of a PC, the company says: it costs from £9,500. The 450, with up to 256Mb RAM can support 48 users and is priced at £47,000. The 750 starts at £53,000, whilst the 752 is £65,000. ICL is keeping schtum on the progress of its Texas Instruments Inc Viking-based Model 764, though it is still shooting for the fourth quarter. Last week ICL was demonstrating its new relational database search accelerator in action. Whilst higher TPC-A and TPC-B ratings were achieved using the accelerator on the new DRS models, ICL says it is looking the Transaction Performance Council's new TPC-C (transactions per minute) and TPC-D (complex ad hoc enquiries) benchmarks to provide better real-world tests for its stuff. The firm says it'll have TPC-C and TPC-D figures by the second quarter of next year.

IBM's AIX DATABASE "TO REPLACE OS/2 DATABASE MANAGER"...

Having seduced over one million new users to OS/2 2.0 with the implication that they should adopt Database Manager with it - it actually came bundled in OS/2 Extended Edition - IBM Corp is planning to replace the database with the one it is developing for AIX, according to **Computerworld**. The paper says that on September 22, IBM will give a more specific delivery timeframe for the AIX database and that it will become the common database for both environments.

...NEW RS/6000s DUE ON 22cnd, 64-BIT ENVOY BY LATE 1993?

And on the 22cnd, during this year's Unix Expo show in New York, IBM is also expected to announce CICS/AIX, new RS/6000s - including 62MHz Power-Server 580 and 980 models (uprated 50MHz 560 and 980 boxes) - and additional clustering software for the RS/6000 line. Other reports suggest IBM's Highly Parallel Supercomputing Laboratory is working on an Intel Corp 80860-based multi-processing system - codenamed Vulcan - for this year as a stop gap between the current RS/6000s and a 64-bit RS/6000 due late next year dubbed Envoy, which will go head-to-head with DEC's Alpha RISC systems. A mid-range RS/6000 which is expected to follow Vulcan in April 1993 is being touted as Trailblazer.

..POSIX AND DCE DUE ON AS/400

As well as introducing new high-end AS/400 models, IBM last week also reiterated its plan to enhance the application portability and interoperability of the AS/400 with Posix and OSF's Distributed Computing Environment. Some Posix functionality will be supported next year as will the DCE Remote Procedure Call, Directory Services, Security and Service and Time Service.

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UNIFY CORP DETAILS ITS TP AND WINDOWS PRODUCTS

As expected (UX No 394), Unify Corp has now launched the Accell/TP toolkit it has developed in league with ICL. At the same time, the Sacramento, California-based company has announced a Windows version of its core Accell/SQL application development and 4GL toolset. An extension of Accell/SQL 2.2, Accell/TP runs with the Informix, Ingres, Oracle and Sybase databases, as well as Unify Corp's own Unify 2000 database, integrates with Unix System Labs' Tuxedo transaction processing monitor, and conforms to X/Open two-phase commit and XA database standards. Unify president and founder Nicolas Nierenberg says Accell/TP is now being demonstrated to customers, will go into beta-testing within the next few months, and will be generally available during the first quarter of next year. ICL - which also wants a Sun port for its own purposes - will initially have the product to itself, but other ports will follow, and other TP monitors, such as Top End and Encina, are also being considered "although we pretty much have our hands full at the moment", says Nierenberg. The product is needed because Tuxedo is so hard to programme, and interfaces have previously had to be written using C. Accell/TP allows you to get to the functionality of Tuxedo using procedure calls. Both client and server portions can be written, and can be integrated with non-Accell clients and servers, with debugging tools provided. The whole application can be developed locally and split into client/server afterwards. Unify claims that its competitors in TP software tools - such as Informix Corp - have products designed to run only within their own environments.

Dbits

Unify's buzzword of the moment is Dbits - database independent tools - and Nierenberg claims that means you don't have to buy any part of the related database product to run the tools, not even the data dictionary. That rules out competitors such as Empress, Focus and Progress, he says. Dbits must also support standard SQL, and at the same time take advantage of the features of the chosen database, not impose their own "virtual" database, thereby negating the purpose in running a particular type of database at all. Although primarily Unix focused, Unify has now come round to the view that the success of Windows and probable success of NT cannot be ignored. Accell/SQL for Windows is the first Windows-based product from Unify that allows the application to run in Microsoft Windows on the client. Before Windows 3.1, Windows was not considered a solid enough environment to allow that to happen, and all the information processing was limited to the server. Accell/SQL allows both Unix and Windows clients to share the same database, with Unix clients supporting Motif, Open Look, or just plain character interfaces, and the Windows version supports Microsoft Corp's Dynamic Data Exchange mechanism for applications integration. On the database side, Unify is currently waiting to see how object technology develops before it makes a move, but is already hard at work on object extensions to its tools, the first of which are expected to emerge next year.

ORACLE, SUN WORK ON MARKETABLE APPLICATIONS

Oracle Corp and Sun Microsystems Inc have expanded their joint development agreement to deliver Oracle Manufacturing and Oracle Financials application suites across all current and future Sun distributed manufacturing facilities. More than 20 developers from Sun's technical staff are teaming with Oracle developers to enhance and localise the Oracle Applications products, as well as associated technologies to improve the efficiency of Sun's worldwide manufacturing operations, implement the integration of Sun's Open Look graphical user interface with all components of Oracle's product suite, and optimise Oracle7 for Sun's new multiprocessor servers and produce applications that can be sold to Sun's customers as well.

US COURT DECISION ALLOWS USL TO PRESS AHEAD AGAINST BSDI

The US federal court last week denied a motion by Berkeley Software Design Inc to dismiss the suit lodged against it by Unix System Laboratories for deceptive trade practices, unfair competition and false advertising (UX No 392, 394). BSDI made its motion on the basis of legal procedure claiming USL would first have to charge it with trade secret and copyright infringement, a charge USL subsequently made when it expanded its suit to include the University of California at Berkeley (UX No 396). USL brought suit against the pair because of BSDI's attempts to commercialise an Intel Corp 80386 operating system called BSD/386 based on the university's Network Release 2 which USL claims infringes on its code. BSDI and the university claim NET2 is AT&T code-free and can be distributed without license fees being paid to USL. In the wake of the dismissal last week USL promised to vigorously pursue the case to protect its rights, convinced its claims have merit.

TADPOLE ADDS NEW DISPLAY, DISK OPTIONS

UK, Cambridge-based Tadpole Technology plc is putting bells and whistles on its SparcBook notebook: it can now offer a colour active matrix display and up to 360Mb of disk. It's pricy though. With the TFT screen, 16Mb RAM and 180Mb hard disk it has a \$13,000 - £8,450 - price tag. Tadpole also has a new version of Solaris running, 1.0.1 Version B, for users to run Unix in a mobile environment, reportedly a significant step in its Nomadic Computing Environment (NCE) strategy. The company describes Version B as SparcBook OS Lite, a compact end-user version of Solaris including Open Windows V3, NCE and an optimised Unix kernel and file system packaged into a still chubby 38Mb. It is supposed to offer the mobile user better windowing, battery monitoring, save and resume functionality, E-mail, fax and SLIP connections than previously available.

NEW TEST AND MEASUREMENT GROUP FORMED

Sun Microsystems Inc, Tektronix Inc and National Instruments Corp have ganged up to develop, market and sell a new line of integrated test and measurement systems called Open Measurement Solutions targeted at the aerospace, automotive, telecommunications and electronic design automation markets. They will consist of Sun Sparc boxes, Tektronix VXI and GPIB test instrumentation and National's LabView graphical applications and instrument controller hardware. The trio, competing with HP, expect to see \$30m in combined worldwide revenue from year one. Tektronix will be their product integrator and systems will also go through VARs.

THSTYME KEEPS RESELLERS WARM PENDING HOT NEW RUSSIAN LINE

Having designed the Commodore International Ltd PET Personal Electronic Transactor, and moved on to found Sirius Inc, later Victor Technologies Inc until he was caught out when the world discovered that "runs MS-DOS" didn't mean "IBM-compatible", Chuck Peddle hopes that he'll soon be back with a bang. This time, his vehicle is THStyme, and THStyme UK Ltd, based at Redditch, Worcestershire says its policy of 'keeping the dealer alive' by offering the lowest prices on the market is proving a success. Of course the company has a particular need to keep its resellers alive, since it is they who will distribute THStyme's 'revolutionary' new products, currently under development in Moscow. But value-added resellers are not the sole focus for the present drive which has apparently attracted over 400 dealers so far, at a rate of around 20 to 30 a month. THStyme currently distributes around 2,000 IBM PS/2-, Mac- and SparcSystem-compatible line items, including configure-to-order personal computers, value added accessories, disk drives, scanners, memory and monitors - with cut-price, Russian-produced streamers and printers soon to be added to the product line. The company, which claims it has managed to undercut its competitors by up to 30%, has proved especially adept at shifting its tape back-up systems and SuperVGA monitors; the latter, priced at £120 each, are currently shipping at a rate of 2,000 per month in the UK alone. The company's Paris division is reputedly achieving similar levels of success, which bodes well for the new outlets due to open in Frankfurt and Madrid by the end of the year. How many dealers will eventually distribute THStyme's radical new technology is not known, but it is hoped that appropriate channels will be established by the end of the year.

OILMEN ENDORSE HP, UNISQL OBJECT DATABASE TECHNOLOGY

Petrotechnical Open Software Corp - the oil industry's open systems user group - has plumped for Hewlett-Packard Co's object-oriented database, OpenODB, and Austin, Texas-based UniSQL's relational-to-object technology as the database elements of its Software Integration Platform (SIP). SIP is a set of interface specifications which POSC hopes will allow commercial vendors to market portable interoperable software. POSC has licensed OpenODB and UniSQL documentation after evaluating 29 submissions to its request for proposal, and says it'll publish initial SIP specifications next year so that vendors can begin upgrading their products or developing new ones to its specification. The reason behind SIP is, according to POSC president, Dan Turner, that "for every dollar that companies spend on software, they spend \$1.50 to \$2.00 more to get their programmes to work with the rest of their systems. Exploration and production companies have to manage huge amounts of data from diverse databases and business disciplines. They need to achieve cross-discipline data interpretation in order to produce better technical results." POSC believes non object-oriented methods of integrating data can take weeks or months - if it's done at all due to the complexity of what's involved. Object-oriented approaches should reduce this time dramatically, POSC says.

MEIKO "PLANS TO DROP i860"

In the UK, Meiko Scientific Ltd, Bristol, the research and development arm of Waltham, Massachusetts-based Meiko Scientific Inc, is expected to drop Intel Corp's 80860 RISC from its next-generation of massively parallel, multiple instruction multiple data (MIMD) transputer-based systems which are due later this year. Instead it is thought Meiko will use the Fujitsu Ltd VP single-chip vector processor for floating point operations alongside the Texas Instruments Inc Viking SuperSparc for scalar operations, although Meiko has said that Cypress Semiconductor Corp's HyperSparc will be considered once it became available (UX No 385), and that the i860 could work with the new architecture if required. Meiko's new system is expected to be announced at the IEEE supercomputer show in November with ships of smaller systems by the end of the year and systems with 2,000-plus CPUs next year.

DELL "TO SPIN OUT UNIX DIVISION"

Reports have Dell Computer Corp considering spinning its Unix work out into a standalone division or subsidiary: the company is now up to Issue 2.2 of its reprise of SVR4, one of the more robust implementations available for PCs and PC-class servers. Issue 2.2 includes X11R5, Open Look and Motif. Dell is selling it bundled on its machines for \$500 for two users, \$800 for unlimited. Standalone it goes for \$1,000 and \$1,300 respectively. Dell intends transitioning to Solaris 2.0-on-Intel, starting with a \$100 Solaris Developers' bundle in the third quarter.

SYSTEMS CENTER TO COMMERCIALISE PRINT TECHNOLOGY FOR OSF DISTRIBUTED MANAGEMENT ENVIRONMENT

The Open Software Foundation has chosen Reston, Virginia-based Systems Center Inc to provide the Palladium print services for its Distributed Management Environment, DME. Palladium, which got the nod back in September 1991 when OSF announced the winning DME technologies, heralds from the Massachusetts Institute of Technology's Athena project, with support from DEC, HP and IBM. Systems Center will upgrade Palladium source code to a commercial standard. Using OSF's Distributed Computing Environment alongside Palladium, Systems Center is putting together a bundle of ISO DPA 10175 and Posix 1003.7.1-compatible distributed print services which it will supply to OSF in 1993. It'll include a user interface, print supervisor, print spooler, base code, documentation and an application user interface. OSF will introduce them as part of its release of DME phase 2. Systems Center will hold a conference for printer manufacturers this November to discuss that industry's requirements.

TOPLOG FORMS NEWNIX TO MARKET UNIXWARE

Although French Unix distributor TopLog International SA hasn't officially signed-off on a deal with Univel Inc to market UnixWare (UX No 400) in Europe, the Paris-based company last week said that it is forming a new company, Newnix, to handle its Unix and UnixWare business from November, after the paper is inked. TopLog says it is only waiting on Univel to get its stuff out of the door and was originally set to go this month. The former Metrologie unit was Santa Cruz Operation Inc's first partner in Europe and says that the relationship will continue.

NCR's ADDS TURNS TO INTEL'S 80960 RISC FOR NEW X-STATIONS

As expected (UX No 398), Applied Digital Data Systems Inc, NCR Corp's Hauppauge, New York-based terminals subsidiary, has traded in its allegiance to Motorola Inc 68000 family chips and switched to RISC with the Intel Corp 80960 for a new line of X-stations introduced last week. The company says it has been previewing the new X-stations for three weeks and has already taken orders for over 2,300 units. The new 3533 XLR line of stations comes in nine models offering a variety of monitor sizes in monochrome, grey scale, and colour. They offer simultaneous operation of a local network connection and two serial ports plus a separate parallel port for network printing, and xEasy software to help manage installation, operation, and remote administration of the X-station; xEasy encompasses a range of X-station-specific processes, scripts and software features designed to enhance the installation, operation and maintenance of X-Windows-based terminals from both a system administrator's and a user's viewpoints. The XLR X-stations offer standard XTerm, local client support of Motif Window Manager and VT220 terminal emulation, and two serial and one parallel ports, the company says. The line offers an automated host installation and is fully scripted for NCR, Sun, HP, DEC, and IBM hosts. ADDS is also previewing a 3270/X programme that provides an X-Window migration path for IBM 3270 terminal users moving to NCR's System 3000 Unix line. The 3270/X software will provide 3270 client capability, with integrated access to other network resources such as Unix, X-Windows applications and standard character terminal applications, and is planned for first quarter 1993. With monitor, keyboard, mouse and 4Mb memory, the XLR14C, 14" colour 1,024 by 768 pixel model is \$3,100; the XLR15C 15" variant of that is \$3,400; and the 17" XLR17C version is \$4,300. With the same memory and peripheral content, the XLR17CHR is a 17" colour 1,280 by 1,024 model at \$4,900, and the XLR19CHR 19" version of that is \$5,900. The XLR17G is a 17" grey scale 1,152 by 900 model at \$3,100, and the XLR19G is a 19" 1,280 by 1,024 variant at \$3,500. The 17" and 19" mono versions are \$2,600 and \$3,000 respectively. ADDS is offering Unix Expo exhibitors free terminals for the run of the show. Call Ed Mantaring at (516) 231-5400 ext 834 or fax him at (516) 231-7378.

SUNPRO CALLS ON RUSSIAN SCIENTISTS FOR SPARC COMPILER TECHNOLOGY

SunPro, Sun Microsystems Inc's software development operation, is bringing in Russian software expertise to help it develop compiler-level products which will improve the performance of applications running on Sparc RISC-based systems. SunPro has hired a team of 33 software engineers on a renewable six month contract as an extension to its core engineering group. The team is to be lead by Dr. Boris Babaian of the Russian Academy of Science, inventor of the Elbrus-3 supercomputer which was developed for the Soviet space programme and is reported to be three times faster than a Cray Y-MP. The team members previously worked on developing the software optimising compilers for Elbrus, and it is this technology in particular that SunPro wants to take to the US. Groups in Novosibirsk and St.Petersburg will work on enhancing SunPro's Fortran and Pascal Sparc compilers, whilst a unit based in Moscow will be optimising the Sparc compiler to allow applications to run faster. Although Sun has other existing engineering projects which utilise Russian expertise - also lead by Dr. Babaian - these are focused purely on research, and Sun claims that in employing Russian scientists to develop commercial products it is breaking new ground for a Western firm.

EUROPEAN ROUNDUP

Farnborough, Hampshire-based, **Knowledge Software Ltd's** Open Systems Interface Checker is now available on Sun Microsystems Inc Sparcstations, the software costs £10,000 for a single user licence: OSIC checks adherence to open systems standards, including X/Open's XPG, Posix and ANSI.

Cirencester, Gloucestershire-based start-up, **Beaver Valley Systems Ltd**, has signed to market **Precision Visuals International's** PV Wave visual analysis software: BVS, an X-Windows specialist was formed by refugees from Meiko and DEC.

Watford-based **Xanadu Systems Ltd** is to distribute **Jupiter Systems Inc's** multi-headed X-terminals in the UK.

Pure Software Inc, Los Altos, California, has signed with **Productivity Through Software Ltd** in Manchester: the UK firm will distribute and support Purify throughout Europe.

Broughton International, a Cincinnati, Ohio company that provides sales and marketing services on an outsource basis to US and UK developers of Unix-based cross-industry software, has signed with UK firm **Primary System Software International** for exclusive distribution rights in the US and Canada: Primary's products including UniQPrint, UniQBatch, UniQFax and UniQTelex help manage those functions.

Siemens Nixdorf Informationssysteme AG has stepped up its relationship with Burlington, Massachusetts-based **Xylogics Inc**, and is to integrate the firm's Annex communications servers into its Intel Corp-based MX and MIPS Technologies Inc RISC-based RM300 and RM6000 Unix systems: the deal is worth some \$5.25m over three years.

And **Sun Microsystems Installed Base Group**, the European division responsible for touting third-party peripherals to the Sun aftermarket, will market, install and support **Xylogic's** Annex Three communications server as its local area network server.

Bracknell, Berkshire-based **Acuity Management Systems Ltd** has released version 3.0 of its Acuity/ES executive information system and decision support system for Unix, Windows and VMS.

German Unix house, **IXOS Software GmbH**, Munich, is searching for new distributors to market its iXView/SQL query generator across Europe and the US.

IMI Computing Ltd's Hemel Hempstead, Hertfordshire-based **Uniplex Ltd**, is to port its office software - including the next-generation object-oriented Nouveau suite - to DEC's Alpha RISC.

In the UK, London-based **Video Dynamics Ltd**, has announced Sprint GXU, a display adapter for Intel Corp-based personal computers running Unix: the adapter is claimed to bring workstation graphics capabilities to a PC and costs \$500.

Sun Microsystems Inc workstations will be used as reference platforms for all software developed by the Swiss Electronic Stock Exchange: the **Association Tripartite Bourses** - an association of Switzerland's three stock exchanges - Basle, Geneva and Zurich - will use Sparcstations to develop a new trader's interface.

According to **Computerwoche**, the head of **DEC Deutschland GmbH** Hans-Jorg Rieder is to be replaced by Hans Wolfgang Dirkmann at the start of October, who is currently managing director and chairman to the **Digital-Kienzle Computersysteme GmbH** acquisition.

Siemens Nixdorf Informationssysteme AG's Unix-based secure operating system, **SecTOS**, has been awarded a security classification from the newly formed European Information Technology Security Evaluation Criteria, ITSEC.

IBM Corp has signed an OEM agreement with **Synchronix Diffusion SA**, Paris, France, for **SX-M-View** software which allows users to hot-link applications into graphic X-Terminal environments.

UK financial software house, **Clarke and Tilley Ltd**, based in Cheam, Surrey, has released **Uptix**, a multi-currency management system, attempting to revamp its profile in the open systems market.

Ultimate Corp reports an order for a second large **Sequoia Computer Systems Inc** fault-tolerant Unix machine from Moscow-based **Almazjuvelir Export**: the firm is to use a Motorola 68030-based Sequoia Model 300 2.2.2 computer system worth about \$880,000 - and is paying in hard currency. Ultimate has installed about 50 systems to date in the Commonwealth of Independent States; Almazjuvelir Export can pay in hard currency because it exports over \$1,000m annually in jewellery, precious metals and gemstones and holds exclusive rights to manufacture reproductions of the Faberge eggs.

ICL Plc is to resell Alton, Hampshire-based **Multisoft Financial Systems Ltd's** Multisoft Premier Plus financial package: the agreement, handled by the CPS arm of ICL's Associated Services Division, comes as part of a new initiative by the Putney, South London-based **Fujitsu Ltd** affiliate to expand its Unix application software portfolio.

Egypt's **Banque du Caire** has signed up to use ICL DRS6000 boxes running Arabank, a branch banking application, at its Cairo headquarters and branches - the deal is worth £2.8m.

ICL Plc and **Investment Intelligence Systems Corp** of Delaware, have jointly acquired the assets of **Forex Advisory Services Ltd**, based in Chelmsford, Essex: the deal gives the two control of intellectual property rights, control of **BankWide** Unix-based system and the **Interactive Dealing Support System**; ICL is keen to market **BankWide** in what it describes as "emerging economies" while IISC believes that IDSS will be of special interest to banks and brokers across Europe.

In the UK, **Unix International's** next Open Exchange conference takes place on September 9th, the subject for debate is Unix-based on-line transaction processing systems.

London-based, **Alex Technology Ltd** has launched **Alex QA**, a quality assurance and testing tool for its graphical user interface products: **Alex QA** is available from September for Motif or Open Look - prices start at £3,000.

Logitek, the UK distribution arm of **Microvitec Plc**, Bradford, West Yorkshire, has teamed up with **ICL Plc** to distribute **TeamOffice**, ICL's office network management product.

UK, London-based, **RCS Microsystems Ltd** is to distribute **Tritec Electronic GmbH's** **GXC-1** graphics accelerator board: it is targeted at the CAD and simulation market and plugs into Sun Microsystems Inc's Sparcstations.

UK, Cambridge-based **Unipalm Ltd**, has released **Doors**, an X-Windows virtual window manager that extends the working space for OSF/Motif users: **Doors** costs £10,000 for source code, £3,000 for a single site licence.

In the UK, financial application developer, Portslade, Brighton-based, **Shortlands Computing Services Ltd**, has renamed its multi-lingual, multi-currency financial management suite, **Shortlands Financials**.

Scottish firm, **Edinburgh Portable Compilers Ltd**, has launched **EPC C++**, a native C++ compiler, and the **EPC Debugger**, an interactive debugging system: EPC's technology will support SunOS, AIX, SVR4, SCO Unix and Interactive Unix.

Integrated Device Technology Europe Ltd, Leatherhead, Surrey, is to host a series of two day seminars for embedded system developers and programmers building MIPS-compatible RISC controllers: the seminars, in London run from September 4th-22nd October.

Harrier Computer Systems Ltd, Finchampstead, Berkshire, has been appointed sole UK distributor for **Legato Systems Inc's** Networker backup and storage solutions.

Intergraph Corp's European Users' Conference - **EuroGUG '92** - is being hosted by the Intergraph UK Graphics Users Group and takes place at the Birmingham Metropole Hotel between November 2nd and 5th.

COMMERCIAL MARKET FAVOURS X ON PCs, SAYS NEW REPORT

Sales of X-Windows software and X-terminals are still booming, according to the X Business Group, which estimates growth in the X-terminal business at around 100%, while sales of PC X-server products are growing at an astonishing 300% (UX No 398). Part of that growth seems to be due to the fact that, until recently, most PC-X servers were unreliable and slow. Unit sales should top 175,000 units this year, up from 58,500 last year.

Of last year's sales, worth \$15m, 26,600 were MS-Windows-based, 4,000 Macintosh based and the rest were MS-DOS. Hummingbird took a commanding lead (29%) of the MS-DOS business, but lost out to the UK's VisionWare in the MS-Windows sector through not having its product ready in time. The latest entry, Quarterdeck with the long-awaited Desqview/X, however, has been stirring up the market with some high profile selling, backed by a positive reception from the industry. White Pines Software Inc of Nashua, New Hampshire was the star in the Macintosh world. According to Stephen Auditaire of the Fremont, California-based X Business Group, corporations are adopting X as a component of their PC integration strategy - and that won't necessarily affect X-terminal business, as PCs are normally used only for occasional access to corporate databases, not the constant heavy graphical use more suited to X-terminals. A different story emerges if you approach the two sides - Hummingbird maintains that X-terminals will soon be obsolete, that PCs are cheaper (especially for colour) and more functional, offering access to PC applications as well. Tektronix says that PCs, even with the 486, are far slower, that hidden costs such as graphics cards make them more expensive, that TCP/IP is hard to install and maintain on a PC, and that X-terminals are easier to administer. According to **Personal Computers and the X Window System**, the latest report from the X Business Group, it is the take-up of X by commercial customers that has caused the explosion, with database access expected to account for 32% of sales, mapping and GIS 16% and CASE 11%. Last year, 46% of sales were to CAD/CAM users: this year that may drop to just 8%.

X-terminals

Meanwhile, the X-terminal market is still dominated by Network Computing Devices, which in 1991 achieved a 25% share of the \$358m business, followed by HP's 17%, DEC's 14%, IBM's 11% and Tektronix's 7%. NCD's share shows no sign of slipping, says Greg Blatnik of the X Business Group, even though the system vendors are all likely to increase their share - one reason might be that it's more important for NCD systems to work with a variety of hosts - Peter Wellings of NCD's UK distributor Xanadu claims that DEC, for instance, has had its X-terminal success mostly confined to existing DEC installations. It is, however, now committed to find its own end-user business, and is thought to be talking to Olivetti & Co SpA. Tektronix, the other main independent, drastically slashed its prices at the Xhibition trade show back in June in an effort to increase its market share. If Blatnik's analysis is correct, then things look bleak for the smaller vendors, all trying to gain a significant share of the action. And if Sun Microsystems does an about turn and endorses the X-terminal with a product of its own (UX No 399) the figures will no doubt change round once again.

OVUM SEES SLOWER TAKE-UP OF OBJECT TECHNOLOGY

A new report from London market research firm Ovum Ltd, based on a survey of 250 suppliers worldwide, suggests the market for object-oriented systems in the US and Europe is currently worth some \$865m and will rise to \$4bn by 1997. Although the market is growing by some 69% per annum now, Ovum says that's already down 10% on its 1991 report's prediction, and will fall to 27% per annum by 1997. Apart from general recessionary influences, Ovum cites a slower take up of the technology than had been predicted as a reason. Dividing the market into languages and programming environments, application development toolkits, object-oriented database management systems, and Case tools, Ovum says sales of languages and programming environments accounted for 58% of the object-oriented market last year, development toolkits 27%, Case tools 9.3% and databases 5.7%. By 1997 it estimates development toolkits will account for 31.7% of the market, languages 25.7%, databases 25.6% and Case tools 17%. The report, "Object Technology: Suppliers, Products and Markets," costs £500 - \$800.

EUROPEAN SALES OF PACKAGED UNIX SOFTWARE BOOMING SAYS IDC

Sales of shrink-wrapped software for Unix systems is outstripping growth in shipments of Unix hardware by nearly 2 to 1, according to a new report by IDC Europe. It expects packaged Unix software sales to grow by a compound rate of 22% a year to 1997 in Europe. The overall European Unix software market increased in size by 25% in 1991 over the previous year, according to the report, whilst the Unix hardware market was pegged at 15%. Unix tools saw a 28% growth - because of increased revenues from database engines, data access and executive information systems, says IDC. Application sales grew 25% and systems software sales grew by 23%. The value of the European database market increased by 37% to \$231m and now constitutes 45% of the worldwide market (larger than the US portion).

FOUR SEASONS DEBUTS CASE TOOL

New Jersey firm Four Seasons Software, the database-independent tools and services provider, is entering the CASE market with a second product, 4S-Briefcase, that reportedly enables integrated automation of the entire application development life cycle. The product, to debut at Unix Expo, uses the data model produced by several popular front end CASE products as input. It then automatically produces a running application consisting of menu structures, forms, query mechanics and reports without any 3GL, 4GL or SQL programming, the company said. Most CASE uses have to take output from a front-end CASE tool and create applications with a 3GL programming language or a back-end CASE tool. The generation process is managed by a set of "recipes," reusable code describing the scope of functions and objects to be generated. After initial generation, the developer can fine tune the process. 4-S Briefcase can be customised but also offers a pre-configured recipe. Available immediately, pricing ranges from \$720 to \$26,000.

CARNEGIE MELLON READIES "PERSONAL USE" \$100 MACH FOR MAC

While Tenon Intersystems Inc of Santa Barbara, California, has been shipping its MachTen implementation of Carnegie Mellon's Mach operating system for the Macintosh for a year or so now (UX No 341, 393), a separate effort at the University itself is now complete and ready to go. The MacMach project, headed by Zonnie Lee Williamson at Carnegie Mellon, is currently in for some last minute testing at Apple before the distribution goes out. Unlike the Tenon effort, MacMach is not offered as a commercially supported product, and requires a "personal use only" agreement. In return you get "all" the sources. Based on the Mach 3.0 kernel with the CMU BSD/Unix server, it will run on an SE/30 or a MacII and its x, cx, ci, and fx editions. System requirements are at least 8Mb RAM, and from 80Mb to 600Mb disk space, and it works with standard display and Ethernet cards. Some combinations of machine type, RAM and system type may cause problems. "MacMach works with the systems I run it on. I can't assure you that it will work on your machine - it should, but it might not", says Williamson. It boots from MacOS System 6.7 or 7.0, 24 or 32-bit mode. Distribution from Carnegie Mellon will be on CD-ROM, priced \$100. And Williamson emphasises that a BSD/AT&T Unix license is required, and that MacMach, containing BSD 4.3 source code, is not a public-domain product. In contrast, Tenon's commercialised MachTen sits on top of MacOs and runs as an application, eliminating the problems of supporting the various Mac devices, boards and applications. It also supports Quadras and Powerbooks, and works with System 7. A future release, due this autumn, will provide Mach virtual memory and protection, beyond that already provided by System 7. Carnegie-Mellon email: info-macmach+@andrew.cmu.edu Tenon Intersystems: 805 963 6983.

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Santa Clara, California-based **Integrated Systems Inc** has announced version 1.1 of its Xmath mathematical tool for X-Windows and Motif: prices start at \$2,500 on Sparcstations and DECstations - Hewlett-Packard Co, Silicon Graphics Inc, IBM and VAX/VMS editions follow.

Siemens Nixdorf Informationssysteme AG has added new Motorola Inc 33MHz 68040-based models to its Targon /31 series of Unix systems: the uni-processor 35 is rated at 20.6 MIPS and comes with up to 128Mb RAM and 3Gb disk, the dual-CPU model 65 comes with from 64Mb to 256Mb disk and is priced at from £64,000 - both run the Unix SVR4-based Sinix-TOS V5.41 operating system.

CompuServe Inc's Tampa, Florida-based **Collier-Jackson** subsidiary is to integrate and market **Cognos Inc's** PowerHouse application development environment with its World Class Series accounting and staff management software.

San Diego, California-based **Audre Recognition Systems Inc's** document conversions software is now available under SunSoft's Solaris 2.0.

Hewlett-Packard Co says it's exploring the notion of porting **Microsoft Corp's** NT to its PA-RISC chip.

Hitachi Ltd, one of HP's PA-RISC wins, has been off developing its own proprietary 32-bit RISC chip for embedded applications: it should start sampling later this year.

The **Santa Cruz Operation** has reversed itself on what to name its SCO Forum "Product of the Year" and has gone with **Applix Inc** after getting complaints that **Clarity Inc**, its first pick, was not delivering on the SCO platform nor did it even have such an animal in beta: SCO is kind of lax in its standards. Last year it gave the award to **Island Graphics Inc** which then wasn't on SCO.

Uniform's executive director Ed Palmer will be retiring: they've hired a headhunter to search out a replacement. If you think you can fit the bill call Jeff Christian at Christian & Timbers in Cleveland, Ohio (216) 464-8718.

Uniform and Patty Seybold's Group, co-sponsors of Executive Uniform, have parted company: Seybold is now going to host her own Open Systems Forum in Boston next April, promising to deliver a lot more users than Executive Uniform ever did. It'll be part of what she calls the Seybold Marathon Week, coincident with the Boston Marathon and the Distributed Objects Computing Forum and the Executive Forum which she'll also run. Nina Lytton of **Open Systems Advisor**, who previously hosted Executive InterOp, will now run Executive Uniform which will be held right before Uniform in March.

Judith Hurwitz, now head of the **Hurwitz Consulting Group**, says the whole tone of SCO Forum was different this year and obviously indicates they are jockeying to go public - even though they'll need a couple more quarters at least to get the kind of track record they need to do it. Hurwitz says they need to go public to sell their products to large corporations who don't want to mess with a small privately held firm. She also figures SCO has despaired of leveraging their relationship with Microsoft, which owns a piece of the company, in any way. In passing she noted that Open Desktop wasn't original to SCO. The idea started with DEC who conceived it as an anti-OS/2 move fronted by DEC Windows.

Hurwitz also had a one-on-one recently with **Microsoft's** NT manager Dwayne Walker who was trying to position NT as "mission critical." She claims this is a code word for "we don't expect it to be widely used." She figures they're having a hard time positioning the thing and don't want to mess up the good thing they have going with Windows.

NCR is expected to announce a full Unix implementation of its Cooperation office software running on Intel machines at Unix Expo.

Unix System Labs will kick off a Destiny software branding programme at Unix Expo: a kit including binary, documentation and test list will go for \$500. Version 1 of SVR4.2 was frozen in early August. Work is still ongoing with Version 2.

The **Usenix Systems Administration Conference** has been scheduled for October 19-23 at the Sheraton Long Beach in Long Beach, California.

88open has decided to offer its system and application compatibility test suites - ITS/88, AVS/88 and ACT/88 - to industry consortia and companies: although to date they have only been available for Motorola Inc 88000 RISC based systems, interested parties would presumably customise the sets for other architectures.

MAI Systems Corp, Tustin, California, has released MAI Financial Solutions, a set of financial applications for the **Sybase Inc** database: each of the four modules costs around \$40,000. MAI - (313) 347 9070.

At **SunWorld Expo** in Japan **Texas Instruments Inc** was showing off and integrated SuperSparc module combining multi-processing unit, cache controller and eight RAM circuits: TI is now shipping 33MHz and 40MHz SuperSparcs - though apparently it's not happy with 40MHz yields - 45MHz, 50MHz and 75MHz versions (the latter for 1993) are planned.

IBM US is going to start selling its Unix boxes and components through a mail order catalogue. End users and resellers alike will be able to order complete systems, parts and add-ons like memory boards, disk and tape drives, graphics adapters and software from the "RISC System/6000 Direct Order Catalogue." All species of 6000 system, both workstations and servers, are included. IBM has set up a toll-free number to handle calls: (800) IBM-CALL. The catalogue has been distributed to current customers and resellers and will ship with all units.

Unix International members including **Data General, Fujitsu, ICL, NCR, Sun and Unisys** have formed the **UI Singapore Marketing Group** to raise SVR4 awareness in the local market.

Rosewell, Georgia-based **Computone Corp** has reorganised again: Ed Marinaro, currently an advisor to **Ventana Growth Funds** and past president of **Cipher Data Products**, has been named chairman and chief executive officer. Robert Niehaus, a director of the company who previously ran a speciality construction firm, is now president and chief operating officer. Former president Tom Tanis Jr will continue on as executive vice president of sales and marketing. Computone lost \$1.1m on sales of \$22.7m the year ended April 3, its second annual loss in a row.

SunSoft Inc claims to have a multiprocessing version of Solaris 2.0-on-Intel running in the lab.

Sun Microsystems Inc is claiming it's booking orders and delivering production units of Viking-based Sparcstation 10s in volume as it promised it would.

Hewlett-Packard hears DEC is rewriting its Alpha instructions.

Travellers back from Japan say that profound things are happening over there and that despite the buffeting the Japanese companies are taking from the recession they continue to invest in their Unix operations. Our Unix bigots initially thought these long-term investments might be among the first to go. Our travellers also noticed that the highly profitable Japanese office automation lines, sold in the home market and historically proprietary, are now taking on new Unix guises.

Hewlett-Packard Co folks laid us a false trail a few weeks ago when we reported - on their say-so - that the company would be letting two more Snakes out of the basket come mid September (UX No 397). As it turns out, those particular Snakes were never in the cards, at least not for this month. HP's September announcement - and this is gospel - will be two high-end Series 800 multi-user business servers incorporating the latest implementation of HP's PA-RISC chip, the 7100. Hewlett-Packard will also come out with a new revision of its HP/UX operating system, tarted up with some additional commercial and technical functionality.

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PINNACLE IS CYPRESS SEMI'S FIRST CUSTOMER FOR HYPERSPARC

Pinnacle Data Systems Inc, one of the Sparc system manufacturers that plans to build a workstation compatible with Sun Microsystems Inc's Mbus-based Sparcstation 10 (UX No 392), is set to become the first customer for Cypress Semiconductor Corp's 64-bit HyperSparc RISC chip, a CPU which has garnered no discernible industry support since its launch back in May (UX No 385). Pinnacle, based in Columbus, Ohio, had originally planned to use the Texas Instruments Inc 64-bit SuperSparc that Sun is using in its latest workstations, but realised some time ago that it was waiting at the back of a long line of manufacturers queuing for a trickle of SuperSparcs being thrown their way. At last week's Orbit trade show in Switzerland, Pinnacle was showing off the first in what will be a family of Mbus PDS-3 systems that'll house Hypersparc and be followed by PDS-10, Sparcstation 10-compatibles next year. The initial PDS-3 offering uses the Mbus SparcSet chip set designed for Cypress by Santa Clara, California-based start up Nimbus Technologies Inc for Sparc builders, which will take HyperSparc when it is ready (UX No 383). With one Mbus slot and two Sbus slots the workstation currently houses a standard 40MHz Cypress Sparc and offers Sparcstation 2-level performance - 32 MIPS and 28.5 SPECmarks. With 32Mb RAM and 500Mb disk housed in a Sparcstation 2 enclosure, 16" colour screen and a year's warranty it comes in at \$13,500. It's expected to be available in the UK by the end of next month. Cypress' superscalar CPU plugs into its Nimbus-designed motherboard and Pinnacle is shooting to deliver four HyperSparc models by the end of the year. The first will use a 55.5MHz iteration of the chip, deliver up to 110 MIPS, 58 SPECmarks, 55 SPECfp and 26 MFLOPS: it's being pegged at \$17,300. A dual-processor model will go to 203 MIPS, 107 SPECmarks, 101 SPECfp and 42 MFLOPS the company says. PDS-3s with 66.7 MHz HyperSparcs will also appear in uni and dual-processor configurations. The first is rated at up to 133 MIPS, 70 SPECmarks, 64 SPECfp and 32 MFLOPS; the second, with two processors will go to 245 MIPS, 129 SPECmarks, 118 SPECfp and 50 MFLOPS. There's even a 100MHz dual-processor penned for the second quarter of next year using Cypress' promised three-layer, 0.5 CMOS technology, touted at up to 320 MIPS, 162 SPECmarks, 142 SPECfp and 77 MFLOPS. The PDS-3 machines, which the company says it is pitching between Sun's Sparcstation 2 and Sparcstation 10 offerings - will be available in the UK from Pinnacle Data Systems Europe Ltd, Dunstable, Bedfordshire - formerly known as Unix Solutions and now trading under the Pinnacle name - with European distributors being lined up. A Sparcstation 10-compatible series - PDS-10 - will follow next year, the company says, complete with a new motherboard to house four Mbus slots. It will also use HyperSparc if its role in the PDS-3 pleases, Pinnacle says.

IBM TO MAKE ITS MOVE ON CICS/6000 AT UNIX EXPO

IBM Corp is expected to make its long-awaited move to extend the widely used CICS - Customer Information Control System - transaction processing environment to Unix on September 22nd, the first day of the Unix Expo trade show in New York. But, said competitors, IBM is likely to announce dates rather than products. Once expected by the end of last year, and the subject of technology demonstrations earlier this year, the exact scope of CICS/6000 is still not clear, but it is expected to include a number of technology elements from other vendors, including MicroFocus Cobol, parts of the Open Software Foundation's Distributed Computing Environment (DCE) technology, and Transarc Corp's Encina transaction processing software, developed with IBM's backing. While waiting for these elements to become commercially viable partly accounts for the delay, IBM also has reason to be cautious about allowing its mainframe customers to run existing transaction processing applications on smaller - and far cheaper - RS/6000s. Already a number of companies, including Bull's Integris division and Dallas, Texas-based VISystems Inc are doing just that, as well as offering the facility on non-IBM kit. VISystems marketing manager John Phillips claims IBM's product is unlikely to allow migration from current VSAM (virtual storage access method) files, used by 60% of IBM Cobol applications, or from RDBMS (DB2) files. "IBM will say it has the same API everywhere, and that users can retain code", he says, "But it's not promising that it will work unchanged". (VISystems - see page 5).

SUN LABS WORKING ON NEW NFS FOR DRAGON MP

Sun Microsystems Inc's Network File System, which is now into its seventh year with no changes, is set for an overhaul, according to **Electronic Engineering Times**. It says Sun's Colorado Springs-based SunLabs research unit is working to improve NFS file-handling and add multi-threading capabilities as part of a project called Medusa, which appears to be anticipating a need generated by the company's anticipated high-end multi-processing servers and the SunDragon (UX No 369). Improved NFS performance also lies at the heart of the company's desire to recapture ground in the market for heavily networked NFS systems and software which has been all but hi-jacked by the likes of Auspex Systems Inc, Legato Systems Inc, Interphase Corp and Ceram Inc. The new NFS should eliminate performance bottlenecks which have restricted performance on Sun Sparc systems. The paper reports the protocol works well on systems with up to four CPUs, though when it will roll into the Solaris operating system isn't known. Reportedly there are continuing internal struggles between Sun's hardware unit - which wants the new NFS as soon as possible for its next generation multi-processing servers - and SunSoft, which has already promised multi-threading for NFS, but wants the new features to be part of Solaris 2.1 or higher, and 2.1 isn't expected until mid-1993. Latest reports on SunDragon pitch a 64 CPU multi-processor being around by next summer. Dragon is thought to draw on technology from Sun's collaboration with Cray Research Inc to develop the non-massively parallel Sparc technology that Cray adopted with Floating Point Systems Inc (UX No 369), and may use Fujitsu Ltd CPUs.

NEW SPARCSTATION 10 "MODEL 20"

Meanwhile, in response to Texas Instruments Inc's latest 33MHz iteration of the SuperSparc (UX No 401), sources say Sun Microsystems Inc is almost ready to hit the streets with a further Sparcstation 10 workstation - the Model 20 - using the 33MHz parts. Yields of Texas' 36MHz SuperSparc implementation, due to feature in the Model 30, haven't been as high or as good as yields on a 33MHz part, so Sun, under pressure to get Sparc 10 systems out of the door, is thought to have put together the Model 20 to take advantage of this opportunity. No word on pricing. Other gossip has Sun's low-end Tsunami box - due imminently - cast as Sunrgy.

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X-TERMINALS IN THE SPOTLIGHT; C ITOH REVEALS TALKS WITH SUN ON THE SUBJECT

Anita Byrnes reports from Tokyo

C Itoh Electronics, the trading house subsidiary which is one of the players in the Japanese X-terminal market has shed some light on last month's story that Sun was considering building its own X-terminal (UX No 399). A spokeswoman claimed that Itoh had been involved in discussions with Sun regarding OEM supply of the X-terminal built by C Itoh, but Sun had decided to go its own way. C Itoh Electronics claims sales of 3,000 units since its release of CIT-XE series of X-terminals in September last year. The market leader in Japanese X-terminals is Japan Computer Corp, with aggregate sales of 10,000 units. It is selling internationally through distributors in both Europe and the US. At SunWorld in Tokyo a couple of weeks ago it was displaying a new range of X-terminals based on the MIPS R3000 chip and proprietary ASIC chip called XSA (X-server accelerator). The high-speed monochrome GlobalXM is built around a 25MHz R3000A chip and has a performance of 130,000 Xstones and price of \$4,016 for a 17" monitor with 4Mb memory; GlobalXG is a similar model with 256 shade grey-scale functionality and 80,000 Xstone performance at from \$5,475; GlobalXP is built around the 40MHz R3000A and offers 256 colours and 130,000 Xstone performance at \$8,048, while Global PEX is a similar colour model with floating point accelerator to support PEX, and GlobalXC is the lower 25MHz clock speed with colour and 80,000 Xstones performance, priced from \$6,040. Japan Computer's X-terminals have to date been based on MC68020 and MC68030 technology, including two models of the Xface terminal with an electroluminescent screen.

A number of Japanese independent software vendors were exhibiting at SunWorld show, including developers such as Technology Fukui, a regional company already developing in the computer-integrated manufacturing field and now to offer a building blocks system for a flexible manufacturing control system (called F-Macs) for control of incoming and out going shipments, production line control and automatic warehousing - the system will cost upwards of \$10,000 once it is realised in March next year. Japanese company Dit Co Ltd was showing some preliminary versions of two products developed by itself in the network field - software yet unnamed that enables a Unix machine to be used as a Macintosh back-up device over a TCP-IP network, and an FTP protocol engine which is ready for use in Macintosh applications. Dit also distributes products such as K-Spool from Mt Xinu Inc. Another tool on display was Easy-Call 3.0 from Japanese company Alumex - this provides a database engine for applications coded in C. Since its release three years ago, 1,000 copies have gone to some 200 companies.

Sparcsystems were on display from a number of vendors: Ace K Computer is the sales arm of MicroHelios Ltd of Osaka, which recently announced a Sparcstation 10-compatible machine under the name HelioStation 1000 - this adds to its current Sparc-based Heliostation 400 series and both machines are imported and sold under an agreement with Axil Technology Inc, of San Jose, California, a relatively new player in the compatible market; the prices are about 40% of the Nippon Sun retail price and the company looks to sell 1,500 of the things annually.

Laptop workstations Brite-Lite (from RDI Computer Corp of San Diego) and Tadpole (from Tadpole Technology of Cambridge, UK) are being distributed by Daishin Electric Co of Tokyo, which also carries a desktop compatible DSSUN Station II based on a 40MHz Sparc, built by US company EOS Technology Inc and released in Japan in October last year; the Tadpole machine just announced arrived at the Daishin booth on the first morning of the show; its beautiful active matrix thin film transistor colour screen, 256 colours, external VGA and Super VGA, manufactured by Sharp Corp attracted attention.

ACER'S ALTOS DEBUTS 80486 UNIX SYSTEMS

Taiwanese Acer Group's Altos Computer Systems has introduced two high-end multi-processing Unix system running version 2.0 of Santa Cruz Operation Inc's MPX multi-processing extensions on top of SCO Unix V.3.4. The EISA-based System 10000 supports up to 128 users and is rated by the firm at from 27 MIPS to 70 MIPS. It comes with from one to four 33MHz Intel Corp 80486 processors, from 16Mb to 256Mb RAM, 2.5Gb disk and Altos' 64-bit data path I/O FrameBus device, which it says performs transfers at 264Mb per second. The System 15000 uses up to four 50MHz CPUs, is rated at from 41 MIPS to 160 MIPS and supports up to 200 users. Both are built upon the base hardware technology developed by Acer for the 3000MP Acer-Frame box. The Altos operation is now headed by Ronald Chwang and housed within one of Acer America Inc's business units in San Jose, California - the Altos name retained for its profile in the Unix marketplace. Acer does all the hardware development and manufacturing, whilst the Altos unit adds Unix software (and some hardware) functionality. Acer UK Ltd's Christopher Hay says the company is "comfortable" with SCO's recently declared intention to edge towards Unix SVR4 and says Acer's collaboration in the ACE initiative has provided the firm with the experience of RISC and Microsoft NT should that be required in the future, though it only has Intel's P5 part in its sights at present as far as chip technology goes. Indeed the AcerArc1 ACE box which was built around interchangeable MIPS R4000 RISC and Intel 80486 parts and shown earlier this year running NT is now very much on hold, with the only users being Microsoft and Acer internally. Altos systems are now distributed by Leeds-based Computer Services Technology Ltd and Metrologie UK: Altos' relationship with Microvitec's Logitek plc came to an end a few months ago. Out now, prices for the System 10000 go from £23,000 for 32 users to £39,000 for a 64 user configuration. The System 15000, due for delivery by the end of the year, will sell at around £10,000 more than a base 10000 system.

TETRA ROLLS OUT CHAMELEON 2000

In the UK, Maidenhead, Berkshire-based Tetra Ltd is releasing Chameleon 2000, its business, accounting and manufacturing software package in three phases between now and the end of the year. Phase one - out now - includes a new user interface, report writer, data dictionary, multi-language support, access to Informix-SE, Informix-OnLine or C-ISAM databases and 23 modules. Phase two, due next month, adds a new distribution module - purchase order requisitions - and a capacity planning module for manufacturing. Phase three, promised by the end of the year, will add other accounting and configuration functionality. Chameleon 2000 is available on ICL DRS6000, IBM RS/6000, HP 9000 and SCO Unix-based systems. Prices start at from £2,750 per module except for the payroll - which depends upon the number of employees - though the minimum charge is £3,000 for 100 employees. Separate licences are required from Informix for the database elements. Tetra: +44 628 770939.

SGI TO MAKE INDIGO IN CHINA

Silicon Graphics Inc has signed a joint venture contract with five investors through its Hong Kong subsidiary to create Shenzhen Chess Computer Co Ltd, which will manufacture Silicon Graphics' Iris Indigo RISC personal computer and develop applications for it in Shenzhen Special Economic Zone, China. The partners are Yunnan Electronic Equipment Factory; Shenzhen, Shekou, Jingshan Technology Development Co Ltd; Asia Simulation & Control systems Engineering Corp Ltd; Unison Pacific (USA) Investment Co Ltd; Synergie International Ltd; and Silicon Graphics Ltd. Chess is initially capitalised at \$3.3m and will assemble the entire MIPS R3000A Indigo line for China and export markets, starting at the end of 1992.

SUNSELECT HAS NETWARE FOR SPARCS

Sun Microsystems Inc's personal computer integration unit, the Billerica, Massachusetts-based SunSelect, has launched NetWare SunLink for Sparc RISC systems, enabling Sun users to link up to Novell Inc NetWare-based MS-DOS, Windows and OS/2-based computers. SunSelect says it is aiming the long-promised software at personal computer users who want to integrate their existing Novell local area networks with Sun Sparc systems and those wishing to upgrade the capability of their Intel-based networks with the addition of a host Sparc system. NetWare SunLink will allow PC users to share applications data, file and print services across based Unix networks - with no changes required in the client software - but most importantly, it provides a Novell NetWare gateway to NFS, Sun's Network File System which is used widely in the industry. NetWare SunLink is based upon Novell's NetWare for Unix version 3.11. Supporting the announcement, Oracle Corp says it will offer the Oracle 7 database and SQL*Net V2 for NetWare SunLink immediately, whilst Ingres Corp is to add compatibility in version 6.4 of its database from the first quarter of next year. Supplied on compact disk, NetWare SunLink runs on SunOS 4.1.x operating systems and above, under the Open Look graphical environment, though it is also supplied with a command line interface. US prices go from \$2,000 for a 12 user licence to \$12,000 for a 250 user copy. UK pricing will be announced this week. SunSelect will push the software through Sun Microsystems Computer Corp's distribution network initially - the parent hardware company will sell it too - but says it will build a channel of its own outlets in future. That'll include both Novell resellers and third parties used by the database partners. SunSelect has already signed ComputerLand and Access Graphics to peddle its wares in the US. UK outlets include London-based Business Systems Group, Morse Computers Ltd and Birmingham-based Specialist Computer Centres Ltd. Warrington-based Technology plc, Sun's UK master distributor (now owned by ICL Plc) won't carry the product, although Merisel-DNS, the company's master distributor in Germany, will.

SUN UK CLAMPS DOWN ON BOX-SHIFTING VARs

In the UK, Sun Microsystems' drive to flush out some of the value-added resellers which it says don't actually offer any value-add (UX No 399), will take the form of a new contract which they'll have to sign to become authorised VARs. The new agreement is expected to give Sun new teeth to strike off those which don't meet its mark. At least one of Sun's satellite businesses last week voiced concern over how a VAR would be defined under the agreement whilst resellers Unigram.X spoke to expressed dissatisfaction with Sun's 'get-tough' policy. The idea is to "discourage box-shifting," says Sun UK channels marketing manager, Alistair Huston.

COMPUTERVISION AGREES TO SELL PRIME INFORMATION/OPEN TO VMARK

Computervision Corp so wants to put its sad ownership by Prime Computer Inc behind it that it is remaking itself in the pure computer-aided design software image of the company Prime acquired as quickly as it can. The Prime hardware side is now closed and the company has a letter of intent to pass on what is left of the Prime Information Pick-derived database system to Pick-under-Unix specialist VMark Software Inc, Framingham, Massachusetts on undisclosed terms. The latest iteration is the PI/open Unix version, which was launched by Prime a few months before its effective demise. The proposed agreement also would establish a strategic alliance whereby Computervision will resell VMark products, and its Service Business Unit will provide worldwide support for PI/open and VMark's uniVerse products. The Service Business Unit is what was originally Prime's in-house maintenance operation for its 50-series minicomputer users, which now touts for third party maintenance and support business as well as continuing to support the dwindling PrimOS base. The support agreement will have an initial term of five years. PI/Open is object-code compatible with Prime Information which is installed on an estimated 6,000 Prime 50 Series minis and adds SQL support.

FUJITSU BUILDS VPP500 OF 1.6 GLOPS VECTOR PARALLEL NODES

As promised this July, Fujitsu Ltd has released its new VPP500 series of vector parallel processors - claiming them to be the most powerful supercomputers in the world. The VPP500 system features a series of 1.6 GigaFLOPS vector processors, in parallel configurations of from seven to 222, offering performances of 11.2 to 355 GFLOPS - the nodes can be added one at a time. The VPP500 features virtual global memory space to offer the user maximum system memory capacity of more than 50Gb. The individual processing elements are fabricated using Fujitsu's 25,000-gate Gallium Arsenide arrays - Fujitsu makes GaAs arrays under a second-source pact with Vitesse Semiconductor Corp - and 72,000-gate BiCMOS arrays. Each element combines large capacity vector units and long instruction word RISC processor scalar units and boasts up to 256Mb of static RAM. A crossbar network connects the processors at 800Mbytes per second. The activities of all the processing elements are handled by up to two 128Mb control processors, with long instruction word RISC processors and transfer rates of 2.1Gbps. The VPP500's operating system, Fujitsu's UXP/VPP, is based on Unix System V.4, and supports Fortran 77, Network Queuing System and floating point IEEE format, for compatibility with other mainframe and supercomputers. It also has a built-in fault detection system which effectively off-lines defective elements, while the remainder continue operations. The VPP500 is aimed specifically at "grand challenge" scientific and technical applications such as oil exploration, engine design aerospace, environmental analysis, and molecular design where, Fujitsu claims, it will help to realise hitherto impossible tasks. Prices start at £5m for the entry-level seven-processor model - high-end models will be priced on a bid basis, although \$125m is suggested as the price for a 222-processor models. Commercial shipments start in one year's time. Its target is 20 Japanese and 30 international sales over three years. It claims to be number two in supercomputers with more than 160 machines installed.

BORLAND BRINGS ENHANCED INTERBASE INTO THE PARADOX WORLD

The real prize that persuaded Borland International Inc to buy Ashton Tate Corp was not the fading dBase product line but the InterBase relational database, and last week, the company brought Interbase into the fold with the launch of Interbase server and Paradox SQL Link, which combined, enable the first connection between InterBase and Paradox 4.0. As well as support for Paradox SQL Link, InterBase 3.3 adds new language driver technology for international usage and precompiler support for Fortran and Cobol. InterBase 3.3 and Paradox SQL Link for InterBase are set to be out by year-end. MS-DOS and Windows requesters supporting TCP/IP networks have been added to InterBase for third parties and developers interested in SQL access to InterBase. The extended character support being added to the InterBase kernel allows for local sorting, as well as SQL access of 8-bit international character sets. Cobol has been added specifically for Data General Corp AViiON, HP 9000/700, IBM Corp RS/6000 and Sparcsystem users, and Fortran for RS/6000 users. InterBase currently runs on most Unix machines and under VAX/VMS and versions for Solaris II and Alpha VMS are planned. Paradox 4.0 adds a Windows-like user interface to the MS-DOS relational database, power and performance gains, enhanced network performance and expanded Paradox Application Language; it includes Query By Example for fast interactive database querying and can also store and retrieve Binary Large Objects in memo fields. Paradox SQL Link provides automatic translation of Paradox QBE and menu commands to the appropriate dialect of SQL. Using Paradox SQL Link, native SQL statements can be embedded within programs written in the Application Language, and passed through to the database server. Upgrades to InterBase 3.3 are free for existing customers on support contracts. Paradox SQL Link for InterBase is \$400 and requires Paradox 4.0, which costs \$800. And to make clear that it is ready to unleash an Interbase onslaught, Borland appointed directors of Interbase operations in the UK for Northern and Germany for Southern and Eastern Europe, and one back home in Scotts Valley for the Pacific Rim.

SHOW PREVIEW: UNIX EXPO '92, NEW YORK, SEPTEMBER 22-24

SunSoft Inc is likely to announce that is finally ready to send out developers' kits for its Solaris 2.0-on-Intel operating system to the personal computer manufacturers it has lined up. (Though sources say it won't be able to run SCO Xenix binaries and doesn't include a C compiler.) SunSoft will also reveal some details of how initial object-oriented offerings from its closely-guarded Project Spring effort are to be rolled into Solaris (UX No 377).

NCR Corp will be showing-off its Disk Array Plus software, which, the company says, allows users the benefits of RAID.- redundant array of inexpensive disks - technology without the need to purchase new disks, because it works with existing disks. The software supports RAID models 0, 1, 4 and 5, requires no modification of existing applications and runs on the Unix SVR4-based AT&T/NCR StarServer E with versions planned for NCR's own System 3000 series and Novell Inc NetWare platforms in 1993. Prices start at \$3,500. The company will also preview a new multi-processing StarServer E model 660 at the show, which uses multiple Intel Corp 66MHz 80486 DX2 microprocessors. With up to 512Mb RAM, a dual-CPU Model 660 costs from \$62,000. Its smaller cousin, the Model 330, which originally housed 33MHz 80486DX parts, can also accommodate the 66MHz iteration - with two processors it is priced from \$53,000.

Culver City, California-based **Quality Software Products Inc** is to debut an X-Windows version of its project management software, Masterplan 1.1X, which starts at \$700. The company has also developed an SQL connection to the Ingres database from eXclaim! v1.1, its spreadsheet which runs under X-Windows and Motif. Prices for the spreadsheet go from \$700 - the Ingres Add-In is \$350.

Austin Texas-based **Alliance Technologies Inc** will introduce TextMachine, a set of tools for indexing, storing and accessing large volumes of documents over client/server architectures. Alliance claims TextMachine can handle text that hasn't been stripped of word processor formatting codes and comes with X-Windows and character-based user interfaces. Prices go from \$50,000 to \$300,000 from October on a range of Unix systems. Alliance: +1 512 794 9856.

Ann Arbor, Michigan-based **Sextant** will introduce a Motif-based reverse engineering tool for C called Sextant 1.0 for C which ships from November. Sextant: +1 313 973 8888.

Shuss Systems Inc, Edison, New Jersey, is to debut Caveman - CApture and ViEw MANagement - a development environment for creating SCO Open Desktop applications that can capture colour images from a range of devices, including VCRs and camcorders, which can be stored, retrieved in a window or printed. Aimed at inventory and medical record management markets, prices go from \$400 in October. Shuss: +1 908 225 2424.

Digital Information Systems Inc, Rancho Cordova, California, will introduce version 3.3 of its Synergy application development environment that turns out programmes which will run under Windows, MS-DOS, VMS and Unix, with Motif support promised for next April. MS-DOS versions start at \$1,250 - Unix copies go from \$3,800. DIS: +1 916 635 7300.

Performance Awareness of Raleigh, New York, is to unveil version 3.4 of its 3 PreVUE performance analysis tools, which include new Motif-like graphical user interfaces built with public domain software. Virtual PreVUE can emulate a system with thousands of users, PreVUE-X tests for bugs in X-Windows applications. Prices go from \$9,250 on Sparc, IBM RS/6000 and Motorola Inc 88000-based systems. The company will also debut XShow 'n Tell 1.0, an environment for creating automated demonstrations of X-Windows applications which starts at \$5,000. Performance: +1 919 870 8800.

Island Graphics Inc, is to release an Open Look version of its Write, Draw & Paint 4.0 package for Sparcstations, and an OSF/Motif version of IslandPresents for Hewlett-Packard Co Unix systems.

Trirex Systems Inc, Westport, Connecticut, will debut DocApprover - a network utility package that tracks and routes Email documents on NeXT computers - and AlertManager, a fault detection alarm for NeXT, Sun and HP systems. Trirex: +1 203 221 4600.

SAS Institute Inc's contribution to the proceedings will consist of five new component modules that will sit upon its base analysis and reporting software package, most already previewed at its European User conference in Vienna back in June (UX No 387). First of those is SAS EIS, an executive information system that turns numbers into graphs and simple pictures. Running under Open Look or Motif, users can go to systems running Ingres, Sybase, Oracle and Informix for their data, which can be extracted without the need to know specific SQL commands via SAS English, which translates statements into SQL. SAS Calc is a two- and three-dimensional graphical spreadsheet which can read data from other spreadsheets like Lotus 1-2-3. SAS Insight is a three-dimensional data analysis facility, whilst SAS Lab is an introductory statistical analysis package for non-experienced users. Prices go from \$400 per module - plus \$900 for the base SAS software - though they won't be available until the second quarter of next year. SAS: +1 919 677 8000.

Mini-Byte Systems Inc, Avenel, New Jersey, will unveil MBS 486/smp, an Intel Corp-based 66MHz 80486 system with a SCSI-2 RAID disk subsystem. With up to 10 CPUs the EISA-bus machine uses Corollary Inc's Extended C-bus, comes with up to 256Mb RAM and runs Santa Cruz Operation Inc's MPX 2.0 and Unix System Lab's SVR4.0MP. The disk array has five SCSI-2 channels and the whole system starts at \$35,000. The company will also introduce an RS/6000 version of NetCon, its connectivity package that allows Novell Inc NetWare-based personal computers to access applications running on Unix servers and access files and printers. NetCon provides NetWare emulation for Unix platforms so that they appear as just another NetWare server to the NetWare MS-DOS client. Prices start at \$500. Mini-Byte: +1 908 855 9660.

Campbell, California-based **Specialix Inc**, will debut its I/O 8+, eight-port intelligent input/output board for Unix-based personal computer systems - prices start at \$500. Specialix: +1 408 378 7919.

French graphical user interface outfit, **Non Standard Logics Inc**, will introduce version 2.0 of XFaceMaker, its Motif-based GUI builder. It includes WidgetMaker, for building custom widgets, the ability to edit menus via a dialogue box and to print the interface and widget tree in PostScript. Prices start at \$3,000. Also new is NSL's WidgetLibrary, a collection of custom and general purpose icons for use with its Motif toolkit. NSL: +1 617 482 6393.

Pencom Software Inc, Austin, Texas, will announce a new version of co-Xist, its X-Windows implementation for NeXT Computer Inc boxes: the new version - which runs under NextStep 3.0 - supports Motif 1.2 and X11R5.

Samsung Software America, Andover, Massachusetts has three new versions of its fax management software for SCO Unix, IBM RS/6000 and HP 9000 systems - Replex starts at \$2,400. Samsung: +1 508 685 6550.

Z-Code Software is to introduce Z-Mail Lite a character-based interface for its Z-Mail Email package which will mirror the look and feel of its standard Motif offering. Priced at from \$240 it ships next month. Z-Code: +1 415 499 8649

Shared Financial Systems Inc, Dallas, Texas, will step beyond its traditional Stratus Computer Inc market and reveal a version of its Shared on-line transaction processing software engine for IBM's RS/6000: the engine is an electronic payment application used by banks and other retailers. Shared: +1 214 233 8356.

Los Altos, California-based **Pure Software Inc** and **Mercury Interactive Corp, Santa Clara, California**, will announce an agreement to integrate their respective software testing tools. Pure's Purify checker detects run-time errors, whilst Mercury's XRunner - unveiled earlier this year at UniForum - is a set of tools for testing X-Windows applications during development.

COOPERATIVE SYSTEMS TO MAKE UNIX MOVE, TI DEAL ON THE CARDS

Cooperative Solutions Inc, the San Jose-based developers of Ellipse, a combined development and run-time system for developing transaction-processing applications on local-area networked workstations and servers, is gearing up to announce Unix support for its products at Unix Expo next week. Already available for Windows 3 and OS/2, and with an on-going deal to develop a Novell NetWare version, the company regards Unix as a highly important part of its strategy - but is remaining tight-lipped about what exactly will be announced at the Show. Other sources, however, claim that Cooperative also has a deal lined up with mainframe software engineering specialists Texas Instruments Inc, known to be highly interested in expanding its operations beyond the dwindling mainframe base for its IEF product. TI is also thought to be working with Sybase, another Cooperative partner. Cooperative was set up in 1989 by old hands from Tandem Computers Inc, including VP of research Kim Worsencroft and CEO Dennis McEvoy, so Ellipse is inherently resilient to errors and failures. It is one of a number of new-generation client-server application development tools - others include Primrose from San Francisco-based Tesseract, a forthcoming toolset from Oakland, California-based Forte Software Inc, and less-complex tools from Powersoft and Gupta. It is likely that many of the older-generation model-based mainframe CASE tools from the likes of Anderson, Intersolve, KnowledgeWare and Seer will be looking at migrating their own products towards a client-server architecture.

VISYSTEMS GEARS UP FOR BIG CICS DOWNSIZING MOVE

VISystems Inc, the Dallas, Texas-based company founded back in 1987 to help with the migration of IBM CICS transaction processing software over to Unix-based systems, is set to announce a tie-in with Sony Corp for its VIS/TP transaction processing system family of products. And, says the company, it has a joint marketing agreement with Hewlett-Packard in Germany, and in the US is working with both DEC and Motorola Computer Systems in its quest to pick up on the expanding downsizing trend. As for real customers, VISystems cites Motorola itself as ready to throw out some thirty IBM mainframes, says it has an ISV that has downsized 12 sites onto Data General kit, and in the UK has a production user in the shape of Trafalgar House Construction, which has committed the heinous sin (in the eyes of IBM) of transferring its 200 plus existing TP applications from an IBM mainframe to an RS/6000. The project took three months, and was organised through IBM software and services company Synapse, of Berkhamstead. VISystems marketing manager John Phillips claims that 99% of the source code can be retained using VIS/TP, which he says is faster than Bull's competing Unikix product (UX No 390), which emulates CICS. In fact, VISystems has added Bull to the legal proceedings it instigated back in April 1991 against Unicorn, the original developers of UniKix, acquired by Bull earlier this year (UX No 368), to protect its patents. In the future, it plans to integrate the OSF's DCE technology "once it becomes commercially viable", and would also like to do a deal with Transarch Corp, which John Phillips views as "the best of the Open OLTP designs" currently on the market. For the moment, though, VISystems is content to move away from "the bleeding edge" of new-generation Open OLTP and focus its resources on "the market that's there today - moving existing applications across." VISystems now has a European support office in Darmstadt, Germany, and distributors in both Germany and France. VI: +1 214 960 8649.

STRUGGLING CONCURRENT PLANS REAL-TIME R4000 BOX NEXT YEAR

Staying loyal to the MIPS RISC architecture, Concurrent Computer Corp based in Oceanport, New Jersey, is to develop an R4000-based Unix real-time system for shipment next year. The R4000 multiprocessor will replace the company's R3000-based Series 8000 and 68040-based Series 7000 Unix machines, according to Denis Brown, Concurrent's chairman and CEO. He also hinted at a release of a new machine next year. The 1993 shipment plan for the R4000 depends on the availability schedule of the multiprocessing version, delayed for a year and now in final testing, Brown said. Although Concurrent's Series 3200 proprietary machines provide about two thirds of sales, the company expects its Unix line to take over. Concurrent is also restricting its sales focus to seven vertical markets to maintain its profits. Anticipating the R4000 roll-out, Concurrent plans to upgrade the 7000 from 25Mhz to 33Mhz.

88OPEN OFFERS ITS TEST SUITE TO OTHER VENDORS, CONSORTIA

The 88Open Consortium has announced its plans to license its compatibility test technology to other vendors and consortia - at a price (UX No 401). The test software, including the system software ITS/88 and AVS/88, and applications test software, ACT/88, are all "immediately available" for licensing, the price being "under one million dollars", according to 88Open president Tom Mace. Justifying the price, Mace said that the software was the result of a \$6 million development at 88Open and would save others years of development time. 88Open test technology verifies that systems and applications conform to source, binary and object standards, but is currently confined to software for Motorola 88000-based systems. Mace claims that 450 software packages certified by the test suite are guaranteed to run on the 80 or so different systems using the 88000 chip. This compares, he says, to only 12 applications that will definitely run on all Sparc-based systems, all of which have had to be tested and tweaked for each individual system. Tests include stack checking (ie file formats), identifying system calls, portability issues and dynamic parameter tests that run with the software's own quality assurance suite. Motif-specific tests are also being added. The addition of other vendors using the same process would help applications portability between different architectures, said Mace, and generally increase the quality of software. Consortia, in various stages of maturity, but none as far advanced as 88Open, have been set up for Sparc, IBM, DEC, HP and Transputer architectures. However, to port the software over will mean replacing the database, recompilation and optimisation - an effort likely to take "less than two man years and cost \$200-250,000" says Mace. But he is confident that some announcements will be made by year-end on those who have decided to take up the offer.

...HAS NEW UK OFFICE TO SUPPORT ITS EUROPEAN CUSTOMERS

Meanwhile 88Open, which boasts that some 80% of its business comes from Europe, has set up an office in the UK, under the charge of Steve Heath, previously from Motorola's semiconductor operation. He will be based in Aylesbury, Bucks. Porting centres are already available in the UK, France, Germany and Norway. 88Open now has over 100 members, and is estimated to be fourth in the software league for "open" architectures with around 1,000 packages, behind IBM (Rios) and Sun Sparc with 4,000 or so each, and MIPS with 1,800. Heath: +44 296 392611.

RAIMA TO SET UP UK OPERATION THROUGH SYSTEMSTAR

Database developer Raima Corp, of Bellevue, Washington, is talking to its UK distributor, Systemstar Ltd of Hertford, with the intention of setting up a direct presence in the UK market. Raima UK is likely to be joint-owned by the two companies, and is said by Systemstar's David Turley to be "the inevitable consequence of our selling the product for the last five years". While Raima's database - now called the Raima Data Manager, but previously known as Db_Vista - is one of the least widely publicised of PC and Unix databases, it has carved out a niche for itself amongst C programmers. It has a network architecture for high-performance and referential integrity, but also allows purely relational systems to be built where required. There is also the Raima Object Manager set of class libraries. Raima's appeal is to technical users writing complex applications rather than the packaged market, and Unix sales now account for 20% or so of business in the UK. Systemstar ties in the product in with Liant Software's C-Scape screen interface package, originally developed by the Oakland Group, a company acquired by Liant in May of last year. Systemstar already has a full-time employee from Raima working in the UK, but has not yet worked out the details of its joint venture: a separate Systemstar operation could well continue to handle the distributor's other product lines, which include a competitive product, the KnowledgeMan extended network database from Micro Data Base Systems Inc of Lafayette, Indiana. Systemstar: +44 992 500919.

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The Weekly information newsletter for the UNIX® community worldwide

The **University of Edinburgh** has installed its seventh **Meiko Scientific Ltd** parallel computer - the latest is a 1GFLOPS Computing Surface MPP system worth £500,000 which comprises 12 Intel 80860 CPUs, each with 32Mb RAM.

And **Meiko** reminds us that its next-generation massively parallel system (UX No 401), uses no transputers - the UK, Bristol-based research and development operation, has designed its own communications processor which will operate alongside the **Fujitsu Ltd** vector processor and **Texas Instruments Inc's** Viking Sparc. Whether Meiko will ever employ the **Cypress Semiconductor** HyperSparc "depends upon availability," the firm says - even Viking "isn't falling off trees." Meiko is still planning to use the low-cost Tsunami Sparc (which it helped design) in a future generation of systems.

In the UK, Richmond, London-based **NBA Computing Ltd** has introduced a utility package for SCO Unix called RTG7, a character-based interface with menus, help screens, a dynamic tree view, which allows users familiar with MS-DOS - but unfamiliar with Unix - to perform all kinds of file management operations and to launch applications: prices start at £250. NBA: +44 81 392 1245.

Santa Monica, California-based **Quarterdeck Office Systems Inc** is now shipping a 32-bit development kit for Desqview/X, its MS-DOS implementation of X-Windows which features in Unix System Labs' Destiny desktop Unix: the kit is priced at \$50.

Plasma, a CASE tool for Cobol originally only available in Japanese from its developer, **Computer Applications Co**, is now being offered in English, German and Chinese by Munich, Germany-based **InterFace Computer GmbH** and its Hong Kong-based subsidiary: Plasma takes Cobol code as its input and automatically generates a graphical overview of it.

Pyramid Technology Corp has penned October 15th as the day it plans to make a "significant" announcement of new hardware and software: one of the two next-generation MIPS R4000-based systems already promised (UX No 393), will likely figure.

The **OSI Network Management Forum** has delivered its Omnipoint 1 reference model for builders of integrated management products: Omnipoint is a set of standards, specifications and technologies that were created by a broad coalition and it is referenced in the US government's Network Management Profile, soon to be included in government procurement guidelines in the UK; among the technologies lurking in there are CMIP/X.700, SNMP, work from **X/Open Co Ltd** and the **Object Management Group**; the specifications are due to be published formally in October, and the idea is that systems that conform to the Omnipoint specs will be able to interwork.

Unix System Labs' integrated multi-processing, secure, desktop, SVR4 offering - a single pack of code (UX No 397) - is being touted as Mozart.

The third **Russian Unix conference** is being arranged by the Soviet Unix Users Group and will be held in St Petersburg between September 22 and 24: representatives of the European association of Unix users, EurOpen, and the US organisations Usenix and Uni-Forum were all invited to take part in the proceedings.

According to a report in **ComputerWorld** **IBM** is now saying that it'll have a single micro-kernel-based operating system for OS/2 and AIX within two years, allowing users to run Unix or OS/2 applications in either environment. The future operating system will be based upon **Carnegie Mellon University's** Mach3 and although the two will use the same kernel, they will operate as separate operating systems, the primary difference being in their front-ends.

Object language specialist **ParcPlace Systems** is slated to be ready with a new "Smalltalk-like" product that will propel it into more business accounts, as well as a new C++ release.

Ken Olisa, who left his position as head of **Wang's** European operation shortly after the company filed for Chapter 11 is blaming the company's problems on its failure to get on the Unix bandwagon in time: "We missed the PC revolution and, having missed it, we missed everything else", he says in an interview with the UK's **Computing**.

Database technology, interoperability and network integration and open systems and industry standards are the key technological issues facing HP Unix and MPE users in the US, Canada and Mexico according to a survey of MIS managers by **Interex**, the International Association of Hewlett-Packard Computer Users, based upon 820 replies. Databases remain the number one concern for the second year running, whilst Unix standards are listed as the 8th most important issue, compared with their showing at 19th position last year.

Samsung Electronics Co is expanding its tie with **Hewlett-Packard Co** and last week announced a two-year order for \$50m of Precision Architecture RISC workstations. Samsung will resell the workstations under its own and Hewlett-Packard's logo in Korea, and use them internally for software development and in computer-aided design and engineering applications. It will immediately begin reselling the HP Apollo 9000 Series 700, to complement its own Precision Architecture stations, which are under development.

Meanwhile, **Samsung** says it will release a workstation based on Hewlett-Packard Ltd's 7100 Precision Architecture-Risc microprocessor in October. The 60 MIPS box, priced under \$60,000, will be badged individually by HP and Samsung. HP is to add it to an extension of its Apollo 9000 series 700 workstation family, code-named Scorpio.

Science Applications International Corp has finally introduced the ruggedised version of **RDI Computer Corp's** BriteLite portable Sparc workstation, which was planned more than a year ago (UX 339). Dubbed the RSC-1X ruggedised portable workstation, SAIC has added a removeable 535Mb disk, three-button trackball and a high output power supply, plus a 64Mb memory and 1.2Gb disk expansion options. It's available through Sun Microsystems Inc's Federal Third Party offerings programme. SAIC +1 619 552 3767.

Micro Focus plc began ships of upgrades for its Cobol development tools for Unix this week. The upgrades include a compiler, Cobol 3.0 for Unix, operating system extensions providing common features across platforms and a character or graphical user interface builder. The Unix upgrades are aimed at **IBM Corp's** AIX and the Santa Cruz Operation Inc's SCO Unix platforms with additional platform support added fourth quarter 1992.

Silicon Graphics Inc's Laboratories are piloting a 50Mhz R4000 microprocessor, with two other system vendors following suit in a few months, according to **Electronic News**. Silicon for a 75Mhz R4000 microprocessor, the R4000A, is also expected by the end of October, according to Andy Keane, microprocessor manager at SGI's MIPS Technologies unit. R4000A shipments are expected through SGI's semiconductor vendors this year as well as a 67Mhz R4000A iteration.

Take a look at Spain,
the fastest growing UNIX market
(35% growth 1991) Source: IDC

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IBM SIGNS WITH USL FOR TUXEDO ON ES/9000 MAINFRAMES

Unix System Laboratories sewed up a deal last week with IBM to port Tuxedo to AIX on the ES/9000 mainframe, Blue's \$60,000 to \$23m machine. The coveted contract helps strengthen arguments proposing Tuxedo as a de facto standard. The initial pact could be followed by a second for IBM to actually sell the software. The agreement will make Tuxedo the only on-line transaction processing technology on mainframe AIX. IBM has its own OLTP CICS software running on MVS and, if reports prove true, will be announcing CICS on AIX-run workstations this week. Most of the work will be done by USL which will use the Tuxedo port to OSF/1 done by Kendall Square Research as a touchstone. OSF/1, of course, owes much to AIX. USL hopes to have something ready by the first quarter of next year. Part of the push to make Tuxedo the OLTP standard is coming from a group of seventeen Tuxedo reseller/licencees known simply as "The Club." It includes such firms as Fujitsu, Olivetti, Amdahl and ICL. Its work missionising, selling and identifying customer requirements is reportedly greasing the way for Tuxedo's adoption while relieving USL of many of the financial burdens involved.

HEWLETT-PACKARD CLAIMS BIG BOOST WITH HP-UX RELEASE 9...

Hewlett-Packard Co accompanied the launch last week of its first two servers built around the 7100 superscalar version of the Precision Architecture RISC with the latest release of its HP-UX Unix, HP-UX 9.0. HP claims that 7100-based business servers running it provide commercial users with the industry's fastest uniprocessor server performance on TPS-A benchmarks. Performance of HP Apollo 9000 Series 700 workstations running HP-UX 9.0 increases significantly due to tuning of the virtual-memory system, input-output subsystem and compiler enhancements, the company said. HP-UX 9.0 incorporates the latest revisions of industry standards, including those from the Open Software Foundation and X/Open Co Ltd, and includes the Visual User Environment 3.0, an updated version of the company's graphical user interface, and enhanced system-management capabilities. The company claims that compiler enhancements with the new release boost the Model 720 to 66.5 SPECmarks from 59.5 and the Model 730 to 85.4 from 76.8. The new HP 9000 Model 897S running in a client-server environment performs at 184.55 TPS-A and \$10,737 per TPS-A - the industry's fastest uniprocessor transaction-processing performance, the company claims. Designed for client-server environments, HP VUE 3.0 is available for HP700/RX X stations, HP Apollo 9000 workstations and HP 9000 business servers and features enhancements to improve productivity for expert and novice Unix users, including a new industrial design with multicoloured icons to enhance its visual appeal to the user; enhanced usability with front-panel slide-up menus and easier customisation; a context-sensitive help manager that incorporates hypertext and hypergraphics to enable users to explore any topic in detail; added utilities, such as an icon editor, graphical text editor and audio annotation of files and directories; and drag-and-drop printing capabilities through the print icon. HP VUE Lite, a subset of HP VUE, supports installed-base users with older, less powerful systems and new ones with 8Mb or less. Enhancements to System Administration Manager include a Motif-based graphical user interface and a task-oriented design to help users step through system-administration functions. The new release conforms to the Open Software Foundation's Application Environment Specification on the Series 700 for increased portability among Foundation systems; Posix 1003.2, which standardises the Posix shells and command set across Unix system to aid portability between Posix-compliant systems; FDDI support; Worldwide Portability Interface, providing a standardised interface for writing international programs as specified by X/Open Portability Guide 4; X 11.5 with up to 25% interactive performance increase over X11.4; OSF/Motif 1.2 with drag-and-drop mechanism for moving objects and exchanging data between applications; and System V streams support. It's out next month and a two-user licence for HP-UX 9.0 run-time environment is bundled with workstations, and an eight-user licence is bundled with servers.

...ADDS 7100-BASED SERVERS

The two new servers using the 7100 are the HP 9000 Models 887S and 897S, with performance ratings of up to 184 transactions per second. The models are available immediately and start at \$92,000 for the 887S and \$112,000 for the 897S. The PA-7100 chip runs at clock speeds of up to 100MHz and executes two instructions per clock cycle.

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COMPUTER ASSOCIATES TEAMS WITH SUN FOR UNICENTER

Computer Associates International Inc president Charles Wang and Sun Microsystems Inc president Scott McNealy are to make a joint announcement today (Monday), and were keeping tight-lipped as we went to press. The expected outcome is that CA's Unicenter systems management software, already announced for Hewlett-Packard, Sequent and Novell NetWare platforms, is to become available on Sun and Sparc-based systems. CA's proprietary Masterpiece financial software, Generator development tools and CA-DB underlying database technology may also make the move. CA's business is being hit by the slowdown in mainframe sales, while Sun, with its high-end multi-processor servers now on the market, is keen to gain more credibility in the commercial world and is currently building up its portfolio of commercial tools, migration/ rightizing software and commercial applications. Commercial tools and technologies manager Nancy Colwell is masterminding the operation from Sun's Mountain View, California headquarters. Colwell is cultivating stronger links with the database companies - particularly Sybase and Oracle, with Oracle heavily involved in Sun's own internal downsizing effort and with 4GL and CASE companies. Unlike HP, which has so far made the biggest splash enticing the mainframe software vendors to port their applications to its platforms, Sun is less likely to pay up-front for the porting work, preferring to spend the money on joint marketing.

NOW CHORUS WINS SANTA CRUZ

The Santa Cruz Operation Inc may not have rushed out to embrace Unix SVR4 but it's certainly creeping around it Indian-style. It has now aligned itself with Chorus Systemes SA, the French microkernel company partially owned by SVR4 proponent Unix System Laboratories. Under licence from Chorus it will be bringing out a product based on the System V 3.2/Intel technology of Chorus Mix so it can pursue the real-time and telecomms business that has been slipping through its fingers. The product, starting with a developer kit due in December, won't be mainstream for SCO. However the alliance represents a watershed for Chorus, which is now embarked on a binary strategy for the very first time, though where exactly it goes from here is still unclear. SCO has arranged for Chorus to do the bulk of the packaging and development work with SCO Open Desktop as the front end. What results should sell at SCO's typical price points, perhaps with a 25% premium. It will give SCO customers computer-clustering capabilities to support transaction processing and parallel-processing databases. Both companies will distribute the unnamed product to OEMs, VARs, integrators and end users. Chorus meanwhile, has already graduated to SVR4 and what SCO will be using is earlier Chorus technology more in keeping with its installed base.

DATA GENERAL FORMS INDIRECT SALES COMPANY FOR RAID

Data General Corp is diversifying into RAID storage subsystems integration with a new company that will market its products through resellers and on the OEM market. The new company, called CLARiiON, will be headed by Thomas West, senior vice-president. CLARiiON will not use Data General's own sales force to market the products, only indirect channels. CLARiiON's RAID subsystems are being developed for workstation servers running Unix, starting with IBM Corp's RS/6000 and Sun Microsystems Inc's Sparc servers from Novemembr (plus DG's own AViiON workstations and proprietary MV Eclipse minis). The company declined to project revenue targets but said the storage business is an \$8,000m market. The subsystems come with from 2.5Gb to 24Gb of storage delivered via 3.5" disks with up to 1.2Gb each. Up to 20 can be configured together. There is also a CLARiiON tape array to back-up the disks, which can store 5Gb of data in each of its five 4mm DAT tapes. Data can be transferred at a rate of 6Gb per hour. CLARiiON disk arrays go from \$28,000 for an entry level 2.5Gb system, \$46,000 for 6Gb. Add-on 2.5Gb units (or stripes in storage parlance) cost \$20,000 - \$34,000 for 6Gb stripes. The tape array is \$30,000. Versions for Hewlett-Packard Co, Unisys Corp and ICL Plc servers will follow early next year. Data General chief, Ron Skates, said he "anticipates OEM agreements" for CLARiiON, though there are none in the bag as yet. The company estimates 27,000 RS/6000s and 14,000 Sparcservers have been installed this year, saying the total installed base for each is now around 37,000 and 28,000 respectively. DG says it has 15,000 AViiON servers in the field. The NeXT Computer Inc workstations it is reselling can be supported by CLARiiON over the network but not directly.

IXI "TO REVEAL HAL WORK"...

This week UK, Cambridge-based IXI Ltd is going to confirm our months-old story that it's signed HaL Computer Systems to license and bundle IXI's Motif-compliant desktop manager X.desktop on its anticipated 64-bit Sparc machines (UX No 388). They are collaborating on integrating the software into the distributed architecture of HaL's systems and say they will extend Motif for mission-critical applications. IXI is also going to start selling Z-Mail 2.1, the E-mail management system from San Rafael, California's Z-Code Software in the US. It has integrated the two to work together. IXI will sell Z-Mail for \$150 a single copy. X.desktop costs \$800.

...OFFERS £50 MOTIF 1.2 RUNTIME FOR SUN

And IXI says it is also now offering low-cost Motif 1.2 runtimes for Sun Microsystems workstations with a shared library toolkit optimised for Suns. Following changes to the Open Software Foundation's Motif 1.2 licensing terms, IXI says it can offer the Motif runtime for £50 in volume as opposed to OSF's \$2,000 source fee. OSF business area manager for user environments, Cathy Betz, admits "corporations are starting to move toward high-quality off-the-shelf Motif software rather than using homegrown versions compiled from source code." IXI is offering support for Motif-on-Sun users and has a Motif development kit for Sun workstations priced at £500 per user.

WIND RIVER UNVEILS MICROWORKS DEVELOPMENT ENVIRONMENT

Wind River Systems Inc, Alameda, California, has introduced a new software development environment for high-performance embedded systems. MicroWorks incorporates the core technology of the company's VxWorks embedded kernel and runs on a host Unix platform so users can utilise the operating system's development tools. A remote debugging tool running on the workstation provides a window to the target embedded environment. Beta versions are out next quarter with general availability slated for the beginning of next year. Prices go from across a range of Unix platforms.

MICROMUSE REIGNS COMPATIBLE BUSINESS IN FAVOUR OF MIDDLEWARE DEVELOPMENT

London-based MicroMuse Ltd has found that selling Sparc compatible workstations alongside vanilla Sun Microsystems Inc kit was getting too complicated and has reigned in the clone side of the business. Managing director, Chris Dawes, says the company decided that it should be concentrating on what it was doing with the box, rather than the box itself. MicroMuse has wound down the compatible side of its business, has become an authorised Sun reseller, and is focusing on delivering 'complexity management' middleware. By that, Dawes means software solutions - hidden from the user - that can manage and administer large networks of powerful workstations. The company's first application is aimed at system administrators and developers and can analyse the performance and behaviour of distributed systems in a number of ways. An agent residing on each client provides the machine with operating parameters delivered to it from the application residing on an administrator's host system. MicroMuse will be showing its stuff at this week's Sun Expo UK show in Birmingham's NEC.

NOW HYUNDAI READIES SUPERSPARCS

Axil Technology Inc, San Jose, California, the workstation division of Hyundai Electronics America which already has a range of Sparc-compatible machines under its belt (UX No 402), is lining up other offerings based around the Texas Instruments Inc SuperSparc microprocessor which Sun Microsystems Inc is using. The AxilStation-230 and -250 use 33MHz iterations of the superscalar part and will move to 36MHz versions when TI delivers (UX No 402). The CPU comes on the motherboard itself, not an Mbus, so upgrades need a board-swap. The 230 comes in a Sparcstation 2-like package and ships from this month at \$11,500 with Solaris 1.1. The 250, at \$17,000 comes with 32Mb RAM, 535Mb drive and 20" colour screen. Both have on-board fax/modem interfaces. Axil's existing compatibles are the \$13,000 HWS-S210 which has been around for some time, the \$17,000 HWS-S310 model 3.0 and the \$23,500 HWS-S310 model 4.1 which are due next quarter.

ASK AT LAST HAS UNIX MANMAN/X

Mountain View, California-based Ask Computer Systems Inc has come out with Manman/X, a Unix version of its manufacturing business management system that operates in multiple hardware environments. The company also announced availability of Manman/X Advantage, a global service programme for Manman/X users consisting of installation, education and a tiered-support offering. A manufacturing business management system, Manman/X consists of 27 modules that automate manufacturing processes, including planning and costing, engineering control, project control, inventory, shop floor control, sales management, purchasing, finance, customer service and maintenance. Manman/X takes Ask's portfolio to four product families, the others being Manman HP, Manman VAX and MAX CIM. Release 1.0 supports Unix systems from Hewlett-Packard Co, Digital Equipment Corp and IBM Corp and also supports Ask's Ingres database and ISAM file system. Pricing is user-based and starts at \$25,000 for an eight-user system and a 128-user system is from \$250,000 and \$300,000.

ADDS X-TERMINALS

NCR terminal house Applied Digital Data Systems said at its official launch earlier this month that it pre-sold 2,300 of its brand new 960-based 3533 XLR X stations (UX No 398) during the last three weeks of August. ADDS also hung price tags on its offerings. At the low end a 17-inch monochrome (1152 x 900) goes for \$2,600, a 17-inch grey scale (1152 x 900) for \$3,100, a 14-inch colour (1024 x 768) for \$3,100 and a 17-inch high-resolution colour (1280 x 1024) for \$5,000. At the high end a 19-inch monochrome (1280 x 1024) goes for \$3,000, a 19-inch gray scale (1280 x 1024) for \$3,500, a 17-inch colour (1024 x 768) for \$4,300 and a 19-inch colour (1280 x 1024) for \$6,000. ADDS says it designed its xEasy software for ease of use. The terminals offer standard XTerm, client supported Motif and vt220 emulation. They are scripted for NCR System 3000, Sun, HP DECstation and IBM hosts. As part of its future direction, ADDS previewed a 3270/X software package for migrating 3270 users to NCR's Open Cooperative Computing Architecture beginning in the first quarter of 1993. The terminals will be sold direct by ADDS/NCR and distributors such as Vitek.

ATHENIX RUNS OUT OF ROAD

Athenix Corporation, the start-up X terminals company, has hit a brick wall, forcing it to try to sell itself off or auction its supposedly breakthrough Multi-X technology. The venture, now some 26 months old, had assembled an impressive launch team behind an aggressive plan to produce low-cost full-page 15-inch bit-mapped monochrome X terminals based on the MIPS 3000 chip and some homegrown ASICs (UX No 368, 369). The idea, based on a shared controller architecture, was to come in at two to four times the performance of a conventional X box and reach pricing levels of \$700-\$800 a seat in two to three years. The company's first problem was with the ASICs which proved six months late. The delay necessitated going back to the trough for a third-round of venture capital after going through the \$12m brought in by the first two rounds. Athenix was looking for another \$8m at least and reportedly couldn't get more than \$4.5m pledged. Two of its lead investors declined to participate: MIPS because it had problems of its own and Singapore-based Wearmes Technology Pte, its manufacturing arm, because it reportedly got distracted by a PC deal with IBM. The situation forced the company to downsize from 35 to six people and start looking for either a buyer or non-exclusive licenses. According to vice president Sparky Sparks, who remains with the company, there are now two potential buyers and three unspecified deals on the table beyond them. Since the original investment is pretty much written off, the firm can be had for a "real bargain," he said, unwilling to name the price. Sparks, who was one of the original seven in the IBM PC group, claimed Athenix is 60 to 90 days away from shipping product. The original distribution channels through Merisel and Dicken Data and service via Xerox remain in place.

SUN'S SUNSELECT ACQUIRES WINDOWS-UNDER-UNIX EMULATION FIRM PRAXSYS

Sun Microsystems Inc's Billerica, Massachusetts-based SunSelect personal computer-to-Unix integration company has acquired the assets of Praxsys Technologies Inc, the Norwood, Massachusetts company that was formed by the team that developed Phoenix Technologies Ltd's VPix MS-DOS-under-Unix emulation environment after Phoenix abandoned that business. Sun itself first entered the emulation market in 1987 with the Sun386i workstation, which ran both Unix and MS-DOS applications. SunSelect today markets SunPC software, a high-performance personal computer emulation package with optional hardware acceleration SBus board products that enable MS-DOS and Microsoft Windows applications to run on Sparc systems under Solaris operating at 80486 speed. The hottest property at Praxsys is a product code-named Snoopy, already adopted by Sun, which is designed to enable any NT or Windows application to run under Solaris on any RISC or on iAPX-86 hardware (UX No 385). Terms were undisclosed. SunSelect intends to make Snoopy available on multiple platforms, not just Sun's own Solaris 2.0 but was unwilling last week to discuss any specific products or channels of distribution. Former Praxsys president Tripp Blair, who like the rest of his small team is now a Sun employee, said Snoopy is near the end of its development cycle and close to going into test and verification. Sun's purchase of Praxsys will make it possible for the software to come to market. Sun discovered Praxsys after it acquired the PC half of Interactive and picked up rights to it. Sun was expected to display it at PC Expo this summer but Snoopy has never been seen except behind closed doors.

ICS TO MARKET ADOBE POSTSCRIPT ON SUN KIT

Integrated Computer Solutions Inc, Cambridge, Massachusetts, will this week announce a deal with Adobe Systems Inc to distribute Display PostScript for Sun Microsystems Inc machines. ICS, a leader in interactive design tools for X-Window systems, will also bundle Adobe Showpage, a PostScript file previewer with each package sold. The package should be available this Autumn priced between \$120 and \$550 depending on quantity. ICS could also end up distributing other Adobe products.

P5 DELAYS WORRY HIGH-END VENDORS - INTEL DENIES "YEAR AWAY" RUMOURS

Low-end PC makers can and have shrugged off the three-month delay imposed on the P5. There's no competitive disadvantage for them in the Intel decision. However, those at the high-end with stuff in the hopper like P5-based Unix multiprocessors are chaffed by the time they're losing getting to market. How chaffed you ask? Well, NCR, that paragon top-to-bottom Intel client, has put out feelers to Sun and Cyrix about alternate platforms. Doubtless it's all just a safety precaution and will come to nothing. But it's still a space worth watching. NCR is worried about HP's deepening penetration. Intel needs to do some stroking among this class of customer even though Intel defenders claim the P5 schematics designers are using in the absence of silicon are so exact they should have little trouble getting up and running and out the door once the chips are delivered. Meanwhile, Intel vociferously denied to Unigram last week suggestions circulated on the InterNet by GE's research and development Center in New York that it's hit a brick wall with its P5 design, is not getting the yields and is on a crash redesign course that would delay the parts until the end of next year.

POWERPC ANNOUNCEMENT "BY OCTOBER" - DELL COMPUTER "SEEKING DEAL"

IBM Corp, Apple Computer Inc and Motorola Inc are months ahead of schedule in producing the first fruits of their PowerPC RISC alliance, **Associated Press** reports. The newswire quotes industry executives saying that the trio plan to announce by the end of the month that they have produced a working sample of the chip, which they had not expected to be ready until early next year. The three found they could speed up the development of the 601 chip by combining work already under way at IBM with Motorola chip technology, and early next year, IBM, Apple and Motorola will announce the PowerOpen Association to rally support for the chip, which has so far won the backing only of Compagnie des Machines Bull SA and Thomson-CSF SA. Meanwhile, the first PowerPC RISC-based Macintosh is scheduled for release in January 1994, **MacWeek** reports, saying that it will be a three-slot machine powered by a 66MHz version of the 601 chip on current plans. Apple reportedly hopes to offer the machine at approximately Macintosh LC II prices, but it will deliver up to 30 times the LC II's performance when running software written for the new RISC CPU's native mode. **MacWeek** also claims Dell Computer Corp is close to licensing rights to the PowerPC chip and Taligent Pink Operating System: seems a little premature for the latter.

AMDAHL HAS CLIENT-SERVER ENTERPRISE FILE MANAGER

Amdahl Corp has expanded its mainframe Unix offerings with Enterprise File Manager, a system designed to give customers a high-capacity, automated system that centrally stores and manages data in heterogeneous computing environments. The company says the Enterprise File Manager is particularly suited to supporting large distributed networks where diverse applications are run on disparate hardware, including the gamut from personal computers through workstations, minicomputers and mainframes to supercomputers. Built on Amdahl's UTS 2.1 Unix and new Amdahl UniTree Release 1.0 software, it also uses Network Systems Corp's NSC 7200 Network Computer Controller, which is resold and supported by Amdahl in the US. A concept, rather than a uniquely defined product, it will be implemented to suit customer's individual needs. UniTree is based on the Distributed Computing Solutions UniTree 1.6.2 distributed hierarchical storage management system, but includes modifications to meet the requirements of large-scale Unix environments. From the central storage server, files can be accessed by any client computer offering TCP/IP and supporting either file transfer protocol. Prices for Enterprise File Managers vary depending on the size and capacities of mainframes and storage subsystems required. Initial licence fees begin at \$20,000 for UTS 2.1, \$66,000 for Amdahl UniTree. The NSC 7200 controller is \$40,000 to \$78,000. Fees begin at \$52,000 for systems implementation and \$40,000 for performance tuning.

NEWS ROUNDUP

Sun machines and clones running Newsprint can now print off of widely used HP LaserJet and Canon printers complements of the LaserPrint 4100 SCSI interface card from San Jose, California-based **Rastron Corporation**: it also reportedly enhances output from the standard 300 x 300 dpi to 600 x 300 dpi.

The tenth annual **Sun User Group Conference & Exhibition** is set for December 7-10 at the San Jose Convention Center in California.

Welcom Software Technology of Houston, Texas is porting its project management software **Open Plan** to Unix targeting SunOS as its first implementation: **Open Plan**, built on the Xbase DBMS, was previously available on PCs, Macs and VAXs. It's priced at \$6,000 for a single user. Multi-user systems cost \$7,000 for the first user; \$3,360 for each additional. Discounts are available until the end of the year.

Menlo Park, California-based **Objectivity Inc** has developed a Kanji version of its object database management system in combination with **Mitsui Computer Corp** and the **Osaka Gas Information System Research Institute**: it's currently in beta and will become available on HP 9000s and Sparcstations next month. DEC and IBM will follow along with support for Chinese and Korean in the first quarter.

Wang Laboratories Inc vice president, Richard Orlando, the guy in charge of the Wang/IBM alliance, has split for **Data General Corp**.

Four out of five US resellers who carry Unix software estimate their Unix sales will increase by a average of 49% for the period 1991 to 1993 and are planning to expand their wares, according to "A Study Conducted Among Unix and Unix-Related Product Resellers" run up by New Jersey-based **Ralph Head & Affiliates**.

Chewing the fat last week, **Santa Cruz Operation Inc** observed that "the Advanced Computing Environment was just a figment of the ACE consortium's imagination." It admits it lost time and money on the diversion, but believes the ACE experience taught it "some important lessons." SCO is currently looking at ways of raising more capital - that it may go public to find it is no secret. On the product front - and picking up on some of the work it did for ACE - the company says an Intel Corp P5- specific SCO Unix kernel is a possibility.

And **Unigram's** generally reliable sources reiterated their claims that **USL** did indeed talk to the **Santa Cruz Operation** about acquisition (UX No 396), and now add that **USL** can't possibly decide what to do about **SCO** until after it knows whether **USL** itself is going public, going for another investment round or going to get acquired.

USL and **SCO** are reported to have worked through a lot of their emotional disparity if not their pricing differences over this business of **SCO** adopting **SVR4**. Now **Computer Reseller News** contributes some technical concerns bedeviling **SCO** over **SVR4.2**: seems **SCO** is bothered by the fact that the kernel is split into three separate trees: desktop, enhanced security and MP. Its more partial to what the paper calls **SVR4.3** when its all integrated sometime next summer.

Paul O'Grady remains chairman of **Micro Focus Plc** and Brian Reynolds a director, but the Coboller has set up a four-man management committee to act as its chief executive: the committee will consist of John Beggs, who has become president of worldwide sales after the creation of a single sales force, Paul Adams, the new president of products and business development, Bob Connors, who becomes chief operating officer and Ron Forbes, who remains chief finance and administrative officer, the company said.

Larry Ellison has decided he can no longer do it all itself, and the **Oracle Corp** chairman, president and chief executive has brought in James Abrahamson, a former **Hughes Aircraft Co** executive as co-chair man: Abrahamson will join Ellison in the newly created Office of the Chairman, and the company has also formed a new executive committee to formulate the company's strategic direction and oversee its worldwide operations; the committee consists of Abrahamson, Ellison, Ray Lane, president, Oracle USA, Geoff Squire, chief executive, international operations, and Jeff Henley, Oracle's chief financial officer.

ICL Plc has gone to Palo Alto, California-based **Highland Software Inc** for a licence manager for its multi-user Unix software products: **ICL** is taking **Highland's FLEXIm** product, and will start offering it next spring; terms of the agreement were not disclosed; the Putney firm claims that its total Unix installed base is now valued at \$3,000m and that it is doing \$750m a year with kit running Unix System V.4.

At Unix Expo this week **OSF** is supposed to sketch out a plan for certifying that certain boxes interoperate with other boxes complements of **DCE**: apparently nothing will be officially stamped before mid-1993.

DEC has reportedly enticed **Harris Corp** to join its little list of Alpha OEMs adding its name beside **Ing C Olivetti & Co SpA's** and **Cray Research Inc's**: the enfeebled giant is going to need a lot more volume than these firms can muster for its "bet-the-company" Alpha strategy to work.

Microsoft Corp reiterated its pledge to support the MIPS chip with NT at a meeting of the ACE remnants the week before last: there's no talk of making NT XPG3-compliant.

On a Unix panel at the **Etre** conference in Vienna a few days ago, **Microsoft** vice president Steve Ballmer capped a loud, argumentative, personally unattractive defence of NT by admitting it was going to be "hard to sell." Naturally the stick he kept on beating with was its fragmentation.

Santa Cruz Inc's chief executive officer Larry Michels' decision to retire maybe as much as a year ago has not run smoothly, with the ensuing hunt for a successor failing to snare a likely replacement. It couldn't land the one guy it really wanted. Apparently the hunt continues amid doubts about Larry's sincerity.

Ing C Olivetti & Co SpA top gun Elserino Piol told Unigram the real reason behind Olivetti's embrace of Alpha was all the doubts about the wisdom of his MIPS strategy voiced to his boss Carlo di Benedetti: that caused the politically wary Piol to exert himself to come up with the Alpha alternative. The selling point in an alliance with **DEC** for him was **DEC's** relationship with **Microsoft** which, he acknowledges, is sucking **DEC** dry of technical expertise. Apparently the safest relationship with Bill Gates is an indirect one.

Piol also foresees the advent of Windows NT creating a serious discontinuity in the computer business with **Intel** under increasing pressure from **Microsoft's** shift to other platforms and software providers forced to choose what end of the market to support.

Olivetti and **DEC** were supposed to start meeting last week to figure where to take their alliance from here and get product out the door.

Unix System Labs has decided to hold off announcing a Destiny branding programme at Unix Expo (UX No 401): we have a sneaking suspicion they're trying to put together a deal with **88open** for compatibility test suites.

One **Sun** OEM reports he's getting hundreds of 36MHz Viking-based Sparcstation 10 Model 30s and one 40MHz Model 41: he expects the latter to remain scarce for awhile.

Hewlett-Packard Co's Canadian Panacom Division thinks it's got some hot new X-terminal software for Sun, IBM and **SCO** Open Desktop platforms that will let you run applications from the local client rather than the host.

The **IBM-dedicated AIX Expo '92** next month in San Jose, California has unsurprisingly captured **IBM Advanced Workstation Division** chief Bill Filip as its keynote speaker.

The **Object Management Group** collected its first user group endorsement last week from the **Petrotechnical Open Software Corporation**.

DEC has named Unix whiz-kid Alan Nemeth, the technical leader of **DEC's** Unix development, a corporate consulting engineer, one of only sixteen people holding such a title at the firm. He is responsible for implementing the **Open Software Foundation's** technologies at **DEC** though oddly enough he was a founder of **Unix International** while at **Prime Computer Inc**.

SUNEXPRESS COMES TO EUROPE

Sun Microsystems Inc's Lincoln, Massachusetts-based SunExpress direct marketing arm is now operating in Europe. SunExpress Europe is designed to provide a new distribution channel for easy ordering and fast delivery of Sun products - choosing items from the SunExpress catalogue, customers can place orders by telephone, facsimile or post and receive products within five business days. It will initially support customers in the UK, France and Germany and is now accepting orders. The new unit is headquartered in England, with a tele-sales operation in the Netherlands. Italian, Swedish and Dutch outlets will follow. The arm sells pretty much anything which is "user installable" on a Sun, except the box itself, despite Sun president Scott McNealy's view that Sun machines are in his estimation, user-installable. In the US, SunExpress sells some systems on behalf of the Sun Microsystems Computer Corp hardware business, to the education market for example. That and other systems sales accounted for a whacking 50% of SunExpress revenues last year when it was getting off the ground, with end user sales pegged at just 35%. Although the operation would not disclose just what it managed to contribute to Sun's coffers in the last financial year, SunExpress president, Dorothy Terrell, agreed that it had lived up to expectations - of around \$150m - predicted by Scott McNealy when SunExpress was introduced. Its figures are complicated by the fact that every system sale made by SunExpress on behalf of SMCC in the US was counted by both it, and SMCC. Terrell says the duplication was left to the accountants to sort out. This year Sun Express is buying products up front from the Sun satellites - and will offer its marketing services to them - and says all sales will be to end users this time around. The US is now on the third edition of the Sun Express catalogue, Europe a second, with the first Japanese version due now. At present, every order - US and worldwide - is packaged by Caterpillar Logistic Services and shipped by DHL from a depot in Indianapolis. Sun Express will use a CLS warehouse in Belgium to distribute in Europe shortly, although the eventual plan is to locate in Holland alongside the tele-sales operation, possibly at Montfoort, where SMCC's new delivery centre has opened (UX No 400). Distribution in Japan - a market now worth \$1bn to Sun - will continue from the US, using SMCC's pricing and discounting policy. Elsewhere Sun Express reckons it can deliver products 20% below the cost on SMCC price lists - it offers no installation, service or support.

NEW PRINTER, NEW CHIEF AT SUN PICS

SunPics, Sun Microsystems Inc's printing and imaging planet, has a new printer, a new chief and a new European operation. It's coming out with the up-market NewsPrinter 20, a \$5,000, 50,000 sheets-a-month, 20 pages per-minute PostScript companion for its entry-level 12-ppm SparcPrinter laser. The network unit, used in conjunction with NewsPrint software, will be accessible by any computer including Apple Macs and personal computers, prints on paper up to 11" x 17" and holds 500 sheets, an initial capacity due to be expanded early next year when SunPics rolls out a sheet feeder. Meanwhile SunPics has recruited Lalita Tademy from Alps Electric (USA) as its new vice president and general manager, replacing Bill Marr who has become vice president, US sales at Sun Microsystems. In addition it's set up a European operation, headquartered in England at Bagshot, Surrey, under Andrew Field, a Sun UK veteran.

OBJECT PLAYERS WED PRODUCTS

HyperDesk Corp and Object Design Inc have introduced an interface between their respective object-oriented products, HD-DOMS (Distributed Object Management System) and the ObjectStore database. The interface is compatible with the Object Management Group's Common Object Request Broker Architecture and provides a shared object repository for HD-DOMS allowing HD-DOMS-based applications using the repository to be integrated across networks. The repository stores object types and methods as well as objects themselves.

HITACHI LAUNCHES NEW PA-RISC, 68040 UNIX WORKSTATIONS

Hitachi Ltd has extended the Precision Architecture RISC-based end of its 3050 Unix workstation family, the first RISC models of which were launched in May last year with the 3050/REsv, based on a 66MHz version of the Hewlett-Packard Co RISC and designed to achieve performance of 76 MIPS. It also incorporates disk mirroring and a degree of fault-tolerance, as well as virtual array disks. The new model will be available in December and will be priced at the equivalent of \$63,000. At the same time, new models of the traditional 68000 family series of 3050 workstations were released. The two colour desktop and one server models of the 3050LC are based on the 33MHz or 25MHz versions of the 68040 chip and do between 20 and 27 MIPS. A low price - in Japan - of \$15,200 has been set for the desktop models, which have a 256-colour thin-film transistor screens, and have a 50% smaller footprint than previous models. The 3050LC machines are aimed at the office market and run Hitachi's Ofis office automation software. Hitachi released the 2050 series predecessor to the 3050 machines in September 1985, as Japan's first Unix office processor. In the financial year to March 31, Hitachi sold 24,100 of the 3050 workstations.

FUJITSU ADDS SPARCLITE RISCs

Fujitsu Ltd has begun marketing the Sparclite series of RISC microprocessors. The MB86931 has claimed performance of 42 VAX MIPS and operates at 40MHz; it is smaller and more cost-effective for higher speed working than the predecessor MB86930, and useful as a controller for office automation and factory automation equipment. The 20MHz 14 VAX MIPS performance MB86933 is a compact chip, with the lowest price-performance in its class, the company says. Sample shipments began last week, with volume production of the MB86931 from the first quarter next year, and of the MB86933 from December. Fujitsu aims to get 200,000 of the chips away each month next fiscal.

"YOU WANT OUR MONEY? YOU MOVE OUT HERE," SAY US VENTURE CAPS

A group of American venture capitalists laid down the law to European hopefuls at the Etre conference in Vienna a couple of weeks ago. There's no way they'll get US venture capital backing unless they move to the US. Venture capitalists like to keep close tabs on their investments, going down to the offices of the fledging chief executive officers once a week, putting their feet up on the desk and playing father confessor. There's no way they can do that if the person is in Europe. The failure of any European venture capital base to materialise, the flight of European money into US venture funds and European tax codes continue to cripple European entrepreneurs, they say. The American venture capitalists were less than indifferent to anything coming out of Russia or the old Eastern Bloc.

CONSILIUM TAKES THE PLUNGE WITH WORKSTREAM OPEN FOR HP UNIX

Consilium Inc has re-architected its WorkStream software, a previously VAX-only Fortune 500-style manufacturing execution systems leader, to run client/server fashion on HP 9000 Unix systems calling the result, available from the beginning of next year, Workstream Open. The move is the third phase of the Mountain View, California firm's slide into open systems having recently supported Motif and put Workstream clients on workstations and X-terminals from HP, Sun and DEC. Yokogawa Hewlett-Packard will get exclusive rights to sell Workstream HP-UX as a private label product to semiconductor and LCD makers in Japan. HP is also buying Workstream Open to run internally at three of its semiconductor plants. Prices start at \$60,000.

UNIX EXPO: NEWS ROUNDUP

EX-BELL LABS GURUS RE-WRITE UNIX FILE SYSTEM FOR SPACE, SPEED AND SECURITY

Programmed Logic Corp, a small software company of ex-Bell Labs Unix system gurus, has emerged from the relative obscurity of specialist consulting into the glare of the marketplace at Unix Expo this week, with three alternatives to the standard Unix file system. Founded in 1986 by Tim Williams and Gordon Harris, the Somerset, New-Jersey-based company now has a team of eight working on the products, which respectively compress, encrypt and speed up the Unix file system. DTFS, the Desktop File System, halves the normal 60Mb of disk space (and 40Mb more for networking) normally required for feature rich implementations of Unix with the inclusion of transparent data compression and "a revolutionary disk media layout". DEFS, for Data Encryption File System, was designed to provide security for transportable computers. And HPFS, the High Performance File System, is described as a "second generation" version of SVR4's Berkeley-derived UFS fast file system, with enhanced file system algorithms and specialised caching. It's said to eliminate the I/O bottleneck evident in many computers with high powered CPUs, and resulted in an 80% to 100% performance improvement when running the SPEC Consortium's SDET benchmark. All are fully SVID and Posix compatible. The company has had talks with AT&T's Unix System Laboratories, who were not initially too receptive, although that door hasn't been closed. It is now targeting OEMS, but will send to end users prepared to strip out their old file system for the new: "The only difficult part is root", says spokesman Steve Rego. Price for the desktop version binary is \$249, less for volume orders: it goes into beta this November.

New York-based software house **AFIC Computers Inc** will have a set of utilities for distributed databases at the Show: Multi Server Option (MSO), Quick Dump and Last. MSO replicates, updates and synchronises databases across a LAN or WAN, offering a measure of fault tolerance and high availability. Quick Dump is a fast dump/restore facility, and Last is a logging and auditing utility that records and prints reports of data changes. Currently working with the Sybase database on Sun and HP hardware, AFIC is promising an RS/6000 port by the fourth quarter, and Oracle 7 versions by the first quarter of next year.

NCR Corp's Applied Digital Data Systems (ADDs) division is to show its first AlphaWindow terminal at Unix Expo to catch all those character-based applications unlikely to be converted to X: the terminal, based on AT&T's 705MT multi-session terminal, supports the full AlphaWindow spec including mouse support and Motif-like windowing.

And **Bluestone Consulting Inc** of Mount Laurel, New Jersey, also has a graphical user interface environment for character-based applications on show: ONYX, which it developed itself, brings a Motif-like look and feel to existing applications, requiring no prior knowledge of GUI programming, X or Motif, says the company. The company will also show Relaview's dbViewer, an OSF/Motif-based database browser.

As anticipated (UX No 400), **IBM Corp** is to announce AIX PS/2 1.3 at the Show, for PS/2 systems using the 16MHz 386SX on up to the 66MHz 486 DX2-based systems, for AT and MCA architectures: new goodies include Motif 1.3 and X Window V11 R5, better interoperability with other AIX, Unix, IBM and non-IBM systems, systems management utilities, graphics support library with XGA hardware assist and multiple concurrent DOS 5.0 sessions under AIX.

Version 6 of **Empress Software Inc's** Empress RDBMS has been upgraded to support 64-bit architectures, and is initially available on Cray Research supercomputers, Sun and SGI workstations, HP/9000/400 Series and PCs running SunSoft's Interactive Unix. General release and porting will be in January of next year.

FOURGEN ADDS MANUFACTURING SUITE

FourGen Software Inc, Seattle, Washington, will this week announce a major new product line called FourGen Manufacturing, a six-module production planning and control suite built using all the latest technologies such as client/server, object orientation, 4GL, SQL and CASE. It was reportedly built from the ground up using a concept called Modifiability-by-Design to bend to the way businesses are actually run rather than forcing the user to adapt to the software. The package, allowing data sharing throughout the enterprise, is due for release in the second quarter of 1993. It can be integrated with FourGen's Accounting and Distribution applications for a complete look and feel, arguably increasing a user's productivity.

HDS TO SIMPLIFY X-TERMS FOR NON-TECHNICAL USERS

Human Designed Systems Inc this week will try to simplify X-terminals to make them as easy as serial terminal with a new version of its ViewStation FX server software dubbed HDSware 2.0. The company says non-technical users will be able to install HDS X-Windows terminals right out of the box. They'll also get more local capability to off-load host processing, including a new Motif-run VT320 emulator, a local host chooser client, a local command shell and the ability to run local processes and display them on remote X displays. The software is immediately available and will be bundled with HDS boxes with now include a 17-inch high-res colour 960-based X terminal, the FX17CT, priced at \$2,300, reportedly half the cost of competitors.

Unix distributor **Qualix** is due to announce SayIt this week, a new productivity software product that will let Sun users operate their Sparcs by voice commands. SayIt, developed by Agog Inc, reportedly builds voice-activated user-defined macros that correspond to any keyboard or mouse input. Its list price at \$300, with an introductory discount to \$200.

Tatung Science & Technology Inc says it will have a prototype version of its Mbus-based Super CompStation at Unix Expo this week. The one-to-four processor workstations use Texas Instruments Inc's SuperSparc and are rated at up to 218 SPECmarks by the company. They'll run Solaris 1.1, Motif and X.desktop 3.0. Tatung: +1 408 435 0140.

SAIC's Market Focus Technologies will release version 2.4 of VPE, its Visual Programming Environment, for creating graphical user interface-based applications: prices go from \$10,000 for development copies, \$700 for run-times, on a range of Unix platforms. Market Focus: +1 619 546 6472.

Digital Tools Inc, Cupertino, California, will debut a version of its AutoPlan project management software for Solaris 2.0 running on Intel Corp iAPX-86 platforms. Digital Tools: +1 408 366 6933.

Central Data Corp is to offer its scsiTerminal Server line - multi-port expansion solutions that utilise the SCSI bus on workstations - for SCO Unix 3.2.4, Ultrix 4.2A and Solaris 2.0. Central Data: +1 800 482 0315.

Quality Software Products has new versions of its Masterplan project management program (now a Motif-based application) and its eXclaim! Motif/X Window spreadsheet, which now has an SQL link to Ingres.

Once again **Pencom Systems Inc**, Austin, Texas, will be holding a job fair at Unix Expo, saying it'll have around 300 vacancies on offer. Meanwhile, Pencom's software operation says its co-Xist X-Windows development environment for NeXT computers (UX No 402), is out on October 15 and costs from \$420 for a run-time. Pencom +1 512 343 1111.

SOLBOURNE READIES ITS SUPERSCALAR SERIES 6 MPs...

Solbourne Computer Corp is getting ready to announce its line of Texas Instruments Inc Viking-based Series 6 symmetric multi-processors, with volume deliveries scheduled for November. The boxes, available in configurations of up to either four or eight CPUs, will be based on the 33MHz version of the chip. The company had originally planned on using 50MHz Vikings in the Series 6 but with those being unobtainable, they will only come as upgrades. Solbourne, which has passed Sun in being able to offer symmetric multi-processing, is also planning a new release of its SunOS operating system. It says its customers will not be ready to migrate to Solaris until next year. The Series 6, which reportedly went into beta two weeks ago, includes two servers, a 700, carrying a maximum of four CPUs, and a 900 with a maximum of eight. A two-processor 200-MIPS 50-user 702 with 128Mb internal and 2Gb of disk will be priced at \$76,000. A two-processor 902 with 128Mb internal and 3Gb of disk will be \$116,600. A 900 tops out at \$165,000. Solbourne hopes to have 300 to 500 in the field by the end of the year. The machines' official debut will be held this week at the International Oracle Conference in San Francisco, followed by a showing at Unix Expo in New York later this month. The Oracle party represents a significant strategic departure for Solbourne which intends to try to blend the best of the old proprietary world with the best open systems has to offer. Starting with Oracle Financials, it means to tune its hardware, architecture and operating system to optimise software performance just like they did in the "good ole days" but without threatening the customer with a proprietary hammerlock. The kind of software niches Solbourne would go after would require lots of CPU power, I/O and memory but still be small enough to be unattractive to an HP. Solbourne will detail its SPECint 92 ratings for one, four and eight processors as 993, 3615 and 6442 respectively and its SPECfp as 1215, 4621 and 8678 also respectively.

...AS PARCPLACE SYSTEMS BUYS SOLBOURNE'S GUI, C++ UNIT

Solbourne's nine-month-old OI Software Business Unit, which it fully expected to spin off someday as a separate company, has been bought by Sunnyvale, California-based Xerox Corp spin-out ParcPlace Systems Inc, the Small Talk company, on undisclosed terms. The purchase was ascribed to ParcPlace's newly ensconced president, Bill Lyons, who is anxious to make ParcPlace a pivotal object-oriented player. ParcPlace has been distributing the unit's Object Interface and User Interface Builder software for building X Windows-based C++ applications. Solbourne's product allows developers to create graphical user interfaces that dynamically switch between Motif and Open Look. The unit will be completely absorbed by ParcPlace and function as ParcPlace Systems Boulder once it can find quarters in that Colorado town. All fifteen of the unit's employees are expected to make the shift. ParcPlace is anticipating a new release of its C++, code named Archimedes, in the fourth quarter.

INTEGRIX LAUNCHES SPARC 2 CLONE

Sparc add-on house Integrrix Inc is jumping into the clone fray this week with a \$3,000, 28.5 MIPS Sparcstation 2 compatible labeled the SS2 Basic System. It includes three master/slave SBus slots, up to 128Mb internal memory, an Optal-Mechanical mouse and Type 5 Sparc keyboard. Strategically Integrrix plans to create a one-stop shopping service providing resellers with all the basic components of a Sparc up to a fully configured system. Unlike many other cloners, Integrrix manufactures virtually all the basic components of a Sparc including the motherboard, keyboard, enclosure, graphics boards and SBus expansion units. The firm is promising to develop new distribution channels, predicting that resellers will private label their own systems with Integrrix components.

MAINFRAME HOUSE SAP MAKES ITS CAUTIOUS WAY TO UNIX...

Mainframe software house SAP AG, based in Walldorf, Germany is to release English, French and Dutch versions of its SAP System R/3 Unix business software in January 1993. Based on SAP's wide ranging R/2 management information and financial software for mainframes, R/3 is already being piloted in the UK and on the continent. German versions were released in July, and Spanish and Italian languages follow in July 1993, with Eastern European versions to be added by the end of 1993. The first R/3 pilot site in the UK is a subsidiary of German natural detergents company, Henkel Chemicals AG, which will run R/3 on a Hewlett-Packard 890/200 database server accessed by X-terminals at the front end and serving 250 users. The software will run on IBM, Hewlett Packard, Siemens Nixdorf, Digital Equipment Corp and Bull Unix platforms and support all client/server configurations. SAP's founder, Dr Hasso Plattner, said the company was in no hurry to port to other platforms: "It is difficult pleasing so many hardware partners. We are drawing up another list which includes ICL and Sun." He also said that although R/3 will not have R/2's functionality until the end of 1993, he expects it to exceed R/2's performance by the end of 1994. Existing R/2 customers will get a free copy of R/3. However, R/3 is not seen as a competitor to R/2: "It (R/2) will exist as long as IBM is still investing in mainframes," commented Plattner. In the UK, Plattner confessed that R/2 had a limited presence of about 30 sites. The marketing strategy had been to push R/2 rather than the unreleased R/3: "It is our cash cow. We told people that if they wanted R/3 they would have to come to Germany". A spokesman from Hewlett Packard commented that this had caused SAP to lose out to Oracle in the UK: "But SAP is now revising its R/3 marketing strategy", he said.

...AS DUN & BRADSTREET REJECTS IBM AS "UNCOMMITTED TO OPEN SYSTEMS"

Another mainframe stalwart bowing to Unix, Dun and Bradstreet Corporation, based in Framingham, Massachusetts, says that the Unix version of its Millennium business software will ship at the end of 1992 on ICL, Data General, Hewlett Packard and Digital Equipment Corp machines. In 1993 the software will be ported to DEC's Alpha platform running OSF/1 Unix. Prices have yet to be announced. All Unix development is done in the UK, at Dun and Bradstreet Software Services Ltd, of Bristol. The omission of IBM from the initial list is down to its lack of commitment to open systems, according to John Hille, D&B's director: "When we chose the platforms there were other vendors more committed to open systems. IBM has a conflict of interests between the AS/400 and RS/6000". UK marketing manager, Colin Starr, said that customers were more interested in software rather than hardware choices. In the US, 90 per cent of D&B users have IBM mainframes. The first UK Millennium pilot is Kent County Council which is evaluating Millennium over 18 months. D&B's client/server computing environment, SmartStream, is to be released on Hewlett Packard and Data General Unix platforms in October 1992. Further ports will follow at the end of 1993, according to the company. This is currently beta testing in the US. Since the June launch of SmartStream on IBM's OS/2, D&B has signed up two undisclosed UK users. Additional SmartStream products for 1993 are Financial Stream, released first quarter, followed by Logistics and Manufacturing Stream. Data General is a beta site for SmartStream Unix. According to Hille, research and development spending for new products stands at 15 per cent compared with 85 per cent for existing products: this would be an even split by the end of the year, he said.

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The Weekly information newsletter for the UNIX © community worldwide

Our tipsters tell us **Sun** is planning to announce its own X terminal (UX No 399) on Tuesday May 4, 1993 provided nothing untoward happens in the intervening months and development stays on schedule. Apparently the thing will be based on a still-unannounced workstation, a **Tsunami** possibly. Engineering is reportedly dictating the specifications and Sun could catch flak because they're using proprietary protocols.

Mountain View, California-based **ProActive Software Inc**, Roger Sippl's latest distraction, has got \$4m in second round financing from the **Mayfield Fund**, **Weiss Peck & Greer**, **Grace Horn Ventures**, **Stanford University** and **Mohr Davidow Ventures** which together with Sippl supplied its initial \$1.5m in seed capital (UX No 394). The money is earmarked for engineering, marketing and sales of the start-up's customer satisfaction software.

Ingres plans to update its object-oriented **Windows4GL** to version 2.0 this week adding an interactive debugger, user interface enhancements and support for additional window managers.

Motorola Inc is reportedly shutting down its 250-person San Jose, California facility to consolidate in Arizona.

The **Unix Systems Administration Conference** has been scheduled for October 19-23 at the Sheraton Long Beach in Long Beach, California.

Santa Clara, California-based **Procace Corp** has introduced **C/Spot/Run!**, a tool that automates the edit/compile/debug cycle of C programming by combining functions such as **Lint**, **Grep**, **Find** and **C Scope** in a single window. Coding should go faster by consolidating development and analysis functions. The \$1,000 programme, supporting Sparcs and HP 9000 Series 700 workstations, will be sold through **Unix Central's** catalogue for the next three months, possibly moving into other catalogues and telesales channels thereafter.

Unix-on-Mac house **Tenon Intersystems Inc** will show up at **Unix Expo** with its **Mach Ten** running on an Apple Powerbook. With **Mach Ten** priced at \$600, it is probably the cheapest Unix portable around. Remember too **Apple Computer Inc's** own **A/UX** doesn't run on the Powerbook and **Tenon** will let you run Mac applications too.

Reports says **DEC** has successfully run **IBM's CICS** on-line transaction processing monitor on the Alpha RISC in its labs: the company says there are now over 2,000 applications being ported to the environment.

According to its own market forecast charts, **Data General Corp's** next-generation **Motorola Inc** 88110-based **AViiONs** will deliver from 200 MIPS to 800 MIPS, retail from between \$200,000 and \$350,000 and are due to arrive by next spring.

Former **Sun Microsystems Inc** UK marketing manager, **John Coon**, is now heading-up **Data General Corp's** UK marketing operation after spending a brief period at one of Sun's satellites.

NOW CDC GOES TO IBM FOR RS/6000s

Control Data Corp is the latest struggling hardware manufacturer to sign up as a reseller for **IBM's RS/6000** - but so far it is restricting the agreement to Denmark, Norway and Sweden. **CDC** will also supply installation, maintenance and support services. It justifies the move as proof that it is taking the independent platform integration business seriously. **IBM** sells **RS/6000s** only through third parties in Denmark, where 60% of the top 500 companies are committed **IBM** sites. **CDC's** Denmark operation has been one of its most successful subsidiaries by concentrating on software and integration services. The deal may lead to others, although nothing has been signed yet in the UK or the US. **IBM RS/6000s** are already sold by **Wang Laboratories** and **Groupe Bull**.

A working prototype of **DEC's** Alpha-based RISC PC was spotted in Cannes, France, at the **Dexpo Europe** show a couple of weeks ago: it included a 150MHz CPU and was being touted at up to 250 MIPS. Software developers should be able to get their hands on one from the end of this month, with general availability pegged for next February when **Microsoft NT** arrives for it.

Hewlett-Packard Co's first PA 7100-based workstation, the model 760 is being touted at \$50,000, the same price as the model 750 it will replace, and should do 150 SPECmarks.

SAFE, the **Security Alliance for Enterprise Computing**, now 80 members strong including large user organisations, has published its catalogue of **Unix Security Awareness Materials**, a guide to information sources on security issues.

Fleeing Momenta International Inc, where he was briefly chief executive officer, **Apple Computer Inc's** erstwhile chief operations officer **Delbert Yocam** has gone to **Tektronix Inc** as president and chief operations officer.

Quoting reseller sources briefed by the company, **Computer Reseller News** is looking for **Sun** to phase out the **ELC** and **Sparcstation 2** to make room for new **Tsunami-run** **IPCs** and **IPXs**. It's also expecting **Sun's** director of US reseller channels **Dan Shaver** to resign.

To pick off some of the wandering **DEC** herd, **Hewlett-Packard** has signed a joint marketing pact that will put **Raxco Inc's** **VAX/VMS** data centre management products on **HP 9000 Series 800** and **Series 700** machines: the **Rockville, Maryland** company has its **Security Assessment** software immediately available for **HP's 9000s**.

InfoWorld's ubiquitous gossip columnist **Robert X Cringely** took his shot at **NT** this week: "Windows NT," he writes, "is compromised by trying to be both a client and a server operating system. NT is great, but inklings I hear from beta testers of **Netware 4.0** say there are at least five added features to the new **Novell** product, each of which will blow **NT** out of the networking water. This word comes from people I trust."

After all these years, **DEC** is finally going to start paying its salesmen commissions apparently with the new year.

NCR Corp's Philippines operation has established a software development subsidiary, **NCR Software Corp**, to target the potential created by a projected shortfall of one million engineers in Japan by the year 2000.

Tallgrass Technologies Corp, **Lenexa, Kentucky**, has added **Unix** and **Apple Macintosh** agents for **NetSecure**, its **NetWare** server-based backup system: prices for the agents go from \$500 - **NetSecure** starts at \$1,200.

SunSoft Inc is going to open an office in **Taiwan** in support of the local **Sparc** clones.

DEC is thought to be preparing to announce its next generation of **Alpha RISC** systems - including **Flamingo** - in October.

Sun officially denies widespread published reports of a project **Medusa** having anything to do with **NFS**. **Medusa** was the code name of a back-up disk suite product brought to market a year ago. **SMCC** (not **Sun Labs**) is in fact revamping **NFS** and will be enhancing cache filing and adding multi-threading but it is a generic revision not something specific for its anticipated giant multi-processor **Sun Dragon**. A prototype of a lot of what its doing was shown at **Connectathon** early last year.

Near as we can tell, the courtship between **Novell Inc** and **Unix System Labs Inc** is unchanged from a few weeks ago when the news broke that **Novell Inc** could buy a greater share in the **AT&T** subsidiary (UX No 398). The story, however, aroused similar interests from more than one company. Whether these are already **USL** shareholders or newcomers is still unclear. **USL**, we know, is being careful not to rock the boat as far as **Novell** is concerned.

Take a look at Spain,
the fastest growing UNIX market
(35% growth 1991) Source: IDC

X-EXPO'92

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SUNGATE: ADDAMAX LAWSUIT AGAINST OSF "HAS BEEN COVERTLY FUNDED"

The Open Software Foundation attempted to fan the flames of scandal at Unix Expo in New York last week when it broke the news that Sun Microsystems Inc has been funding the lawsuit brought against it by security software house Addamax last year (UX No 331). Addamax, whose security technology was submitted but passed over when OSF selected SecureWare for its OSF/1 operating system, filed the \$100m anti-trust suit in April 1991, also naming Hewlett-Packard and Digital. "Contrary to impressions created publicly by Addamax and others, the lawsuit was not the simple effort of a small, independent software house", claimed the Foundation, which won a court order allowing it to reveal the information. "We are appalled by Sun's behaviour" said OSF chief David Tory. Sun says Addamax - a vendor to Sun - asked for a loan guarantee, and it agreed because the suit raised serious issues. The sum is \$7.5m, and Sun will only pay out the money if Addamax loses - it will not gain from any victory. OSF is said to have got the go-ahead to reveal the agreement a few weeks ago, but waited to announce at Unix Expo. It is thought to be unlikely that the action will be settled out of court, and prospects of a rapprochement between the OSF and Sun - that were just beginning to be talked about (UX No 379, 380) - now appear remote.

NOW UNIX INTERNATIONAL MAY BOW OUT OF X/OPEN

Like the Open Software Foundation before it, Unix International may be forced to relinquish its seat on the board of the X/Open Co Ltd because to the financial cost of membership. UI's ticket runs to some \$750,000 a year plus extras which brings the total up to around \$1m it must pay annually, the same price point at which OSF retired, (UX No 356). UI, an \$11m affair, wants to retain its input into X/Open, but unless it can come to an arrangement over some other form of membership which OSF has so far failed to secure, it is likely to turn in its cards at the end of the year. UI and X/Open were due to meet as we went to press.

UNIX SYSTEMS LABS TO FORM TUXEDO CLUBS, NCR'S TOP END STRATEGY REPOSITIONED

Part of Unix System Labs' push to make its Tuxedo transaction processing monitor a standard for OLTP will begin to happen next month with the inauguration of the Club (UX No 403). Due to meet four times a year, the club will invite all 30 Tuxedo licences to join though only 17 are active. As well as a means of ensuring that interoperability and compatibility between different vendors' Tuxedo-based products, USL wants the club to clearly identify these products by stamping them with the Tuxedo brand. At the moment, Unisys Corp's Unix OLTP for example, is not visible as a Tuxedo implementation: "we even used to charge companies to use the brand" admits USL. Speculation that NCR's own OLTP monitor Top End is likely to be squeezed out of the frame continues. Latest word has NCR being given time to re-position its OLTP strategy for interoperability and compatibility before a statement is released.

NOVELL AND UNIX SYSTEM LABS - "MERGER PUT ON HOLD"

Sources who, a few short weeks ago, said they "would have bet the farm" on the Novell/Unix System Labs merger going through are now convinced the deal has soured. They theorise that reason may have been the price being asked, exacerbated perhaps by personality clashes. Other companies have run numbers on what USL would be worth and found it hard to justify more than \$200m. Novell could of course come back again sometime down the road, since its strategic interest in operating systems is doubtless unchanged, or another company could find the acquisition appealing (UX No 405). However, right now USL is believed to be back on the road to going public.

IBM LAUNCHES 62.5MHz RS/6000s, UPS UPGRADE TAGS

IBM Corp is following up its summer drought of product announcements with a flood that will keep everybody busy until Christmas. Last week it launched the RS/6000 Powerserver 980 - server only - and the 580, which comes in station and server versions. Both use a 62.5MHz version of the Rios RISC. The 980 is the new top end to the 19" rack-mounted sub-family. It has 32Kb instruction cache, 64Kb data cache, and two 80M-byte per second Micro Channel buses each capable of supporting eight input-output adaptors. The second group of eight slots can be ordered with the initial machine or field upgraded later. Base disk on the 980 is 2.74Gb. Upgrades follow in November. The 580 has the same processor configuration, 64Mb memory, 2Gb disk and one 80M-byte per second Micro Channel, and integrated SCSI-1 adaptor, costing \$62,500. Available from October 23, the 980 and 560 cost \$114,500 and \$62,500 respectively. IBM also cut prices on the 220, 340, 350 and 560 RS/6000s, with the 220 cut 9.5% to \$3,800, and the 560 cut 8.7% to \$57,500. But it increased the cost of almost all RS/6000 model conversions by some 15%. The Model 220 will get a further upgrade to a higher clocked CPU next year. The first Power PC chip, the 601, will become available for it and is expected next year, ahead of schedule. The new machines have yet to be launched in the UK. "We are not ready yet", claimed Clive Parminter, IBM's UK AIX/Unix manager, who denied that this was because of chip problems. IBM and CICS - page 2.

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IBM REVEALS CICS/6000 OVERLAY FOR ENCINA SYSTEM...

The new AIX CICS/6000 and AIX Client for CICS/6000 launched last week (UX No 402) will be available on June 25 1993. CICS/6000 is really a CICS overlay for the Encina transaction processing monitor from **Transarc Corp.** CICS applications and data can be distributed horizontally and vertically across TCP/IP only environments, SNA only environments or the two mixed over local and wide area networks. Applications can be developed on CICS/6000 for execution on CICS/6000, or on any other member of the CICS family. Existing CICS customers can use their investment in CICS Cobol programmers with no need for re-training and Unix programmers can develop CICS applications in C and use X Window or Motif functions to develop user interfaces. **IBM** intends to extend the function of both CICS/6000 and AIX SNA Services to support option set 108 (Syncpoint Services) of Systems Network Architecture Logical Unit Type 6.2. AIX CICS/6000 needs Encina Peer-to-Peer Executive for AIX/6000 and Encina Server for AIX/6000 and Encina Structured File Service for AIX/6000, AIX DCE Cell Directory Server/6000 and AIX DCE Security Server/6000 need to be accessible in a Distributed Computing Environment cell. It costs from \$3,700 on the smallest RS/6000 to \$29,600 on the largest. The Client for CICS/6000 is \$300 on any machine.

Encina is also to become available in its own right on the RS/6000. Users will have a choice of CICS/6000 or vanilla Encina from December 18. Encina server for AIX/6000 licences cost from \$1,800 to \$14,400 with an annual charge of \$270 to \$2,160. Encina Structured File Server for AIX/6000 goes from \$1,400 to \$11,200 with annual charges of between \$210 and \$1,680. Encina Monitor for AIX/6000 costs \$1,350 to \$10,800 - annual charges are \$205 to \$1,620. Encina Peer-to-Peer Executive for AIX/6000 is from \$400 to \$3,200 with annual charges of between \$60 and \$480, whilst Encina Peer-to-Peer Gateway for AIX/6000 is \$400 to \$3,200 with annual charges of \$60 to \$480. **IBM** also announced its AIX Distributed Computing Environment products, based upon the Open Software Foundation's DCE technology. AIX DCE Cell Directory Server/6000 is from \$2,750, AIX DCE Security Server/6000 goes from \$2,800 and AIX/DCE Base Services/6000 combined with Encina Base Feature starts at around \$650. **IBM** says that it will offer AIX CICS/6000 to vendors like Sun, Hewlett Packard and Digital Equipment Corp.

IBM claims surge in IBM RS/6000 sales

From 1 October, **IBM's Advanced Workstation Division** becomes the **Advanced Workstation and Systems Division**, to reflect, the company says, the expansion of the RS/6000 range. **IBM** is still shooting for top spot in the league table of Unix system vendors by 1993. Bill Filip, president of the Advanced Workstation Division says RS/6000 business has grown 50% in the first half of this year over the corresponding period last year, putting it right on course to achieve its target, he believes. **IBM's** Advanced workstation division says its direct sales force accounts for 64% of the RS/6000s shipped. 30% go through resellers. OEMS (like Wang and Bull) account for 6%. 70% of models shipped are desktops, 27% desksides and 3% rackmounts - although the latter accounts for 15% of RS/6000 revenues, it says. **IBM** figures the commercial Unix marketplace is worth some \$9.4b right now, 25% of which is accounted for by Unix OLTP solutions, a further 2% by Unix OLTP with a TP monitor. It expects the commercial market to grow to \$20.8b by 1996 with 25% accounted for by Unix OLTP solutions and a further 25% by Unix OLTP solutions with a TP monitor. Independent software vendor support for **IBM's** OLTP on RS/6000 announcements included Micro Focus Cobol for Encina; Redbrick systems Gold Mine SQL Data Access and Retrieval database accelerator; JYACC's JAM graphical user interface builder for Encina; AMS Accounting for DCE/Encina and Informix and Oracle for Encina/CICS.

SUN AND CA TIE THE KNOT

Sun Microsystems Inc and **Computer Associates International Inc** duly announced their alliance last week (UX No 403), saying that CA-Unicenter will be fully available on Sun hardware within nine to 12 months. Porting begins immediately for the Solaris 2.0 environment. CA also promised to support an Open Look version of the product. Although HP has already carried out the main task of porting Unicenter to a RISC platform, the Sun port involves the move from a Berkeley-based operating system over to V.4, as well as the work involved in supporting Solaris value-add. CA will seed the new version into its commercial base, while Sun will provide free demonstration versions to its entire customer base on compact disk. Commercial tools and technology manager Nancy Colwell claimed that systems management tools from a company with longevity such as CA was the most highly requested demand from Sun users, while Sun president Scott McNealy claimed that Sun would have up to 10,000 commercial servers out in the field by the end of the year. Although the two companies hinted that further products might in future be ported to Solaris, nothing appears to have been agreed so far. CA says its customers are particularly keen to see its IDMS and Datacom database products - out at 5,000 development sites and with 50,000 applications - ported to open systems - these should go into beta on HP next January. HP has similar plans for CA's human resources, financial, graphics and decision support software. Meanwhile Sun's Colwell hints that more announcements concerning "historic IBM-based companies with third-generation based traditional products" would be the subject of a number of other announcements over the next four to five weeks.

...AS CA AND OSF PROMISE DCE/DME COMPLIANCE

Separately, CA said that it was working with the **Open Software Foundation** to make Unicenter compliant with OSF's Distributed Computing Environment (DCE), and Distributed Management Environment (DME) technologies. CA spokesman Kurt Seibert said the technology would be fully optional "The clients will have the choice". Work on DCE is beginning immediately, but DME is not likely to hit the market in any form for another two years. OSF chief David Tory, of course, originally came from Computer Associates.

UI PUBLISHES TP GUIDE

In parallel with **USL's** initiative and in response to **IBM's** transaction processing announcements, **Unix International** is also throwing its weight behind the Tuxedo push with the publication of a guide for integrating **USL's** TP monitor with mainframe CICS. Prepared by London-based **Data Logic Ltd** - the company that is doing the design and development of CICS/6000 for **IBM** - "Open Enterprise Transaction Processing: integrating the Tuxedo System with Mainframe CICS" describes several design approaches for achieving co-existence. Meanwhile, **Data Logic** is also prepared to put together a guide for integrating Tuxedo with CICS/6000-effectively **Transarc Corp's** Encina if it can find backers.

OSF SETS BRANDING AND CERTIFICATION PROGRAMME

And in the general fever for branding schemes OSF is also introducing its own programme for vendors to badge their products "OSF certified". To be able to add this latest accreditation to what may already be a substantial collection of brandings and certifications, a vendor has to successfully complete a set of tests and checks, buy a distribution source licence for the specific OSF technology, and agree to a royalty structure for products shipped under the certification seal. OSF/1 1.1 and Motif test licences cost \$35,000 and \$10,000 respectively. DCE tests will be conducted at OSF's Cambridge, Massachusetts-based interoperability lab, and at a real-world site - prices to be decided. For an extra \$75,000 a vendor can use the OSF trademark for that specific product. Source distribution licences: OSF/1 - \$85,000, Motif - \$15,000, DCE - \$150,000. Product Royalty: OSF/1 \$65-\$26, Motif \$40-\$10, DCE \$15-\$5 (all per unit based on volume). Despite OSF's attempt to harmonise some of the products based upon its technology, it has come too late to net some of the larger fish. Apparently, the DEC, Hewlett-Packard and IBM DCE ports do not interoperate, and OSF is more than fretful that users will find this out, putting it at severe risk.

...AS FIRST ANDF APPLICATIONS ARRIVE

OSF says the Informix Wingz spreadsheet has been ported to its Architecture Neutral Distribution Format technology and was successfully installed on an IBM RS/6000: a DEC Alpha version will follow. Other ANDF ports, including the Oracle database, are under way. Oracle, which runs to some 1.3 million lines of code, compared to Wingz's 200,000, will prove a much sterner test of the technology. The ANDF installer technology is now up on GCC, the Free Software Foundation's Gnu C Compiler, meaning, says OSF, that any vendor with GCC can now buy ANDF out. The installer is expected to be featured in Unix SVR4 in future, following **Unix System Labs'** endorsement of ANDF.

... OSF MICROKERNEL DUE FROM NEXT MONTH

Meanwhile, OSF/1 MK-AD, the microkernel version of OSF's operating system, based on **Carnegie-Mellon University's** Mach technology, will be available from October. **Intel Corp's** Scientific Computer Division is expected to be first to market in December, with an installation at Oak Ridge National Laboratories in Tennessee. OSF/1 MK, already available as a snapshot, was being shown last week at the **Unix Expo** show in New York by **IBM**, which is also to use the Mach microkernel in a future version of OS/2 (UX No 402). **IBM** has been trying to negotiate a deal with the **Open Software Foundation** to buy outright re-distribution rights to an OSF/1 single server running under Mach 3.0 on PS/2s. They complain that OSF's price list is meant for higher end machines and they are muttering something about "large volumes". The technology may also form the core of a specialised network server, with **IBM** expected to ship a Mach 3.0 implementation next year. It's also rumoured to be interested in a single server version of OSF/1 running under Mach as a personality.

ANOTHER ONE FOR THE DIARY... OSF'S CHALLENGE '93

The **Open Software Foundation** believes its technologies are now being used and marketed by enough sections of the industry to warrant an exhibition dedicated to its products. **Challenge '93** will be held in conjunction with OSF's member meeting in Boston next May. OSF is clearly hoping to stake out its claim to a piece of the open systems marketplace with what is expected to become an annual event for both hardware and software vendors. **DEC, Hewlett-Packard, Hitachi, IBM** and **Groupe Bull** have already signed on for the event.

UNIX INTERNATIONAL STARTS CAMPAIGN AGAINST MICROSOFT NT

Unix International has been arming itself for the war against Microsoft NT. It has had **Locus Computing Corp** dissect NT and do a functional analysis comparing it to desktop Unix on both the client and server levels. Unsurprisingly, it found Unix superior in networking, multi-user support, support for industry standards and cost competitiveness. Equally unsurprising, NT's advantage rests primarily, the study says, "in the strength of the marketing and sales programmes that support it. NT is weak in not supporting Sun's NFS, supporting only multiple sequential users, not supporting XPG and being only minimally compliant with Posix 1003.1x." The study, dubbed the **UI Windows NT versus Desktop Unix Comparison** and available in October, also throws stones at NT's preliminary (and hence dicey) character and its hefty hardware requirements.

MICROSOFT ADOPTS IXOS GRAPHICAL ARCHIVE SYSTEM FOR WINDOWS NT

Windows New Technology is now firmly on Unix specialist **Ixos GmbH's** agenda: **Computerwoche** reports that the **Grasbrun, Germany-based** company has signed an agreement with Microsoft Corp under which it will do a version of its graphical archive system for the operating system, which is expected to be released at the start of next year. To this end, Ixos has been given a preliminary version of NT already. Ixos's interest in NT stems from its 32-bit architecture, and Microsoft has gone to the lengths of creating a system with a sufficiently large directory to cater for both Intel Corp iAPX-86-based systems and Ixos's archive system. At the present moment, the archive system runs in Siemens Nixdorf Informationssysteme AG environments under Unix with the OSF/Motif graphical user interface.

ENCORE INCREASES RISC LINE WITH INFINITY

Encore Computer Corp, Fort Lauderdale, Florida, introduced a new high end series of Infinity 90 minisupercomputers to its existing **Motorola Inc** 88000 RISC-based line. The Infinity 90 is based upon the one-to-four CPU technology of Encore's 91 system. Used as a subsystem in the Infinity 90, up to 512 of these units can be coupled and used in various configurations as communications processors input/output and general purpose compute systems. Each subsystem runs a separate copy of Umax, Encore's Unix System V implementation, which are brought together by an RPC-based mechanism. With from 35 MIPS to 70,000 MIPS performance the Infinity 90 uses the reflective (shared) memory technology that Encore derived from its Gould Computer acquisition in 1988. Storage capacity ranges from 4Gb to 200 Terabytes. Each subsystem comes with from one to four 88100s and is rated at 35 to 140 MIPS, 20 to 80 MFLOPS. It supports a full complement of networking, interface, development and database environments. Encore says its current plan is to move to the next-generation 88110 RISC over time, but claims its architecture is CPU-independent and that it is evaluating other architectures. Upgrades to its existing 91 and 93 systems are in the works and Encore says it expects its OEM, **McDonnell-Douglas**, to sign up for the new machine.

HYPERDESK LINKS HD-DOMS TO OBJECTSTORE

Westborough, Massachusetts-based Hyperdesk Corp and **Object Design Inc** in nearby Burlington have an interface between their products, incorporating Object Design's Objectstore database into Hyperdesk's HD-DOMS distributed object management system. The HD-DOMS-to-Objectstore interface is claimed to be the first Common Object Request Broker Architecture-compliant interface available commercially and provides a shared repository for object types, object methods, and the instances of those objects.

UK SUN EXPO ROUND UP - AT THE NEC, BIRMINGHAM

by Alison Hawkings

SUN PUBLISHES OGI LIBRARIES - DU PONT LAUNCHES FIRST OGI-COMPLIANT PRODUCTS

The Open Graphics Initiative launched by Sun Microsystems Inc more than a year ago to provide an interoperable interface between graphics applications and hardware in the Sparc-compatible market, has published its first complete set of foundation libraries for developers. Designed to interface between the graphics application programming interfaces (APIs) and the underlying architecture, the OGI supports PHIGS, GKS, GL, Xlib, Iris GL and PostScript - Sun says, it intends to add support for PEXlib, XIE and PIKS in the future. There are three components to the open graphics level: XGL, a 3D library for geometry APIs such as PHIGS and XGL; XIL, an imaging library for IPLIB, XIE and PIKS and X11/News, a window server. Those companies who have signed up to the OGI include Du Pont Pixel, Evans & Sutherland, Tektronix Inc, Vitec Corp, Megatek Inc and Image Manipulation Inc. Du Pont Pixel which has developed the XGL library for Sun, is already rolling out OGI-compliant hardware and software, and launched its Sbus accelerator board at the SunExpo last week. A 24-bit, two slot Sbus for the IPX Sparcstation at the cost of £3,500, is claimed to outperform Silicon Graphic Inc's Iris Indigo workstations. Du Pont Pixel says, "the OGI strategy is now operational and Silicon Graphics can't afford to take their markets for granted anymore, with this architecture once a piece of hardware or software has been modified it will run on full blown Sparcstations, clones, in fact anything that it is Sparc-compatible". SGI which has led a pretty much unscathed existence in the mid to high-end graphics market will begin to feel the pinch with ISVs lining up to modify applications to run on Sparc-based machines, the firm says. Du Pont Pixel has begun modifying SGI-based applications and at the show last week demonstrated SGI's Iris Explorer running on a Sparcstation IPX - this will be available in the first quarter of 1993. The company also showed its Fusion line of graphics accelerators, which will also conform to the OGI standard. Evans & Sutherland is also expected this week to announce similar OGI-compliant graphics software aimed at the high-end graphics market.

READY SYSTEMS ROLLS OUT SPECTRA FOR REAL TIME EMBEDDED SYSTEMS

Also at the show last week, Ready Systems Inc launched Spectra, an open cross-development environment for real-time embedded systems software. Spectra, supporting Motorola Inc' 68000 microprocessors at the target system end and Sun Microsystems Inc's Sparcstations at the host end, is designed to maximise host tool operations whilst minimising their dependence on the target system, with a host resident target manager controlling the debugging activity that would normally burden the target system. The company claims that Spectra only needs 30Kb of memory to support the host/target communication and tools. The ability to free-up the target system will, the company claims, allow the VRTX Unix-like operating system, VRTX/OS 3.0, to run up to 30% faster. Spectra's features include Virtual target, which runs the embedded application on the host and permits debugging before the target hardware is available. This is done by compiling the application on the host-x based version of the VRTX operating system. An open Toolbuilder interface, which accesses up to 70 target functions to develop application specific tools. It also sports OSF's Motif graphical user interface at the front-end. The Spectra toolset includes a variety of ANSI C compilers from Microtec Research Inc, Oasys Inc and Sun Microsystems Inc in addition to assemblers, libraries, linkers and loaders. Targeted at the cellular communication, military and flight control markets, Spectra is available direct from Ready Systems in the US and from its UK distributor Instrumatic UK Ltd, Marlow, Buckinghamshire: no prices given.

NOW SUN STRIKES A DEAL WITH ADOBE SYSTEMS FOR NEWSPRINT

Sun Microsystems Inc's SunPics division has announced a joint technology and marketing deal with Adobe Systems Inc, hoping to add value to its NewsPrint open network printing technology (UX No 360) with imaging technologies such as Postscript and Display Postscript. In return, Adobe is promising to increase technology and application development for SunSoft's Solaris environment, including the porting of Adobe's Illustrator and Photoshop applications to Solaris. Sun also promises to help Adobe to make its long-awaited Carousel document interchange format software successful in the Unix marketplace. SunPics spokesman Kevin Olsen said that Adobe technology would be integrated within the four layers of its NewsPrint system, particularly the imaging and font layer where X11/News and its own well-established F3 scalable font format standard already reside. Adobe (and third party) Type 1 fonts will be added, and Sun's Postscript Level 2 printing will support both Adobe Type 1 and Sun F3 font formats. Sun won't let go of the advantages of its own technology, which include font maker technology originally from its 1988 acquisition of Folio Inc (UX No 198) which speeds up font design, especially when big-alphabet Japanese, Korean, Taiwan and Chinese applications are involved. But it admits that Adobe technology is often the default standard, and wants to make the technology available within NewsPrint. It will also give Sun users more access to PC systems using Adobe, and full WYSIWYG correspondence between display and output through Display Postscript. No products were announced.

Menlo Park, California-based, Gupta Technologies Inc, duly announced at SunExpo last week that it is making its PC-based SQL database server, SQLbase, available on Sun Microsystems Inc's Sparcstations running Solaris 2.0. Stepping up its commitment to the Unix market, this announcement follows a stream of similar agreements including ports to Novell Inc's NetWare and Univel Inc for UnixWare. The company, which claims it has saturated the PC LAN market with its database and peripheral software, aims to provide a front-end client/server oriented database across all leading desktop platforms from the laptop to the file server over the next two years. Gupta says, it will be announcing further support for other platforms later in the year. Available now, SQLbase for Sparcstations is priced at £1,000 for a 5-user edition and £10,000 for an unlimited user licence.

BrainTree Ltd based in Cheadle Hume, Cheshire, unveiled its Auditor Plus security management software under Unix. Unix Auditor Plus analyses system and network parameters and security practises. It also provides central security management for distributed networks. The company also showed JobAcct., a new Unix-based resource accounting and chargeback system. It can also be used as a capacity planning and resource management tool.

Newbury, Berkshire-based National Instruments UK Ltd launched a portable version of its LabView graphical programming tool for Sun Sparcstation workstations. The product is aimed at engineers and scientists who can build software modules called virtual instruments instead of writing cryptic text-based programs. At the front end Open windows or the X Window system can be run. The software also includes libraries for instrument control, data analysis and data presentation.

Q Associates Ltd from Newbury in Berkshire were showing the MiLAN family of LAN communications products, transceivers and printer servers. This included the Fastport 3000, allowing users to connect shared serial or parallel printers directly onto a Unix TCP/IP network. The product costs £600. Also being shown were the Xylogics Annex range of Ethernet terminal servers and a selection of NCD X-windows displays to be used with multiple or networked hosts or applications.

Recognition Research Ltd launched NetBuilder, a visual programming environment for neural networks and other pattern processing techniques. According to the company, it allows the developer to graphically build information analysis systems using multiple neural network, data processing and statistical analysis modules. The interface used is X Windows and NetBuilder can be linked to SQL servers and data visualisation software.

MICRO FOCUS PITCHES FOR CLIENT-SERVER MARKET WITH COBOL FOR UNIX

Having sewn up the Cobol development business in the IBM mainframe world, Micro Focus Plc is setting out to pull the same trick in the Unix world and is offering what it describes as a complex Unix application development environment optimised for client-server applications. Version 3.0 of Micro Focus Cobol for Unix, Toolbox for Unix, Operating System Extensions for Unix, and Dialogue System for Unix, version 1.1 are claimed to simplify the typically complex process of developing client-server applications. The company reckons that the kit will be especially useful for corporate data processing teams with existing Cobol development expertise, suggesting that existing Cobol applications can be rapidly configured as client-server applications. Cobol application performs the data storage and retrieval on the server, while Dialogue System is intended to empower the way the human interface to the application is designed, implemented and maintained on the client. Operating System Extensions for Unix provides the client-server network-enabling tools to ensure that all elements of the distributed application can communicate efficiently; it also provides network data integrity. Micro Focus has defined Application Programming Interfaces between Dialogue System and the initialising Cobol program to separate the detail of the user interface from the underlying business application logic so that changes can be made to the user interface without impacting the Cobol program, making possible multiple user interfaces to the same application. Micro Focus Cobol for Unix provides the highest level of ANSI standard Cobol syntax, IBM OS/VS Cobol, VS Cobol II, and X/Open XPG4 syntax and is fully compatible with the company's Cobol 3.0 for MS-DOS and OS/2. The kit is shipping now; no prices were given.

OVER AND OUT - MOTOROLA 680X0 LOSES PRIME UNIX POSITION TO INTEL

Motorola Inc is about to lose its long-standing number one place in the league table of processors running Unix, according to IDC's European Unix Expertise Centre. In 1991, Motorola won a 24% share of the market (in terms of system value) with the 680X0 family, closely followed by Intel Corp's X86 with 23%. Sun's Sparc was third with 17%, MIPS fourth with 9%. while IBM's Power and HP's PA-RISC tied with 7%. That left 13% of the market to others, mainly Motorola's own RISC, the 88000, and the Intergraph Clipper. Motorola's share with the 680X0 plunged dramatically last year from a share of 33% in 1990, while RISC as a whole grew from 36% to 46%. By 1997, says IDC, RISCs will account for a 65% share of the marketplace. Intel is also expected to achieve strong growth, taking over poll position this year, growing slower than RISC, but still likely to win up to 29% of the market by 1997. Aside from the chips from Sun, IBM and HP, IDC says that all other RISCs "are facing serious challenges keeping their market shares in an environment with increasing development costs for new processor generations and shorter product cycles". That includes the beleaguered MIPS chip, which failed to increase its 9% market share between 1990 and 1991.

SOLBOURNE APPOINTS UK DISTRIBUTOR

Solbourne Computer Inc, following its grim decision earlier this year to pull the plug on its direct sales European operations, (UX No 396), has appointed Aylesbury, Buckinghamshire-based, Computer International Ltd to distribute its wares in the UK. Solbourne, forced to reorganise its operations after struggling in an already overcrowded Sparc-compatible market, cut its losses and now sells its Sparc-based systems through indirect sales channels only in Europe.

PARSYS SUPERNODE 2000 IS ORACLE-OPTIMISED VARIANT OF 1000

Parsys Ltd, London NW, has come out with a new version of its 30MHz T805 Transputer-based SuperNode 1000 parallel processor optimised to run the Oracle Corp relational database system and calling it the SN2000. It is going into beta test now with ships planned for early next year. It runs Oracle 6.0.36 with the parallel server technology. The Unix-like operating system supports TCP/IP, SCSI peripheral controllers and an X Window interface. The company reckons that the thing will work out at \$1,500 per transaction per second in the TPC-B benchmark, and notes that by comparison, a shared memory multiprocessor does about \$8,000 per TPC-B per second. The machine is scalable from eight to over 1,000 processors, in the latter case theoretically doing about 10,000 transactions per second against about 450 for a large conventional mainframe. A 10 processor system, 2Gb of disk, 5Gb tape and Ethernet would be £42,000 and do some 500 transactions per second; an 87-CPU box is some £265,000.

VI CORP OFFERS LOW-END UNDERCUTTERS - FOR GRAPH WIDGETS SUBSET OF DATAVIEWS

Question: What happens when you are very early into a market and you pile the functionality into your tool as the market grows? Answer: Other companies follow you in and start nibbling away at your potential market share by offering specialised niche and entry level products. This, it seems is what has happened in the X Window graphical user interface builder market, and VI Corp (Europe), based in Wokingham, Berkshire has appreciated that its DataViews product may be too comprehensive for a lot of potential customers and is responding by introducing entry-level graphical user interface development tools. According to data collated from International Data Corp, Dataquest and CMP Market Research for 1992, the dynamic data visualisation tools market accounts for about 49% of the workstation graphical user interface market but is growing at less than 10% a year. Meanwhile, the interactive development tool and user interface management systems sectors account for 47% of the market but are growing at 65% per year. DataViews is very much a player in the more stable market sector, but it needs a stronger presence in more dynamic growth areas. VI Corp has gone about addressing dynamic growth by re-engineering a subset of its DataViews graph components as X-widgets. These are now for sale separately from the DataViews product as Graph Widgets. They can be used with products from other companies such as TeleUSE and UIMX or they can be sold as a package known as DynaGraphX, which is integrated with X-Designer from Imperial Software Technology Ltd, which VI distributes. Naturally, VI would rather sell X-Designer than enhance rival products, but in the US where X-Designer has only been sold for the past year, rival products have a much stronger hold and the separation of the Graph Widgets enables a foothold into these accounts for the VI sales force. DynaGraphX provides eight types of graph widgets capable of generating 40 real time display formats and automatic C code generation, courtesy of CenterLine Inc's CodeCenter C. The development licence for this package is £4,600 with maintenance. A development licence for the Graph Widgets costs £3,000.

CONSENSYS "FIRST TO SHIP SVR4.2 DESTINY"

Canadian firm **Consensys Computer Inc**, Markham, Ontario since 1985, a vendor of intelligent input/output cards, is laying claim to the first shipments of USL Unix SVR4.2 Destiny shrink-wrapped binary operating systems for Intel iAPX-86 architectures. Prices go from \$400 to \$900 with development systems costing \$1,000 to \$1,500. Disk mirroring, MS-DOS and Windows connectivity and support for RAIDS disk (for Consensys V4.2) array technology are planned before the end of the year. Consensys, also with offices in San Antonio, Texas and Reading in the UK, already offers a standard SVR4 implementation, though it had previously spent a year getting that release into product shape after taking delivery from Unix System Labs. It claims over 3000 installations of Consensys V4 in ten months, 800 in Europe and expects around 60% of those users to upgrade to V4.2, half of them immediately. It's aiming for deliveries of 1000 copies of V4.2 a month for the first six months from October. The company's only criticism is of Destiny's Moolit toolkit that doesn't provide for application development under the Motif graphical user interface (although it is compatible) as it lacks Motif libraries. Consensys is looking to add a native Motif implementation for those that require it. Consensys had taken on **Interactive System Corp** and **SunSoft Inc** refugee Doug Miller as vice president of European sales. +1 416 940 2900 or +44 734 833241.

BULL TO PUT IMAGEWORKS ON RIOS-BASED DPX/20 AND MACINTOSH

Compagnie des Machines Bull SA will add versions of its ImageWorks document management system for the DPX/20, which is Bull's version of the IBM Power RISC architecture, and for the Macintosh, according to Najah Naffah, vice-president of imaging and office systems. The DPX/20 version of ImageWorks should arrive early in 1993, and in an effort to spur ImageWorks sales, Bull has created centres for engineering ImageWorks systems in the US and France. In November 1991, Bull set up Integris as a systems integration subsidiary in Billerica, Massachusetts, and half of Integris's 120-strong staff works on ImageWorks. For France, Bull created the Centre of ImageWorks Engineering in March, but it has been in full operation only since mid-June, says its director, Thierry Labarre. The centre, with sites in Paris, Lyon, Marseille, Bordeaux and Rennes, will be staffed with 25 people for 1992. Each of the five centres intends to provide direct sales, demonstrations, project design and planning and systems integration. Bull is also relying on three third-party systems integrators in France to market ImageWorks, SEPI SA, Extensive SA and E3X SA. In Portugal, ImageWorks is sold by Papelaco SA.

CYBERSCIENCE SEES OPEN SYSTEM BOOST AT HIGH-END

UK fourth-generation language company **Cyberscience Plc**, of Hoddesdon, Herts, has spent the last three years making its transition from proprietary Data General technology over to open systems, and now reports that the majority of its sales are for Unix-based systems. It's second biggest market is for DEC VAX/VMS. Cyberscience, an 85-man, \$14-15m turnover company that is not publically quoted, has subsidiary operations in Denver, Colorado and Sydney, Australia. It now concentrates on reference ports of its 4GL technology for the major chip platforms rather than on specific machines, but of late has been winning downsizing contracts on HP, Sequent and Pyramid hardware. The 4GL runs on top of multiple databases, including Oracle, Informix, Ingres and Sybase, as well as the Cobol-based flat file systems that still act as a base for the majority of installations out there. Customers tend to use the product either as a report generator for existing, often highly complex databases brought down from the mainframe, or as a tool for the complete re-engineering of their applications, including prototyping. Cyberscience spokesman Justin Wright claims that the difference in the market this year is that high-end Unix machines are finally being sold. "The high-end has now been legitimised". He claims, however, that few customers are dabbling with transaction processing monitors. "It can just add a whole level of complexity and extra load," he said.

FERNHART LAUNCHES HELPDESK FOR UNIX

UK-based, Beckenham, Kent-based **Fernhart Computer Services Ltd** has announced TSMDesk, the first of its new range of Total Service Management products. TSMDesk is a Helpdesk management system, linking users and information support staff, and third party support agencies if required. The system is a derivation of the 3GL, Cobol-based service management product sold by Fernhart since 1985. In a move to upgrade to open systems last year, Fernhart opted for a 4GL, Ingres-based rewrite, compatible with Unix 5.4 and including the Ingres 6.4 relational database. The new system logs, classifies, prioritises and allocates incoming calls as appropriate. It features a call escalation process which monitors response times, identifies unresolved user problems and checks that service levels are maintained. Statistics and surveys indicating trends and problem areas can be assembled from this information using the system's report generating tools. A register of installed hardware and software - with associated common technical problems, and records of customers and users are also stored on the system's database, for reference. The cost of the system depends on user numbers. A 3-4 user configuration costs £8,000; a 20-24 user version costs £25,000. Upgrade paths for existing 3GL users cost £8,500. TSMDesk can be ported to an IBM RS/6000 and will run on any industry standard LAN and WAN system. It can also be connected to the Symon LED panels that Fernhart distributes in Europe for Applied Micro Inc of Houston and Dallas. The panels can be used as a visual communication system for stricken users when computer systems fail. A number of TSMDesk enhancements are also in the pipeline. TSMChange, which helps monitor and implement structural changes should be available by Christmas; TSMChange, a graphics tool for visually representing structures and their components is planned for March 1993; and TSMLevel, which warns when the targets and constraints laid down in service level agreements are threatened should also be available by March. Fernhart estimates it will shift around 48 TSMDesk units over the next year, generating around a third of its total income and hopefully boosting its turnover from last year's £2.6m to over £3m in, 1992-3. Also hoped for next year is an agreement with IBM for which Fernhart is hoping to act as a VAR: it has distributed ICL Unix boxes since 1985. The company was established in 1974, originally as a software house developing applications for mainframe systems. Its customers include Norweb, The Training Agency, Milk Marketing Board, C&A and the Ministry of Defence.

LYSIS HOTLINE SISTEM 2000 MAKES MOVE TO UNIX

Atlanta-based **Lysis Corporation**, a four-year veteran of the emerging Help Desk/Hot Line market, has made its fourth-generation Sistem 2000 available under Unix. Previously it only ran on VAX/VMS and DOS-based LAN environments. A proprietary Lysis access scheme forms the basis of its multi-function integrated groupware product. It uses a natural language translation front-end to a dynamic non-linear case-based retrieval mechanism. Call tracking/logging and answer collection or retrieval are linked. Data entry to log a call is virtually eliminated. Sistem is initially targeted at customer support Hot Lines and internal Help Desks much in the fashion of start-ups Aurum and ProActive Software. Lysis can then be expanded into engineering, sales and marketing departments. Features reportedly include comprehensive and flexible call logging and tracking, immediate access to customer information, configuration and histories, open call workflow management, electronic notification of escalations, fast answer retrieval, and reporting. Sistem uses an industry-standard file manager, Informix's C-ISAM, in lieu of incurring the cost and overhead of a DBMS. The company claims it can trim 10% to 15% off the time needed to resolve a customer call or problem. It says its Mature Answer Bases make it possible for anyone to support an "Answer Based product." Lysis is supporting SCO and SVR4 on Intel machines and AIX on the RS/6000 to start. It will port to Sun and HP in the future. A basis Sistem supporting two concurrent users on a single server is priced at \$6,000. Each additional concurrent user is \$1,500. C-ISAM runtime licenses are required. Lysis, a self-funded company, profitable for the last three years, sells direct in the US and Canada and through resellers in the Pacific Rim and South America. It is reportedly putting European distribution in place. +1 404 373 3359

TANDEM ENHANCES ITS FAULT-TOLERANT UNIX, ADDS INTEGRITY

Tandem Computers Inc has extended its fault-tolerant Unix line with a new release of its NonStop-UX operating system and a new CM-1300 system in its Integrity line of MIPS Technologies R-series RISC-based machines. The new NonStop-UX 2.0 is designed further to minimise planned and unplanned system downtime. New features include the Veritas file system, which is claimed to guarantee file system integrity and enable rapid file system recovery; a new user-level state-check program that monitors processes deemed vital to system operation and restarts them if terminated; and a new fast-reboot feature that enables upgrades to the Non Stop-UX kernel to be performed in less than two minutes. Tandem also launched the Integrity System Management Suite, a set of system management applications designed to reduce administrative costs and minimise system outages. From a single console at any point on the network, technical staff can manage networks of Integrity systems with the Suite: it is a graphical, object-oriented system management toolset, designed with icons, pull-down menus, and realistic depictions of system configurations and components. The CM-1300 provides increased disk storage capacity up to a maximum of 48Gb and features an upright cabinet designed so that the system can be easily upgraded to higher performance RISC technology by exchanging processor boards in the future. An entry-level CM-1300 is \$179,800, now. The Integrity System Management Suite begins at \$5,000 for a base system administration facility, now. The CM-1300 is the second system introduced in three months from Tandem's development partnership with NCR Corp and NCR added it as a new StarServer FT.

NCR EXTENDS ITS COOPERATION TO EMBRACE UNIX SYSTEMS

As a Unix-with-everything house, **NCR Corp's** initial launch of its Cooperation integrated software environment as an MS-DOS and OS/2 only product seemed a little odd, but the company has put that right with release 2.0, which adds support for Unix servers and multiprocessing. Designed for financial, manufacturing and service organisations, Cooperation is designed to enable users to access massive amounts of data, to collect and manipulate data on the desktop, and share information across workgroup, departmental and corporate networks. Cooperation 2.0 supports Unix servers and Windows-based client workstations and OS/2 servers. Cooperation 2.0 also provides users with comprehensive network and systems management capabilities - Cooperation and NCR StarSentry products can now co-exist on the same network, and the network manager can configure, administer and manage a remote Unix server from a central StarSentry workstation, eliminating duplicate network management resources. It also adds access to Informix DB/2, Oracle and SQLBase databases. It runs on NCR's System 3000 family of general purpose computers and compatibles.

ADOBE BUYS INTO VERITY

Aside from its Newsprint deal with **Adobe Systems Inc**, Mountain View, announced that it has made an undisclosed equity investment in **Verity Inc**, a document-retrieval technology company and its neighbour. The stake buys a seat on the Verity board. Adobe will use Verity's Topic document-retrieval engine in future products based on the Carousel document system, which is being designed to enable users to communicate electronic documents between MS-DOS, Windows, Unix and Macintosh systems, regardless of the application or computing environment used for creation.

EUROPEAN SALES OF UNIX PACKAGES IS BOOMING, SAYS INTERNATIONAL DATA CORP

Sales of shrink-wrapped software for Unix systems is outstripping growth in shipments of Unix hardware by nearly two to one, according to a new report by **International Data Corp's** IDC Europe. It expects packaged Unix software sales to grow by a compound rate of 22% a year between now and 1997 in Europe. The overall European Unix software market increased in size by 25% in 1991 over the previous year, according to the report, while the Unix hardware market was pegged at 15%. Unix tools saw a 28% growth - because of increased revenues from database engines, data access and executive information systems, says International Data. Application sales grew 25% and systems software sales grew by 23%. The value of the European database market increased by 37% to \$231m and now constitutes 45% of the worldwide market (larger than the US share).

FRENCH ARIANA GROUPS OFFERS EURO ROUTES FOR SOFTWARE HOUSES

American software start-ups may now have a sure-fire way into the European market thanks to a new-fangled French vehicle called **Ariana SA**. Ariana's mission is to take a lot of the risk and expense out of setting up in Europe by establishing the American firm's subsidiaries itself. It will then focus on direct, VAR and systems integrator sales of the US product to large and medium accounts, take the organisation through the incubation process and sell the subsidiary back to the US company for cash or shares in three years time. Ariana is the brainchild of Roger Haddad, who previously founded **Metrologie**, probably one of the most successful value added hardware and software distribution networks ever created in Europe, with sales worth some \$1bn in 1990. He estimates he can handle ten US concerns in the next five years and is particularly interested in partnering with leading firms, ready to ship beta-tested product, in client/server software, software tools for business applications, X-terminal and workstation software, wireless networks and software for networking and telecommunications. It is looking for products with a worldwide sales potential of \$30m to \$100m in three to five years. Ariana, initially started in France, has already corraled one partner, the UK firm **IXI Ltd**, and expects to sign three this year including **Network Computing Devices Inc**, first for its PC Xview product and later for its full terminal line. In the coming months it will expand out into Germany, Switzerland and the UK as a network of independently owned operations. To start, Ariana will demand an exclusive distribution contract, co-operative advertising funds and a 50% royalty. It will be paid a fee for its various operating services estimated at between \$15,000 and \$50,000 per unit per country plus a 5% sales commission at transfer cost. A unit should be up and running in three to six months with sales of \$1m forecast for the first year. Profitability is forecast for the fourth quarter. Buying back the subsidiary will cost the last twelve months in sales times a factor of 0.75 to 1.5. Afterwards Ariana could remain the unit's distributor. Ariana's board includes Bernard Giroud who started Intel France in 1971 and left the company last year a corporate vice president to become a venture capitalist, Gerard Yon, formerly sales and marketing manager of **Chorus Systemes**, the microkernel house, and now president of **VST**, a French start-up in electronic document management, and Pascal LeVasseur, technical director of **Dell France**. +33 1 4772 0808

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The Weekly information newsletter for the UNIX ® community worldwide

Sun and Hewlett Packard will launch their object-oriented version of Unix, code named Spring, this Autumn, according to **Microscope**, two years ahead of Taligent and Microsoft's Cairo. The paper claims this represents a serious challenge to other Risc vendors jostling for position in the software arena. The project covers the production of an Interface Definition Language which will convert Unix-based systems to object-orientation. John Cage, Sun's vice president, says that Spring was conceived as a backlash to the formation of the Open Software Foundation in 1989. The OSF hindered Sun's production of a "standard" Unix. Sun and HP then secretly allied, bringing together expertise in the operating system and user interface respectively.

Frame Technology Inc believes the next generation of desktop publishing systems will utilise electronic document publishing as their cornerstone. As such, it has introduced Frame Builder, a development environment for creating and using document applications that support the Standard Generalised Markup language.

Unix System Labs' top brass has been meeting with the Russian Minister of Higher Education about getting Unix made part of the curriculum. Discussions are still ongoing.

Unix System Labs is under the impression **NCR**, a fellow AT&T subsidiary, is going to opt for Destiny. We hate to burst their bubble but we hear it will be buying far more of Solaris-on-Intel. User demand could see it use Destiny in spots of course, or maybe the Destiny binary UnixWare, but there's no love lost between Novell and NCR, which supports LanMan instead. Anyway NCR, is doing an awful lot with NT.

Interested parties are now not expecting quantity shipments of 40Mhz Sparc Vikings until the first quarter.

Intel Corp has written an experimental DOS emulator to act as a server on IBM's Mach 3.0 for PS/2s.

DEC is rumoured to be pressing for a Unix SVR4 personality on top of OSF/1: remember it already has SVR4 for its telecomms stuff.

Microsoft Corp's NT is now being touted for the second quarter of 1993.

SCO's Doug Michaels is off to China to try and work out some of the copying and pirating issues, claiming that up to one third of PCs in the People's Republic run SCO Xenix.

The basis of Pink, the **Apple/IBM** (Taligent) object-oriented operating system of the future is understood to be a proprietary microkernel called Opus that began life in Apple back in 1988. Some want Taligent to go with Mach 3.0 instead of Opus-for-openness, and to try and get the stuff out earlier, even if it were to mean having to tie up loose ends as it went along.

Despite its problems (see page 1) **OSF** says it is still shooting for self-sufficiency by 1994. It says other small scale RFTs will follow in the fashion of the graphical user interface GAIA follow-on, but there is unlikely to be any more big and costly new technology requests.

OSF claims 75,000 OSF/1 binaries shipped this year; 100 DCE source licences and 100 user-level application developers with a further 100 to follow by the end of the year, it claims.

Ask/Ingres launched version 2.0 of its popular Windows 4GL environment at UnixExpo, which includes support for Open Look and Presentation Manager. Version 2.0 comes with a new object-oriented graphical user interface debugger - the company claims the new release can offer up to four times the productivity of the previous release. Windows 4GL 2.0 supports a range of databases at run-time, prices start at \$1,000 with ships set for next month.

Chorus Systemes SA minority stockholder **Unix System Labs** has yet to state clearly what it intends doing with Chorus' technology. Reportedly it is seeking fellow travellers and financing for a Chorus project liltng code named Amadeus, having already used Wolfgang and Mozart to christen other projects.

Unix System Labs expects to have beta versions of Tuxedo ready for IBM's ES/9000 AIX by the end of the year, with general availability scheduled for the first quarter (UX No 403).

Max Henry, who's kicked around **NeXT Inc** for the last four-and-a-half years in sales and software recruitment roles, mostly recently holding the post of VP and general manager, Asia Pacific, has jumped shipped to head up the American arm of windowing house JBS as president. He has also been named a director of the UK parent.

Flush with success from its Object World show in San Francisco earlier this year, the **Object Management World** is going to stage an East Coast iteration in Boston at the Hynes Convention Center February 1-4, followed by another go-round at the San Francisco venue June 14-17.

Wearing its manpower resource hat, **Pencom Systems Inc** is recycling redundant and retired IBM employees back into IBM as subcontractors under what it hopes will become a US-wide outplacement program: It's starting with veterans of IBM's AIX and OS/2 environments.

Stratus Computer Inc now has the only Asian versions of Jyacc's Application Manager JAM NLS for screen development, priced from \$6,000: It's been localised for Korea with Hangul, Japan with Kanji and Katakana and China with traditional and simplified Chinese characters.

Take a look at Spain,
the fastest growing UNIX market
(35% growth 1991) Source: IDC

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SILICON GRAPHICS READIES SVR4 IRIX ON NEW HIGH-END SERVERS

Now it's the turn of Silicon Graphics Inc to step up to Unix SVR4, and early next year, the Mountain View, California-based firm will release a System V.4 version of its Irix operating system on new family of high-end servers built around 75MHz versions of the forthcoming MIPS R4000MC RISC (UX No 402). The SVR4-compatible Irix includes symmetric multi-processing, support for the 64-bit MIPS R4000 architecture and the MIPS Special Interest Group application binary interface. It's codenamed Sherwood. SGI expects its existing System V.3 Irix base and users of the MIPS Risc/OS operating system, which is being phased out, to converge on Sherwood. However, like Sun Microsystem Inc, both of SGI's current Unix offerings are sufficiently different from the vanilla System V that users will require a recompile to get up to Sherwood. Having devoted the greater part of this year and last to extending its near hegemony in the market for low-end and mid-range Unix-based imaging solutions, promoting the GL graphics library as a de facto standard, and continuing to digest the business of the former MIPS Computer Systems Inc, SGI hasn't given much attention to its high-end. Indeed the eight-way Power 4D/480 dates back to early 1989. The new line of servers will initially feature up to 16 75MHz R4000A multi-processing RISCs, each delivering 120 MIPS, and will run applications designed for little- or big-endian architectures. The part, only around in prototype quantities now, will sample in April and should be available in volume by the summer. The unnamed servers may go to go 32 or even 64 CPUs in the future, whilst a 150MHz iteration of the R4000A is scheduled for the end of next year and the company even talks of a 500MHz part. When the floating-point intensive TFP version of the R4000 being developed in conjunction with Toshiba makes its debut, all the appropriate SGI systems should get significant performance boosts. The servers will be followed by 75MHz Indigo boxes, also slated for the end of 1993. New hardware technologies addressing emerging markets for personal and consumer-oriented digital image processing solutions will be spawned by SGI's new digital sight and sound division which has taken the entry-level Indigo model and says it'll work down from there. Work continues with NEC on the low-power VRX R4000 iteration, though SGI hasn't decide whether it'll productise the thing yet, it may prefer instead to let NEC bring portable technologies to market and OEM them. SGI is currently working with Microsoft Corp to enable Windows NT for the MIPS architecture - though SGI won't offer NT itself - and is also trying to win Gates as a customer for Irix' symmetric multi-processing technology, following Microsoft's adoption of the GL library. NT won't support SMP until version 2, still some 18 months out in any case, and Microsoft hasn't yet decided what it'll do for that stuff yet. With growth rates for technical and scientific Unix solutions rising by up to 30% a year, SGI is still able to cock a snoot at the commercial world with impunity for the present: "we want our systems to make money, not count money," says SGI president and chief executive officer, Ed McCracken. Indeed, a confident SGI can still afford to open manufacturing sites when most others are ducking for cover. Its latest, a \$23m affair to serve Europe's Indigo requirements, opened last week at Cortaillod on the outskirts of Neuchatel, Switzerland, it'll be up to 1,000 units a month by November.

NOVELL ADDS OBJECT STANDARDS TO NETWARE 4.0

Novell Inc is preparing to release the latest version of its network operating system, NetWare 4.0, at InterOp in San Francisco next week. According to the company, NetWare 4.0 will include object-oriented extensions based on the Object Management Group's Object Request Broker specification. Novell has been busy writing application programming interfaces to accommodate object-oriented applications, which, it says, will read and distribute objects as packets (or images) across the network. The APIs are based upon a technology developed in collaboration with the Eastman Kodak Co called ImageVision, which both will market separately. Novell will also announce that its Unix TCP/IP-based connectivity products LANworkplace and NetWare NFS have been extended to include support for OS/2 and Apple Macs. The company will also reportedly announce client support for Microsoft Corp Windows NT in NetWare 4.0. NetWare 4.0 will be available immediately after its announcement - no prices given.

SUNERGY CLASSIC AT \$5,500

According to sources, Sun Microsystems Inc's Tsunami Sparc boxes, due on November 10, will, as reported (UX No 402) debut as the Sunergy series. Desktop Sunergy Classics will run a 50MHz Tsunami (or MicroSparc as it is officially known (UX No 406)), and are rated at 22.6 SPECint(92), 17.4 SPECfp(92) and around 14 MFLOPS. With from 16Mb to 96Mb RAM, 207Mb or 424Mb disk, two Sbus slots, one serial and one parallel line, SCSI 2, 8-bit audio, Ethernet but no multi-processing support or ISDN the entry level model, with a 15" SuperVGA colour screen comes in at \$5,500. That looks pricey, missing both the personal computer and sub-\$5,000 price points the company has been talking about, even if it does offer more floating point performance than Intel Corp's high-end 486DX-50 chip. A 16" colour model with 16Mb RAM and 207Mb disk goes from \$6,000 and a 19" version starts at \$8,000.

NT CONNECTIVITY FOR UNIXWARE

Univel Inc and Novell Inc say they are jointly developing connectivity extensions with for UnixWare and its rival, Microsoft Corp Windows NT, so the two can co-exist in NetWare environments. Univel's regional marketing manager for Europe, Bernard Moing, says, "our engineers are looking at NT code in co-operation with Novell and connectivity support will be available as soon as NT starts to ship." The process, Novell says, is relatively straight forward on the server side and will be developed using TCP/IP. Network file system will be configured to sit on top of NT for straight file transfers. Client connectivity is more problematic as application requests from NT to UnixWare will have to be directed through the NetWare IPX/SPX protocol. Novell says Microsoft is "keen" to achieve network connectivity with UnixWare to inherit its Unix application base. Multimedia extensions are also high on Univel's list for UnixWare. UnixWare news see page five.

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ORACLE7 TO SHIP BY NOVEMBER

Oracle Corp chief financial officer Jeff Henley says that Oracle7 should be in production by the end of this month: he told the Alex Brown technology seminar in Baltimore that Version 7 will be available through a controlled release programme as its customers request upgrades; he also said that Oracle's goal is to return to double-digit profit growth - if not by this fiscal year ending May 31 1993, then fiscal 1994 at latest. And in an effort to keep up with the rival performance claims of manufacturers running its database for the purposes of TPC-A and TPC-B benchmarking the company has put together a comparison table:

TPC-A Benchmark figures for servers running Oracle7					
Manufacturer	tpsA	\$ per tpsA	Server	CPU	OS
Pyramid	645	10,765	MIS-12ES-20	20 MIPS RISC	OC/OFx
Sequent	618	11,006	Symmetry 2000/750	26 50MHz 486	Dynixptx v1.3
HP	578	11,606	HP9000/890	4 60MHz PA RISC	HP-UX 9.0
NCR	312	8,834	NCR 3550	8 50MHz 486	SVR4
HP	185	10,737	HP9000/897S	1 PA 7100	HP-UX 9.0
IBM	160	11,002	RS/6000 980	62.5MHz Rios	AIX 3.2
NCR	152	7,280	NCR 3450	4 50MHz 486	SVR4
Sun	107	12,604	690MP	4 40MHz Sparc	SunOS 4.1.2

TPC-B Benchmark figures for servers running Oracle7					
Manufacturer	tpsB	\$ per tpsB	Server	CPU	OS
DEC	561	3,009	VAX 6000/660	6 VAX 6000/600	VMS 5.5
DEC	315	4,896	VAX 6000/560	6 VAX 6000/600	VMS 5.5
Compaq	185	799	SystemProXL	2 50MHz 486	SCO Unix MPX
Data General	101	1,588	AViiON 4625	2 33MHz 88100	DG/UX 5.4.1

DEC CONFIRMS FIVE ALPHA BOXES...

Digital Equipment Corp has confirmed that its November 10 announcement of the first Alpha-based machines will include five systems ranging in power from a desktop workstation to a mainframe-class machine. Initially, the systems will be targeted at VAX customers that require the VMS operating system, with OSF/1 Unix only becoming available early next year. According to PC Week, the Alpha desktop workstation will include three Turbo-channel expansion slots, 16Mb to 128Mb of memory, integrated Ethernet, ISDN and a SCSI controller and is expected to begin at about \$18,000; the Alpha data centre system, with one to six processors to generate performance ranging from 175 to 900 SPECmarks, offers input-output at 100Mbytes to 400Mbytes per second through a multichannel Futurebus+ and as much as 14Gb of memory, priced at some \$200,000 and up.

...BUT AWAITS LATE ARRIVAL OF NT...

Not waiting for the official Alpha launch on November 10, DEC had Jensen, its Alpha AXP personal computer prototype, out at Net World in Dallas last week. Microsoft Corp's hiccup with Windows NT has caused DEC to stumble: it can't release Jensen until NT is out, setting schedules back. So the machine is still only a "technology demonstration." What the DECies say they have is a 150MHz chip with a large enough heat sink (palm-sized) that it doesn't need a fan to dissipate Alpha's heat. Jensen will be packaged in a standard tower version of DEC's 80486-based Intel Corp box. DEC's demonstration showed it running with 256Mb internal and 852Mb disk, and says it had it running with 4Gb external in the labs. It's got an EISA bus and CD-ROM. Jensen is meant to run Silicon Graphics Inc's libraries and will eventually run both OSF/1 and OpenVMS. DEC said it was booting up in Seattle.

...PALMER DISMISSES OLSEN'S "SNAKE OIL" JIBE...

After reporting a \$260.5m net loss for its fiscal first quarter, chief executive Robert Palmer declared that "Digital will change. We are intent on ensuring that the customer is the focus of everything that we do." Palmer is making a clean break with the past in many ways, and in an interview with Digital News & Review magazine, he takes issue with Ken Olsen's dismissal of Unix as "Russian trucks and snake oil". "This denial stuff doesn't work," he says. "If the market wants to move to Unix, independent of the fact that it's inconvenient for you, you may have to recognise that early and really get out in front." In 1991, worldwide Unix revenues totaled \$16,500m according to the International Technology Group, and analysts are forecasting 31% worldwide market growth in 1992. Separately, the company moved Richard Poulsen over to become president of Digital Europe, a post that has been vacant since Pier Carlo Falotti quit in June to join Ask Computer Systems Inc.

PARC HAS UNIX, MAC, PC-COMPATIBLE**SOFTWARE DEVELOPMENT ENVIRONMENT**

Sunnyvale, California-based, ParcPlace Systems Inc has introduced VisualWorks, an application development environment for corporate developers, which creates graphical client/server applications that are instantly portable across personal computers, Macs and Unix platforms. Its key components include a graphical user interface builder, database access, reusable application framework and cross-platform portability, it says. The product, ParcPlace's first thrust into ADE, is based on its ObjectWorks SmallTalk scripting language. GUIs are built with a point-and-click palette and canvas aided by a menu builder, icon painter and colour tools. The program provides direct access to Oracle and Sybase with 48 other databases accessible via Information Builders' EDA/SQL gateway including hierarchical, flat file and network databases on minis, mainframes and workstations. ParcPlace says VisualWorks enables a logical migration into object-oriented application development without the need to restructure database information. The application framework generates code to tie the interface and application together. The company claims VisualWorks is the only ADE with a reusable application framework. Only one set of source code is needed for all platforms. Priced at \$3,000 or £5,000 for Windows 3.1 and Macintosh and \$5,000 or £6,000 for Unix, it is supported on Intel Corp-based 80386/486 personal computers, Macs, Quadras and Powerbooks, Sun Microsystems Inc's Sparcstation 4s, IBM's RS/6000s, Hewlett-Packard Co's 9000s, DEC Ultrix and Sequent Computer Systems Inc's 2000 multiprocessors. In the UK, ParcPlace's VisualWorks is distributed through Berkhamstead, Hertfordshire-based, AI International Ltd. VisualWorks is currently in beta for both NeXT Inc's NeXTStep and OS/2 - which are due in January 1993. Database drivers for Oracle and Sybase are \$500; \$1,000 for EDA/SQL. The next version of ObjectWorks C++, its development environment program, will be released in the second quarter of 1993, the firm says. ParcPlace also plans to introduce a cheaper personal computer version of SmallTalk for first time users unfamiliar with object oriented technology. Meanwhile, back at headquarters Bill Lyon has now replaced SmallTalk creator Adele Goldberg as chief executive officer.

SUN CLAIMS GRAPHICS LEADERSHIP WITH HELP FROM E&S

After a number of false starts, Sun Microsystems Inc figures it's finally got Silicon Graphics Inc beat dead to rights, claiming uncontested leadership of the graphics arena, despite SGI's latest pronouncements - see front page. Its collaboration with Evans & Sutherland has reportedly resulted in a breakthrough 3D graphics accelerator family that's two to three times faster than anything SGI currently has. Sun thinks it will be at least six months before SGI could retaliate. It will be the first time the leading graphics are available on the leading hardware platform. The pair are particularly proud of their accomplishment in light of the fact they are using standard interfaces, standard application programming interfaces and a garden variety Sbus, not the proprietary gear SGI reportedly claimed it would take to achieve the kind of performance they say they have. They trace their breakthrough to a new architecture and a new generation generation of chips: the AMD 29050 for floating point and the VLSI POSE chip for rendering. E&S and SMCC will market the new Freedom Series jointly; final sales will be from Evans & Sutherland. The accelerators consist of the low-end Freedom 1000 and the flagship Freedom 3000 and can integrate with Sparcstation 2s and 10s under Solaris. The Freedom 3000 reaches speeds of 3m polygons/antialiased vectors a second and is priced from \$45,000 to \$85,000. The Freedom 1000 is rated between 500,000 vectors per second or polygons per second and 1m vectors per second and polygons per second with prices ranging from \$25,000 to \$32,500. UK prices have yet to be determined. The 1000 reaches a resolution of 1280 x 1024. The 3000 goes to 1536 x 1280. Hardware-accelerated texture mapping is optional on the 1000. They are binary compatible with 3D apps written using Sun's XGL, SunPhigs, Xlib and PEXlib libraries and by extension to SGI GL and Ithaca HOOPS as well as E&S SYBYL, AVS and ES/PEX. Deliveries begin next month. They are targeting markets such as automotive and industrial design, oil, energy and mineral exploration, scientific visualisation, earth sciences, molecular modeling, avionics, architectural engineering and simulation. The first and last would be new markets for Sun.

PYRAMID DEBUTS ES SERVERS

As expected (UX No 405), Mountain View, California-based, Pyramid Technology Corp last week debuted the latest generation of its symmetric multi-processing RISC-based systems, the MISserver ES series. Based on MIPS Technologies Inc's R3002A microprocessor, the ES servers are configured with from two to 24 CPUs and are rated at from 32 MIPS to 768 MIPS. Four models are available, the two-way MIS-1ES comes with 128Mb memory, 6Gb disk and up to five I/O channels - and is priced at £50,000. The MIS-2ES has from two-to-four CPUs, 256Mb of memory, and 48Gb of disk - and costs £72,000. The MIS-4ES comes with eight R3002As, 512Mb RAM, 128Gb disk, and includes support for up to 18 I/O channels - it's priced at £141,000. The 24-way MIS-12ES has 1Gb of memory, 256Gb of disk and a price tag of £168,000. Pyramid plans to release R4000SMP board upgrades for the ES server line in July 1993. In addition, it claims will be the first to implement MIPS' R4000SMP symmetrical multi-processing part. The R4000SMP iteration will feature new memory and bus modifications and integrated cache - the company says it had to alter previous MIPS' R series parts to accommodate the cache. R5000 and R10000 board upgrades will follow when MIPS delivers. OEMs, including Ing C Olivetti & Co SpA and Siemens Nixdorf Informationssysteme AG have already sold 50 ES servers says Pyramid. The company also introduced its latest symmetric multi-processing implementation of Unix System Lab's SVR4 Unix, DC/OSx 1.1. It includes a high availability array system for clustered environments, resource and storage management facilities, a graphical user interface called the Visual System Manager, Fairshare - a control and allocation facility for workload prioritising, network queuing, RxFS - a reliant file system, and C2 security functions. The MIServer ES systems are available now.

COMDISCO, INTEGRIS PYRAMID TEAM WOOS IBM ES/9000 USERS TO UNIX

Pyramid Technology Corp teamed up with Chicago-based Comdisco Inc and Compagnie des Machines Bull SA last week: the three announced they are to jointly develop and market open system alternatives for the IBM mainframe market. Seen as a direct attack on IBM, the trio aims to deliver a complete data centre system for users wanting to downsize their operations to open environments. Pyramid will offer its high-end Unix-based servers, which will be leased via Comdisco. Comdisco also has a piece of mainframe software that offloads CICS overflows onto a Unix server, which will run Bull's Unikix CICS emulator. The idea is to offer ES/9000 users a means of meeting their requirement for more capacity without having to upgrade their mainframes and pay IBM higher software licence fees. Although the only agreement covering hardware so far is with Pyramid, the software runs on a variety of Unix servers, so customers will be able to choose their hardware vendor. Pyramid UK's managing director, Ken Jacobsen, says joint sales teams are already in operation both sides of the Atlantic. Over the next 12 months he expects the three to sell at least 10 systems solutions in the UK. Pyramid has also signed deals with Computer Associates Inc to port its suite of mainframe applications to the MIS ES series, along with UK-based Lucas Management Systems Ltd, SAP AG and Oracle Corp. The cost of buying a complete system is claimed to be less than £1m - less than buying a licence for an IBM mainframe software upgrade.

CONVEX LAUNCHES FIRST FRUITS OF HP ALLIANCE

Convex Computer Corp last week unveiled its new high end Meta Series Supercomputer linking its C-Series vector processors to clusters of 7100 Precision Architecture RISC processors, developed by ally Hewlett-Packard Co. The combination of vector processing capability and the Precision Architecture RISC's fast in-cache scalar processing capability will benefit users in two ways, the Richardson, Texas company says: it will enable parallelisable applications to be run faster; and will enable multiple applications to run simultaneously. Under the system, C-Series supercomputer servers are connected by FDDI to the HP 9000 Series 700 workstation clusters, running under Hewlett-Packard's HP-UX or BSD Unix 4.3. Meta Series software developed by Convex provides an extended NASA Queuing System, for distributing workload into vector and scalar queues and monitoring activity levels; a Parallel Virtual Machine message passing library; and MLib maths library for PA-RISC. The 7100 chip architecture itself features 32-bit instructions, 64 major operation codes and 140 machine instructions. It has short, long and indexed addressing modes, 48-, 56- and 64-bit virtual memory, 32 32-bit general registers and 32 64-bit floating point registers. Its page size is 4Kb and it has a 32b cache line size. It handles 8-bit ASCII data; 16-bit signed and 32-bit unsigned integers; and 32-, 64- and 128-bit IEEE floating point codes. Hewlett-Packard says the chip provides 99MHz clock speed; 198 MFLOPS peak performance; 256Kb data and instruction caches; support for 32Mb to 400Mb memory and either 525Mb, 1Gb or 2Gb local disk capacity on each node. Clusters of two, four, six and eight processors will be available from Convex in around 90 days. A configuration of four will cost between \$400,000 to \$500,000. The accompanying C-Series machines cost between £100,000 and £2m. Upgrade deals will be available for Convex and Hewlett-Packard customers. Convex anticipates that the Meta Series will most likely appeal to existing C-series or Hewlett-Packard workstation owners wanting more processing power, or to users needing combined vector and scalar throughput. It says that third party applications for quantum mechanics, chemistry, structural mechanics and seismic research have been successfully parallelised using the system at its alpha sites. It expects to add the C4 series of vector processors, now in an "advanced stage" of development and due next year, to the Meta Series. The new chip is also to feature in Convex's parallel machine, due late next year or early in 1994. Hewlett-Packard is to make separate announcements on the line.

DISPLAY POSTSCRIPT "SUN'S WAY OUT OF NeWS"

by William Fellows

The speed with which Adobe Systems Inc managed to close the deal over at Sun Microsystems Inc for its PostScript, Display PostScript and other imaging technologies "came down to the wire," according to Dano Ybarra, marketing manager for Adobe's display products group, one of the mentors of the agreement (UX No 404). "We wanted to announce [the agreement] in time for Seybold," said Ybarra, the publishing industry seminar which was held in San Francisco at the end of September. The haste with which Adobe urged Sun to ink the contract - Ybarra says he was collecting signatures late into the evening out at Sun's Mountain View headquarters - is thought to have alienated Sun's SunPics print division which apparently wanted no part of a deal that it had been told of only days beforehand (UX No 405).

However, Ybarra claims SunPics' reluctance had more to do with the fact that henceforth it will have to pay for Adobe imaging technologies like PostScript and display Postscript. SunPics previously got its PostScript interpreter free of charge from SunSoft Inc. The deal was the culmination of a year of talks between Adobe and Sun on how to bring technology market, says Ybarra, the initial plan being to implement a joint product strategy without actually signing a formal agreement. The Adobe technology is to be integrated with those components of SunSoft's X11/NeWS Network-extensible Windowing System and SunPic's NewsPrint system that can still offer specific advantages to Sun users, but Ybarra concurs with other observers who argue that in light of the deal there is now little future for either of them as they exist now and that a name change is only a matter of time. Shedding more light on Sun's desire to make the deal, Ybarra claims that "when Adobe gave Display Postscript to the MIT X Consortium Sun saw a way out of NeWS." From Ybarra's point of view, the post-agreement SunPics becomes a value-added reseller of Adobe technology, offering networking, installation and other Unix-specific expertise. SunSoft will begin offering Adobe imaging products for the Solaris 2.x operating system from the middle of next year, SunPics will have the stuff in Unix SVR4 versions of its print system during the second half of 1993 - both of them under the Open Look graphical interface (UX No 405). Until then, and for users of SunOS and Solaris 1.x environments, Sun users can get Display Postscript from Cambridge, Massachusetts-based Integrated Computer Solutions Inc following a parallel deal Adobe struck last month (UX 403). And because Sun will only carry Open Look-based products through its distribution channels, ICS will also be supplying Motif-based versions of the Adobe WYSIWYG software for existing users that have already defected to the rival interface and for those that will run Motif on Solaris 2.x. The Motif-on-Sun port wasn't a problem, according to Ybarra, as Motif versions of its software are recompilations of the original port it did on a DEC/Unix box running Motif. The Open Look port, however, took a year to complete. Whether Sun has actually got a hold of Adobe source code as part of the deal, a rare occurrence (UX No 405), Ybarra said he couldn't comment. However, he admitted that the firm "does allow key partners to see portions of it."

Other fish

The Sun agreements were the first part of a strategy devised by Adobe's four month-old Display Products Group to take the Unix field by storm - and there remains the Interactive Systems Unix side of Sun's business to be mopped up, Ybarra reminds us. With Unix coming down to the desktop and moving into the commercial arena, Adobe feels their two paths are beginning to come together, even if Unix still represents only a tiny piece of its business. With Sun and ICS down the hatch, Adobe has other fish to fry. It would love to count Unix System Labs as a catch for Display PostScript - so far USL has just nibbled and taken the Adobe Type Manager for print functionality in Unix. Hewlett-Packard too is on its list. Pre-Sun, Adobe claims it had 25% of the non-Intel Corp market for Unix-based display print solutions. NeWS had 33%, and others - not Display PostScript of any form - had 42%. With Sun, it reckons Display PostScript own 61% of the market and others will hold 39%. Most of that 39% is taken up by Hewlett-Packard, says Ybarra, pointing to HP's endorsement of Adobe technology in its printer business, but not for its workstations. There's nothing in the pipeline between HP and Adobe at present on the Unix side, says Ybarra, but following Sun's lead, it would be more surprising if the two weren't already talking. Santa Cruz Operation Inc Unix is a different creature altogether, and not really of concern to Adobe at present, because most SCO products shipped are still transaction and ASCII-based, not GUI-based. Meanwhile, Adobe's well documented clash of cultures with Microsoft Corp carries on - "we won't be able to license our core technologies to Microsoft for Windows NT," says Ybarra.

SUPERSCALAR CPUs COMPARED - "GOOFED CACHE" IN SUPERSPARC?

In its latest edition, *Microprocessor Report* has compared the various superscalar architectures now on offer and concludes that the "relatively conservative, partitioned approach to superscalar implementation has a clock rate advantage over the more aggressive duplicated-resource approach: the highest clock-rate designs are the 21064 (DEC's Alpha), 7100 (Hewlett-Packard Co new PA-RISC iteration), and HyperSparc (assuming Cypress/Ross achieves its 80MHz goal). The more complex (Texas/Sun) SuperSparc and (Motorola) 88110 are specified for clock rates no higher than 50MHz, and SuperSparc is struggling to achieve even that." *Microprocessor Report* goes on to say that the clock-rate versus complexity tradoff is one of the most important issues in superscalar design, but admits that straight clock-rate comparisons of parts is only partially fair because whilst it is true that "a more complex design, such as used in SuperSparc and the 88110, leaves less time for performance tuning the hardware, it is also the case that clock-rate was a major focus during the design of 21064 and 7100 chips." In other words designers at DEC may have been able to make some process concessions to achieve a record clock rate that might not be appropriate for other architectures. More interestingly, the report hears that SuperSparc's clock-rate problems "are more a result of a goof in the design of the cache than of an overly complex superscalar design." The report speculates that CPUs with simpler, partitioned designs, likes of Alpha, PA-RISC and PowerPC will be moved forward by the addition of duplicate integer units. "Those which have high clock-rate designs will add more superscalar capabilities and those with high-degree superscalar implementations will be working for higher clock rates. As always, on-chip cache sizes will increase in order to keep the high-performance processor core busy."

SCO RE-JINKS EURO TEAMS

Santa Cruz Operation Inc is re-aligning its European operations. A new division - southern Europe - will be headed by Philippe Bichon, SCO's marketing director for France, will manage the Spanish, Portuguese and Italian markets, as well as France. SCO UK, which previously handled Spain and Portugal, will focus northern Europe, including Scandinavia and the Benelux countries. SCO's newest and most difficult market in Europe is Spain. The company admits that it is disappointed with its returns from Spain, which have so far produced sales which account for just 3% of its total European total: the company had expected 10-15%. SCO reckons UnixWare and Windows NT will find it tougher still. SCO markets its products through two Spanish distributors Afina Systema SA based in Madrid and Barcelona firm Asicom SA.

FIREFOX TAKES COMMS SERVERS TO US

Three-year-old Firefox Communications Ltd, the UK, Birmingham-based supplier of integrated NetWare communications servers, has formed a US company to bring its TCP/IP connectivity solutions to the American market. The new firm, Firefox Inc, is based in Seattle, Washington and begins operations this month. Firefox will introduce Novix for NetWare, its Unix and TCP/IP host connectivity system at InterOp next week. It removes the need for NetWare workstations to run multiple protocol stacks. It is also reportedly the first Unix connectivity product built as an integrated service of the NetWare server. Novix has been available in the UK since early 1992 and has reportedly been picked up by Parliament, BP, Amerada Hess, GEC and British Telecom. Its American offspring will be recruiting distributors and resellers.

NOVELL WON'T BUY USL - FOR NOW

Last week at the Univel launch in Dallas, we sidled up to Novell chief Ray Noorda and asked him flat out what the chances were he would buy Unix System Labs. Pretty slim, he replied, citing an unwillingness to fragment the industry further. "We bought into Unix," he said, "to try to unify it." But timing is also an issue with him which makes us think he hasn't abandoned the notion entirely. Meanwhile, his Univel project with USL is starting to hum. Now that it has a published price list it can start to take orders. Though it can't book them until it starts to deliver on November 30, president Joel Applebaum expects it to be profitable its first fiscal quarter ending February. If it moves 100,000 units, regardless of whether they're the client-side Personal Editions or the Application Servers, by the end of its first fiscal year, it'll be profitable. It's already got a revenue stream from its education courses. It hasn't eaten though the whole \$30m it got as a dowery to start up. After ten months in business, it's got an employee rollcall of about 100 people.

THINKING MACHINES HAS BABY CM-5 SCALE 3

Thinking Machines Corp, the Cambridge, Massachusetts massively parallel systems pioneer, has launched new entry-level models in its Sparc-based CM-5 family. The new CM-5 Scale 3 systems offer peak performance of 4 GFLOPS and disk capacity of 16Gb, running under the CMost implementation of Sun Microsystems Inc's SunOS Unix, at prices starting under \$1m. The first machines are already in at Columbia University in New York City and at the Bergische Universitat in Wuppertal. The company highlights the fact that the Scale 3 systems use all three major mass-market off the shelf components - Sparc microprocessors, 3.5" disk drives and merchant memory chips. The machines come with up to 32 of the company's 128 MFLOPS parallel processing nodes and two 8Gb disk storage nodes, each having eight 3.5" drives mounted on circuit boards. The entire system is integrated into a "striking new cabinet designed by architect Maya Lyn," who did the Vietnam Memorial in Washington. As well as the new CM-5 Scale 3, the company announced a new file server architecture that again integrates file storage directly into the scalable network of CM-5 processing nodes, and claims that when 9.6Gb parallel disk storage nodes are plugged into the network, using RAID 3 technology, it provides a file server with performance comparable to solid state secondary storage - now. A system with 384 disk nodes stores 3Tb and transfers data at 4G-bytes per second.

CENTERLINE HAS NEW C, C++ RELEASES

Cambridge, Massachusetts-based, Centerline Software Inc has introduced version 4.0 of its C programming environment, CodeCenter, whilst a new iteration of its C++ object-oriented environment, ObjectCenter 4.0, will be released in January 1993. CodeCenter 4.0 includes run-time error checking functions written in object code, programming toolkits, graphical browsers, an ANSI C compiler and debugger and a graphical user interface builder. The company has also developed an application programming interface, for CodeCenter which allows users to integrate their environments with Hewlett-Packard Co's SoftBench CASE system and Sun Microsystems Inc's ToolTalk messaging service. The API will enable users to access the CodeCenter engine and import and export data structures and class hierarchies. According to Centerline, version 4.0 of the C++ ObjectCenter will include new object-oriented class libraries, data storage functions and reusable code functionality for users switching from C to C++. CodeCenter is available for Sun Sparcstations, HP 9000s, IBM RS/6000s and DECstations. CodeCenter is available now - no prices given. ObjectCenter is available in the UK from Manchester-based K2 Software Developments. Meanwhile, CenterLine has signed to market Concord, Massachusetts-based, Software Maintenance and Development Systems Inc's software configuration management system, Aide-de-camp, with ObjectCenter. CenterLine (formerly Saber Software): +1 617 498 3000. K2 + 44 61 776 4541.

UNIXWARE ROUNDUP

Following the US launch of UnixWare (UX No 406), Univel Inc's European representatives say a revenue stream from this side of the Atlantic will not begin to flow for at least three months. Bernard Moing, Univel's regional marketing manager for Europe says, "we're not expecting any returns on UnixWare until the first quarter of 1993, and then the take up will be limited for a further period." This contrasts sharply with Univel Inc plans to derive 50% of its revenues from Europe by 1996. Univel will focus initially on Germany, France and the UK, those with the strongest Novell Inc NetWare bases - plans for the the rest of Europe are to follow. French, German, Spanish and Italian language versions of UnixWare will be available by the end of the year.

Univel looks to be backing off its original commitment to port to non-Intel platforms like Sparc. It says its first and second priorities are both Intel. Personal reasons to do Sparc and MIPS remain.

Univel is recommending a minimum 25Mhz 386SX box fitted with 8Mb RAM and 80Mb external to run its Personal Edition client and a 33MHz 386DX with 12Mb internal and a 120Mb hard disk for its Application Server plus VGA or better though EGA is supported. A tape drive or CD-ROM is required for local install. The Personal Edition will boot and run with 6Mb and uses about 55Mb for system files and swap space. The server will boot and run with 8Mb and uses about 85Mb for system files and swap space. It says it takes an hour to install Personal Edition. There are some 500 hardware and peripherals on Univel's compatibility list.

Famed jeans maker Levi Strauss and San Francisco's Bay Area Rapid Transit (BART) are end-user beta sites for Univel's UnixWare.

Moving on its drive to attract as many ISVs to UnixWare as possible, Univel has kicked off another phase of its developers' programme that will get the software into vendors' hands at reduced prices: Independent software vendors can get a Personal Edition bundled with a Software Developers Kit for \$600 and a Application Server bundled with a SDK for \$900.

Veritas Software Corp is afraid we're going to get confused because of what Univel is choosing to call things: the so-called Veritas Advanced File System that Univel will have out next quarter as a server option includes the Veritas Volume Manager, Visual Administrator and File System Advanced Feature Set, the later also known as Vxfs and the source of the confusion. A cut down version of Vxfs, Vxfs Lite for file system integrity, is built into all copies of SVR4.2 and UnixWare. Since that's probably still not clear, Veritas is thinking of changing its naming scheme.

Legato Systems Inc intends making its Motif-based cross-platform backup and recovery software, Legato Networker, available for UnixWare around the first of the year. It's just come out with Networker for 80386 machines supporting SCO Unix and DOS and will include UnixWare in the same ClientPak II down the road. Networker will back up UnixWare to either NetWare or Unix servers such as RS/6000s or Sparc boxes via TCP/IP. Backup media will be interchangeable between the Networker backup server for NetWare and the one for Unix. ClientPak II lists for \$1,500. Networker servers software will be sold separately starting at \$2,000.

Memorex Telex Corp said last week that it will adopt Unix System V.4.2 for its server and desktop product lines in order to offer more options for what it claims is the second-largest installed base of IBM Corp peripheral products worldwide. Expanding on its business agreement with Novell Inc, Memorex Telex will be using the Univel UnixWare product on the desktop. Univel's Application Server, with the addition of a driver for the Memorex Telex intelligent disk controller, will be available for the Super Server system. UnixWare will enable the company to offer support for MS-DOS and Windows productivity tools, access to application solutions, and a close integration of NetWare for Unix on client and server.

FILIP CHARTS POWER RISC COURSE - DISTRIBUTED DATABASE "BY MID-1993"

by Marsha Johnston

The processing architecture of IBM Corp's computers is increasingly focusing around its Power RISC technology as a means of constructing systems of faster performance for a lower cost, says William Filip, vice president of IBM and president of IBM's Advanced Workstations and Systems Division.

In a presentation in Paris last week, Filip, whose division handles the RS/6000, said his group's technology is "not restricted at all" to only the RS/6000 series of workstations. Using processors based on the Power RISC architecture, which has also been adopted by Apple Computer Inc, Motorola Inc and Groupe Bull SA, Filip said IBM "will go aggressively into the low-end personal computer market next year with RISC technology." Filip's division also has a joint development programme with the Intermediate Systems Division to design RISC-based versions of the group's mid-range computer, the AS/400. "The AS/400 team has said it will move to the RISC architecture, which will allow it to increase the performance of its current microprocessor technology for a lower cost," he said. Filip's group is also discussing with IBM's ES/9000 mainframe developers about its possible use of RISC processors in the mainframe line. Filip acknowledged that "there will be more competition [with the 9000] over time, but for right now, we're focused on the Unix market." He denied that the RS/6000 completely overshadows the AS/400. "You'd think with the product line today that we'd overlap the AS/400 completely. In terms of performance, we do, but the overlap of interest in the System/36-AS/400 world in the RS/6000 has actually gone down," he said. "The AS/400 is based on a highly integrated relational database; it's a different culture. Our guys in Austin are more interested in open systems, and the fastest screaming performance it can get onto a microprocessor. The ES/9000 guys are interested in building the best data management engine possible. Even though we're seeing overlaps in product lines, there are still market opportunities for each of these groups." The reason for IBM's interest in RISC is obvious. "Our profit margins [in the RISC-based systems business] have increased substantially. Actually that's not a completely fair statement because 1990-91 were start-up years for us and we invested heavily. But our gross margins will be at or above our market competitors this year," he said.

Margins

Specifically, Filip said, his group's margins would be on a par with Sun's and "ahead of Digital's by a large margin." It was difficult to calculate Hewlett-Packard Co's margins, he said, because it has a wider-ranging business. "We're still investing more than HP is in development, so our bottom line profits are less, but this will be the first year for the RS/6000 that we make at least \$1 net profit." The profitability margin will continue increasing, he said, because IBM is not investing in development at the same rate that sales of the RS/6000 are growing. In 1991, IBM realised \$1.5bn in worldwide revenue from sales of the RS/6000, which represented a 50% improvement over 1990. Filip expects RS/6000 revenues to grow between 40%-50% this year. The split between commercial and technical applications for the RS/6000 is about 50-50 now, Filip claims. A recent survey by Datamation and Cowen & Co showed increases in the percentage of both technical and commercial users who indicated they definitely planned to buy an RS/6000 in the next 18 months. The percentage of technical sites was still higher at 22%. Filip also said IBM's development group in Toronto would be coming out with a distributed, relational database in mid-1993. "They feel they can distinguish themselves with greater transparency between PS/2s, AS/400s and mainframes, with less translation and overhead. I don't know if they'll convince the whole industry, but it will be attractive to some customers. But we'll still be doing a lot of business with Oracle and Ingres," Filip said. The symmetric multiprocessing (SMP) development project between IBM and Groupe Bull SA is reportedly on target, and products should arrive toward the end of 1993.

...HARDWARE SLUMP REVEALED IN Q3 LOSS

Meanwhile, IBM Corp shares plunged \$5.50 to \$72.50 on the day the company reported a stunning net loss after charges for the third quarter of \$2,778m last week and scepticism rose over the prompt promise in the analysts' call after the announcement that the dividend is safe. Those standing by the IBM shares for the sake of the thumping 6% plus yield now recognise that the dividend is safe only so long as the present management team is in place - and few would gamble much now on John Akers and his cronies seeing the year out. The most disconcerting news within the figures is that hardware sales in the quarter fell 9.9% to \$7,000m - and that is in comparison with a 1991 quarter that was not exactly sparkling. During the quarter, software revenues rose 11.3% to \$2,700m and maintenance revenues rose 7.1% to \$1,900m, while services revenues soared 38% to \$1,800m, and rentals and financing revenues rose 11.3% to \$1,200m, so that all the pain was in the hardware side, although the pressure to alleviate the software burden on customers is becoming irresistible. And while non-hardware businesses did grow, growth was bought dearly: costs and expenses for the third quarter soared 35.4% to \$18,700m.

...AS IBM LOOKS FOR FURTHER ALLIANCES IN PUSH INTO MERCHANT SEMICONDUCTORS

Having finally decided that it does want to get into the merchant semiconductor market, IBM Corp says it is looking to arrange a number of semiconductor industry alliances, with the aim of becoming a world top 10 company in chip sales. James Piccian, assistant general manager of technology products, told the Dataquest semiconductor conference that as part of IBM's plans to enter the merchant market, the company is hiring from outside IBM to build a world-class sales and marketing organisation. He said that IBM will be looking to develop a number of corporate alliances similar to arrangements it has made in the past, which include joint manufacturing arrangements, equity investments and cross-licensing. "We want to ally ourselves with companies that can complement our strengths with leading-edge technology," he said. Current alliances include the agreement under which it manufactures some microprocessors under licence from Intel Corp, its joint venture with Siemens AG and Toshiba Corp on memory chips, and the PowerPC alliance with Motorola Inc, and its less well-defined agreements with SGS-Thomson Microelectronics NV.

SUN SAYS SPARC 10 IS SHIPPING

Sun Microsystems Inc stoutly denies a report in *ComputerWorld* that the 40MHz Sparcstation 10 missed its September delivery date and will not ship in volume until December. Sun says it did and still is delivering the thing in volume - it's just not enough to meet backorders. According to what Texas Instruments Inc told us a few weeks ago (UX No 405), it certainly had the chips. Sun also says Solaris 2.1, due for announcement the first week of November, will get delivered starting in early December. Solaris 2.1 will run on both the Tsunami's and Sun Dragons - Sun will debut on November 10. The Tsunamis should get delivered in short order after that, but the multi-processing Dragons are expected to be in beta longer than usual and won't go into a delivery cycle until the first half of '93.

MEIKO COMMISSIONS ICL TO MAKE ITS NEXT SPARC BOARDS

Massively-parallel systems developer Meiko World Inc of Bristol has retained ICL Plc to manufacture the Sparc-based processor boards for its next generation parallel systems at its Kidsgrove, Staffordshire plant under a contract that could reach several million pounds a year; the two say they plan a long-term manufacturing relationship.

HP TO DEBUT PACKAGED CLIENT/SERVER SOLUTIONS...

Hewlett-Packard Co's year-and-a-half-old Cooperative Computing Systems Division will debut its new Cooperative Computing Solutions scheme on Monday October 26. Apparently the object is to prepackage PA-RISC 9000s and 3000s and peddle them as client/server solutions via the company's Professional Service Organisation, HP's own consulting arm, and third-party Unix integrators. Reportedly the division has amassed a wealth of productivity tools from independent software vendors in support of the programme which in turn supports IBM mainframes, AS/400s, VAXes, Sparcs, PCs and perhaps eventually Macs. Meanwhile, HP has put back volume ships of its top-end HP Corporate Business Systems to the first quarter of its new fiscal starting November 1. It says it has 100 orders for the systems, nine models of the HP 3000 and HP 9000 lines; a handful of the new 3000s went out in August; the first 9000s should be shipping this month.

...OFFERS NETWARE TOOL SET

Hewlett-Packard Co and Novell Inc have agreed to produce a comprehensive set of applications development tools for NetWare running on machines built around the Precision Architecture RISC, and Hewlett-Packard has formed a new NetWare Operation to develop technology also with Novell. The two will collaborate on a tool set for the NetWare environment and application developers will also be able to work with Unix-based tool sets with which they are already familiar, enabling them to bring applications to market more quickly. Key tools in the areas of remote source debugging, profiling and code-path flow coverage will be provided to give developers easier problem resolution and faster code development and testing processes, they added.

PRO WILL HAVE 88OPEN-BASED TESTING TOOLS READY BY Q3 1993

Hewlett-Packard Co supporters club, the Precision RISC Organisation, says it will release the first PA RISC versions of its 88open-based testing tools by the third quarter of 1993. Although PRO won't confirm that it paid some \$600,000 for the suite (UX No 406), the decision to plump for 88open's testing technology was thought to be purely financial: "we couldn't afford to spend that kind of money developing our own alternative, so we bought in." PRO says the first application binary interface specifications will be put before the PRO board in December, with beta tests scheduled for January 1993. The group also plans to launch an independent software developers programme in 1993. Add-on testing tools for the PA RISC architecture are to be released by the end of 1993, and will include features such as data instruction analysis, security and integrity, and application performance. Following the trend to ensure compatibility of hardware and software developed on dissimilar systems, Sparc International is also reportedly working on another range of testing tools for the Sparc architecture.

UNIPLEX HAS NEW E-MAIL SYSTEM

Uniplex has come up with a standalone electronic mail system called sensibly enough Uniplex Mail, based on the widely used e-mail component of its Business Software and supporting anywhere from four users to hundreds of servers, it says. It can work across mixed Unix minis, workstations and character or X terminals. It's able to work with WordPerfect Editor and supports ASCII and X Windows concurrently. It includes a scheduling system, personal productivity tools and encryption. Support starts with SCO Unix, RS/6000s and AViiON machines. Price per seat is \$225 for four users; \$200 for eight; \$175 for 16; and \$150 for more than 64. It provides a gateway to an X.400-compliant mail system through HP Open Mail and other SMTP-based systems.

OPUS OFFLOADS SPARC SYSTEM BUSINESS

Sparc clone pioneer Opus Systems Inc, retiring from the field after months of struggle (UX No 406), has sold off its Sparc workstation business to Digital Systems Research, a four-year-old \$14m-a-year 135-man Arlington, Virginia company described as a government contractor. DSR, the acquiring company, claims to be going in with its eyes open. It declined to describe how it intends to negotiate the hazards of the Sparc clone business before the end of the year. It is currently working on a business plan and apparently expects to sell largely to commercial customers including the old Opus base of resellers. DSR has acquired on undisclosed terms manufacturing, distribution and marketing rights to the Opus Personal Mainframe line along with current inventory, spare parts and access to the existing customer base. DSR will set up manufacturing at its facility in San Diego where it integrates AT&T 3B2s and hangs PCs off them. It also has a software operation there. About 10% to 15% of its business stems from PC packages in health and personal fitness. Opus, meanwhile, which focusing on its SparcCard add-in business, has arranged for Apex Computer, the large Sun maintenance vendor, to do customer support for its Personal Mainframe customers.

BULL ADDS SOFTWARE, NEW MODELS TO IBM RISC LINE

Compagnie des Machines Bull SA last week announced that it has expanded the number of software and communications products offered under its Distributed Computing Model to the DPX/20 Unix and DPS GCOS systems, and it introduced two new models of the DPX/20, based on IBM's Power RISC architecture. For the DPX/20 line, Bull has introduced its ImageWorks document management software, its Integrated System Management system and network management software and ISO/DSA and OSI networking capabilities. For all of its product lines, including the DPS mainframes, Bull announced EDIWorks, software designed to facilitate Electronic Data Interchange. The two new DPX/20 systems, the models 660 and 830, are said to offer 37% and 24% faster performance, respectively, and they will be available for shipment next month. An entry-level configuration for the model 660 costs \$70,000 and includes the 62.5-MHz CPU, 64Mb memory, SCSI controller, two 1Gb disk drives, a 525Mb tape drive and the BOS/X operating system. The entry-level rack-mount model 830 includes the CPU, 64Mb memory, SCSI controller, two 1.37Gb disk drives, a CD-ROM drive, a 5Gb Digital Audio Tape drive, and BOS/X, all for \$123,000. Subsidiaries will be free to set their own prices.

SPANISH GOVERNMENT CHECKS UNIX GROWTH

At 35%, IDC says Spain has the fastest growing Unix market in the world, though growth will dip to 28% next year, it says. Spain, via the efforts of its government, is noted as an eager adopter of open systems technologies. However it, like others, is suffering in the current recessionary climate. Although the Spanish government is the largest open systems user in the country, with two thirds of its computer systems now running Unix, economic pressure has forced it to suspend all future internal developments and abandon its tax incentive schemes for firms migrating to Unix. Despite its apparent commitment to open systems, the country lacks a Unix infrastructure in the commercial sector and there is a shortage of basic training and technical support. Systems integrators and resellers are thin on the ground, and there is little home-grown technology. Large firms such as IBM Corp and Fujitsu Ltd have been fairly successful in selling to the government, but the overall Unix hardware market is a tiny \$28.5m, whilst software is worth some \$9.5m.

ORACLE FORMS NEW DIVISION FOR OBJECT, MULTIMEDIA, PARALLEL DESIGN

Oracle Corp has formed a new Advanced Technology Division under co-founder and senior vice-president Robert Miner to identify and develop advanced software technology. It will start out by developing a distributed object management and parallel programming architecture, focusing on multi-media, nomadic computing, and other promising technologies, to be incorporated into mainstream Oracle products, including the database. President and chief executive Larry Ellison takes on responsibility for database, networking and tools development from Miner.

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ICL Plc and Microsoft Corp are to make a "strategic announcement" on "a number of joint initiatives" this Wednesday: these comprise of joint development programmes on systems integration; ICL's commitment to Windows NT; and ICL's commitment to workgroup computing, using the new Workgroup for Windows.

X/Open Co Ltd has abandoned plans for a European Xtra conference, which was to be held in Dusseldorf next month (UX No 386): it claims users expressed a preference for the Xtra Congress in Washington DC during the first week of December. At the congress X/Open will introduce its latest missive, "Open Systems: The Guide to Developing a Business Case," along with "Defining and Buying Secure Open Systems." X/Open says Booz, Allen and Hamilton, the Prime Minister's Office of the government of Hungary and Credit Lyonnais have joined its User Council.

Sun Microsystems Inc has nominally moved all remaining Solaris engineers out of SMCC and over to SunSoft Inc - about 300 people. It said it was the last phase of a pre-arranged plan and should help pacify cloners. However, it's not as if they've erected a Chinese Wall. Everybody's still in the same offices.

Unix International has started providing its members with early access to new Tuxedo ETP 4.2 add-ons including Cobol program access, /Q transactional queue and support for dynamic link libraries (DLL).

The **Object Management Group** has added a new Object/Model specification in an upgraded version of its Object Management Architecture guide: OMG is working with the US Department of Defence and the National Institute of Standards and Technology to offer the object model for enhancing Esprit's Portable Common Tool Environment standard.

Unix Expo delivered what it said it would, counting a record 28,722 attendees and characterising them as primarily corporate buyers. Next year's dates have been established: it'll be September 21 to 23 at the Javits Centre in New York.

Amdahl Corp is cutting 9% of its staff worldwide, 600 of them to go in California, and will take a hit of between \$15m and \$20m against figures to cover it.

Nippon Digital Equipment Corp has a Japanese version of software that turns personal computers into X-terminals. "Excursion for Windows" merges the MS-DOS Windows environment from **Microsoft Corp** with the X Window system. It runs on MS-DOS V machines such as the DEC personal computer series and IBM Japan Ltd's PS/55 series, and on NEC Corp's PC-9800. Prices start from \$3,800 for a single-user licence.

Hewlett-Packard Co's latest plans to purge 2,700 from its employee roster reportedly put at risk whatever's left of its NCS marketing group, the folks that shepherded DCE, DME and the old NLS.

Info World is betting **IBM and Apple Computer Inc** bow their first Kaleida product at Comdex next month. Supposedly the thing's a RISC/AIX video server capable of running production-level Digital Video Interactive-encoded video files across a network. The network apparently has still to be determined. Kaleida's XScript interface will connect the server to networked PCs and Macs.

Electronic Engineering Times claims South Korea, Seoul-based, **Samsung Electronics Ltd** has changed its PA-RISC plans and will be working solely on superscalar versions of the chip. Spinning off proprietary low-voltage and highly integrated devices from the PA 7100 core design, rather than low-cost versions of **Hewlett-Packard Co's** scalar architecture as the pair originally said. Samsung's original plans were impacted by HP's trouble getting floating point units out of **Texas Instruments Inc**. Samsung has been collaborating with HP on some of the low-end PA 7100 widgets, which are ready to pop next month. Samsung will be a reseller of both the boxes and the chip.

Sun Microsystems Inc had to do something to prove it's muscling into retail like **Hewlett-Packard Co** so it went and sold Dunkin' Donuts \$8m worth of IPC machines to network more than half its 1,600 franchise operations over the next four years. The Shop Information System, developed in Magic Systems Enterprises Ltd's software, will handle retailing, distribution and manufacturing of donuts and bakery products.

Gremlins got into our system a couple of weeks ago when we identified **Tadpole Technology Inc's** retiring chairman as Bill Gilkes. The person we know is Bob Gilkes.

Tools Europe 93, the major European object-oriented conference, is set for Versailles in France on March 8-12 next year. +1 805 685 1006.

Boulder, Colorado-based **Western Automation's Spectra Logic Inc** has introduced a package for managing data on automatic media changers under Unix: the Alexandria backup and Archive librarian supervises backup and archival storage from automatic ally starting scheduled store operations to manage data, media and storage devices across the network - server versions go from \$1,500 to \$12,000. Spectra: + 1 303 449 7759.

Eules, Texas-based, **Xalt Software Corporation** has released Xalt Office, a suite of five applications for integrating and managing information and communications in Unix environments. The five applications include Xalt Desk - a user interface, which can be used to integrate third party applications; Xalt Calendar; Xalt Notes - which allows users to write and post electronically; Xalt mail; and Xalt People Manager - a company directory with phone, fax and scheduler functions. Xalt Office runs on DEC, IBM, HP and Sun workstations. Available from the first quarter of 1993, Xalt Office is priced at \$200. +1 508 947 4814.

Thirteen vendors including instigator **Cisco Systems Inc, Hewlett-Packard Co, DEC, British Telecom** and **SunConnect** have formed the APPI Forum to develop and promote standardisation of Advanced Peer-to-Peer Internetworking, a TCP/IP-oriented solution to SNA peer-to-peer networking. The group intends to submit a full APPI specification to the Internet Engineering Task Force by mid '93. It's first meeting is at InterOp at the Park 55 Hotel in San Francisco on October 28 between 2:00 and 6:00pm.

DEC campfollower Terry Shannon has a new observation post from which to watch the goings-on, a monthly "Report on DEC," published by DataTrends Publications Inc it replaces the former "DataTrends Report on DEC." +1 703 760-0660

Auspex Systems Inc and Epoch Systems Inc have cut a joint marketing and development pact that will put EpochBackup and EpochMigration software on Auspex servers making automatic on-line backup and migration available for NetServers on a distributed network.

Somerset, New Jersey, **Meillo Consulting Inc**, is offering **Unix System Lab's MoOLIT - Motif Open Look Intrinsic Toolkit** - for Hewlett-Packard Co, Sun Microsystems Inc, IBM and DEC workstations: MoOLIT supports Open Look and Motif, but does not include Motif libraries for application development under the interface - prices go from \$2,500.

Washington, Seattle-based **Spry Inc** will be showing its new **SprySoft Netware Client** for Unix at InterOp next week, claiming it is the only product on the market that is client rather than server-based. A \$1,000 single-user version allows a Unix workstation to become a NetWare client for file and print services. Unix applications can share data with NetWare LANs using native Unix commands. SprySoft provides an IPX/SPX protocol stack for the Unix workstation and runs on Santa Cruz Operation Inc's SCO Unix and Sun Microsystems Inc's SunOS. +1 206 286-1722

Boulder, Colorado-based, **Decathlon Data Systems Inc** has moved its **TeamWare** workgroup application suite and **Goldmedal**, its integrated office program, on to IBM's AIX/ESA 9000 mainframe.

Los Altos, California-based, **Pure Software Inc** has closed a \$2m venture round with **Merrill Pickard Anderson and Eyre Co** and the **Mayfield Fund** with the money earmarked for expanding distribution and accelerating product development.

Siemens Nixdorf Informationssystemes AG last week added its endorsement to the list of vendors pledging X/Open XPG4 conformance, promising that the systems it has that are now XPG3 will be XPG4 by the end of the year: some of its software products are already XPG4 branded.

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CHORUS AND TANDEM READY FAULT-TOLERANT MICROKERNEL

Tandem Computers Inc and Chorus Systemes SA last week signed a deal that will put a fault-tolerant version of the SVR4-based Chorus microkernel co-developed by the two companies on Tandem's Unix boxes. The partnership is a coup for Chorus, which will get back the fault-tolerant technology added to the microkernel as a standard ingredient in its Chorus Mix product. Chorus' relationship with Unix System Laboratories Inc, its minority owner, was apparently a persuasive factor in Tandem's decision to cut the deal. A die-hard SVR4 advocate, Tandem is interested in seeing its fault-tolerant enablers incorporated in the base operating system to save it from having to re-invent the wheel each time a revision is done and to allow it to focus on true value-added differentiators. Tandem is hoping its alliance with Chorus will give it a lever with USL even though USL has yet to indicate officially how it will treat the microkernel. Tandem declined to say whether the new operating system will come out on current or future Tandem Integrity machines, all based on MIPS chips. No product is expected for at least a year. Chorus itself has done no reference port to the MIPS architecture yet, though Inria, the French research institute, previously ported the microkernel to a MIPS-based Sony Microsystems Inc News workstation. The Inria port will be used in the development work as will existing Integrity boxes. Tandem's move reinforces current thinking which sees microkernel system software as very much an up and coming trend across the industry. Tandem expects the technology to eliminate any remaining unplanned downtime users experience as well as any planned downtime needed for housekeeping chores like changing operating systems on the fly, a key facility in any mission-critical application from E-mail to fare collections. Tandem may not be the first commercial box-shifter out with a Chorus-based system, though it may yet find itself in a race to be first to deliver in volume. For the last two or three years, Chorus has been involved with Unisys Corp in a technology exchange that has so far failed to produce any significant deliveries. Unisys is expected to make its move in the coming months. These relationships have allowed Chorus to piggyback on the expertise of its partners netting Chorus an SVR4 base in the case of Unisys and now fault tolerance from Tandem. A third alliance with a still unidentified company next month should give it a leg up on high-performance transaction processing and multi-processing. Tandem and Chorus, which have not started the design work, will begin with the current Chorus Mix V.4 Release 1.2 and upgrade to the anticipated 2.0 in January when it's due. A major upgrade is expected later next year. Microkernel technology enables redundancy and dynamic configurability to be built into fault-tolerant systems.

TOP AS/400 HOUSE OFFERS CONVERTER TO UNIX

The AS/400 is by a long way IBM Corp's most successful current product line yet Chicago-based System Software Associates Inc, generally regarded as the largest player in the AS/400 applications market, seems to be less than confident about the future of the line. It has begun shipping what it claims is the first software engineering tool designed to regenerate AS/400 applications to run on Unix-based workstations quickly and easily, and has been demonstrating the AS/SET WDK-U product in Anaheim, California at the semiannual conference of Common, the IBM mid-range users group. Designed for AS/400 users considering Unix as an additional system, the generation tool transforms AS/SET-developed RPG applications for the AS/400 into C programs for the IBM RS/6000 - but the regenerated programs will also run on any workstation running Santa Cruz Operation Inc Unix. AS/SET WDK-U-generated AIX and Santa Cruz Unix applications will be consistent with the original AS/400 system, in both operation and appearance, the company says, obviating the need to retrain users or use separate development and maintenance staff for the Unix system - but the company does not say what database it uses on the Unix system. The AS/SET Workstation Development Kernel for Unix is out now for single-workstation and multi-user environments. Price per station is \$15,000; the multi-user version is \$50,000. It needs AS/SET Application Development Kernel at \$35,000 to \$100,000, depending on AS/400.

FIVE SNAKES TO SHOW ON 12th

Having sifted through the net, it seems Hewlett-Packard Co's November 12th announcement will include three new low-end workstations, a mid-range box and a desktide configuration in the HP 9000 Series 700 line. After some confusion over the numbering scheme, US sources say HP is preparing to debut a low-end with a box that will best the introductory price of Sun Microsystems Inc's new Sunergy Classic by \$10. Final pricing depends of course on how Sun eventually pitches its Tsunami offering, which is to be announced two days prior to HP's roll-out. Sun was reported to have set an initial tag of \$5,495 on the thing last week (UX No 407). The new HP machines use the latest 7100 PA RISC in several guises. A low-end Model 715/33 uses a 33MHz part - the chip is rated at 47 SPECmarks, 42 MIPS and around 9 MFLOPS - whilst a 50MHz version, the 715/50 is thought by insiders to perform at 70 SPECmarks, 61 MIPS and 13 MFLOPS. Before the already previewed 100MHz, mid-range Model 735, which is reckoned to do 150 SPECmarks, 81 SPECint92 and 150 SPECfp92 (UX No 407), there is thought to be another 50MHz machine, possibly the 725/50, which could be reached from the existing Model 720 via a board swap. A high-end desktide Model 755 sitting above the existing Model 750 is likely to come with the same 100MHz 7100 processor as the 735, but with expanded memory, disk and other peripheral options.

FLAMINGO AND SANDPIPER TO DEBUT AS DEC/3000s

Meanwhile, DEC's desktop-to-mainframe Alpha RISC roll-out, scheduled for November 10th, will include the the widely previewed Flamingo desktide, now re-christened the DEC/3000 Model 500/500S. The uni-processor will deliver a reported 125 SPECmarks at 150MHz, come with 64Mb to 1Gb RAM, 3D graphics, six turbo channel slots and run OpenVMS - OSF/1 now appears to have been put back until July next year (UX No 407). The desktop Sandpiper is to be known as the Model 400/400S and will do 110 SPECmarks at 133MHz, with a very warm 30 Watts power consumption. It comes with with from 32Mb to 512Mb RAM, up to 105Gb disk, ISDN, three turbo channel slots, Ethernet, SCSI II, 2D graphics and optional FDDI it also runs OpenVMS in its initial guise, with a desktop OSF/1 implementation to follow (more Alpha news on page three). According to sources, a user evaluating IBM's 100 SPECmark-rated RS/6000 Model 970 against similarly configured Hewlett-Packard Co PA-RISC 7100 and DEC Alpha systems found that in application performance comparisons the RS/6000 came out on top, followed by the HP and DEC boxes, though there was some variation according to job mix.

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UNIPALM'S WINDOWS-TO-UNIX E-MAIL

Snuffling around for untapped niche markets, Unipalm Ltd, based in Cambridge, has come up with Mail-it, a Microsoft Windows-to-Unix connectivity E-mail package. Traditionally, network managers used gateways to integrate PC network E-mail into Unix E-mail, according to Unipalm. These linked proprietary PC messaging protocols to Unix's open standards like Simple Mail Transfer Protocol (SMTP). With PC E-mail standards being proprietary, users could only connect to other LAN users. Unipalm's Peter Dawe claims gateways are difficult to administer and lose users' replies. "One petro-chemical company spent \$4m on gateways and still wasn't satisfied", he says. The reason no one had developed a product before was Windows 3 toolkits did not appear until six months ago, Dawe claims. Mail-it reads, forwards, replies, prints and sends E-mail anywhere on a PC and Unix local area or wide area network. It uses icons to notify the user of background mail activity. Future developments include a multi-media extension called Mime. Mail-it is already running at US and UK beta sites including a bank and unnamed Unix software company. With sales of TCP/IP at 2000 a month, Unipalm hopes to ship 200 Mail-it copies. Prices start at £450 for five users.

INFERONE: WHAT YOU THINK IS WHAT YOU GET

French artificial intelligence software house, InferOne SA, Paris, is now offering version 1.1 of IntelliSphere, an environment for developing distributed knowledge-based systems using macro-connection techniques of the "neuro-symbolic" approach to this kind of problem solving. The company claims its stuff offers WYTIWYG functionality - what you think is what you get. The idea of macro-connectionism is to shorten the distance between the expert's reasoning at the start of a project and the capture of his or her expertise at the finish. InferOne claims IntelliSphere can integrate previously disparate database, electronic document management, multimedia, numeric data processing, connectionist neural networks and expert systems. The software runs on System V, BSD, AIX and SCO Unix variants. InferOne: + 33 1 3075 0042.

LAWSON GOES INTERNATIONAL WITH RELEASE 6 OF ITS FINANCIAL, DISTRIBUTION SYSTEM

Minneapolis-based Lawson Software Inc is to launch version 6.0 of its financial and distribution software in the first quarter of 1993, and with it a more international strategy. Release 6.0 is a computer-aided software engineering tool, used to generate multi-lingual, multi-national, common source code. The source code is to form the basis of an integrated set of financial and distribution management application modules for international usage. Designed to meet all financial legal requirements in all countries, the systems can deal with any currency at the transaction level, while also providing translation, re-measurement and consolidation. A flexible tax module is included, which handles such tax requirements as VAT and GST in different countries. The product is intended to meet the demands of multinational companies as well as large national organisations, by providing common applications on a worldwide basis. Lawson software runs on AS/400 hardware and in certain Unix environments: IBM Corp's RS/6000, Digital Equipment Corp's Ultrix, Hewlett Packard Co's HP9000, Unisys' U6000 and the Sequent Symmetry series. Although character-based at the moment, graphical user interfaces are to be available by the end of 1993 for version 6.0. Targeted particularly at medium to large-size businesses, where the \$35m privately-owned company is eager to cash in on the trend towards down-sizing, the software is particularly popular among manufacturers, retailers and service companies in the US, and banks in the UK. Its UK headquarters, although still fairly embryonic in nature, were set up in 1990 in Chertsey, Surrey, to serve the European marketplace.

DELL MOVES UP MARKET WITH NEW 66MHz 466SE/DSA SERVER

As Compaq Computer Corp comes down market with its new servers, Dell Computer Corp has shot upmarket with introducing the Dell 466SE/DSA, a server that incorporates a new Dell SCSI Array high capacity drive array, with Intel Corp's 80486DX2 microprocessor. Pricing for a base system starts at \$7,365, with 1.05Gb SCSI-2 hard disk drives priced at \$1,900 and a selection of monitors starting at \$200. The company also introduced the External Media System 753, a new external storage system designed to address needs for both desktop and floor-standing servers.

NEWS ROUNDUP

In the US, ANSI has formed X3J19 Xbase, a new technical committee which will work on the advancement of the Xbase application development language originally derived from a mainframe-based package at the Jet Propulsion Labs in Pasadena, California. Xbase is used in a range of popular products, including the dBASE series, FoxBase and Clipper. Contact Marc Schnapp, the XBase Institute + 1 718 380 6175.

London-based DataFlex Services Ltd is now shipping a version of its FlexSQL report writer for SCO Unix-based Intel Corp platforms - prices start at £800: ICL DRS6000 and IBM RS/6000 ports are to follow. +44 71 729 4460.

UK Cobol house MicroFocus, Newbury, Berkshire, is teaming with US firm Creative Systems Interfaces Inc to develop a range of communications software: initially MicroFocus will market, under its own name, CSI's programme-to-programme connectivity packages which run over multiple hardware and software platforms including Windows, AS/400, MS-DOS (client), OS/2, AIX and MVS. +44 635 32646.

IMI plc's Brook Street Computers Ltd, Guildford, Surrey, is now marketing Dataworks Corp's Uniworks Unix MRP II manufacturing package in the UK: Uniworks is based upon the Unidata relational database. +44 483 504492.

EDS-Scicon (the integrated EDS UK and SD-Scicon UK) is now offering a versions of its ViewStar document management system which includes a database repository that supports Sybase running on IBM's RS/6000, DB2 on MVS mainframes as well as MS-DOS and OS/2. +44 908 585858

Harris Corp's Computer Systems Division has introduced Night-Trace, a graphical tool for analysing the behaviour of real-time multiprocessor applications, as part of its NightStar real-time software development environment: prices go from \$1,000.

Control Data Systems and Structural Dynamics Research Corporation have formed a joint venture to design and market product data management software: Metaphase Technology Inc, currently without a president, will work out of Minnesota and should employ 100 people in its first year of operation.

Informix Software Inc has indicated that it plans to set up a wholly-owned Japanese subsidiary during 1993, according to ComputerWorld Japan. Chuck House, senior vice-president of Informix, said exclusive distributor, Ascii Corp, had limitations in terms of strengthening Informix's relationships with Japanese firms, but that it does want to continue its relationship with Ascii.

SCO has appointed Software Mart Ltd and Tat Unisys Ltd as its distributors in India.

Digitalink Inc, Los Angeles is now shipping the 32-bit version of its object-oriented Smalltalk/V development environment for OS/2 2.0, enabling users to create Smalltalk/V applications that are up to 100% faster and 50% smaller than 16-bit OS/2 applications: it can call both 16-bit and 32-bit Dynamic Link Libraries, adds a debugger with enhanced single-stepping capability, improved support for bit maps, double-byte character set characters in Smalltalk/V code, and support for OS/2's common dialogue boxes; it costs a swinging \$1,000.

CA-Unicenter for HP-UX has performed so well at four major beta sites says Islandia, New York-based Computer Associates International Inc, that the company is bringing the systems management product for mission-critical applications forward and it will now be generally available in the first quarter of 1993.

Silicon Graphics Inc has retained GE Capital Computer Leasing Co to write leases on its workstations: GE Capital also finances IBM Corp, Amdahl Corp, Digital Equipment Corp, Hitachi Data Systems Inc, and Apple Computer Inc computer leases.

CLEARPOINT OFFERS ADD-ON MEMORY FOR DEC'S UNANNOUNCED ALPHA BOXES

Talk about jumping the gun - the machines aren't even announced for another three weeks, but Hopkinton, Massachusetts-based Clearpoint Research Corp reckons that there are potential users out there that already realise they ordered too little memory for the things and want to be prepared by having add-on memory ready and waiting on site. The company has announced its first family of memory upgrades for Digital Equipment Corp's new Alpha APX-based (shouldn't that be Alpha AXP: when you're busting someone's embargo, it's as well to get the name right) DEC/3000 systems - now that is a name new to us, but is it right? "Aggressively priced and shipping immediately, the new DCME-A15 memory upgrades are available in 32Mb and 64Mb capacities," says the company, adding that they go straight into "the DEC/3000 Model 500/500S deskside Flamingo and Model 400/400S desktop Sandpiper systems," and run under all available Alpha operating systems. It says that future versions using 16M-bit chips rather than the present 4Ms will enable DEC/3000 Model 400/S and Model 500/S systems to address 512Mb and 1Gb main memory respectively; they are out now at \$4,800 for 32Mb, \$7,800 for 64Mb.

SUNPRO SIGNS FOR ROGUE WAVE'S C++ CLASS LIBRARIES

The brave new world of object-oriented programming must lead to the large-scale buying and selling of objects, and Sun Microsystems Inc's SunPro software development business has entered a technology development and licensing agreement with Rogue Wave Software Inc, Vancouver, British Columbia supplier of C++ class libraries. The pact centres on Rogue Wave's Tools.h++ class library, a toolbox of nearly 100 re-usable C++ classes. Under the agreement, enhancements to the libraries will be developed to address such areas as performance, ease-of-use, internationalisation and support for multi-threading. SunPro says it intends to distribute the product at some stage as an add-on to its Sparc works Professional C++ development environment. Tools.h++ has classes for handling time, date, string and character manipulation, linked lists, stacks, queues and vectors, and Smalltalk-like collection classes; it also has an error-handling facility.

OBJECTIVITY SUPPORTS SUN

Meanwhile, Menlo Park, California-based, Objectivity Inc is supporting Sun Microsystems Inc's Project Distributed Objects Everywhere (DOE) by delivering its object database with an interface to SunSoft Inc's Distributed Object Management Facility DOMF - Sun's implementation of the Object Management Group's Common Object Request Broker Architecture (CORBA). The new interface will give applications direct access to objects in Objectivity/DB via the CORBA protocol. Objectivity and SunSoft have also agreed to develop and publish a specification for a standard interface between DOMF and object databases for use by other object vendors.

SES READIES OBJECTBENCH

Scientific and Engineering Software Inc, now calling itself simply SES, is expected to join the client/server object-oriented programming rush in January with a program called objectbench, a Unix-based object-oriented analysis toolset for C and C++ developers. It features a graphical editor for the Shlaer-Mellor object-oriented analysis methodology and interestingly enough will offer on-screen animation for functional verification, dynamic functional verification and performance analysis. SES previously wrote workbench, the hardware/software modelling and verification kit. +1 512 328-5544

NOW HDS WINS A SHARE OF \$2.5bn US DEFENSE SUPERMINI CONTRACT

King of Prussia, Pennsylvania-based, Human Designed Systems Inc is now two for two, having won both of the two largest X-terminals contracts ever awarded. Last week the US Defense Department let its massive \$2.5 billion AFCAC 300 Super-Mini-Computer contract to PRC Inc as prime contractor. As a result, HDS, which PRC bid as part of its offering, could see orders potentially worth 43,000 units over the next five years, an estimated value of \$75m. All of them would be colour versions. The AFCAC 300 win follows on the heels of the RCAS award to HDS last October, the largest single X-terminals contract in existence (UX No 355). It has HDS supplying the US Army with close to 60,000 colour and monochrome units over 30 months. HDS says it has delivered the first \$5m. The RCAS contract however is one of those rare governmental birds, an FFP or Firm Fixed Price contract, meaning that all of those 60,000 terminals are going to get ordered and delivered. PRC and HDS are on less solid footing with AFCAC 300. It's what they call in governmental circles, an IDIQ or Indefinite Delivery, Indefinite Quantity contract, described elsewhere as merely a "hunting licence." PRC officials believe they can move at least half of the potential totals. HDS, which now has about ten sales staff, might be able to up the ante with a sales drive of its own. PRC, a \$700m Black & Decker subsidiary with 7,200 people and 200 offices, will have the greater impact provided it gets to keep the contract. As is very much the fashion these days, the contract could be protested by the losers who in this case are believed to be Control Data Systems and its subcontractors. The number of bidders on AFCAC 300 is thought to have been limited because of the amount of money needed to pursue it. PRC reportedly spent \$15m getting the contract with sources attributing the expense to hardware components and the integration work PRC did on the systems. The contract is intended as a procurement vehicle for the US Army, Navy, Air Force, Coast Guard and Defense Logistics Agency along with some civilian agencies. The systems are to be used for office automation, DBMS and engineering applications. Mostly it is a modernisation effort and the installations are likely to be large, making PRC more confident it will make its numbers. PRC will be supplying Hewlett-Packard 700/800 boxes, apparently secured by SecureWare Inc; secure iAPX-86 SCO Xenix; Oracle Corp and Uniplex Ltd applications; and Everex Inc's personal computers. HDS claims the award makes it the largest supplier of X-terminals for commercial applications in the business, a new area for the things. Network Computing Devices Corp, the acknowledged industry leader with deliveries of 100,000 units, pooh-poohs the notion, retorting that HDS isn't even a contender and is only measured by market researchers as an "other". HDS declined to specify its installed X-terminal base, saying it had 200,000 units in the field, most of them serial terminals. NCD's base is believed to be largely in the technical arena.

HP, ACER, DEC AND COMPAQ "TO USE SCALED DOWN INTEL P5"

InfoWorld says the P5, or Pentium as it will be known, has a little brother, P24T, a scaled-down P5 out of Intel Corp's OverDrive Division. Supposedly the 32-bit, 238-pin do-hickey will operate at 33MHz externally and 66MHz internally. The paper hypothesises that manufacturers won't have an easy time developing 66MHz/64-bit machines with the P5 chip and that P24T is something in the way of a stop-gap measure, speeds up the 486DX2 upgrade path. It expects it to sell better than the P5 initially and claims Hewlett-Packard Co, Acer Corp, Compaq Computer Systems Corp and DEC will be using it. It's expected shortly after the P5 comes out next quarter.

E&S WILL TAKE FREEDOM TO SPARC BUILDERS AND OTHER ARCHITECTURES

Evans & Sutherland Computer Corp says the Freedom 1000 and 3000 3D graphics accelerators that it is to sell on Sun Microsystems Inc platforms (UX No 407), have been designed as processor-independent units which could well end up on other CPU architectures in future, though none were mentioned specifically. Initially it is likely to get the Sbus versions of Freedom out into the Sparc-compatible market, and says it has already been approached by several of those suppliers. Mbus versions of the accelerators will follow, though there's no great rush because Sbus can meet all immediate performance requirements, the firm says. Currently utilising up to 16 AMD 29050 RISC CPUs, E&S says Freedom could accommodate as many as 32 of the things. The accelerators won't go on to Sun's price lists and there is no money changing hands in the relationship apart from some joint marketing and advertising of which Sun will bear the brunt. E&S is hoping to sign up relevant Sun value-added resellers for the products. Sun is looking to shoot down Silicon Graphics Inc with Freedom, admitting that its graphics specialist neighbour in Mountain View, California, has been "a major irritation to us over the last few years." Sun says its own graphics efforts, especially the GS and GT environments were "too little too late," though the 2D GX environment will continue as a low end offering. GS, and GT at the high-end won't be getting too much more attention, though GT prices are to be cut to bring it into line with Freedom. UK prices go from £20,800 for the 500,000 vectors per second Freedom 1050 unit plus display - or £34,400 with a Sparcstation 10/30 - to £62,750 for the 3,000,000 vectors per second Freedom 3300 with display - £81,600 including a Sparcstation 10/41. E&S has no plans to develop another workstation of its own: its previous outing, the MIPS R3000-based ESV line, which has some 2,000 users worldwide, is no longer being actively promoted.

CAMBEX OFFERS FLEXIBLE RAID DISK ARRAY FOR RS/6000 CLUSTERS

IBM Corp add-on storage specialist Cambex Corp, Waltham, Massachusetts, is getting into the disk array business - for mainframes if its foray into arrays for the RS/6000 turns out all right. The company has launched the Array/6000 as the latest member of its Certainty line, pitching it at RS/6000s operating in clustered multiprocessor environments. It offers selectable levels of RAID fault-tolerance - 0, 1, 3 or 5 - for users of IBM's High Availability Cluster Multi-Processing mode. Using 1.6Gb 3.5" drives, a single Array/6000 subsystem can be expanded from 8Gb to 96Gb of storage, in six square feet of floor space, using a deskside or rack configuration. Additional racks of similar size can boost capacity to 1Tb. The controllers enable users to initiate multiple concurrent combinations of RAID data protection appropriate for each application. All disks, power supplies, fans and array controllers are redundant and hot pluggable while running, and it is designed to eliminate all single points of failure so that dual power cords are provided to connect to dual power sources. Cambex worked with CLaM Associates Inc, which helped IBM develop the clustering software, on the design of the thing, and it includes an Array Configurator Software utility that supports performance tuning and manages disk mapping. The software, supported through the AIX SMIT interface, provides storage administration, disk array management, on-line subsystem expansion, and data protection control. Software drivers to optimise the SCSI-II interface support up to 20Mbyte-per-second data transfer rates. The subsystem also concentrates many drives onto a single SCSI address. It supports up to 15 drives per controller pair, thus appearing to the host computers as several very large SCSI-2 devices. The company claims it costs a third to a half less than non-fault-tolerant storage systems used in mainframe environments. An 8Gb deskside system starts at \$50,212, a fully configured 96Gb system is priced at \$720,000. It ships next month.

NEURON DATA TO SHOW NT VERSION OF GUI BUILDER AT COMDEX

Palo Alto, California-based Neuron Data Inc has finally got around to releasing version 2.0 of its Open Interface in the UK (UX No 386). Currently available for building interfaces that are portable across Motif, Open Look, Apple Mac, Presentation Manager and Windows, a Windows NT version will be shown at Comdex later this month. Runtime prices are £200 per seat for Unix and VMS, £100 for Macintosh and personal computer versions, but development licences start at a very hefty £12,000 for Unix - £9,000 for the Intel-based SCO and Interactive variants - and £7,000 for Mac and PCs. Dropping hints that an initial public offering could be on the cards, the company pointed to figures showing that the majority of software start-ups make for an IPO at between \$10m and \$20m of venture funding: Neuron Data is capitalised at \$16m. Neuron Data UK: + 44 71 408 2333.

DIGIBOARD WINS APPLE, IBM, NEW NETWARE-TO-LON LINKS

Eden Prairie, Minnesota-based, DigiBoard Inc says it will supply serial software links to Novell Inc's NetWare 3.11 network management system, for local outer networks (LONs). The software, designed for the extended office sector where things like notebooks, laptops and modem systems reside on LONs, operates as a remote node on the network. It offloads transactions from the server down to systems on the LON. To do this, DigiBoard has written a NetWare Loadable Module compatible with the Novell's NetWare Access Server and Application Server application programming interface. The software allows users to access local and remote communication services on NetWare networks without being confined to a local area network. Meanwhile, Apple Computer Inc says it will fit out its Quadra 700/900 AUX 3.0 servers with DigiBoard multi-port boards, whilst a new worldwide OEM deal will see IBM supply DigiBoard 128-port asynchronous cluster controllers for its RS/6000 series.

CRAY TO CUT ANOTHER 650 JOBS AND WILL TAKE \$40m HIT THIS QUARTER

Cray Research Inc, which laid off 150 contract staff in September is having to make much bigger cuts this month in an effort to save \$50m next year and, it hopes, substantially increase its competitive strength and profitability in the current global economic climate, and help counteract pressures from flat revenues and reduced profit margins. The supercomputer manufacturer is laying off about 650 regular and contract employees, with about half from Wisconsin and the balance from Minnesota operations and field offices. Cray is also introducing a company-wide wage freeze in 1993; executive officers will forego 1992 bonuses; it will defer or eliminate a number of its current activities; and will consolidate the Rice Lake, Wisconsin manufacturing operations with the Chippewa Falls base. The workforce reduction and other actions will result in a one-time charge of \$40m to be taken against the fourth quarter figures, but Cray expects to remain profitable for the year, and sees higher profitability as a result of the measures next year. The company asserts that the cuts will not affect Y-MP entry level, mid-range and C90 products or development of follow-on parallel vector supercomputer systems nor the massively parallel effort or development of Sparc-based superserver products by Cray Research Superservers in Beaverton, Oregon.

NETWORKX AND IBM TEAM ON NEW NETWORK MANAGEMENT SOFTWARE

Start-up Networkx Inc a Boeing spin-off, expects to launch the industry's first second-generation network management application this week at InterOp. Called Paradigm, the product is an off-the-shelf application that integrates trouble ticketing with inventory, providing the user with analysis, tracking and notification capabilities. It is based on a cross-referential data model to support automation. IBM has been working with Networkx on the product's core technology. Extensions will integrate it with IBM's Netview/6000. Paradigm is also integrated with Hewlett-Packard's OpenView and SunConnect's SunNet Manager. The Open Software Foundation's much-ballyhooed Distributed Management Environment technology is missing from Networkx Inc's platform list because it is not yet productised. No other platforms are considered significant. Networkx was founded at the end of last year by folks from the Boeing Network Management Systems and Services group. The base Paradigm technology comes from software originally developed by Boeing for internal network management and as a strategic technology for the Computer Service Division's commercial network business. The Bellevue, Washington-based firm purchased this software and is licensing it back to Boeing. According to Networkx president Christopher Slatt, the Boeing software was a non-commercial product written in C and 4GL. Networkx rewrote it completely in C++. By design and architecture Paradigm is reportedly ready for the leap into object orientation. The product's heritage, Slatt says, gives it a leg up over competitors. Its original design was user-driven and tested at government and commercial sites. Facilities include filtering network events, automatic notification, escalating unresolved problems, creating action plans, tracking vendor performance and multi-level security. Networkx is venture-backed with funding from Vanguard Venture Partners and Paragon Venture Partners with a business plan that says it can be a \$35m to \$50m company. Paradigm is its first product with an asset management package likely to follow. As it is, ready-to-use third-party network management programmes are few and far between, forcing users to roll their own, a pricey exercise that costs anywhere from \$100,000 to \$250,000 an application. Paradigm, including one network management platform interface and one client, is priced at \$10,000. Each additional network manager client is \$950. End-user client tools are included. Availability is December. The company expects to sell via OEMs (one of which will obviously be IBM), VARs and integrators as well as direct. +1 206 646-1850

SAG WORKS ON OMG-COMPLIANT BROKER

German software house, Darmstadt-based Software AG is to re-engineer the Open Service Broker element of its Entire software products to conform to the Object Management Group's Common Request Broker Architecture specifications. Entire includes the Adabas database, Natural 4GL and networking technology. The service broker did not conform to OMG specifications when it was launched earlier this year - version 2.0 will be out late next year. The company says it is currently working to ensure compatibility between the two releases. Software AG may be using the HD-DOMS technology of HyperDesk Corp as the vehicle to achieve OMG compatibility - the German company is expected to announce next month that it will provide interoperability between the Entire broker and the HD-DOMS object broker next month - though Westborough, Massachusetts-based, company would not comment. OMG president, Chris Stone, said Software AG would certainly be able to bring a product to market much more quickly if it were to use the OMG-compliant HD-DOMS for the task. The gateway between the two brokers will allow Software AG's mainframe applications access to CORBA-compliant objects in Windows or Unix applications through HD-DOMS.

...TEAMS WITH SAP ON OBJECT TOOLS

Meanwhile, Software AG has teamed up with another German software house SAP AG, Walldorf, to develop a series of object-oriented tools called Alice, which will allow users of SAP and SAG software to import personal computer-based word processors, spreadsheets, E-mail and fax services into Unix, MS-DOS, Windows 3.1, OS/2 and Apple Mac environments. The two companies are also working to integrate Software AG's Entire communications technology with SAP's R/2 and R/3 databases. The first Alice tools will be launched at CeBit next year.

SUNCONNECT HAS FASTER SOFTWARE FOR GLOBAL NETWORKS

SunConnect this week at InterOp is supposed to unveil three new high-speed connectivity products for the "international set." They include SunLink ISDN, SunLink Frame Relay and SunLink PPP and enable applications traditionally bound to LANs such as client/server databases, multimedia, X Window systems and NFS applications to run faster and more economically over global networks. Used in conjunction with SunNet Manager, Frame Relay and SunLink PPP enable the management of high-speed wide-area connections. The new products are part of a major SunConnect initiative to address the growing demand for tightly interconnected LANs and WANs. Frame Relay and SunLink PPP, an alternative to dedicated routers, will be unbundled and made available for \$1,150 each starting next month. SunLink ISDN is for users working at home or at remote sites accessing corporate computing resources over ISDN phone networks and transmitting images and graphics at high speeds. Beginning in the first half of 1993, SunLink ISDN, certified in France, Germany, the UK, Japan and the US, will be offered to all Sparcstation 10 users for free. It will also be available to Sparc OEMs. The new products have expanded SunConnect's Partners Program to include British Telecom and Telecom Finland, particularly interested in SunLink ISDN, as well as distributors like Access Graphics and developers like Oracle and Networkx. They expect to attract other PTTs and RBOCs.

SUN FIGURES DISAPPOINT SOME

Sun disappointed some people last Thursday by posting income of only five cents a share for the first quarter ended September 25. Revenues stood at \$855.9m, up 13%, netting income of \$4.8m, down some 82% from \$26.8m a year ago. The company said it shipped 50,000 revenue systems, a first-quarter record up 16%, including 13,000 Sparcstation 2s, 15,000 IPXs and 12,000 assorted. They said they built 11,000 Sparcstation 10s and sent 10,000 out the door. Their relatively late arrival in the quarter coupled with their costs and the narrow margins on the surprise Model 20 impacted earnings. They did not hit volume product on the Model 41s which is anticipated by the end of this quarter and are on plan for the 52s and 54s. Deliveries were 52% US, 29% Europe and 19% Pacific Rim. SunSoft distributed 81,000 Unix licences, an all-time high that included 7,000 for Intel machines. Bookings were reportedly around a billion dollars and were said to be continuing strong. US revenues were up 16%; European by 22%. Revenues from other areas were lower because Sparc 10s weren't available. Operating expenses were down and the company has \$1.1 billion in cash. Gross margins were 43%. Margins are expected to improve in the second quarter when higher speed Viking chips are more available and more deliveries on higher end higher margin Sparc 10s are made.

SOFTEAM TAKES OBJECT WEST

French software house, Softeam SA is putting its products on the American market: Objecteering is a CASE tool that automatically generates C++ applications from the company's Class Relation object-oriented model. Reportedly Class Relation can encompass the entire software development life cycle from specification to coding. Objecteering also produces program documentation. The software runs on Sun Microsystems Inc, DEC and Hewlett-Packard Co platforms and support for IBM's RS/6000s will be added next year. Together the two are priced at \$10,000 for the first copy. France Telecom, Thomson Consumer Electronics SA, Alcatel NV and Matra SA are said to be clients. Softeam: +331 3043 8378

NEWS ROUNDUP

Tata Elxsi (India) Ltd, part of the country's largest conglomerate, will be reselling Netlabs network management products on several platforms on the subcontinent: Tata estimates the Indian networking market at \$100m this year, predicting it will grow at 30% to 50% a year through '97.

Mountain View, California-based, **Network Computing Devices**, has set up a subsidiary in Munich to support German distributor sales: it has existing operations in England and France and a joint venture in Japan.

Sprint Inc, the American telecoms company, is currently deploying a real-time telephone fraud detection application, developed using **Symbolics Inc's** object-oriented programming environment: the two-part contract involved Sprint buying 50 turnkey Symbolics systems and will also now involve collaboration with Symbolics Consulting Group to integrate multiple mainframe and workstation-based systems in a WAN supporting TCP/IP, X.25 and SNA.

Intergraph Corp has landed a \$422m share of the US Navy's \$1.5bn CAD-2 programme and is to supply 4,200 workstations and 1,082 servers based on its Clipper RISC.

Oceanport, New Jersey, **Concurrent Computer Corp** and **FD Consulting**, New York, are to jointly develop enhanced versions of FD's market information system and real-time Ticker processing system for Concurrent's range of Unix-based real-time systems.

Softool Corp, Goleta, California, has released version 2.0 of its C/Manager change and configuration management tool for software development, which it will target at the Unix community: it is available initially on Sun Microsystems Inc Sparcsystems, and MS-DOS and other Unix versions will follow, the company says; prices start at \$16,000.

Fremont, California-based **Independence Technologies Inc** has announced iView Fast Track, its Unix-based software for tracking hardware-software and administration problems: the software supports Open Look and the Open Software Foundation's Motif graphical user interfaces and runs Oracle, Informix or Sybase relational databases; available on Sun Microsystems Inc's Sparcstations it sells for \$5,500.

Los Altos, California-based **Full Source Software Inc** has begun shipping UniShred, a \$150 suite of media erasure applications that irrevocably delete files and securely obliterate data in files, making any kind of retrieval impossible: it's claimed to be the first Unix package to conform to the strictest government and commercial standards, directly replacing Unix's rm utility. It works on all writeable media and across networks on SCO, Sun, HP and Addamax systems.

Data General Corp and **Digital Analysis Corp** have developed an integrated network, system and application package which can be used with TCP/IP and OSI protocols: OS/EYE*NODE uses SNMP and CMIP/CMIS for control, monitoring and analysis and can run on Sun's NetManager and Hewlett-Packard Co's OpenView without further coding operating over Ethernet, token ring, X.25 or FDDI networks - no prices given.

Fujitsu Ltd has a new version of MicroCad running on its SuperSparc Fujitsu S family machines which it buys OEM from Sun Microsystems Inc. Until now, MicroCad was supplied by Fujitsu only on its FMR series personal computers. Cadam Systems, the Japanese affiliate of Cadam Inc, converted MicroCad for the Sparc, and expects to sell 2,000 systems over the next three years, priced at from \$18,000. New Sparc models, including the S-4/10 Models 30, 40, 50, the Server S-4/630 Models 40 and 50 and the S-4/670, and S-4/690 Models 40 and 50, were also announced.

Palo Alto, California-based **Reasoning Systems** has released Refine/C, a re-engineering tool for programs written in C: Refine/C reads C source code and produces structure charts, flow diagrams and coding standards violation charts - it runs under X-Windows and costs \$3,500 now.

ViewLogic Systems Inc has introduced Powerview, a range of design tools for Unix based upon the proposed electronic design automation standards being developed by the CAD Framework Initiative: prices go from \$26,500 to \$70,000.

Irvine, California-based **Caseware Inc** has introduced Caseware/PT, an application problem tracking system: it costs \$3,500.

Malvern, Pennsylvania-based **Rabbit Software Corp** says it will release a suite of IBM SNA communications products for the **Univel Inc** Unixware desktop operating system including IBM mainframe connectivity stuff, remote job entry, advanced programme to programme communication and 3270 terminal emulation.

Network Computing Devices Inc has added X-Windows X11R5, font server, Telnet session security and Open Look support to release 3 of its NCDware X-terminal software due in August.

Campbell, California-based **Apogee Software** is porting its superfast C and Fortran compilers to Solaris 2.0 for distribution by Highland Digital: Apogee says they are optimized for Sparcstation 2s and 10s.

Xerox Imaging Systems has released the ScanWorkX application programming interface, a developers' toolkit allowing programmers to integrate Xerox's intelligent character recognition technology into their applications: built using the open network computing standard it runs on Sun Sparcstations IBM RS/6000s and Intergraph Corp workstations.

Burlington, Massachusetts-based **Leading Technology Inc** has renamed TekBase, its technical data management system, **Metrica**: available on most Unix workstations, prices start at \$5,000.

IMSL Inc, Houston, Texas, has introduced a C-based graphics library which includes an interactive interface-driven tool for manipulating generated results running on Sun, HP, IBM, DEC and Silicon Graphics workstations: IMSL claims Exponent Graphics for C reduces the amount of user-written C source code required to produce sophisticated graphical results by 75%-95%.

Englewood, Colorado-based **Holistic Systems Inc** has won **Digital Equipment Corp's** marketing support for its Holo Executive Information and Decision Support System in the US: Holistic Systems will do a version of Holo for the Alpha RISC, delivering OpenVMS and OSF/1 versions of the product in early 1993; Holo is currently available under VAX/VMS; the price for a typical Holo configuration begins at \$50,000, based upon system size and configuration.

Pilot Software Inc, Boston, Massachusetts, has established a wholly-owned subsidiary in Singapore: **Pilot Software PTE Ltd** will support Pilot's Pacific Rim distributors.

Cleo Communications, Ann Arbor, Michigan, is offering a 32 user version of SCO's uniPath SNA-3270 mainframe connectivity package plus interface board for \$1,300: however, in an attempt to persuade users to move to its own 3270 emulation package - 3270Linkix - the company is offering a 32 user evaluation package, with board and documentation, for \$700. Existing SCO uniPath SNA-3270 users can upgrade to 3270Linkix - software and documentation - for \$500 per site. Cleo: +1 313 662 2002.

Frame Technology Corp's European operation has been shaken up, with sales now headed by Sacha Baker; Geraldine Kelly becomes managing director of Frame Technology Europe whilst Mark Duffel joins from **Interleaf** as UK sales manager. Frame Europe, Dublin: +353 1 8429 566.

Spry Inc, Seattle, Washington, has introduced Sprysoft NetWare Client for Unix which enables Unix workstations to become NetWare-compatible clients for sharing file and print services from a NetWare server and to share data over NetWare LANs using Unix commands: prices start at \$1,000 for SCO Unix and SunOS versions. And Spry has a Microsoft Corp Windows-compatible terminal emulator (VT220, VT100 and ANSI) for Sun Microsystems Inc's PC-NFS: Air allows PC-NFS to run under Windows and is written to PC-NFS socket calls - prices start at \$100. Spry: +1 206 286 1412.

SYMBOLICS READIES ALPHA, P5 VERSIONS OF OBJECT SOFTWARE

Burlington, Massachusetts-based, Symbolics Inc says it is working with both DEC and Intel Corp to make its object-oriented development environment and database - respectively Genera and Statice - available on DEC Alpha RISC and Intel Corp P5 (or Pentium, see back page) platforms by the second quarter of 1993. Symbolics will also re-work its NXP1000 application server - which currently runs a 40-bit Ivory chip - to use Alpha. The company says Genera's compilers and device drivers will have to be re-engineered, in the effort, though it promises compatibility will be maintained across the different versions. Symbolics plans to unbundle its various products and says support for other Unix platforms will follow. The company specialises in developing systems for complex statistical analysis, and is eager to stem the flow of red ink it is trailing. It hopes these measures will return it to profitability by the second quarter of 1993. Vice president of development, Said Zarrabian, admits the company has spent the last three years "in perpetual transition, desperately trying to find out what it is good at... in doing this the company has lost time and money trying to make good the things it started." Symbolic has also established a new maintenance and consultation division.

DIALOGIC HAS NEW VOICE SOFTWARE

Parsippany, New Jersey-based, Dialogic Corp, the call processing components supplier, has come up with AppServer, a software environment that lets voice processing applications run on any computing platform. It's a high-level application programming interface that sits on a Unix-based personal computer equipped with call processing hardware. Tandem Computers Inc is its first user with its newly announced Voice Response Unit, designed for call centre automation, running on NonStop. Dialogic +1 201 334 8450.

AUTODESK ACQUIRES MICRO ENGINEERING SOLUTIONS

Autodesk Inc, Sausalito, California has bought Novi, Michigan-based Micro Engineering Solutions Inc on undisclosed terms. The privately-held company provides three-dimensional surface modelling and manufacturing technology to various industries, including the automotive sector, in North America, Germany and Asia. About 50 employees of the five-year-old company will continue to work out of their Michigan offices. It has been a Registered AutoCAD Developer since January 1992 and its Solution 3000 product line runs under MS-DOS and Unix.

ICL ADOPTS WINDOWS OPEN SERVICE, NT

ICL Plc and Microsoft Corp last week announced that they will work together long-term on systems integration. ICL will adopt Microsoft's Windows Open Services Architecture and Application Programming Interface for its TeamWare portfolio of 500 software products. The TeamWare products were acquired with Nokia Data in 1991. They have an open client-server architecture and manage heterogeneous workstations, servers and host computers linked via a local area network. Microsoft's MS Mail will be integrated with TeamOffice, ICL's office information system for personal computer-based local area networks. ICL said it would use the as yet unannounced Windows NT and Windows for Workgroups, which will be available soon. ICL said that Microsoft products would strengthen its network offering in the office automation market while Microsoft is keen to share ICL's system integration expertise and its customers in banking, retailing and government. The two companies said they will also work on a long-term systems management project.

IBM FORMS WORLDWIDE IBM CONSULTING GROUP...

IBM Corp last week announced formation of the worldwide IBM Consulting Group to provide management and information technology-related consulting services. It will rely on 1,500 consultants in 30 countries in groups that include Management Consulting for Business Transformation and Information Technology Strategy & Planning; Functional Consulting for Application Development; an Industrial Sector; and Technology Consulting, IBM noted. It is being run by general manager Robert Howe, formerly of Booz-Allen & Hamilton where he ran the firm's worldwide financial services practice. He reports to vice president Bernard Puckett, general manager of Applications Solutions. It's got 1,500 consultants who have already completed 150 assignments.

...LAUNCHES OPEN SYSTEMS CENTRE

IBM Corp has opened its US Open Systems Center, offering customers support and services to help them understand, design, implement and test open systems for their business. Initial offerings will be standards-based, integrated hardware and software systems on multiple vendors' machines that will be prototyped in IBM labs at the site. The labs include the Multivendor Networking Lab; the Application Assistance Lab; the Benchmark and Performance Lab; the Application Porting Lab, and a number of product-specific labs.

...ADDS AFP FOR THE RS/6000

IBM's Pennant Systems last week announced the extension of its Advanced Function Printing into the AIX/6000 environment and WISIWYG viewing on PS/2 screens under Windows. The idea is that a service representative talking to a customer on the phone will be able to view a document on the screen that looks the same as the printed document the customer has. Advanced Function Printing software and hardware distributes, displays, and prints information through multiple systems on a wide variety of devices, including 3900 printers with output speeds up to 229 pages per minute. It will be available for the RS/6000 in second quarter 1993; no price. In the meantime, the hot product that is cooking is a duplex version of the 3900, which will have two print engines and will be able to print on both sides of the paper as customers are demanding.

INFORMIX INSTALLS CONFIDENTIAL SNEAK- LINE TO COLLECT INTELLIGENCE ON PIRACY

Informix Software Ltd is setting up an investigation unit in the UK, providing a free, confidential phone line for resellers and users and including a licence manager with its software, in a new initiative to clamp down on software piracy in its reseller channel. Around 80% of its business is generated through value-added resellers and dealers - of which there are 500 in the UK alone - making it particularly vulnerable to piracy. The extent of the problem is almost impossible to estimate, but Informix reckons it is losing millions of pounds in unpaid licence fees at present, and could be losing tens of millions by 1995. Over the past 18 months more than 10 cases have come to light, one of which is soon to be pursued in court. Over the next two weeks, it will be mailing details about the initiative through to its customers, including the new 0800 number that has been set up for anyone wishing to give or receive information about piracy. A team of two full-time staff is being employed to follow up leads. Where agreement cannot be reached with offending dealers, legal action will be taken. As a further deterrent, Informix is shipping the Highland licence manager, which assists managers to monitor user licensing, with its products. It is also writing safeguards into its software to make it less easy to copy. The funds it recovers as a result will be re-invested in reseller support, research and development and further anti-piracy measures. It is likely that the anti-piracy scheme will be adopted throughout the Informix operations worldwide. Through the Federation Against Software Theft, the company will also be pursuing collective measures with Uniplex Ltd, the Santa Cruz Operation Inc and Oracle Corp.

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The Weekly information newsletter for the UNIX @ community worldwide

The US Federal Trade Commission's investigation of **Microsoft Corp** has had an air of unreality about it, with few people imagining that it will come to anything very much or lead to any significant change in the market, but now that the thing may be coming to a climax, what are the possible outcomes? If Microsoft is found to have a case to answer, the minimum possibility is that the company is forced to sign a consent decree under which it has to unbundle, and agree not to bundle in future - for instance it might have to dismantle Windows for Workgroups and sell the networking elements as a separate product (similar networking code will be an integral part of standard Windows NT); at worst, the company could be forced to split itself into two completely different companies, one for operating systems and languages, the other for applications.

Intel Corp is anxious to sprinkle as much luck on the P5 as it can. That's why it'll be making them in Ireland at a fabrication plant in Leixlip reportedly running 6,000 8-inch wafers a week dedicated exclusively to P5 production.

NeXT Computer Inc is likely to go public next year, founder Steve Jobs said in Chicago last week, although he added that no steps have yet been taken to start the process: "Things (have been) going very well for us the last few quarters," Jobs said, and "this quarter looks quite good as well, so if things keep on their present course and the market is good, I think there's a real good possibility that we'll go public next year."

Industry types evaluate **Microsoft Corp's** new Windows for Workgroups concept as a "Novell-killer."

In the UK, Cambridge neighbours **IXI Ltd** and **Uniplam Ltd** are exchanging courses and distribution activities: Uniplam is to take over the running and management of IXI's 20 Motif training courses whilst IXI takes on Uniplam's Motif distribution business.

Saying **Sun Microsystems Inc's** service is not up to snuff, Sun reseller **Marathon International Group**, of Campbell, California, has gone into the business on-site and over-the-phone.

Siemens Nixdorf Informationssysteme AG will debut its implementation of OSF's Distributed Computing Environment - to which it contributed the X.500 global directory service - as DCE Sinix V1.0 on its MX300i Unix systems, with other ports to follow in 1993.

With people watching how the X terminals business is going, **Network Computing Devices** last week reported record net revenues of \$32.5m in the third quarter ended September 30, up 115%, giving a net income of \$2.2m, up 386%. Year-to-date results were \$3.6m on \$84.9m. The company has cut US prices on three of its X terminals to attract dumb terminal users. Reductions affect the entry-level NCD15b (\$1,500 to \$1,200) and NCD14c (\$3,000 to \$2,500) and the high-end NCD19c (\$6,400 to \$6,000).

There is no doubt that **Marlborough**, Massachusetts-based **Sequoia Systems Inc** has all its marbles in the right place when it comes to designing and building fault-tolerant Unix systems - it wouldn't be an important partner of **Hewlett-Packard Co** if that weren't the case, but it still needs to get its act together on the marketing and finance side. In its latest fire-fighting measure, **Gabriel Fusco** has relinquished his positions as president and chief executive in order to devote his time to other aspects of the company. An interim office of the chief executive will be established with two members, **Richard Goldman**, chief financial officer and **Francis Hughes Jr**, an outside director of the company. **Fusco** will remain on the board as chairman.

Ed Taylor, president of **Pencom Software Inc**, Austin, Texas, has stepped aside to make way for **Frank King**, erstwhile head of software development at **Lotus Development Corp** and past vice president of development for IBM's personal computer division. **Taylor** remains executive vice president of parent company **Pencom Systems Inc** focused on new business ventures. **King** will report to **Wade Saadi**, **Pencom** chairman.

At the **AIX Expo** in California last week, **IBM** announced version 2 release 2 of its OSF/1 1.1-based AIX/ESA. Early shipments have already gone out; general availability is set for the end of the year. It supports stuff like 500Gb file systems, asynch I/O, disk striping and internationalisation. Next year the next release will include systems management, B1 security, DCE and parallel FORTRAN.

Deborah Coleman was one of the highest-flying women in Silicon Valley with the title chief financial officer until she suddenly took a long sabbatical a couple of years ago: she did return to **Apple Computer Inc** and became vice-president for information systems, but quit again suddenly last week; she has now resurfaced at **Tektronix Inc** as vice-president for materials operations, which is a new post.

Whoops... we gave you the wrong phone number for **Xalt Inc** last week. It may be based in Texas but the marketing arm is in California at +1 510 947-4814.

The Object Management Group has snagged **Wim Roelands**, vice president and general manager of **Hewlett-Packard Co's** Computer Systems Organisation, as keynote speaker at **Object World Boston**, February 1-4 at the **Hynes Convention Center**.

Irvine, California-based, **Corollary Inc's** multi-processor C-bus II specification will support **Intel Corp's** future Advanced Interrupt Controller (APIC) with availability pegged for this calendar quarter.

Farnborough, Hampshire-based **Knowledge Software Ltd** says its **Open Systems Portability Checker** has been ported to DEC's Alpha AXP chipset running OSF/1: the checker will flag any 32-bit dependencies in applications being ported to the architecture.

DEC will target Japan as a growing market for networked computer systems and a source of strategic alliances, **Reuter** reports from Tokyo: "Japan is a critically important market to Digital Equipment," president and chief executive **Robert Palmer** said at an exposition of DEC products in the city; **Kubota Corp** has already said it will use DEC's Alpha chip in its workstations and rumours naming Japanese companies that are planning Alpha-based links with DEC have appeared in the Japanese business press.

Omri Serlin's "FT Systems" newsletter estimates "the RS/6000 was responsible for 48% of all new accounts for IBM this year..."

Emeryville, California-based, **Scopus Technology Inc**, one of the handful of start-ups vying to score big in the field of customer support software, has hired **William Herman** as president and chief operating officer. He is a co-founder of **Viewlogic Systems**, active in electronic design automation, one of **Scopus'** first customers.

Amdahl Corp's vice president of advanced systems, **Dave Anderson** has been replaced by **Eric Miles**.

Pentium is the name **Intel Corp** has chosen for what would otherwise have been the 80586 microprocessor, the company announced last week: reason is that it did not think it would be permitted to claim 586 as a trade mark.

Independence Technologies Inc picked up a \$1.95m from Cincinnati **Bell Information Systems Corp** which is building large customer information, billing and network configuration applications with its **iTran OLTP** development tools, **iView** system management software and **USL's Tuxedo** transaction monitor. Under the new contract, **Independence** will provide **CBIS** with **iTran Toolkit** and **iView** software, consulting and training.

Enfield, Middlesex-based **Data Connection Ltd** is supplying the X.400 technology that will be included in **Microsoft Corp's** messaging service that will be released with **Windows NT**.

IBM is licensing some **Wollongong Group** networking technology for use in future products. The technology encompasses network/transport software, virtual terminal, terminal emulation, file transfer and high-level scripting language services in the **IBM/DEC** host environment for use on Unix workstations as well as **DOS/Windows**, **Macintosh** and **OS/2** platforms.

Invited by **Hawke Systems Ltd**, **Slough**, **Berkshire**, to cast a glance over DEC's Alpha boxes last week, **Unigram.X** was turned away at the door when DEC UK officials turned white at the mention of press. What was the fuss? Other leaky sources at the company were quite prepared to give us a low-down, see front page.

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SUNSOFT DEBUTS SYMMETRIC MULTI-PROCESSING SOLARIS 2.1

SunSoft Inc launches Solaris 2.1 this Wednesday, promising general availability in 30 days. Sun Microsystems Inc will make it available for all Sparc systems in short order. SunSoft OEMs Solbourne Computer Inc, CompuAdd Corp, Toshiba Corp and Hyundai Electronic Inc are targeting deliveries for next year. The software, binary compatible with Solaris 2.0, boasts new installation, administration, security and internationalisation features. Supposedly it incorporates a thousand bug fixes and product improvements, delivering a maximum 40% increase in network performance and a maximum 50% improvement in user interaction over Solaris 2.0. It includes major enhancements in graphics like XGL libraries providing full 2D-3D capabilities. Moreover, the release should lay to rest any lingering issues over Solaris' symmetric multi-processing and multi-threading capabilities. SunSoft president Ed Zander says SMP/MT is very machine specific and couldn't be fleshed out in Solaris 2.0. Now the code is on the CD-ROM, it could be joined in future by OEM-specific code. 2.1 also includes JumpStart, a way to automatically install and configure hundreds of systems across a network; Online: Backup, the industry's first product for restoring and backing up 2.x data across a network with the machines still active; and Shield, C2 security. Other additions include user, database, print, software and host managers. Pricing remains the same as 2.0 at \$800 in single quantities. A 2.0 user can upgrade for free. Shield and Online: Backup will be available unbundled for \$50 and \$800 respectively in single quantity. 2.1 is localised in German, French, Italian, Swedish, Japanese, Korean, Taiwanese Chinese and Mainland Chinese. Some 800 applications are being ported to Solaris 2.x currently. Zander promises to put Solaris on a regular schedule from now on with releases, major or minor, going out every six months. "What's ready will ship, what's not won't make the train." He declined to say what missed the 2.1 release. Future code will include modular customisable high availability features to maintain access to NFS and database data in the event of server failures.

...AS SUN PREPARES DRAGON MP MACHINES

SunDragon, the Sun Microsystems Inc multi-processor due out on November 10, will be initially limited to maximum configurations of eight CPUs, we're told, even though it is bound to talk about a ceiling of twenty-processors which is further down the road. Sun is planning to deliver a hundred "gamma" Dragons in January with the beasts running an alpha release of Solaris 2.2. April is the best guess for first deliveries. However, they could slip into the third quarter. Speculation - and that's all it is - says maybe it's the scalability of the software that's holding back going to all twenty engines: Sun promises system software will improve by release date. An entry-level, two-CPU Dragon with 64Mb RAM is slated at around £11,000 in the UK. Making way for the SunDragons, Sun has knocked down the prices of its existing 600MP multi-processing servers by seven to 17%, it says. For example, the 670MP Sparcserver is now priced at \$50,000 down from \$60,000. The newly configured 690MP Sparcserver goes from \$70,000 for the model 120, \$76,000 for the model 41 and \$101,000 for the model 52. Meanwhile, Sun's Tsunami line of low-end Sunergy workstations will initially come in two flavours, both with colour and both running Solaris 2.1 - see above. The LX is a graphical box with 16-bit audio and ISDN which will come in above the Classic, a sub-\$5,000 offering that lacks some of its cousin's functionality.

USL TO LAUNCH ITS DISTRIBUTED ENVIRONMENT BEFORE OSF DME

Unix System Laboratories Inc is working towards a schedule that will have its distributed system management scheme out before the Open Software Foundation's rival Distributed Management Environment. Either an early access or a general availability announcement has been set for the third quarter of 1993, three to six months before OSF. The USL software, officially dubbed DM/SVR4, short for Distributed Manager, like OSF's DME, uses the Tivoli Systems Inc framework. However, USL says it's not using all the Tivoli applications and will be going to Pyramid Technology Corp for its user and group management and storage device control, Unisys Corp for its software installation and distribution and Siemens Nixdorf Informationssysteme AG for its print management. Tivoli will be contributing its host management applications and Gradient Technologies Inc will provide its licence management software as it does for OSF's DME. USL believes its scheme, with the addition of Pyramid's part, will offer a fuller set of applications than DME. The Intel Corp platform is USL's choice as a porting base, bespeaking a plan to put this stuff on SVR4.2 and UnixWare in short order. It reportedly already runs on SVR4.2. There is also a thought to put it on SVR3.2 and eventually do a MIPS Technologies Inc reference port. Bowing to popular opinion, USL is using OSF's Motif as DM's graphical user interface. Pyramid is not exactly famous for its Intel work nor, we are told, does its work on DM/SVR4 indicate any shift in favour of that platform by the company. In this instance, Pyramid is a USL subcontractor, with USL providing the Intel/SVR4 and Intel/Motif code. Because of DM/SVR4's Transport Library Interface (TLI), it will not need OSF's DCE to run, though it will apparently run on it in a later release as it will also be DME-compatible.

MIPS' R4400 FOR DESKTOPS

Wedging itself in between Texas Instruments Inc's announcement of the Tsunami Sparc chip on October 9 (UX No 406), and Sun Microsystems Inc's expected introduction of the first Tsunami box on November 10, MIPS Technologies Inc, now a wholly owned subsidiary of Silicon Graphics Inc, is due to upgrade its 64-bit R4000 chip to the R4400 this week with a major performance boost. Like Sun and Tsunami, MIPS is pinning its hopes of populating the desktop on this chip. In MIPS' mind, there are few points of further comparison between the R4400 and the anaemic Tsunami. Top rating on the single-chip, superpipelined R4400 is 113 SPECmark89 at 150MHz, positioned to compete against performance leaders like IBM Corp, Hewlett-Packard Co and Digital Equipment Corp. MIPS claims all RISC chips offer roughly the same performance and that its R4400 96 SPECint89 score puts it in the same league as HP, distinguished by its significantly lower price and wide availability. Even with the ACE initiative dead, commoditisation remains the key to MIPS' strategy. Where PA-RISC, Alpha and Sparc chips fail as merchant chips, the R4400 will be made and sold by MIPS' six semiconductor partners: Integrated Device Technology Inc, LSI Logic Corp, NEC Electronics Inc, Performance Semiconductor Corp, Siemens Nixdorf Informationssysteme AG and Toshiba Corp. It remains to be seen whether the order rate is significant enough to justify the volume potential, even for a chip MIPS calls the first 100 SPECmark optimised for personal computers. MIPS' known design wins, including SNI, Sumitomo Electric Inc, Ing C Olivetti & Co SpA, Acer Group Inc and parent SGI, are not the stuff of massive volumes despite MIPS' claims that Sony Corp and NEC Corp are racking up the numbers in Japan. DEC's preoccupation with its Alpha machines at the expense of its MIPS line has cost MIPS perhaps its most significant volume outlet besides Compaq Computer Corp, another ACE casualty. MIPS can also not depend on its high-end Unix vendors like Concurrent Computer Corp, Control Data Systems Inc, NCR Corp, Pyramid Technology Corp and Tandem Computers Inc, to absorb more than 15% more than the 60,000 units they do already. That fact makes the chip for all intents and purposes a Microsoft Corp Windows NT engine. MIPS expects 10,000 to 20,000 chips to go to early NT adopters from the first half of next year, increasing to around 100,000 in 1994 as NT gets more broadly accepted. Pricing, availability on page five.

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FORTE' READIES C++ SOFTWARE DEVELOPMENT ENVIRONMENT

Oakland, California-based, Forte' Software Inc is one start-up trying for the fast track. In the two years since it was formed it has attracted \$6m in venture capital and another \$4m from big-name strategic partners, on the promise that the application development environment it's designing would be a significant enough advance to turn the company into a nine-digit revenue producer. Its unnamed C++-based product, likely to be called Forte' something, is scheduled to go into Alpha on Christmas Eve and beta in early 1993. Forte says it has lined up a dozen beta sites among Fortune 1000 accounts - it cannot publicly identify yet. Its scheme is to produce an object-oriented 4GL and distributed execution environment to create mission-critical applications distinguishable from others of its ilk by two features. Forte' president Martin Sprinzen, once the executive vice president of international operations at Ingres Corp, described one of these key mechanisms as de-coupling the applications development from the underlying physical environment. Forte' applications are developed as a single monolithic application and then subsequently partitioned or automatically broken up to run on various computers within the distributed environment. This way, he says, developers can focus on the business aspects of their applications rather than the details and complexities of the environment, a productivity advance. Being object-oriented will make it easier for users to move partitioned code around. Recoding is unnecessary, improving reliability, the firm says. In its first iteration, the software is supposed to run on VAX/VMS, USL's SVR4, DEC Ultrix, Sun Microsystems Inc's SunOS, IBM AIX, Hewlett-Packard Co's HP/UX and OSF/1-based servers - with Apple Computer Inc AUX to follow. Clients are said to run under OSF/Motif, Windows 3.1 and Apple Mac System 7. It will also support Novell Inc's NetWare. Initially it will support Oracle Corp's and Sybase Corp's relational database with Ingres, Informix and DB2 coming later. It will also support transaction processing monitors starting with DEC's ACMS and progressing through to USL's Tuxedo, Transarc Corp's Encina and Top End - probably in that order. The product was designed to run on the Open Software Foundation's DCE but Forte' has found its remote procedure call (RPC) slow and incapable of the number of messages Forte needs to route. The DCE implementation has been de-emphasised, the company says. Forte' expects to sell direct and through OEMs beginning with its strategic partners, including Sequent Computer (see page three) and two others which manufacture the servers Forte' will run on.

QUINTUS HAS CUSTOMER INFORMATION SOFTWARE

Mountain View, California-based, Quintus Systems Corporation, the Intergraph Corp subsidiary, released the first of its WorkPro family of integrated multi-platform software, CustomerQ 2.0, a customer information package. The release thrusts Quintus onto the same stage as Aurum Software Inc, Scopus Technology Inc, ProActive Software Inc, Lysis Inc, Clarify Inc and a few other start-ups vying to make a mark in this arena. Quintus has spent the last 18 months developing similar customised solutions for a clutch of customers including Intel Corp, HaL Systems, Exxon Corp and Hewlett-Packard which is setting up a worldwide internal help desk with its software. CustomerQ 2.0 is Quintus' first attempt at a shrink-wrapped package. Unlike competitors such as Aurum which uses a 4GL approach and Clarify which went C++, the Quintus technology is rule-based and object-oriented. It claims this decision makes its widgetry more productive. CustomerQ integrates customer support, call tracking, help desk and product defect tracking in a single module that includes Informix. It is priced more reasonably than some of its fellows, Quintus says, beginning at \$25,000 (or \$1,500 a seat) for 16 users and running up to \$100,000 (generally about \$350 a seat) for unlimited users. Rivals like Clarify, it says, are over the top at \$5,000 a seat. Others, it says, force you to buy more than one module to achieve the same effect as you get with CustomerQ alone. Quintus is aiming its product at the high-tech and software industry and hardware and software managers inside end-user organisations. Features include a graphical user interface, multiple query-by-example searching, solution matching, point-and-click ad hoc reporting, automatic notification and escalation, e-mail and fax integration and extensive data modelling. Quintus says the distinguishing mark of CustomerQ is the high degree of customisation it retains. The product is immediately available for Sun Sparc systems with HP, IBM and Intergraph platforms following in the first quarter. Links to Sybase, Ingres and Oracle are planned in future.

WAXMAN BEHIND MENTALIX IMAGING FIRM

We've tracked down erstwhile Uniplex Inc's president and chief executive officer Jeff Waxman at one of his current haunts, a six-year-old "start-up" called Mentalix Inc, where at least on paper he's playing the same role he did at Uniplex. However, sources say the job's more titular than real with Waxman wanting to stay in the Boston area. The Texas company is hoping to become a dominant supplier of image-based software by 1995 and includes on its board former Ashton-Tate vice chairman Ed Esber and Sun Microsystems Inc's former chief financial officer Robert Smith. It estimates it could have revenues from its target markets like publishing and CAD/CAM worth \$24m by 1996. Rather hoary for a start-up, Mentalix has been through a couple of iterations beginning as a consultant and going on to develop scanner interfaces for the old Apollo workstation. A bootstrap operation, it attracted its first venture capital in August of 1990, a \$1.2m investment from Sunwestern Investment Group. Looking to go public in the next year, it is now out for a \$1m second round to be used primarily for sales and marketing, efforts it's yet to put its back into and needs a vice president of marketing and marketing and two sales people. However, its current product, a multiple still image windowing and manipulation tool called Pixel!FX has been out for a while first on Sun Sparc's and Hewlett-Packard Co 9000/400s last December, then on DECstation 5000s and HP 700s in January and finally on IBM 6000s in July. It has generated about \$325,000. A Santa Cruz Operation Inc port is due by the end of the calendar year and a revision adding further functionality is in the works. The company's long-term plan is to migrate to Windows-based personal computers after establishing dominance and market share on Unix platforms starting in 1993.

XDB READIES EUROPEAN HOME

Relational database and tool developer XDB Inc, Laurel, Maryland, has expanded its operations to Europe and established a wholly-owned subsidiary in the UK. Headquartered in Chesham, Buckinghamshire, the European operation will be headed up by XDB European marketing director Malcolm Niell who was managing director of Sybase UK Ltd, until that company's clear out some 18 months ago (UX No 359). The UK arm, staffed by a five-person sales and support team, will service the whole of Europe for the foreseeable future. XDB will sell through direct and indirect channels - European outlets are currently being established. The UK office will open for business this Monday. XDB has introduced new versions of its personal computer-based workbench products for developing workstation and mainframe applications. XDB-Workbench 3.0 has a suite of front-end tools, a precompiler, and database engine and is available as multi-user implementation, XDB-Server 3.0. XDB-Link provides personal computer-based SQL applications with access to IBM's DB2 database. Applications developed using the three run on Sun Microsystems Inc Sparcstations, IBM RS/6000s and DB2-based systems - no prices given.

WHITE CROSS DEBUTS TRANSPUTER-BASED SERVERS

Little known UK company, White Cross Systems Ltd, Bracknell, Berkshire, last week introduced the first in a family of Transputer-based parallel servers, the White Cross IDS 9010. Using a dozen Inmos International Ltd T425 transputer, the entry level office system comes with 98Mb memory, is rated a 480 MIPS, is claimed to run a variety of Unix implementations and is priced from £100,000. The 3,660 MIPS-rated IDS 9020 data centre can accommodate up to 10,000 transputers and will be released spring 1993 - no prices given. A next generation IDS server will offer fault tolerance, a claimed 35,000 MIPS performance and will be based upon the forthcoming Inmos T9000 part. The IDS 9000s support the SQL Access Group's Call Level Interface, Microsoft Corp's ODBC, ISO's Remote Database Access (RDA) and ANSI SQL. The company also announced the signing of a joint agreement with Steve Jobs' NeXT Inc to develop a database application programming interface between White Cross servers and Next workstations, due mid-1993. The 25-person, privately-owned White Cross is busy setting up overseas operations: a Dallas, Texas-based office is due to open by the end of the year and a Far East office will follow in the first quarter of 1993. The company sells through direct and indirect channels. +44 344 300770

SEQUENT DELIVERS CLUSTERING SOLUTION

Sequent Computer Systems Inc, Beaverton, Oregon, last week announced ptx/Clusters, a clustering capability enabling applications to view multiple-node systems as a single very large system using a single shared database. Availability is pegged for the first quarter. Central to the company's future client/server capabilities is a strategic partnership with the Oakland, California start-up Forte Software to simplify development of mission-critical client/server applications for on-line transaction processing (see page two.) Forte will be providing the base product and Sequent the specialized capabilities like transaction management, parallel performance enhancement and legacy connectivity. To improve its client/server story, Sequent is going with ptx/Transaction 2.0, its implementation of Unix System Labs' Tuxedo, TechGnosis SequeLink middleware for connecting Apple Macs and Windows-based personal computers to Symmetry, Information Builders Inc's EDA/SQL middleware for accessing various databases, and a new symmetric multi-processing release of its parallel-enabled version of Netware. In support of ptx/Clusters Sequent is introducing the QCIC-W high-performance disk controller, an advanced parallel-enabled I/O subsystem connecting 60 SCSI devices (48 disks) with little or no degradation. Reportedly the industry's first high-performance 16-bit controller, it uses four independent wide fast SCSI-2 channels and achieves I/O rates up to 3200 IOPS per controller. It also has a 2GB SCSI-2 disk, a magneto-optical library and hardware data compression for tape drives. To support interoperability with IBM Corp mainframes, Sequent will support Token Ring and APPC-based file transfer. Oracle7 is the first database available for the Sequent clusters. The two companies are teamed to enhance the management of very large databases on Symmetry machines beginning with backup and recovery of databases larger than 10GB. Oracle7's utilities will be integrated with Sequent's ptx/Backup. Sequent's new operating system release, the System V 3.2-based Dynix/ptx 2.0, compliant with the Open Software Foundation's Application Environment Specification, includes C2 security. It will get to Unix SVR4 ES/MP a year from now. Besides its own system management products, a large-scale symmetric multi-processing version of Computer Associates Corp's CA-Unicenter will be offered.

SUN RALLIES LEGENT FOR MANAGEMENT SOFTWARE, UNIVERSAL FOR SYSTEM/36

Hewlett-Packard Co is well ahead of the pack in fitting out its Unix machines with the kind of operations management systems that mainframe users expect, but Sun Microsystems Computer Corp is galloping off down the same path and has gone to Legent Corp for an agreement under which Legent will convert Legent's system management tools to run on Sparcsystems under Solaris Unix. Legent products will support the Open Look graphical user interface, and the two will pursue joint marketing activities focused on meeting mainframe customers' downsizing requirements. Sun has also done a deal with Universal Software Inc under which the Universal Open/36 product for IBM Corp's System/36 will be converted to run under Unix on Sparcsystems. Open/36 is designed to enable System/36 users to move their applications, without recompilation to Sparc systems, while giving them a complete System/36 environment that includes all their familiar tools. Open/36 will be offered in early 1993 by Universal Software, Los Angeles unit of Acom Computers Ltd of Montreal.

NFS 3.0 "COLLECTING DUST"

At the Connectathon networking event last week, Sun Microsystems Inc's Open Network Computing techies took out their counterparts from IBM, DEC and Hewlett-Packard Co with the thought in mind of solving a limited range of Network File System problems and moving the protocol forward without breaking with the past. Being practical people they all realise it's going to be a while before DCE becomes reality. Armed with input from the outside, Sun now has a prototype of this non-major revision in hand. Considering that NFS version 3, which was a major re-do, is sitting on a shelf somewhere collecting dust because it failed to garner popular support, there will probably be some reluctance to call this puppy by the same name.

JAPANESE "ACE" FORMED

Last Wednesday saw the formation of what is effectively a Japanese version of the now defunct ACE Advanced Computing Environment consortium. Sony Corp and NEC Corp announced the launch of a new hardware vendors group to promote the use of the Open Computing Environment for MIPS platform established by the two companies back in May (UX No 385). The aim is to create a standard Japanese language platform environment for workstations. Six new members were announced: Sanyo Electric, Siemens Nixdorf Information Systems, Sumitomo Electric Industries, Nihon Silicon Graphics, Olivetti Corporation of Japan and Pyramid Technology. Going beyond the Common Japanese Application Binary Interface (OCMP-ABI), the group has added new standards for 3D graphics (based on Silicon Graphics' Open GL software) and I/O bus hardware and software (using the 110Mb per second APbus, and Euroboard specifications). NEC should be first out with compatible products this December, followed by Sony and Sanyo Electric in mid 1993, Nihon Olivetti in the 3rd quarter of 1993 on its M-700 platform, and Silicon Graphics probably late in 1993. OCMP group members have 32.7% of the Japanese workstation market which stood at 106,320 shipments last year, and would like to increase this share to 50%. This compares with Sun, individual market leader with 25.8% and Hewlett-Packard with 16.7% of the market. Sony and Pyramid were instrumental in the formation of the MIPS System V Special Interest Group two years ago; however Sony has yet to fully implement UNIX SVR4 on its workstations, that version currently being in the Early Access stage, according to Dr Toshitada Doi, Director and head of the Sony Workstation Division.

IBM SHIPS POWERPCs TO APPLE, SAYS THIRD PARTY CHIP SALES ARE VITAL

Apple Computer Inc says it is still on target for mid-1994 launch of its first RISC-based Macintosh after IBM Corp announced that it was now shipping the first PowerPC chips to Apple. IBM made the announcement at the Semiconductor Industry Association meeting in San Jose, where it said that its Technology Products unit would have to start shuttering plants if it didn't succeed in its new initiative of selling chips to other vendors and offering them on the merchant market. Revenues from third party sales will be below \$100m, but in the next couple of years will rise to "several hundred million dollars". The Technology Products chip business has been turned into a profit centre from its previous status as a cost centre. IBM plans to focus on offering specialised multichip modules rather than basic commodity chips, although it has started to offer memory chips in Japan.

HP HOVERS OVER SEQUOIA AS RESULTS ARE RESTATED FOR SECOND TIME

Sequoia Systems Inc, Marlborough, Massachusetts, is sinking deeper into the mire and now says it will restate its financial results for the year ended June 30 for the second time, and will amend its annual report on form 10K, because it now finds that it overstated its turnover. Its auditor, Arthur Andersen & Co informed the company that it is withdrawing its audit reports dated August 19 on the company's financial statements included in the 10K, Sequoia added. It makes one wonder how much longer its OEM customer, technology partner and minority shareholder Hewlett-Packard Co is going to wait before buying the company and putting it out of its misery - or is it going to stand aside and let Sequoia's other major partner, Samsung Electronics Co, Seoul, South Korea nip in and snap it up under its nose? Electronic News quotes an HP official who says HP "is ready to act."

BINARY STAR HAS RPG-TO-COBOL CONVERTER FOR UNIX

Binary Star Ltd, a Kingham, Oxfordshire-based start-up, has introduced its first product, DeltaStar, a software re-engineering tool which converts source code from IBM's RPG programming language into MicroFocus plc Cobol for Unix environments. Targeted at companies looking to downsize mainframe RPG-based applications, the company is currently negotiating OEM deals with Sequent Computer Systems Inc, Sun Microsystems Inc and NCR Corp. The privately-owned company is also working on tools for converting Basic source code to C, and importing RPG code directly into relational databases, such as Oracle and Informix, using SQL rule sets. DeltaStar is available now, and is priced at from £5,000 with incremental increases depending on the number of code lines. +44 608 658179

USL DELIVERS ITS DISTRIBUTED COMPUTING ENVIRONMENT SOLUTION...

Unix System Labs Inc last week said it has started delivering early access versions of Distributed Computing Environment DCE/SVR4 secure code to its OEMs, calling it the first tangible results of its new-found rapprochement with the Open Software Foundation. Significant as this historic blending of two opposing technologies is, USL has struck another major chord in claiming that it will attempt to provide its customers with what is as close to a master binary as it can get. With DCE now an accepted check list item, USL believes it can save an OEM a million dollars over three years with its work. USL, or rather OSF founder Siemens Nixdorf Informationssysteme AG, which did the port, is using OSF's DCE 1.0.1 for both the early access code and the OEM kits scheduled to become generally available in January. Despite field reports that this initial DCE release lacks robustness, USL expects its OEMs to ship product to end users in the first half of 1993 based on it. A shift to release 1.0.2, regarded as more the real product, is expected at the end of the second quarter. The secure DCE code, encompassing the remote procedure call mechanism, security, cell directory, threads and timing services (to which USL and SNI also added X.500), still lacks the key distributed file system. USL must wait for OSF/DCE 1.0.3 for this and is hoping to have something out at the end of 1993 or the beginning of 1994. Sources elsewhere, however, believe it will be 1995 before OSF makes this phase mainstream. Although, USL claims to have improved DCE's quality, it says that OEMs will look at DCE/SVR4 as a build-or-buy decision, not as a functional value-add, at least with the first release. OEMs will have to pay USL \$60,000 to get the source code in-house and another \$25,000 in sublicensing fees to ship to customers over and above paying OSF \$150,000 for a DCE license. Both OSF and USL will also get royalties: 5,000 copies of the DCE Executive will net OSF \$75 a copy and USL \$15. Between 5,000 and 500,000 copies royalties will be \$25 and \$5 respectively, between 500,000 and 1.2m they are \$8 and \$1.60, and over \$1.2m are \$5 and \$1. Security and cell directory royalties will be \$400 to OSF and \$80 to USL and global directory are set at \$250 and \$50 respectively. The hooks that USL and SNI have built into SVR4 to accommodate DCE will become a standardised part of the operating system. DCE/SVR4 reportedly covers all required SVR4 libraries, including lib/C with its 500 routines. It says these are true thread-safe libraries, not just course-grained, wrapped routines. As a comparison, OSF's DCE source tape has wrappers for less than 50 routines. USL has also provided a customisable systems administration guide and release notes for creating end-user documentation and installation script. DCE/SVR4 uses an Intel Corp 80386 machine as a porting base with Sun Microsystems Inc Sparc, MIPS Technologies Inc's R series and Motorola Inc's 88000 platforms planned. USL intends putting DCE on SVR4.2, allowing it to run over transports other than TCP/IP such as OSI and Novell Inc's IPX, integrating it with Tuxedo and DM/SVR4 as well as enhancing performance, debugging and threads support to take advantage of the fine-grained kernel-based threads capabilities of SVR4.2 ES/MP.

...ALONGSIDE NETWISE RPC CODE

Meanwhile, Unix System Labs showed considerable deference for the Open Software Foundation's sensibilities by not announcing - for what seemed an eternity - its deal to market Boulder, Colorado-based, Netwise Inc's technology. Last week, at the same time as its announcement of early shipments of the OSF-derived DCE/SVR4, see above, it finally went public. OSF's DCE embodies the Remote Procedure Call (RPC) technology from Hewlett-Packard/Apollo, rivaling the Netwise RPC. USL, which has shipped DCE-competitive Open Network Computing technology as part of Unix since 1989, says its future ONC releases will include the Netwise Run Time Library at no additional charge. USL will also market the Netwise ONC RPC Tool. Netwise says that it will provide future migration support to DCE as well as a new product, scheduled for announcement next quarter, to provide interoperability between ONC and DCE applications. USL will market the Netwise ONC RPC Tool as source code, Netwise is responsible for issuing licences and supporting the product.

RUSSIAN ROUNDUP

Sequent Computer Systems Inc has beaten **Digital Equipment Corp**, **Control Data Systems Inc**, and **Sun Microsystems Inc** to an order for the **Russian Relcom** electronic mail network. The installation comprises four Sequent S2000/200 processors, 5Gb of storage and 64Mb of RAM and will help modernise the network's central communications node, which is causing serious bottlenecks and long delays in sending local messages. Communications company and networker Relcom expects the Sequent machine to give the node four times the power. The new computer was supplied by hardware reseller and software developer, **LVS (Moscow)**, business partner for Sequent and Oracle Corp in Russia. Sequent's other big customer in Russia is the **Consolidated Bank (Moscow)**. Meanwhile, Relcom users are to get their first international on-line service. The company has opened an international line to Western Europe via Amsterdam with high speed modems in both Amsterdam and Moscow. Previously, Relcom had only a dial-up line to Finland and ad hoc arrangements to complement it.

The price of software in Moscow has remained stable so far, despite the sharp drop in the dollar-rouble exchange rate last month: market researcher Soft Market polled 20 software dealers in Moscow and found that prices are steady in spite of the currency fluctuation and **Borland International Inc's** use of a US dollar benchmark for its rouble products sold in the former Soviet Union - where it had set rouble prices according to local conditions, it now takes a dollar price and converts it into roubles at the market rate.

Computer-aided design software specialist **Cadence Design Systems Inc** is to establish a number of joint production projects for the electronics industry in the former Soviet republics: meetings are scheduled with **Ineum** of Angstrom, close to Russia's Silicon Valley in Zelenograd, near Moscow; **NPO Integral** of Minsk; **BeloRussia** and **MKB Elektron** of Kharkov in the Ukraine; the Moscow office of **Roy International Consultancy** represents Cadence.

Richard Hevron, **Microsoft Corp's** operations director for the Commonwealth of Independent States, says that sales of Windows software in the former Soviet Union have reached about 1,000: the Russian version of Windows 3.1 will be out in November and Excel 4.0 will be available by the end of the year.

An Association of Ukrainian computer professionals has been established in Kiev: according to **Business World** newspaper, the association has been formed to co-ordinate the development of business software applications and provide training for end users.

The **Sovgeo** joint venture enterprise in Russia has opened a computer centre in Moscow to provide computer processing of geophysical data on oil, gas and coal deposits in the Russian Federation. The venture will provide analysis of existing deposits and do interpretation of data from potential new fields. A spokesman for the centre says all data produced will be compatible with the accepted international standards. The joint venture is also one of Moscow's few reseller's of workstations, offering Russian geophysical enterprises **IBM Corp RS/6000** and **Sun Microsystems Inc Sparcstations**, plus training and support, with payment possible in roubles. Landmark **Sovgeo** was formed in 1992 by **Landmark Graphics Corp**, which has 60%, **Jebco Seismic (UK) Ltd**, 10%, the **Rosvnesheo** corporation, 15% and the **VNII Zarubezhgeologiya** research institute 15%; it is capitalised at \$360,000.

Avioc from the UK has begun marketing **Sun Microsystems Inc Sparcstation 10s** in Russia through the Moscow Sparc centre: export licences are still required for RISC-based computer equipment but the firm says it takes only 10 to 12 weeks to get one.

MIPS R4400 COMES IN THREE VERSIONS

The 100,000 new MIPS Technologies Inc chips (see front page) destined for Microsoft Corp NT adopters are not all R4400s but a mix including R4000s and the anticipated low-power/low-cost VRX for notebooks due out next year (UX No 380, 377). Like the R4000, the 2.3m-transistor 4400 comes in three iterations: the 179-pin PC, supporting only primary on-chip cache, aimed at the low-end desktops and embedded controls; the 447-pin SC, built with two primary 16Kb caches and supporting an optional off-chip secondary cache of 4Mb, targeted at high-performance desktops and servers, and the MC for multi-processor configurations. Each 4400 species also comes in 134MHz and 100MHz versions besides the 150MHz. The 4400 delivers a SPECfp89 rating of 126. It is software-compatible with the 32-bit R3000, requiring no recompilation. The company currently has no SPEC92 performance marks available. Small quantities are already being sampled and volume production starts to ramp in January. Pricing is being left to each of the six semiconductor makers. All are expected to be in the same ballpark. As an example, Toshiba says it will ask \$1,330 for the PC, \$1,610 for SC and \$1,932 for the MC in quantities of a thousand during the first half of 1993.

MIPS believes DEC will upgrade its R3000-based DECstations to the new 4400 early next year. However, it claims DEC missed an opportunity to ship revenue units based on the 4000 since January and believes the 150MHz Alphas likely to be announced November 10 will be in short supply for some time.

MIPS is preening itself for getting the R4400 upgrade out in the timeframe it predicted it would a year ago. As the first post-merger MIPS product out, MIPS is taking the opportunity presented by the announcement to boast that the MIPS acquisition cost Silicon Graphics Inc no dilution of earnings. SGI was criticised at the time for the price it was willing to pay, a price it later trimmed.

InfoCorp counted 190,000 MIPS-based systems in the market in 1991.

Integrated Device Technology Inc is doing its own version of the VRX, the low-cost, low-power version of the R4000 that MIPS has in the works, under the code name Orion. Described at the Microprocessor Forum, it's supposed to be an under-\$100 under-2.5W 4000-compatible giving between 58 and 63 SPECint due the second half of 1993. Michael Slater says that if NT takes off both of these notebook chips could become significant players.

MIPS seemed a little diffident last week about whether it would be doing an R5000 as previously suggested (UX 380). Now it's only talking about further R4000 upgrades next year. It also seems that the T5, aka the 500MHz R10000, the next step in the 2000, 3000, 4000 chain, has bounced from the end of next year into 1994.

MIPS doesn't know what it's costing Texas Instruments to produce Sun's Tsunami but based on its got on the silicon, MIPS is betting the margins aren't that great. It claims its semiconductor makers can make money.

CRAY OUTLINES ITS PLANS FOR MASSIVELY PARALLEL ALPHA MACHINES

Cray Research Inc lifted the veil a little last week on its plans to build a line of massively parallel processing systems around Digital Equipment Corp's Alpha RISC for launch next year. Cray says its first massively parallel system has a scalable architecture that combines the Alpha microprocessors through a high-bandwidth, low latency interconnect network that will be an order-of-magnitude faster than those of current massively parallel systems. It implements a multiple-instruction, multiple-data architecture that can also emulate single-instruction, multiple-data and multiple computer MIMD architectures Cray said.

US BERKELEY SUSPENDS NET2 FOLLOWING USL PROPRIETARY CODE CLAIMS

The University of California, Berkeley has suspended distribution of its Network Release 2, the code that spawned the BSD/386 operating system that in turn spurred Unix System Labs to sue both the university and its spin-off Berkeley Software Design Inc for copyright infringement and misappropriation of trade secrets (UX No 396). USL claims Net2 incorporates AT&T proprietary code. The university gave no reason for the temporary suspension. The school's Computer Systems Research Group, creators of both Net2 and the Berkeley Software Design company, said resumption of distribution is under "administrative review." Keith Bostic of CSRG indicated that was all he was able to say. He was hopeful Net2 would be re-released.

NEW SMARTSTAR 4GL LINKS DATABASE OBJECTS TO MOTIF FRONT-END

Goleta, California-based, SmartStar Corporation, the company that years ago put the first fourth generation language interface on a relational database machine and then created the first VAX/VMS 4GL, has popped up with SmartStar Vision, a new object-oriented application development environment. Based on a set of built-in general-purpose database objects integrated with a GUI, another industry first, Vision is intended for mixed environments of Windows-based personal computers, Macs running X-server software and Motif-grounded X-Window systems, and allows for rapid application development of all standard GUI window styles. Designed around an event-driven structure, it eliminates all support-level coding through providing direct access to its databases objects from a Motif-based point-and-click front-end. Only the business rules of an application have to be translated into code, using an SQL object-oriented 4GL called SmartGL. Any 3GL functions can also be called as desired, but all object-processing is performed by SmartGL. Vision's predefined business objects, dubbed SmartObjects, support attribute inheritance and handle all SQL- and data-type work independently of the databases. The server portion of Vision contains a sophisticated heterogeneous multiple SQL database query optimiser and distributor, based on the company's VAX 4GL technology. Supported relational databases include an internal SQL database processor using the operating systems files or industry standards like Oracle, Ingres, Sybase and Rdb. First supported application servers include Sun Microsystems Inc's SunOS, DEC Ultrix and VMS, with IBM and HP versions on the way. Clients include X-terminals and any X system. SmartStar promises PC/MS-Windows and Macintosh runtime versions next year, and is also working with the object database companies.

Minimum-code solution

SmartStar claims Vision is the minimum-code solution available for client/server applications, estimating that the support programming needed to implement such applications absorbs at least 80% of the overall programming effort. Vision eliminates not only that code but all of its maintenance, it says. Using a real-life example that assumes it costs \$5 a line to write code and that 100 lines of code can be written a day, SmartStar figures it can cut the cost of generating a trivial application to \$750 compared with \$12,000 using a tool kit and \$7,000 using a Motif GUI builder. The only competitor it rates is Ingres Windows, perhaps not surprisingly as SmartStar's vice president of development is Mike Dion, ex VP of engineering at Ingres. The first release, in beta since February at 20 sites, is immediately available. Single-seat pricing for a developer system is \$12,000 (£10,000) with runtime versions for end-users from \$75 to \$600 per license depending on quantity. It will be sold direct in the US and through its UK subsidiary Smart Systems Ltd in Oxford, VARs and the firm's international distributors. It is also expecting to sell through OEMs. US: +1 805 685 8000 UK: +44 (0)865 784567.

INFORMIX FORUM '92 EUROPEAN CONFERENCE, LAKE COMO, ITALY

by William Fellows

INFORMIX SIGNS FOR SIEMENS DATA DICTIONARY - PLANS OPEN REPOSITORY

Although in a company official's words Informix Software Inc has managed to "get away without it" so far, the Menlo Park, California-based software house has finally been brought to book by competitive and market pressures. It is embarking on a two-stage effort to bring a data dictionary, and eventually a repository, to its relational database management system, fourth-generation language and CASE tool environments. An initial foray will see Informix adopt Siemens Nixdorf Informationssysteme AG's Entity Relationship Model System (ERMS) for use with its database, which will enable users to manage development information across different project lifecycles. That will eventually be superseded by what the company is positioning as an open, enterprise-wide repository embracing not only the Informix database, but its Hewlett-Packard Co-derived ToolBus Open CASE environment and 4GL products. Informix says it'll take around a year to productise SNI's data dictionary, even though ERMS is already implemented for versions of the database which SNI supplies to customers under an existing marketing agreement the two have. SNI's data dictionary is based upon the US Information Resource Dictionary System model, which is more suited to development, according to Informix, than the European Portable Common Tools Environment dictionary model, which is thought to be stronger at run-time. Informix is also understood to be backing CASE tools from Knowledgeware Inc and Cadre Technologies Inc which are likely to be supported by the data dictionary effort.

Interim solution

Informix says it recognises that implementing SNI's dictionary is only an interim technical solution to what is a much wider problem - which is its need for a comprehensive, master dictionary that embraces a full range of its products. Both a master dictionary (or repository) and data dictionary store meta data, definitions of data and processing, though the repository - a marketing term invented by IBM - includes the ability to store CASE objects as well as simpler definitions from 4GL or database dictionaries. The idea is that all meta data should be available to developers - who may be using a variety of tools - via a single, logical dictionary. The open repository Informix has in mind is one that embraces both the IRDS and PCTE data dictionary models which will be available across its database, 4GL and ToolBus implementation of HP's SoftBench CASE environment. It plans to incorporate a repository application programming interface (APIs) that'll allow users to connect to other dictionaries, such as the one Informix already has for its Storm products - see below - as well as larger third-party repository environments. Informix says it'll do some of the work itself, but will go to partners and other developers for the body of it. SNI may well be involved at this stage too - it already has a licence to HP's SoftBench as it is implemented in Informix's ToolBus, going back to June this year (UX No 388). Informix expects development to take between two and three years to complete. As well as bringing Informix more into line with its competitors, the data dictionary products are aimed to address the demands of a growing number of users - corporate and governmental - with high-end, Unix-based development environments, as well as those downsizing proprietary environments to open systems. In the main, the competition looks to be well ahead of Informix already, though its plans for an open repository complete with APIs, may take it beyond what others can offer. Oracle Corp has CASE Dictionary 5.1, Sybase has an integrated database dictionary/catalogue and Ingres has its Ingres Dictionary. Whether the new alignment will firm up Informix's overall relationship with SNI is unclear: SNI has relationships with various database suppliers, but has chosen Oracle Corp as the future mainstay of its open systems strategy detailed at CeBit earlier this year (UX No 377).

END-USER STORM WILL HIT IN FIRST QUARTER

Informix has also lifted the veil on its graphical query and reporting tool for end users, dubbed Storm (UX No 394). Ron Bower, director of product management for end user tools says Informix Storm will allow users to access, extract, manipulate and present corporate data as well as share information across different applications. Forms, reports and queries can be created using a graphical front-end palette of tools and other components which require no programming and no knowledge of SQL, Bowers claims. A second version of Storm, for database administrators and MIS departments includes modules called Storm/DbA and SuperViews, as well as the end user package. Storm/DbA allows management information system (MIS) department staff to create or modify all parts of the database schema from a graphical environment. SuperViews masks the complexity of large database structures by providing a graphical overview of database tables, which can be provided, with instructive information to end users. Storm supports Informix SE and OnLine database engines (and an SQL Direct Entry mechanism in the MIS version). Informix is positioning Storm as a means of building better relationships between users and their MIS departments. Currently, MIS staff have to maintain the integrity and security of corporate data as well as providing users who may not have - and who probably don't want - knowledge of the database structure, ways to access information. Informix says Storm means less work for MIS departments because users don't have to understand the database schema and can do more work themselves with the tools. Microsoft Corp Windows and some OSF/Motif versions will be available from the first quarter of next year. An Apple Mac implementation will follow by the middle of 1993 and an Open Look edition by the third quarter. Open Database Call (ODBC), Data Access Language (DAL) and Unix SQL access mechanisms will be supported under Windows, Mac and Unix environments respectively. A subsequent version of Storm will feature data entry mechanisms.

OBJECT-ORIENTED 4GL++, INFORMIX 6.0 RELEASES IN FUTURE GOODY BAG

At its Forum 92 European user conference, held on the shores of Lake Como in Italy, Informix also began to talk about near- and mid-term plans for its current 5.x series products. Releases of Informix 6.0 software will begin next year, the firm said. First up will be 4GL++, which, the company claims, is an object-oriented development environment featuring object language functionality, mixed procedural and event-driven programming and visual class libraries for user interface independence and code reuse along with multimedia connectivity. 4GL++ is due next year, although the company didn't say when, and will be added to its range of application development tools, which currently include Informix-SQL, Forms, Menus, 4GL/GX, Graphical 4GL, 4GL/RF and TP/Toolkit. Graphical 4GL is also to be enhanced next year with support for Windows and Motif: each will come with the ability to re-target applications for other environments. Other object-oriented products will be deployed by 1995, Informix says, including a distributed, visual programming environment for multiple relational and object databases. Dictionary services for tool-to-tool communication and application data sharing will be provided next year as part of Informix's framework and repository services. Extensions to SQL catalogues in the OnLine and SE database engines will be added, along with runtime application information and server-based repository services. Cooperative application development with shared data should be possible via the open repository strategy that Informix has outlined - see above. Application development and server support will be extended to include IBM OS/2 2.0 and Microsoft Windows NT next year - gateways to Oracle, Sybase, DB2 and object databases should also materialise. Informix says it will deliver a "mainframe calibre" version of its database server system next year, although fully-functional, distributed parallel database solutions based upon its technology aren't expected for at least two to three years. Partitioned data processing and end-user development tools are also expected within that timeframe, the company says.

FORUM '92 - INFORMIX

SO CONFIDENT IT'S "RAISING PRICES"

Philip White, president and chief executive officer of Informix is so confident about the company's financial prospects that he says it will be "raising prices." 1993 will be the "year of the tool," he said, whilst advising delegates from Europe that Informix is "not in the CASE business." White responded to speculation raised by Informix chief financial officer Harold Graham last month, saying that the company was unlikely to make any acquisitions, big or small, by the end of the year. This view was qualified by other officers of the company who said in some instances Informix could provide backing for startup firms, such as those which may have developed important technology but were unable to productise it due to lack of funds.

Europe

45% of Informix's current revenue stream is derived from the Americas, whilst Europe generates 43% and the Asia/Pacific region accounts 12%. White expects Europe to turn in around \$100m this year. Informix is now in its fourth financial quarter with nine month revenues standing at \$188m. European revenues are split between value added resellers - 7%, OEMs - 25%, distributors - 48% and government and corporate sales - 20%. Informix has around 1,300 staff worldwide and 12 European subsidiaries employing 350 people - 450 by this time next year, it says - with 160,000 licences in the region. A software migration centre will be opened in London next year. Informix was expecting a \$22m cheque last week for its share of the 60,000-user US Army RCAS contract which is worth \$1.6bn overall: it received an initial \$5m payment back in January.

Japan

Informix plans to open an office in Tokyo next year which will take over some responsibilities currently under the charge of its Hong Kong-based Asia/Pacific regional headquarters, like local support. White says Informix has had a passive (inactive) wholly-owned subsidiary in Japan for some five years. Informix will continue its marketing relationship with ASCII Corp and has toned down comments made in the Japanese press last month which were interpreted by observers as an intent to down-grade its ASCII relationship with a view to looking for additional partners. ASCII has a 5% stake in Informix, with an option to take a further 10%.

Strategic directions

As far as strategic partners go, Chuck House, senior vice president of research and development, says Informix is working with Microsoft on Windows NT, but not as closely as competitors Oracle Corp and Sybase Inc. Unix, House believes, will dominate the open systems market for the next five years. NT will become "interesting" next year, "useful" in 1994, "widely deployed" in 1995 and "robust" by 1996, he says, by which time it will be gaining market share fast. NT and IBM's OS/2 2.0 are in any case only "Unix redone," argues House, and in NT, Microsoft "hasn't realised the value of a consistent user interface, both spatially and syntactically." However, he sees a real threat from future object-oriented environments like IBM/Apple's Pink and Microsoft's Cairo, which will both be important, he says. To meet the threat that NT will pose, the Unix providers should back one thread of the operating system and unite around it, House argues. The big if is whether Sun Microsystems Inc would be prepared to back such an effort. Although, via its relationship with Unix System Labs Inc, Novell Inc can provide Unix with its first mass distribution channel that isn't controlled by a system vendor, House is sceptical of USL's binary aspirations. Apart from having to compete with the other half a dozen or so suppliers like Santa Cruz Operation Inc and Sun, USL has no real marketing experience. The advantage that it should build upon is its multiple ownership, House argues. The Unix community, many of whom own a piece of USL, could do worse than promote a kind of church/state relationship between USL (as Unix mentor) and the practitioners of statecraft (Unix providers) who are also believers.

Relational database companies will survive the onslaught of object-oriented technologies, just as hierarchical models have lived on side by side with the relational players, believes House. He sees relational and object models co-existing for at least the next 30 years. Informix's strategy, he says, will be to maintain a strong relational database and weaker object technology as core offerings, with common tools that can access both environments.

DATA GENERAL FITS AVIIONS OUT WITH "FIRST OPEN SNA"

Data General Corp, Westborough, Massachusetts has enhanced its IBM Corp communications products its AViiON Unix systems, including what it claims is the industry's first open implementation of IBM's Systems Application Architecture Common Programming Interface - Communications. The company says that its version of CPI-C ensures programs run on AViiON systems can communicate with applications developed for IBM's strategic SAA environments - MVS, VM, VSE - sort of, OS/400 and OS/2 for the present. CPI-C is a protocol-independent application program interface that enables developers to write applications that can be driven over multiple networks such as SNA, TCP/IP, Open Systems Interconnection and others. Data General says its IBM Communications product suite is designed to make AViiON Systems compatible and fully interoperable in IBM networked environments. The enhancements include faster network throughput, NetView support and Data General-added network management and monitoring utilities. Data General also says that SDLC and X25 can now share the same synchronous controller, saving users the expense of buying multiple controllers for wide area communications - again the company claims to be the only Unix-based systems vendor to offer the capability. The IBM communications product set includes SNA/SDLC, QLLC and Token Ring environments, PU 2.1 peer-to-peer networking, and Logical Unit 6.2 Advanced Program-to-Program Communications. Offerings include SNA 3270 Emulation, SNA 3270 Emulation in Distributed Mode for Workstations, SNA Remote Job Entry Emulation, Applications Program Interfaces including CPI-C, APILU 6.2 Run Time for AViiON Systems, and APILU 0, 1, 2, 3. SNA Transport links AViiON users over local and wide area networks with mainframes and peer processors in SNA environments. SNA Token Ring Driver provides connections to an IBM mainframe or peer processor via 16/4Mbps Token Ring. The products cost \$750 to \$3,000 depending on CPU type; all out now.

MAC-ON-UNIX SOFTWARE FOR RS/6000s

San Diego, California-based, Xcelerated Systems Inc says it will port its X-Windows-based Mac-on-Unix software Like to IBM's RS/6000 boxes, intending to make it generally available to IBM's worldwide customer base in the first quarter of 1993. IBM came to them with the notion, the firm says. It still has to be decided whether IBM sells it or how to avoid confusing users because of IBM's ties to Apple. Insignia Solutions Inc, of Mountain View, California, is also porting to the RS/6000, its last significant port for SoftPC 3.0, its personal computer emulation software. Insignia now needs to do a Windows package and 386 emulation to accommodate OS/2.

SCOPUS AND MERCURY TEAM ON QUALITY ASSURANCE TOOLS

Emeryville, California-based, Scopus Technology Inc and Mercury Interactive Corporation are going to start co-marketing their quality assurance tools. In January, the pair will integrate the ProTeam QualityTeam defect tracking system with Mercury's XRunner X-Windows test system running on Sun Microsystems Inc's Sparcs, IBM RS/6000s, Hewlett-Packard Co HP 700s and various client displays. The alliance is the first of a series of strategic partnerships Scopus is looking at to complement its functionality as far as automatic testing, test management, source code control, automatic phone call distribution equipment, project planning, software licence management and front-end design CASE tools.

ODI SETS NEXT DATABASE RELEASE

Object Design Inc is getting ready to ship ObjectStore 2.0, claiming that the enhancements made thanks to feedback from the likes of IBM, SunSoft Inc and NeXt Inc raises the benchmark by which all commercial object database products will be judged. It adds advanced schema evolution, enhanced heterogeneity, file database support, security authentication and CD-ROM support. The company says it has a 40% worldwide market share with 300 companies using its stuff.

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IBM previewed version 2.2 of its OSF/1-based AIX/ESA mainframe Unix offering at the AIX Expo'92 conference the week before last. New features include X-Windows compatibility, Motif 1.1.4, OSF/1.1, Posix compliance, new data management features to cope with up to 500Gb of file data.

IXI Ltd says it will be supplying Motif 1.2 for **USL's** Unix SVR4.2 desktop when volume shipments of the operating system begin.

Gearing up for its worldwide announcement on November 12, **Hewlett-Packard Co** has lowered prices on its high-end 3D graphics workstations: the HP 9000 720 CRX-24Z is \$25,500, down from \$36,500 - the 3D 720 CRX-24 is \$23,400 from \$25,400.

Novell Inc has introduced its NetWare 4.0 Software Developer's Kit for programmers that want to produce NetWare Loadable Modules or client software for the next release of its network operating system: that release is not expected until next March.

The first of 20,000 beta copies of Windows NT have started rolling out of **Microsoft Corp**: Bill Gates was showing off NT on a **DEC Alpha** machine last week to Wall Street people as potential buyers.

Intel Corp has 960CF, a version of the i960 RISC that offers reversible byte-ordering so programmers don't need to write to specific big endian or little endian parameters. **MIPS Technologies Inc** crossed this hurdle with the R3000A and R4000.

Motorola Inc's Computer Group, based in Tempe, Arizona, has released Motorola SV/88 R4, its commercial SMP version of Unix SVR4. The company claims it gives users a migration path for BCS/OCS SVR3.2 applications: Motorola is to resell Synchronise, a Motif-based management tool from **CrossWind Technologies Inc**, Felton, California, and **Applix Inc's Aster*x**.

Quoting an **IBM** vice president, **InfoWorld** says portions of Taligent's object-oriented code could be incorporated into OS/2 and AIX next year. Apparently which modules haven't been decided.

Companies that have won X/Open XPG4 branding include **Unix System Labs**, **DEC**, **ICL**, **Sun**, **Siemens Nixdorf**, **NCR Corp**, **Olivetti**, **Mortice Kern Systems** and **International Computers Ltd**.

InfoWorld's hit-or-miss gossip column, written under the Robert X Cringely nom de plume, claims **Novell Inc** agreed to be bought by **Microsoft Corp** and then backed out three months ago. The writer reckons Ray Noorda refused after he decided it wasn't enough money.

The Chorus Jam Session, a two-day conference for users of **Chorus Systemes SA's** Chorus/mix kernel takes place at the Hotel Nikko in Paris between November 17-18th.

DEC has new software that will allow **Sun** workstations to connect to its Network Application Support architecture, the middleware bridge between applications and platforms for users to access information anywhere on the network regardless of operating system or network topology. **NAS 250** for **SunOS** doesn't give **Suns** full **NAS** server capabilities, but allows **NAS** compliant applications on **Suns** to be accessed.

Simply put, **88open** either has to reinvent itself or hang it up. Phoenix-like, it is reportedly trying to become something in the nature of a superconsortium leveraging its test suite expertise into an organisation that ports and develops test suites for the likes of **Hewlett-Packard Co**, **DEC** and the **IBM/Apple Computer Inc** **PowerPC** crowd, and probably does the branding and handles ISV recruitment. Naturally this kind of thing would require a change of name. Sources say its looking for a decision by Spring.

Sun Microsystems Inc is reported to be readying new 3D graphic accelerators which will replace its impotent low-end GS and GT boards, further ammunition in its campaign against graphics leader **Silicon Graphics Inc**. The new boards are claimed to out perform GS and GT two-fold. Bundled with Sparcstation 10s, the boards will cost \$30,000 and \$20,000 respectively. One US paper says they're codenamed Leo and Spam.

And **Sun** says it now has PC-NFS software on a million personal computers.

IBM Corp's Distributed Relational Database Architecture, rival to the **SQL Access Group's** RDA, is beginning to find its way into third party products, and **Object Technology International Inc** and **XDB Systems Inc** each announced products to provide access from their database products to **IBM's** relational database managers - see page two.

In the UK, **Oracle Corp's**, UK marketing director, John Spiers, has defected to rival **Sybase Inc** to take up the position of Northern European marketing director: he will report to Vincent de Janero, international marketing director.

Flush with its **HP**, **Silicon Graphics**, **OSF**, **Intergraph**, **IBM** and **USL** wins, **Hudson**, Massachusetts-based, **Gradient Technologies Inc** last week scored another hit signing the **Santa Cruz Operation Inc** to embed its NetLS licensing software in the next release of Open Desktop. **Gradient** already has a SCO product. It will be used as the basis of the development and be overshadowed by its successor.

SNI has gone to **Veritas Software Corp**, for the its **Veritas File System (VxFS)** storage management technology which **SNI** will implement under its Unix SVR4-derived **Sinix** operating system. **SNI** says it will release a multi-processing version of **VxFS** next year. **Siemens** has also signed with **Santa Cruz**, California-based, **MetaWare Inc**, which will provide its **Intel Corp iAPX-86** back-end C compilers for **SNI's** **Intel** platforms.

NCR Corp reports that **Objectivity Inc's** Objectivity/DB object database management system is now up on its **NCR System 3000** computers. Menlo Park-based **Objectivity** also announced a partners programme for vendors of object information technology to promote provision of application development tools that increase software development productivity for object database applications. First participants are **DEC**, **Hewlett-Packard**, **NCR**, **CenterLine Software Inc**, **ProtoSoft Inc**, **Associative Design Technology Inc**, **Persistence Inc**, **Interactive Development Environments Inc** and **ParcPlace Systems Inc**.

Omri Serlin notes in his "FT Systems" newsletter that **IBM** is out to establish CICS as an industry standard, positioning it to compete with **USL's** **Tuxedo**, **Transarc Corp** **Encina** and **NCR Corp's** **Top End** and clearly threatening **USL** which is trying to do the same for **Tuxedo**. Having recruited **Hewlett-Packard Co** to the CICS cause (**UX No 405**), **Serlin** bets **DEC** is **IBM's** next logical candidate.

In the UK, **Pinnacle Data Systems Ltd**, Dunstable, Hertfordshire, is moving to larger premises in **Leighton Buzzard**, Bedfordshire, next month.

Tatung Science & Technology Inc, San Jose has retained **Bell Atlantic Corp's** **Bell Atlantic TriCon Leasing Corp** of **Paramus**, New Jersey to offer lease finance in the US on its Compstation line of 20MHz, 25MHz and 40MHz Sparc workstations, and forthcoming Super Compstations.

Computervision Corp is cutting another 700 jobs to take its payroll to 5,000.

IBM says its RS/6000s and **PowerPC** computers will run **Windows** applications under **AIX** by spring next year.

In the US, **Apple Computer Inc** has effected a new Unix value added reseller campaign, **Quick Start**, with the aim of broadening the market for its **Quadra AUX 3.0** servers by getting new applications on board. **Apple** is offering a year's free technical support and will reimburse VARs to the tune of \$6,000 if they buy three **Quadra 700 AUX** systems between now and January 31 1993 via its outlets.

NCR Corp last week committed to making its **StarSentry** - global network management system - OSF DME-compliant: its Unix System 3000s will support the OSF DCE architecture by spring 1993, it says.

The **Santa Cruz Operation** last week joined the OSF DCE fray, announcing an early availability programme for its SCO DCE product at **InterOp**. However the programme, based on OSF/DCE 1.0.1 and open to major accounts and ISVs, doesn't kick off until the second quarter of 1993. **SCO** expects to put **SCO DCE** on general release in the fourth quarter 1993.

In answer to questions from our readers, **Sun-Soft Inc** says, "yes," it'll be putting **Solaris 2.0-on-Intel** through distribution: it just doesn't know which channels yet.

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SUN RIPS UP PRICE BOOK WITH TSUNAMI CLASSIC...

Sun Microsystems Inc will be floating its brand new gunboats within sight of enemy flotillas this week ready to blow them out of the water with a savage attack on their price front. Sun's Tsunami forces reportedly have orders from Sun chief Scott McNealy to be "animalistic," ripping up the old price book and standing the computer industry status quo on its head. It is believed this order will translate into an entry-level Tsunami box that breaks not only the \$5,000 barrier but the \$4,000 barrier as well. At press time Sun was still chipping away at the price of the Tsunami Classic, so named because Sun expects it to become the standard by which all others are judged. It is unlikely to be more than \$3,995 and could be slashed even more before Tuesday November 10 when the box is officially launched. The 59 MIPS colour machine, available immediately, will come with a 50MHz Tsunami engine, the Sun/Texas Instruments Inc chip now renamed MicroSparc, 16Mb to 96Mb internal memory, 200Mb to 424Mb disk, two Sbus slots and 8-bit colour. The entry-level will have a 15-inch screen, new to Sun, capable of 1024 x 768 or standard Sun resolution. There will also be 16-inch and 19-inch models available. Sun will tout the Classic as two-to-three times faster than a top-of-the-line Intel Corp 50MHz 80486DX machine and even faster than the anticipated 66MHz Pentium. The Classic will reportedly do 4.6 MFLOPS, 26.6 SPECint and 21 SPECfp. An up-scale model, dubbed the LX, is expected to cost between \$8,000 and \$9,000. It will come equipped with 424Mb disk standard, expandable to 1Gb, a GX accelerator for graphics, CD-quality audio and ISDN standard. Both will run only the new Solaris 2.1 (UX No 409). To cut the fat out of the Classic's price tag, Sun will adopt a policy historically alien to the computer industry, the "no dicker sticker" that American car makers like General Motors and Ford are experimenting with. The Classic's street price, and only the Classic's, will not be discounted. How Sun gets its resellers to toe this line remains to be seen. Sun also expects to make money on the box by taking business away from high-end personal computers, particularly PC CAD accounts with the LX, and attracting a new set of customers lured by the promise that Tsunami, a better value, will outlive its depreciation schedule. A Sun Microsystems Computer Corp vice president, before biting his tongue, claimed it would be a "piece of cake" getting 100,000 units out the door in the next year, close to half the volume Sun currently does in a year.

...LOOKS TOWARDS YEAR 2000 WITH SPARC CENTER MULTI-PROCESSORS

Accompanying the little Tsunamis on their maiden voyage will be the great Sun Dragon, now renamed the Sparc Center 2000, the biggest beast Sun has ever tried to field and a clear signal it's after the Fortune 1000's distributed data centre. The number 2000 is meant to establish Dragon as the platform for database and corporate applications through the next ten years, a clear bid by Sun for the commercial sector and the rightsizing crowd. Sun expects Dragon to plow through the logjam holding back diffident customers from committing to Unix because pricey Unix servers can't handle the load. Eventually specified to be a 20-way symmetric multiprocessor, Dragon will initially appear only in configurations of two, four, six and eight Super-Sparc CPUs with volume deliveries beginning in April. A hundred gamma Dragons will go to key customers and ISVs in the first quarter. The Solaris operating system needs further tuning to handle a full-blown 20-way, 2,190 MIPS Dragon (UX No 409). Sun is relatively unconcerned about the non-appearance of the big Dragon. It estimates 90% of its users are looking for 8 CPUs and 1Gb memory anyway. Dragon's internal memory will range from 64Mb to 5Gb. Sun will claim it's the first machine capable of running an entire database out of main memory. Disk space will start at 4.2GB, progressing to a half a terabyte and then to a full terabyte next year. An entry-level two-CPU machine with 1Mb external cache for each CPU will be priced at \$95,000. Additional internal memory will run \$67 a megabyte. Sun will apply the little-used SpecRate performance measure to Dragon, a factor of how many "jobs" a machine can process. An 8-way 500-TPS Dragon reportedly has a SpecRate int92 of 8,047 and SpecRate fp92 of 10,600. Dragon's handlers will claim it's the new world champion at this kind of thing, besting previous title holders Siemens Nixdorf Informationssysteme AG and Hewlett-Packard Co. While not a fault tolerant machine or likely ever to be one, Dragon has automatic system recovery for fault resilience. In addition, Sun struck up a development relationship with Xerox Corp's Palo Alto Research Centre to produce a brand new high-speed packet-switching Xdbus for Dragon doing 640Mb per-second peak and 500Mb per-second sustained. Faced with a longer sales cycle for the Dragon, Sun expects to sell thousands of them in competition with Pyramid Technology Corp, Sequent Computer Systems Inc and Hewlett-Packard.

INTEL P5 NOW AT 40MHz -

"NEEDS A HEAT SINK AND FAN"

Our most up to date probing of Intel Corp's P5 or Pentium architecture - given that the company is sending different messages to different parts of the industry - has the processor running at only two thirds of its promised speed and needing both a heat sink and fan to dissipate the heat it is producing. Siemens Nixdorf Informationssysteme AG is understood to be most advanced at this stage in development of working parts. It has so far only managed to produce a sample P5 running at 40MHz - just two thirds of the 66MHz speed Intel intended - and cannot get the thing to work at a faster rate. We understand that even at 40MHz Pentium produces twice the heat called for in simulations and, embarrassingly for Intel, will require a heat sink and fan no matter what. People who know say the physics involved will allow Pentium to be turned around, but that Intel may have to back off from a 66MHz specification to 50MHz if it is to meet its revised March 1993 delivery date. Internally, Intel is thought to be finding it much harder and certainly more costly to produce new iterations of its iAPX-86 series than it expected. Intel will be showing off a bunch of Pentium-based prototype systems at Comdex Fall later this month during invitation-only, ten minute theatre presentations. Showing them is one thing, but will they be running - indeed what will they run - and will the audience be able to get close enough to count the number of pins on the things?

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NEW OFFICE SYSTEMS FROM NEC

In Japan, new NEC Corp's office systems, OP-X Models R-30, R-40 and R-50, support a variant of Unix known as OP-X/V. They include communications support for NEC's ACOS mainframe series, as well as previous models of the 3100 series. Prices are from \$30,000 for the R30 model and shipments start at the end of December. Dataquest Japan forecasts that while the office computer market at \$4,600m is currently double the size of the workstation market, the market will decline at 7% annually over the next few years to 1996, while Unix workstation shipments will grow at 29% a year over the period. Dataquest forecasts that the Japanese market for Unix systems will grow on average at 23% by number to reach a value of \$9,500m by 1996, against \$3,375m in the year to last March.

NEC MOVES TO CUT COSTS IN ITS CHIP OPERATIONS WORLDWIDE

NEC Corp is responding to the recession by moving to halve costs in its semiconductor operations, the Nikkei Industrial Daily reports. While increasing its yields in chip manufacturing, NEC plans to mount a cost-cutting campaign in its semiconductor plants, including overseas plants such as NEC Semiconductors UK in Scotland, from next March. Research and development will also be reviewed. With the depressed semiconductor market in Japan, NEC has re-assigned 100 people in its plants to different jobs, but has not cut jobs as its overseas competitors have done.

AFTER BEING RELEGATED TO FOURTH, SONY TRIES HARDER IN WORKSTATIONS

With new mid-range models, NWS5000TF and the NEWS5000TG in its News workstation line, based on the R4000 RISC chip, Sony Corp is mounting a new offensive in the Japanese workstation market, where it has fallen to fourth place from third, deposed by NEC Corp as the number three player behind Sun Microsystems Inc and Hewlett-Packard Co. It has formed a new division, the Computers & Personal Communication Sales Division, charged with expanding the number of Sony workstation dealers, and at the same time developing products wanted by large users. The new models are to be shipped from the end of November, and will be priced around \$30,000 for the TF model and \$45,400 for the TG model.

INGRES WINS MAJOR CONTRACT AS CANON SALES MOVES TO UNIX

Ingres Japan has scored a coup with Canon Sales Ltd, with the decision by Canon Inc to move its sales management system from a mainframe to a Unix system running Ingres. Canon Sales, which is the main dealer for Macintosh computers, also has a systems integration business with Digital Equipment Corp, NeXT Computer Inc and Hewlett-Packard Co equipment, as well as selling its own printers via a chain of retail shops called Canon Zero-One Shops. With its mainframe-based system, the machines ground to a halt at the end of each month as sales reports from shops and sales locations around the country had to be collated on the head-office mainframe. Unix workstations are now being installed between the mainframe and the personal computers, which formerly served as SNA terminals. These will act as database and mainframe servers and will take around 30% of the load from the mainframe. Ingres says it was chosen because of its advanced server architecture, its distributed database operation and management functions and its price-performance.

ZENITH REDUCES STAFFING BY 6%

Buffalo Grove, Illinois-based, Zenith Data Systems Inc has cut 180 US sales and marketing jobs - 6% of its workforce - in an effort to reduce costs across the company. Reshuffling its North America operations is, ZDS officials say, "part of an effort to make the firm more responsive to the personal computer Unix-based market worldwide... the company had to start at the heart of the problem the bureaucracy in the company." Management suffered the brunt of the reorganisation, with ZDS stripping out a whole department of sales managers. However, the firm says its international operations will not be affected by these measures and no further job losses are planned for the immediate future in the US. Other cost cutting measures are expected to be incurred in ZDS manufacturing divisions. Feeling the pinch after Compaq Computer Corp's recent price reductions, ZDS says it's also working to bring its pricing policies more in line with its competition.

SPAIN'S TRANSTOOLS CLAIMS THIRD PLACE IN DATABASES; IS READY TO BE ACQUIRED

TransTools SA, a Spanish software company backed totally by private capital, is competing with Oracle Corp, Informix Corp and Sybase Inc. Managing director Javier Ollero is quick to point out that TransTools is not a service company, but a product company that undertakes extensive research and development. From the start, it has placed its faith in Unix. TransTools' latest product is MultiBase, an applications development tool for relational databases that took four years to develop. The product has a client-server architecture for use with both MS-DOS and Unix machines, and supports such graphical user interfaces as Windows, Motif, and Open Look. Ollero asserts that TransTools has not involved itself in the price war. However, while Oracle and Informix have raised their prices, TransTools prices have been reduced. Nonetheless, prices are unlikely to drop further: TransTools made the mistake of launching its first database at too low a price, which lost it the prestige Ollero feels it deserves. TransTools' main customer is the public administration, but Ollero admits private enterprise has shown little interest, preferring the offerings of the multinationals. TransTools is open to the idea of being absorbed by a multinational, ideally a software and services company. In general, Ollero believes that European countries have similar opportunities to the US for developing innovative software, and says that many important ideas have come from small companies. Finally, he claims that TransTools holds second or third position in the Spanish market behind Oracle and Informix, with the impact of Sybase Corp and Ingres Corp being relatively muted.

TORCHRAVEN LAUNCHES VARPACK PORTFOLIO OF INTEROPERABLE OPEN SYSTEMS TOOLS

London, N1-based open systems integrator and developer Torchraven Ltd has announced its Torchraven VARpack portfolio of interoperable open systems tools and services for UK resellers. The total value of items included in the pack is over £9,000, but Torchraven will be offering the entire suite to resellers for £2,500 - a package it hopes will increase its 48-strong dealer base. The VARpack provides resellers with the means to develop guaranteed fully integrated open systems with provision for value added functions such as facsimile connections, integration with personal computers and built-in security, which are important for product differentiation. The modules included in the pack are as follows: Hasler AG's automated facsimile hardware and software that enables end users to send and receive messages directly from their workstations; Advanced Graphical Environments Inc's X Server software that integrates Windows, MS-DOS and X Window applications on 80386 and 80486 personal computers; Planar Systems Inc's and Unicord Inc's Unix terminal integration software that enables MS-DOS and Windows 3-based personal computers to be integrated into Unix environments; Novell's LAN Workplace for MS-DOS that enables personal computer users to link to other local area network users or remote hosts; Locus Computing Corp's personal computer interface for resource sharing between MS-DOS, Windows, Mac and Unix users; Schasiepen GmbH's Netprint for shared access to a central printer on a network; a TCP/IP boot prom - enabling MS-DOS and standard TCP/IP network software to be booted from a network server - and Ethernet board for diskless, networked workstations; and Unicorn security software for controlling access, activity logging and reporting. £1,000 worth of technical and sales training and technical notes, with an additional £1,200 of support is also included in the deal. Torchraven is targeting the VARpack at resellers in vertical markets such as local government, finance and retail; those developing applications for specific products; and computer departments in large companies that act as resellers within their organisations. The company has developed open systems for resellers and end users since its formation in 1986. Past customers include the Automobile Association, Digital Equipment Corp, Easams Ltd, the European Commission, GKN Plc, Hewlett-Packard Co, IBM Corp, the Ministry of Defence, Unisys Corp and Virgin Group Plc. Its 10 staff are divided into an Applications Development Team which works on one-off technical developments, bespoke application development and product evaluation; a Products Department that supplies integrated open systems products; and a customer services unit offering consultancy, support and training. It is currently working on a system for extending the security provided on Unix and local area network systems.

DEC ALPHA BOXES: \$15,000 TO \$600,000 -

SIX-WAY, 900 SPECmark LASER TO FOLLOW

Sources say DEC decided on the following tags for the Alpha RISC machines it launches this Tuesday: \$15,000 for the Sandpiper desktop and \$18,000 for the server. \$39,000 for Flamingo; \$70,000 to \$200,000 for Cobra; \$150,000 to \$600,000 for Ruby. Availability is supposedly 60 days. DEC watcher Terry Shannon says Lasers will go from a maximum four CPUs to six in the near-term future for a projected 900 SPECmarks total performance, a six-fold increase over the top-of-the-line VAX 7000 Model 640. He's also figuring DEC has an unannounced "modular computing" initiative that will ultimately see the Laser top out at 12 CPUs or more. DEC, he adds, has confirmed that more than 800 Alpha AXP seed systems are out with ISVs (we heard 500 elsewhere) and that 2,500 systems, including at least 100 Cobra platforms, will be in the field by the end of the year. Leaks from inside DEC say OpenVMS runs a lot better on the Alpha platforms than OSF/1 does. Other words from the inside has DEC trundling off to Comdex with a bunch of Alpha AXP Personal Computers for a technology demo of NT with third-party and DEC's own applications. It claims to be ahead of schedule with NT-on-Alpha, a relatively meaningless phrase since we don't know what the real schedule is. DEC says it's "considering" making the machines available to ISVs. Otherwise we hear the Alpha chips are in production as are certain of the Alpha machines. Meanwhile, DEC's new boss, Bob Palmer, told stockholders last week he intends to break the company up into strategic business units with profit-and-loss responsibilities. Managers will be named by the end of the calendar year.

...OFFERS NEW NETWORKING

Digital Equipment Corp has announced that it will offer a new hub backplane, code-named One Hub, in early 1993, plugging the gap at the high end of the DEChub 90 range and for the first time offering Ethernet, Token Ring, and the Fibre Distributed Data Interface, FDDI, at first, and Asynchronous Transfer Mode high-speed networking technology, when it becomes available, in one product. All modules for the DEChub 90 hub will fit the One Hub, which will be accompanied by the dual port router it has been developing with Cisco Systems Inc. In the meantime, it added five new low cost modules - three with fibre optic capability - and network management software for its Ethernet-based DEChub 90.

SAMSUNG CHANGES TACK ON PRECISION RISC, WILL DO ONLY SUPERSCALAR

Seoul, South Korea-based Samsung Electronics Ltd has changed its plans for Hewlett-Packard Co's Precision Architecture RISC and now says it will be working solely on superscalar versions of the chip, **Electronic Engineering Times** claims. It will be deriving proprietary low-voltage and highly integrated devices from the PA 7100 core design, rather than doing flow-cost versions of Hewlett-Packard's scalar architecture, as the pair originally said was intended. Samsung's initial plans were derailed by Hewlett-Packard's difficulties in getting floating point processing units out of Texas Instruments Inc. Samsung has been collaborating with Hewlett-Packard on some of the low-end PA 7100 machines, which are planned to appear next month. Samsung will be a reseller of both the machines and the RISC microprocessor.

CONVEX ADDS ENTRY-LEVEL C3800

Convex Computer Corp is seeking to undercut its competition with a new entry-level, upgradeable minisupercomputer, the C3800-ES, the first machine, the company claims, to offer GaAs technology to the low end market. The C3800-ES, pitched at the Cray Research Inc Y-MP2E and IBM Corp ES/9000 Vector Facility, is aimed at users unable to buy a full system at a stroke. Prices start at £500,000 for a configuration of just one or two CPUs to which additional processors and crossbar networks can be connected, to build up to the full eight-processor C3800 series. The machine comes with four to eight input-output processors; 128Mb to 1Gb memory; and runs under the Unix BSD 4.3-based Convex OS. Additional memory, input-output bandwidth and peripherals are also available with the initial purchase. Like other Convex models it offers features such as Auto Processor Recovery, Checkpoint Restart and Virtual Volume Manager; it is available immediately.

POWERPC TO REPLACE 88000

IN HARRIS NIGHT HAWKS...

IBM Corp has won 88000 RISC aficionado, Harris Corp, for the PowerPC RISC IBM is developing with Motorola Inc and Apple Computer Inc as part of an alliance aimed at the US Federal market. The agreement covers co-operative marketing of the Harris Night Hawk line of real-time Unix computers with the IBM RS/6000 to US government customers and involves Harris in helping IBM implement real-time capability for the RS/6000. Harris will incorporate the PowerPC into the Night Hawk line. IBM Federal Systems says that Night Hawk will enable it to offer customers "an extremely capable real-time computing system with the B-1 level security" many of them require. Harris sees the Night Hawk being combined with the RS/6000 to create a cost-effective secure client-server system. Harris does appear to be ditching the Motorola 88000 RISC entirely in favour of the PowerPC: it sees the pact as "a natural extension of our alliance with Motorola... PowerPC will offer a natural transition for our customers, a continuation of our Preplanned Product Improvement strategy."

...AS HARRIS LAUNCHES DATA CONTROL SYSTEM

Harris Corp's Fort Lauderdale, Florida-based Computer Systems Division has also introduced an integrated data acquisition and control system using its one- to eight-processor real-time Night Hawk with a range of VME-based input-output boards. The system uses a graphical interface to enable users to collect and analyse data and control and configure the system by using icons. The 70-plus boards now available on Night Hawk computers are the result of an OEM agreement with VME Microsystems International Corp of Huntsville, Alabama, coupled with Notebook/XE and LT/Control real-time data acquisition and control software from Laboratory Technologies Corp of Wilmington, Massachusetts. The system is aimed at laboratory test, control stations, simulators, power plants and process control. For applications requiring thousands of input-output points, an intelligent controller and separate VME chassis, connected to the Night Hawk via reflective memory, enables customers to configure very large systems without impacting the system CPU or VME backplanes with large numbers of programmed input-output transfers.

EO COMMUNICATORS COMBINE SERVICES

Mountain View, California-based Eo Inc looks like beating Apple Computer Inc to market with a personal communicator: the company has formally launched its first two products, the Eo Personal Communicator 440 and 880, handheld devices with facsimile, electronic mail, cellular phone and personal computing capabilities. The 440 weighs 2.2 lbs, the 880 4 lbs; they are based on AT&T Co's Hobbit RISC and the 440 runs at 20MHz, delivering "two to three times the performance" of a 20MHz 809386SL microprocessor. The EO 880 runs at 30MHz, delivering performance "comparable to" a 33MHz Intel 80486SX. They come with built-in messaging capabilities for exchanging electronic mail and fax messages. The PenPoint operating system and nine bundled applications are included in ROM. EO will first release the Personal Communicators in an extensive beta test programme beginning at the end of the year. All Eo users in the US will receive a free subscription to an AT&T EasyLink Services AT&T Mail electronic mailbox, accessible through an 800 number for sending and receiving electronic mail and faxes. They run on batteries for up to four hours and an optional extended-life battery pack for the Eo 440 provides up to seven hours of continuous service. Batteries can be recharged in 90 minutes. The applications are for facsimile, electronic mail, note-taking, calculation, scheduling, and address book management. Word processing, spreadsheet and database applications in development. They have 4Mb or 8Mb, expandable to 12Mb, and an internal hard disk option is offered. A high-speed serial port and cable offers exchange of data with MS-DOS machines, and a parallel port supports printers or an external 1.44Mb floppy drive. There is a communications port for optional cellular and other wireless modules, and a type 2 PCMCIA slot (two in the EO 880) for future expansion. The Eo 880 has a VGA and an SCSI II port for connecting external drives. Volume is set for second quarter 1993. The 440 with 4Mb is \$2,000; with 4Mb and internal modem it's \$2,500. The 880 with 8Mb and modem is \$3,300; the cellular phone option is \$800. The 440 will later take a 20Mb and the 880 a 64Mb disk, not yet priced. Eo has also signed with Sun Microsystems Inc's Sitka Corp to bundle Sitka's mobile networking products in the machines.

HOPES AND FEARS FOR SOLARIS 2.1

by William Fellows

After promising to make its latest Solaris 2.1 operating system available for Sparc RISC-based systems within 30 days (UX No 409), SunSoft Inc's European general manager, Peter Watkins, says the Sun Microsystems Inc software unit will deliver Solaris 2.1 source code for Intel Corp iAPX-86 architectures to its OEM partners during December. The partners, including AST Research Inc, CompuAdd Corp, Dell Computer Corp and Toshiba Corp, are expected to bring SunSoft's Unix-on-Intel to market from February next year, on 80486 machines with at least 12Mb main memory. All are currently working with Solaris 2.0 code, binary compatible, says Watkins, with release 2.1, which includes support for symmetric multi-processing. The Intel OEMs will productise the newer version and "in effect there will be no Solaris 2.0 for Intel, it'll be 2.1," says Watkins. Solaris 2.0 was only supposed to be a developers' release in the first place.

Slight variations in the implementations will occur because of differences in hardware construction - there is no standard method for configuring multiple Intel processors in a system for example - and the need for a range of device drivers. However, as long as manufacturers retain the standard Hardware Abstraction Layer (HAL), that SunSoft supplies with Solaris 2.1, there will be few inconsistencies, says Watkins. Although HAL contains just 1% of the total amount of code in Solaris, it incorporates important application programming interface specifications for maintaining consistent operation across computers from different makers. Watkins aims to have a software development environment, including programming tools and a C compiler, available to the Intel OEMs at the same time as Solaris 2.1. Improved graphics facilities, similar to those enjoyed by the Sparc community, will be provided in due course, he says, along with greater high-availability features, security above the current C2 level, and a better implementation of HAL. It is not just the OEMs that will bring Solaris 2.1 for Intel to market. Although no names have been mentioned thus far, Watkins says SunSoft plans to sign a bunch of distributors for the product (UX No 409), but not traditional mass marketeers, rather those with Unix and networking experience.

MS-DOS, Windows emulation

Sun's personal computer integration arm, the Billerica, Massachusetts-based SunSelect, already offers a software emulator - with an optional Sbus hardware accelerator board - for running MS-DOS and Microsoft Corp Windows applications on Sparc systems under Solaris at Intel 80486 speed. SunPC is based upon the SoftPC technology from UK firm Insignia Solutions Ltd, High Wycombe, Buckinghamshire, and SunSelect's own enhancements. However, SunSelect recently acquired the assets of Praxsys Technologies Inc, the Norwood, Massachusetts-based company that was formed by the team that developed Phoenix Technologies Ltd's VPix MS-DOS-under-Unix emulation environment after Phoenix abandoned that business. Praxsys' hottest property, Snoopy - which had already been adopted by Sun (UX No 385) - is designed to enable any Windows NT or Windows application to run on any RISC or iAPX-86 hardware (UX No 403). Using this technology SunSelect intends to make Windows emulation available for Solaris 2.1 in the second quarter of next year and will eventually deliver the stuff on multiple platforms. Watkins says SunSoft is happy to support what SunSelect offers in the way of MS-DOS emulation right now, but adds that if another firm comes up with better technology at a lower price "we'd be stupid not to do business with them." He says SunSoft is "not betting on any single technology," and will support other players, apart from SunSelect, too. The same, he says, applies to Windows emulation, and there are at least four companies now working on that technology, including the Apple Mac-to-Unix house Quorum Software Systems Inc and Bristol Technology Inc in Ridgefield, Connecticut. "If someone beats them [SunSelect] then we could go with them."

Although SunSoft - indeed Sun as a whole - has given little or no ground on the issue of direct support for the Open Software Foundation's Motif graphical user interface on its own Sparc systems, Watkins says the company is more than happy for third parties to supply it. The customer, as he points out, pays for the bundled Sun environment, including the Open Look interface, in any case. He says SunSoft would even welcome more third party Motif-based tools coming on board. The bottom line with Motif, he argues, is that Sun doesn't want to support any more toolkits. Indeed, SunSoft hopes the whole Open Look versus Motif issue will recede with the advent of object-oriented interfaces. Sun's own effort will appear in 1994 or 1995 as a part of Project DOE (Distributed Objects Everywhere), the firm's object-based software technology development with Hewlett-Packard Co. Between now and then, Open Look will get several more refinements. SunSoft has recently recruited Bud Tribble, architect of Next Computer Inc's Next Step interface, as vice president of end user software, to orchestrate its efforts in that area.

Sparc and Intel versions of Solaris 2.1 include support for multi-threading, in which tasks - processes not dependent on the outcome of another - can be distributed across different CPUs for simultaneous processing. The ability to break individual applications down into separate tasks - as long as the software is written in a suitably modular fashion - is known as application multi-threading, and will be supported in the next release of Solaris 2.x, according to Watkins. The Posix group is working on an industry standard for multi-threading architectures which should be completed by the end of the year (UX No 397) - SunSoft says it has implemented all specifications that have already been drafted. SunSoft's representative on Posix's PThreads (or P1003.4a) committee ensures that the firm doesn't go off and implement anything non-standard that is likely to put SunSoft out on a limb.

Fear

Sun claims to have developed 80% of Unix System Labs Inc's Unix SVR4 operating system, and SunSoft is disappointed that its former technology partner had chosen to go into competition against Solaris. USL has come up with its own desktop version of Unix for Intel and other architectures, SVR4.2, and via its partnership with Novell Inc in Univel Inc has recently brought to market the NetWare network-enabled version of SVR4.2 called UnixWare (UX No 406). However, given the size of Sun's business empire SunSoft doesn't see Unix SVR4.2 and its derivative(s) as a real threat to its market position. Out of its concern to maintain conformance to industry standards, SunSoft is more sensitive about the impact of USL's latest technologies in the plans of political organs such as Unix International (UI). Unix SVR4 is currently specified by UI's RoadMap as the foundation for the future direction of the Unix operating system. Like the majority of Unix manufacturers, SunSoft has already incorporated Unix SVR4 application programming interfaces (APIs), in its operating systems. However, enhancements such as the ToolTalk communications package, Open Look toolkits and Open Windows 3.0 environment have been added to its SunOS and Solaris operating systems, and other additions, including the object-oriented Distributed Object Maintenance Framework will be incorporated by springtime next year. SVR4.2 and UnixWare have their own extensions, and other Unix providers have added other functionality for particular CPU architectures and application areas. Even though most now provide base conformance to Unix SVR4, to get the best out of an application, independent software vendors provide tailored versions of an application targeted for different operating systems environments. The problem is that the additional functionality provided by Unix vendors - the bells and whistles which differentiate and position their products in the market - all require further APIs, rendering different Unix implementations incompatible in certain areas. Watkins' fear is that if UI extends the Unix RoadMap to include conformance with SVR4.2 - technology which UI helped conceive and encouraged USL to develop - SunSoft would have to implement a bunch of APIs which are inconsistent with its own operating system releases to maintain RoadMap conformance. "If the world and UI goes to SVR4.2 as the basis of the RoadMap, then Sun will have to consider its position very carefully," says Watkins.

Hinting perhaps of bringing subtle pressures to bear, Watkins reminds us that SunSoft has at least 1,000 engineers working full-time on its Unix implementation, many more than USL has in its entire organisation. Indeed, SunSoft believes UI will have to become more sensitive to future Unix issues because of the claimed lack of technological investment USL is making in Unix compared to SunSoft's endeavours. Watkins is also sceptical of UI's stated aim of developing a micro-kernel-based version of Unix. USL has already signed with French Unix house Chorus Systemes SA for its Chorus/Mix micro-kernel that will form the basis of this release. Watkins says Bill Joy's Sun Labs team has been looking at micro-kernel technologies under the auspices of Spring, Sun's blue-sky, rolling research effort. "They haven't found some of the performance capabilities that are expected from micro-kernels," he says, adding that "Solaris has a very modular kernel, and we've made some of the micro-kernel mistakes already."

CYPRESS MOVES ON TO 66.7MHz HYPERSPARC, JANUARY DELIVERY - 80MHz, 100MHz TO FOLLOW

Cypress Semiconductor Corp has scrapped the 55MHz version of its superscalar Sparc RISC, the HyperSparc, according to company official Bob Richards, speaking at a HyperSparc workstation conference in Zurich, Switzerland last week. Instead, Cypress is pressing ahead with the 66.7MHz implementation of its chip-set, which will be generally available from January in Tape Automated Bonding (TAB) packaged modules. HyperSparc's integer and floating point chips are said to be complete - the instruction cache unit will be finished within a week, the company says. The promised 80MHz HyperSparc is thought to be about four months behind the 66.7MHz part - Richards says there is a single completed 80MHz module in existence right now. The four month hitch has been caused by the need for a process change in cache memory, without which, Cypress won't get good yields for the part. A 100MHz HyperSparc is now being talked up for the end of next year. It will be introduced in a Multi-Die Packaging (MDP) format, which has been pioneered by San Jose, California-based nChip Inc.

Richards says it would be prohibitively expensive to package TAB versions of the 100MHz HyperSparc.

HyperSparc is Cypress' Mbus-compatible alternative to the Texas Instruments Inc superscalar SuperSparc chip (or Viking as it is often referred to), which Sun Microsystems Inc is using in its new generation of Sparcstation 10 systems. Mbus is Sun's multi-processing bus architecture designed for symmetric multi-processing Sparc systems. There have been well documented delays to SuperSparc and Sun has apparently built two crystals into its Mbus motherboards so that customers can upgrade their processor modules with higher clock-rate parts as they trickle on to the market, without having to dicker with clock timing and synchronisation. Sun admits to having shipped thousands of Sparcstation 10 Model 30s with 36MHz SuperSparcs, a "number" of Model 20s running 33MHz chip sets and "some" 40MHz Model 41s: all are uni-processors. Still awaited are systems with multiple SuperSparc modules, as Texas has yet to deliver the required dual-CPU modules and SunSoft Inc hasn't got its symmetric multi-processing operating system, Solaris 2.1 out of the door yet (UX No 409). A dual-processor Sparcstation 10, the Model 52, was to have used 45MHz SuperSparcs, but will now start life as a 40MHz affair, though observers wonder if Texas can even hit that mark. Sun is still clinging to its promised fourth quarter delivery date for the multi-processors (UX No 385), but admits that may slip to the beginning of next year.

Kicking Sun

Cypress hopes the dearth of SuperSparcs available on the market will allow it - in conjunction with Mbus board-makers such as Columbus, Ohio-based Pinnacle Data Systems Inc which is supporting Cypress - to leverage open the Sun-compatible market for HyperSparc. On a board, the Cypress chip-set is plug-compatible with SuperSparc Mbus modules, though the two cannot be mixed and matched. Cypress is worried however, that Sun may decide to turn off certain switches in Solaris that allow the operating system to run across systems configured with CPUs other than SuperSparc. Cypress claims HyperSparc test systems fitted out with Campbell, California-based Apogee Software Inc C and Fortran compilers "kick Sun into oblivion." Cypress also believes Sun has established a hush-hush research unit to investigate HyperSparc.

Talks

In the US, Pinnacle, which peddles almost anything and everything you'd ever want for a Sparc system will have board and system-level HyperSparc and SuperSparc products when it gets deliveries from the chip-makers. Its European outlet, Pinnacle Data Systems UK Ltd, is currently in talks with a European manufacturer to get its products made locally for the UK and continental markets. From December 1st Pinnacle will be offering a RAID storage subsystem for Sun systems. Pinnacle UK - partner, but not subsidiary of the US concern - says it has already sold about a hundred boards fitted with Cypress' standard 40MHz Sparc RISC set. A French Pinnacle unit - standalone or subsidiary of the UK outfit - should be up and running soon with three staff. Industrade AG, Wallisellen, is distributing Pinnacle hardware and IXI Ltd software in Switzerland.

ICL QUAD PROCESSOR DRS6000 "BY CHRISTMAS"

Meanwhile, the UK's ICL plc, a second-tier customer for SuperSparc, is possibly in the most fortunate position of the Sparc builders, because it is not shackled to the Solaris chain. It has had a symmetric multi-processing version of Unix SVR4 available for its Sparc-based DRS6000 systems on the market for some eighteen months now. Indeed, ICL promises a four processor DRS6000 Model 764, with two dual-33MHz SuperSparc modules, by Christmas. It is taking orders for uni-processor 33MHz system now, and says it'll move up to 40MHz CPUs "once we are comfortable with it." It says it can "get the performance required for now with four 33MHz parts."

...HYPERSPARC FOR DRS9000s AND MASSIVELY PARALLEL SYSTEM?

Interestingly, ICL is also one of about a dozen alpha sites for Cypress' HyperSparc - there are two unnamed companies in Germany also playing with the thing - indeed it reportedly found seven bugs in the chip-set for Cypress. Although it doesn't admit to doing anything more than "looking at the technology" presently, indicators suggest ICL may develop a closer relationship with HyperSparc in future. There's talk of a HyperSparc-based DRS6000 model, even a suggestion that ICL is evaluating use of the part for next-generation systems, possibly the DRS9000 line. ICL itself admits to be investigating a parallel processor architecture that will use HyperSparc, sources say this is likely to grow out of a 256 CPU parallel system that the company is now building under the auspices of the European Community's Esprit project.

CISCO RALLIES 12 FIRMS TO JOIN ITS APPI FORUM

Cisco Systems Inc, Menlo Park, California, has managed to pull 12 other companies behind it in its attempt to develop its APPI, Advanced Program-to-Program Internetworking alternative to IBM Corp's Advanced Peer-to-Peer Networking. The inaugural meeting of the APPI Forum took place at the InterOp show in San Francisco. Apart from Cisco itself, the members are Alcatel NV, British Telecommunications Plc, Cabletron Systems Inc, Cascade Communications Inc, Digital Equipment Corp, Hewlett-Packard Co, Infonet Inc, McData Inc, Netrix Inc, Proteon Inc, Sun Microsystems Inc's SunConnect and Synoptics Communications Inc. The Forum has also outlined its goal of submitting a full specification of the technology to the influential Internet Engineering Task Force, IETF, by the middle of next year. The group reckons that official approval will follow around two years later. But the group's urgency is underlined by its statement that a product demonstration is scheduled for next August's Interop. Presumably these will be reference implementations of the proposed standards that the IETF will be examining. Joining fees have yet to be set, but the Forum says that it is particularly looking for users to join its efforts.

IBM RENEWS STRATUS OEM PACT

Stratus Computer Inc is moving its fault-tolerant Unix and VOS machines to the Hewlett-Packard Co Precision Architecture RISC from the Intel Corp 80860, but IBM Corp has just renewed its OEM agreement with Stratus, which dates back to 1985. IBM sells the Stratus machines as System/88, but the new contract includes a cross-licensing agreement giving IBM and Stratus some rights to each other's patents, suggesting that IBM may have designs on developing its own fault-tolerant Unix for the RS/6000. The original OEM agreement was intended to be a stopgap while IBM developed its own fault-tolerant machines.

CHASTENED COGNOS SETS TO WORK PUTTING THE WHEELS BACK ON ITS WAGON

by Katy Ring

What is up at Cognos Inc? The Ottawa, Ontario company looks as if it is beginning to falter by reporting second quarter losses of \$1.1m on turnover down by 2% at \$30m. Company chairman Michael Potter blamed the slip on European performance and the Desktop Products division. Rob Engels, UK managing director, referred to the loss as "minor" and said the blame could not be laid at the UK's door as this subsidiary has exceeded its targets; rather it is continental Europe that is down on its figures. Engels attributes this to there being too many chiefs and not enough indians in the European operation. A restructuring is under way - John McIntyre, vice-president of European Operations has gone, and Europe is now being split into two: the UK, where Engels has recently been appointed managing director, and the continent, where Terry Hall is coming in from the Australian operation to take charge. To date chief executive Pappas has managed to stop Cognos going into a terminal decline, but has yet to prove that he can lead the company into a higher growth pattern. Instrumental to that type of growth is the company's penetration of the AS/400 and Unix markets.

Blaze of publicity

The company launched PowerHouse for the AS/400 in a blaze of publicity a couple of years ago, but has encountered problems that will be familiar to many software companies attempting to break into this market. Firstly, the AS/400 is a pig of a machine for C-based tools vendors to work with, even with IBM's help, and performance has been a problem with the product. This is being redressed in version 5.87, which has a complete new expression engine inside and is scheduled for release next month. Secondly, the IBM Agent market does not welcome untried and untested (new) products with open arms, and Cognos has been attempting to prove itself in this market. Its tactics up to now have been to in direct sales and in bringing existing value-added resellers (typically Hewlett-Packard Co, Digital Equipment Corp and Data General Corp channels) into the AS/400 market. The slog, however, is slow and the ghost of RPG is proving hard to lay to rest. As Engels puts it, despite having had a product for nearly two years, Cognos is still at the "toe in the water" stage with the AS/400 market. As for Unix, here Cognos has been able to make use of third parties (it has no direct sales force for Unix products) but says the going has been tough because of the recession as a PowerHouse Unix sale tends to occur with the new purchase of a Unix box with applications. To try and address these problems, the New Business sales team, which has hitherto been organised around operating system environments, is to refocus on the requirements of specific industry sectors. One slight problem that Cognos has created for itself with Unix in Europe is its failure to recognise those lucrative government markets where the national champion is often the favourite - to date Cognos has declined to serve the ICL Plc, Compagnie des Machines Bull SA and Siemens AG environments. Engels says that Cognos is now in the early stages of negotiation with ICL and Bull and the company is engineering a Unix System V.4-compliant product that will make it economically more reasonable to appear on a wider variety of Unix environments. Meanwhile, the problem with the Desktop Division, according to Engels, is that its targets were unrealistic for products that have not yet achieved critical mass. This is being solved by getting the third-party channels to sell PowerPlay and Impromptu on a straight distribution basis rather than on a value-added basis. All in all, the company believes it is in good shape and is positioned for growth. At least it seems aware of where its problems lie, and that is a good start.

SHAKE-UPS AT INGRES AND SYBASE

ASK/Ingres and Sybase Corp have reportedly undergone management shake-outs and implemented restructuring initiatives in a move to respond to the changing nature of the software industry. Ingres is now under the firm charge of ex-DEC European chief and now ASK Group president Pier Carlo Falotti, replacing Dennis McGinn who has taken over responsibility for developing strategic partners for the company. Falotti also plans to divide the business into two separate divisions - a database unit and one for software tools - later in the year. In a similar move, Sybase has set up a tools technology group and a database unit. Sybase executive vice president, Bob Epstein, will head up the the tools unit and Mark Pine, former Sybase vice president of engineering, will take charge of the database division. The company has also established a Pan-European management division to manage its European interests under the charge of Peter Albers.

ALTOS HAS NETWARE FOR SCO

Acer Group Inc's San Jose, California-based, Altos Computer Systems division has branched out into software and introduced two packages designed to integrate Novell Inc NetWare with systems running Santa Cruz Operation Inc Unix. According to the company, Altos NetWare for SCO Unix is the first shrink-wrapped NetWare implementation for SCO platforms to hit the market. The software sits on top of SCO's LLI driver suites and allows SCO Unix-based systems to operate as NetWare servers using Novell's IPX/SPX protocol. An Altos NetWare for SCO Unix licence is priced from \$3,000. Also new is the Altos Application Executive (APEX), a front-end add-on for Windows 3.1 into SCO Unix. Using UK, Leeds-based VisionWare Ltd's PConnect software, Altos has extended the the stuff to include the IPX/SPX protocol. APEX allows users to hot link between Windows and Unix applications, enabling data to be cut and pasted from either environment. Data updated in one environment will automatically be updated on the other, Altos says. APEX for Windows 3.1 is priced from \$1,200 to \$12,000 depending upon the number of clients.

WIND RIVER DELIVERS MICROWORKS

Alameda, California-based, Wind River Systems Inc has now introduced its software development environment for high-performance embedded systems, MicroWorks 1.0. The software was developed using the company's real-time kernel technology, VxWorks, which offloads Unix applications from the host via TCP/IP, Ethernet or NFS, to a standalone VME-based system to be executed in real-time (UX No 318). According to Wind River, MicroWorks enables users to transparently develop applications on the Unix host with a view into the target embedded system. The software incorporates a remote debugging tool called VxGDB at the host and a target debugging agent, VxMon. The debuggers allow users to download and debug source code in real-time. MicroWorks will be available for Sun Microsystems Inc Sparc, Intel Corp i960, MIPS Technologies Inc R3000/R4000 and Motorola Inc 88000 architectures - support for IBM hosts will be added by the end of the year. Currently in beta test, MicroWorks is scheduled for release the first quarter of 1993 - it is priced at \$12,500.

RDI LAUNCHES SPARCSTATION IPC- BASED COLOUR PORTABLE AT \$10,000

RDI Computer Corp, San Diego integrator of Unix portables, is going after the - relatively - low-cost colour portables market with the BriteLite IPC, which combines Sun Microsystems Inc's Sparcstation IPC motherboard with an active matrix thin film transistor colour display and a new 450Mb hard drive for \$10,000. The disk is a slimline 3.5" unit and the machine comes standard with the 15.7 MIPS 25MHz CPU with 8Mb of main memory expandable to 48Mb, 3.5" floppy and 103-key keyboard with all the functions of a Sun-4 desktop workstation keyboard.

SYBASE MAPS OUT THE FUTURE WITH SYSTEM 10

Sybase Inc, Emeryville, California, has started talking about extending the client/server architecture of its relational database, and last week revealed its Enterprise Client/Server Roadmap. Under the name Sybase System 10, the company will release a series of modular, integrated products over the course of the next year. At the heart of System 10 sits the Sybase SQL Server 10 product, basically the core database server which the company has been shipping since 1987, and now out at around 5,000 sites worldwide. New features include ANSI SQL89 compatibility, increased control and security features, and consistency checking and backup. Added next year will be the Sybase Navigation Server, OmniSQL Gateway, Replication Server, and a number of Control Server products. The Navigation Server, developed with the help of NCR Corp, extends the SQL Server to make large scale and multiple databases appear as a single virtual database. It will exploit the power of massively parallel processing architectures, such as NCR's 3600. OmniSQL Gateway provides location, vendor and stored procedure transparency to applications, and allows for the integration of existing applications within a multi-vendor database environment. Replication Server will use a store and forward protocol to ensure networked transactions are completed in the event of system failures. It should avoid the bottlenecks associated with two-phase commit, claims Sybase. The Control Server family of products includes an SQL Monitor for the remote monitoring and tuning of client/server applications, a Configurator for capacity planning and design monitoring of databases, and a Backup Server for large database backup and recovery. Beta testing starts during the first quarter of 1993, with commercial availability expected by year-end. Current Sybase users under maintenance contract will receive the SQL Server 10 release and Backup Server free, other pricing not yet set.

OBJECTIME'S REAL-TIME OBJECT TOOLS

Ottawa, Canada-based, ObjecTime Ltd, a Canadian Bell Northern Research Inc subsidiary, claims it has developed the first Unix object-oriented CASE tool for real-time applications, ObjecTime. The company, which opened its doors for business a month ago, was spun-out to market the two year old BNR technology developed for the telecommunications market. Headed up by ObjecTime president, Jim McGee, the company is staffed by 14 BNR ex-employees. According to ObjecTime, the software allows users to create executable object analysis and design models graphically, without being committed to programming languages - C++ or ParcPlace Software Inc's SmallTalk - early on in application development. This makes application specifications more modularised, flexible and easier to modify, it says. ObjecTime features include TCP/IP network communication and object identify functions, object behaviour calls, inheritance, containment and encapsulation capabilities. Vying for a position against the likes of Cadre Technologies Inc, ObjecTime says its tool - unlike TeamWork from Cadre Technologies - was initially developed as a real-time object CASE tool and is not a traditional CASE kit with object extensions. The software is targeted at the telecommunications and aerospace markets. ObjecTime is available on Sun Microsystems Inc's Sparcstations - support for Hewlett-Packard Co's HP 700s and IBM RS/6000s will be available first quarter 1993. A single user licence costs \$20,000 inclusive of training and a year's maintenance. +1 613 591 381

PERSPECTA DEBUTS PRESENTATION SOFTWARE

Start-up Perspecta Software Inc, Berkeley, California, has introduced Perspecta Presents, a \$300 presentation management package for Unix. Wedging itself against DEC's DECpresents and Island Graphics Inc's IslandPresents, which go for \$795 and \$1,000 respectively - Perspecta says its looking to steal as much as 20% of the market away from its competitors. Running under X Windows it includes word processing, graphics, imaging, multiple background functions, view graphs, and on-line slide shows. The software also comes with a tool command language kit and a graphical user interface. Scheduled for release by the end of the year, Perspecta Presents is available on DEC Ultrix, Hewlett-Packard Co's HP-UX, IBM AIX and Sun Microsystems Inc's SunOs platforms. +1 510 649 4900

UNIX INTERNATIONAL FORMS MICROKERNEL WORK GROUP

Swearing that the deck isn't stacked in favour of Chorus Systemes SA, Unix International has assembled a Kernel Architecture Work Group including Amdahl Corp, Bellcore Technologies, Fujitsu Ltd, Hal Computer Systems Ltd, Intel Corp, Locus Computing Corp, Motorola Inc, NCR Corp, NEC, OSSI, Oracle Corp, Sequent Computer Systems Inc, Tandem Computers Inc, Unisys Corp and of course Chorus. The Open Software Foundation and its sponsors IBM Corp, Hewlett-Packard Co and DEC have also been invited to participate. Academics from Carnegie Mellon, Cornell, New York University, Stanford, UCLA, Yale and the UK's University of Newcastle, active in microkernel research, will provide input and review the work. UI president Peter Cunningham said that in plotting the architectural direction of Unix for the mid 1990s the group will consider a number of object-oriented and microkernel technologies including Amoeba and Mach. It seems there might be a move afoot to align the internal interfaces of Mach and Chorus and bring some compatibility to the microkernels. The work group needs to address issues of time-to-market, value add, parallelisation, distributed nodal architecture, fault tolerance, high availability, interoperability, performance, reliability, scalability and serviceability. Its timetable calls for it to have its requirements back to UI by next July. Sun's micro-kernel views, see page 7.

AT&T BRINGS HOME ISDN CHIP

AT&T Microelectronics has bought back worldwide marketing rights in the ISDN chip it developed for Sun Sparcstation 10s and has contracted with CoSystems Inc to sell and support the widget. Properly called the T7259, the chip supports desktop video and video teleconferencing, multimedia communications, screen sharing and collaborative work with remote users, voice mail/e-mail integration, computer-assisted telephony and ISDN fax. AT&T wants to insure its proliferation. CoSystems will handle volumes of up to 500 units. It is priced at \$95 in quantities of a thousand or more. +1 408 748-2190

METAPHOR DEVELOPS UNIX DATABASE LINKS

Metaphor Computer Systems Inc, the company IBM bought off of Dave Liddle when it was setting up Taligent with Apple Computer Inc, is expected to enter the Unix arena this week by hooking its decision support software to the Sybase Inc and Red Brick databases. The company has added the RS/6000 Database Gateway for Sybase SQL Server to its Data Interpretation System. This gateway provides direct DIS network-attached access to Sybase bases on the IBM machine as well as on a variety of other hardware platforms and operating environments, DIS access to Sybase can be local, LAN-attached or remote. The implementation is Sybase Open Client/Open Server-compliant, opening the door to other products meeting this standard to be accessed including Red Brick Systems' Warehouse database system.

METRON OFFERS OBJECT SOFTWARE FOR MULTI-PROCESSOR DEVELOPMENT

San Francisco self-funded start-up Metron Technology has been working for a year and a half to develop some innovative, object-oriented, automated testing and performance debugging software for developing multi-processor and distributed Unix applications. They're still six months away from product reckoned to run initially on Sun 3s and 4s, Sparcs, RS/6000s and DECstations. Metron is playing its card very close to its chest and won't say much about the software other than it doesn't emphasise regressive testing and will run on multithreaded operating systems. It eventually expects to embrace implementations of parallel architectures. The people involved are apparently drawing technical inspiration from Carnegie Mellon University's PI project. The toolset will provide a development environment that facilitates complete observation of the software under test and a suite of analysis tools. Its architecture is platform, operating system and compiler-independent and adaptable to multiple languages. It will support C first, then C++. Users should be able to customise the product and build user-specific testing, validation and diagnostic tools. +1 415 696-8030

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UK firm **IXI Ltd**, Cambridge, will have CD-ROM versions of its **Motif-on-Sun** software out at the beginning of next year and is looking to add session management functionality to **X.desktop** when it can.

Microsoft Corp says it is now shipping **LAN Manager 2.1a** for Unix Systems to OEM customers: the new version adds a **Windows Network Administration** program that gives administrators a unified tool for managing multiple servers from a Windows-based desktop, the **LAN Manager Print Station** that enables an MS-DOS- or Windows- based micro to be designated as a print server, and support for OS/2 2.0 clients.

Unix System Laboratories Inc, Summit, New Jersey has retained **Software Leasing Corp** to give customers up to 60 months to finance the initial licence fees for its products.

The **Microprocessor Report** has heard the rumours about **NeXT** planning to introduce an 88110-based box, but says "the relatively compatible bus and early silicon of the [IBM PowerPC] 601 might cause them to switch."

Univel Inc and its **Novell Inc** parent are sharing the same order entry system. Since **Novell's** fiscal year closed on October 31, **Univel** didn't want to do anything to louse things up for **Novell**. So it refrained from inputting any of the orders it received since **UnixWare's** debut until Monday November 2. Meanwhile, **Univel** will be launching in the UK, France, Holland and Germany the week of November 16. Still no localised versions of **UnixWare** until the first quarter of next year. That same week the stuff should appear at 20 to 25 **Comdex** booths in Las Vegas including 10 OEMs. **Unisys** should be one of them.

Sun Microsystems Inc and **Kalpana Inc** have cut a joint technology pact to develop products addressing network congestion on Ethernet networks spanning large numbers of high-speed workstations. The agreement promises to leverage **Kalpana's** strengths in Ethernet switching technology to boost **Sparcserver** network performance and availability. The companies said **Kalpana**-designed **EtherSwitch** technology can multiply **Sun's** server-to-server and server-to-network capacity by providing multiple dedicated 10Mbps connections to each **Sun** server or workgroup.

Amy Wohl, doyenne of the consulting set, who calls a well-positioned product a thing of beauty and just as rare, is kicking off a series of **Positioning Workshops**. Topics include identifying available product positions, brainstorming, understanding the competition, pricing, distribution, validation, feedback, advertising, industry experts and influencers. Enrolment will be limited to 35 participants. Interaction is required. Price is \$800 a head with some discounts available. Venues are: Atlanta in December, Boston in January and Santa Clara in February. +1 215 667-4842

Integris, Billerica, Massachusetts, has added graphical user interface support for IBM Unix applications integrating **Easel Corp** and **Wall Data Inc's** GUIs - **Easel** and **Rumba** respectively - as front-ends. +1 508 294 7963

On Tuesday, **Hewlett-Packard Co** will announce a new suite of multimedia tools for the PA RISC 700 series workstations. The tool kit designed for collaborative workgroup applications includes text video functions, teleconferencing, still picture and graphics capabilities.

Bill Gates says **Microsoft Corp** is looking to have **Windows NT** on all "popular RISC platforms by 1995," including **Sun Microsystems Inc's** Sparc, **Hewlett-Packard Co's** PA RISC and **IBM's** RS/6000s. Things don't look so rosy for **DEC's** Alpha.

As expected, troubled hardware vendor **DEC**, has announced price cuts of between five and 47% on a wide range of products including workstation memory, networking, printers, X Window terminals and disk drives. The company has essentially eliminated annual volume discounts for "commodity" hardware products in favour of low-end pricing policies for its sales channels and end-users. It has also scaled down payouts for redundancies, so as not to exceed the \$1.5bn restructuring charge it was hit with two months ago.

Hewlett-Packard Co is likely to steal **DEC's** thunder and whisk away its number two position as the second largest computer vendor in the US by 1994, **Hembricht & Quist** analyst **Robert Herwick** says. It's a bitter pill for **DEC** to swallow, with predictions tallying **HP** surging ahead with hardware revenues of \$17.9bn compared to **DEC** with \$14.3bn for the end of the fiscal year 1993.

IBM says it plans to "blow **Intel** out of the water" at **Comdex** later this month where it will demo a 100Mhz high speed clone version of **Intel Corp's** 80486 microprocessor, **Computer Reseller News** reports. **IBM** says the chips will roll-out sometime next year.

US distributor, **Ingram Micro Inc**, has paid up its membership fees and joined **Unix International**: **UI** is hungry for new distributors and ISVs to follow suit.

Unix System Labs is rumoured to be sitting on top of a major geopolitical deal that will hand **USL** its next joint venture and put **Destiny** on the long march to widespread government-backed adoption.

Reportedly the powers-that-be have settled on a replacement for **Ed Palmer** to run the **Uniforum** association of Unix users: the name we've heard is **Richard Jarros**, formerly of **Data General Corp**.

Microsoft Corp's managed to squeeze **NT** on to 14 diskettes, a sight fewer than the 32 for **OS/2**. There are **HALs** or **Hardware Architecture Layers** for **Acer**, **ALR**, **AST**, **Compaq**, **NCR**, **Olivetti**, **ICL** and **Wyse** 486 machines.

Sun was expecting to deliver hundreds of **Tsunami** boxes around the world the first weekend in November and to have thousands going out the door the beginning of December.

Tsunamis will be able to run **PC** programs complements of **Insignia's** **SoftPC**. The software will be available direct from **SMCC** as well as from **Sun Express** and **SunSelect**, sending a clear message it wants to be a one-stop shop for corporate customers.

Apparently **Sun IPX** and **IPC** boxes will be upgradeable to **Tsunami**-strength with a motherboard swope.

Sun intends to set up a **Sun Integration Service** as part of its field organisation as a way to create demand and route business to the system integrators it's partnering with. It's meant to help customers plotting their first move into client/server. It's also a way to exploit the pre-sales and sales support talent they have inside.

Parallelising compilers reportedly won't be needed to get performance out of a **Dragon** running multiple applications.

Sun will be getting parallelising technology from **KAI** that will decompose code and run it on multiple processors.

Sun will claim **Dragon's** architecture makes it the most expandable Unix server in the business, capable of piling on memory, I/O, disk and CPUs and clearing up a lot of the bottleneck issues. Each of **Dragon's** dual-CPU systems board have an I/O channel or ten I/O channels to a 20-way machine. Since each is an Sbus, four cards can be added in each for a total of 40 I/O channels in a fully rigged machine.

The **X Business Group**, the market research house, is trying to stir up support among vendors for another X consortium besides **The X Consortium**. It seems the original X Consortium, scheduled to get a new director in January and slowly dissociate itself from **MIT** over the next year, isn't evolving fast enough into a fleet-footed marketing vehicle or even churning out saleable technology quickly enough to suit everybody. That's where the proposal to set up an **X Industry Association** comes in. They're out looking for seed money and a board now with a deadline of December.

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ICL PARALLEL DATABASE SERVER TO RUN CHORUS MICROKERNEL

ICL plc is hoping to pick up the baton and "bring parallel processing into the mainstream" sometime in 1994 with the release of a relational database engine for commercial transaction processing that can scale up to 256 superscalar Sparc RISC chips. The parallel system, now in prototype, will run the Chorus/mix operating system from Paris-based outfit Chorus Systemes SA, a microkernel version of Unix SVR4 which was designed from the outset to support distributed shared memory solutions and Multiple Instruction Multiple Data architectures. ICL's parallel engine will effectively productise work that has been going on since 1989 under the auspices of a European Community Esprit II project known as the European Declarative System, EDS. Groupe Bull SA, Siemens Nixdorf Informationssysteme AG and ICL - plus associates - participated in the research effort, which was backed by £20.5m of EC money and is now reaching its conclusion. Four new projects will follow on from EDS, but under Esprit II intellectual property rules, each consortium member can now take the results of the project and use them commercially. ICL intends to optimise the server to run corporate relational databases at the high-end of the commercial market, and enable it to link into an organisation's existing systems, including mainframes, which could be used as clients. The development focus, on "relational database and on-line transaction processing performance" is not aimed at the supercomputer sector. The ICL machine, not expected to appear on the market until 1994, will utilise up to 128 pairs of superscalar Sparc RISC chips - one CPU for the application, the other to drive the network - each with 64Mb memory. Key to the architecture is an ICL-designed high-speed interconnect link for the processors, which will allow database queries to be spread over multiple CPUs and data to cover multiple file systems. ICL is currently evaluating Texas Instruments Inc's SuperSparc - supplied by TI for ICL's latest DRS6000 Unix boxes - and Cypress Semiconductor Corp's rival HyperSparc implementation (UX No 410).

Agreement due

ICL's Corporate Systems Division in Manchester is expected to reveal further details of the parallel system when it formally announces a commercial agreement for the Chorus technology - already used in the EDS project - next week or soon after. Support of the relational database players is crucial to the development of a market for commercial parallel systems, ICL believes. It is already working with Ingres and Oracle on prototype databases for its server, which will be able to cope with SQL queries from a variety of sources including OpenVME systems and DRS6000 Unix boxes. Until now, ICL says, commercial users have had to re-engineer applications to take advantage of parallel CPU 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. Once they become available, SQL queries from multiple sources will be able to take advantage of parallelism without the need for users to re-design their applications. "That is the watershed," the company says. Oracle and Sybase have already set in motion plans for parallel-enabled versions of their respective database engines, and other players are expected to follow suit. ICL aims to be at the forefront of a new wave of parallel systems designed specifically for commercial transaction processing. Gartner Group expects the market to start to gain momentum from 1995/96. ICL parent, Fujitsu Ltd, had no hand in development, but is keeping tabs on its sibling's progress. Once complete, Fujitsu could negotiate a marketing deal for the technology, although it is currently occupied by its own Sparc-based parallel processing effort - see page two.

UNIX LABS BEATS OUT IBM, MICROSOFT TO WIN CHINA FOR SVR4.2

Michael Miracle's trip to China late in the summer (UX No 398) seems to have paid off handsomely for Unix System Labs Inc: the People's Republic of China is going SVR4.2. USL has been discreetly nurturing the unprecedented deal for the past two years, out-maneuvring IBM's attempt to get OS/2 adopted. Destiny will reportedly become the backbone of China's infrastructure, used in its government, communications, banking, transportation and energy systems. As part of the deal USL gets its second international subsidiary. The Beijing-based Unix System Technology China Ltd has been set up in collaboration with the responsible government agency, the Ministry of Machinery and Electronics Industries (MMEI). See page five.

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DEC ENDORSES SVR4 IN EUROPE, OLIVETTI MIPS LINE "WILL GO"

As if its life depended on it, Digital Equipment Corp launched its first generation of 64-bit Alpha AXP machines worldwide last week, saying competitors like Hewlett-Packard Co and Sun Microsystems Inc cannot hope to match it with their new 32-bit offerings - see page three. The boxes run OpenVMS - OSF/1 won't be delivered until next March at the earliest - whilst availability of Windows NT on Alpha is dependent on Microsoft Corp's release schedules. As expected (UX No 386), Alpha AXP boxes will also feature - at least in Europe - Unix SVR4. Ing C Olivetti & Co SpA, DEC's European Alpha partner, will port Unix System Labs Inc's operating system to the DEC Alpha machines it is to resell under its own name from next May. Olivetti vice chairman Elserino Piol indicated that the Italian firm may also move Destiny - Unix SVR4.2 - as well as UnixWare on to its Alpha hardware in due course. DEC made no mention of the Unix SVR4 tie-up in the US (except in pre-launch analyst briefings), though Peter Miller, director of Alpha AXP business for DEC Europe, admitted all options were being considered. DEC "hasn't decided whether it will sell Unix SVR4 itself," he said, but it will "bring Unix SVR4 applications to market." Both DEC and Olivetti hung out warning flags for their other CPU architectures. DEC, which will "make it easy for users of dead end systems to move to Alpha," says it is still committed to delivering RISC/Ultrix systems based upon the MIPS Technologies Inc R4000 processor next year. But to help users make the transition from VAX architectures to Alpha, the company is expected to unveil 35 open systems migration centres around the world at next week's Open Forum conference in Utrecht, Netherlands. Meanwhile, Olivetti's relationship with OEM supplier Pyramid Technology Corp is given just two or three years more years of life. When the high-end MIPS R3000-based Pyramid servers that Olivetti re-badges as the LSX 6500 series run out of steam, Piol said Olivetti will not step up to future generations of MIPS chips. Other MIPS RISC-based systems in Olivetti's stable such as the M700-10 look destined to go the same way. Indeed, by 1994, Olivetti expects to be marketing Alpha systems built to its own design. Olivetti will continue to supply Hitachi Ltd mainframes in Italy, though it expects top-of-the-range Alpha systems to take sales away from the Japanese kit. Olivetti, which supplies personal computers to DEC, expects Alpha and Intel Corp processors will each account for 35% of its hardware sales from 1995, computer printers will account for 20% and other products 10%. DEC currently has a 4.2% stake in Olivetti, due to rise to 10.3% in 1994. Details page three.

CINCOM MOVES SUPRA TO UNIX

In a move to join the distributed computing market, Cincinnati, Ohio-based, Cincom Systems Inc has revamped its mainframe Supra database manager to run under Unix and on local area networks. At the same time, Cincom announced that it has had to delay shipments of the new database until March 1993 - it had originally slated October as a release date. The company troubled by problems of getting the database off the mainframe and running on local area networks and Unix, didn't expect the modifications to be so extensive. The new look database called, Supra Server, runs on Sun Microsystems Inc SunOs, Hewlett-Packard Co's HP UX, DEC Ultrix, and IBM AIX platforms. Its features include forward and rollback recovery and hot backup, which allows users to backup the database without shutting it down. Supra Server supports LAN protocols from Novell Inc's NetWare, Microsoft Corp's LAN Manager, and Banyan Systems Inc's Vines. Available now, Supra Server is priced from \$2,000 to \$150,000 depending upon the operating system.

CA SHOWS OBJECT TOOLSET

Computer Associates Inc previewed its object-oriented workbench, CA-Visual Objects, the week before last at CA Technicon '92. Formerly codenamed Aspen, the technology will be used in the company's Cobol and fourth generation language products alongside Clipper - CA's database development language. CA-Visual Objects includes class libraries, based on its recent acquisition of Glockenspiel's CommonView software, which support graphical user interface and database functions. A program repository with application and class browsers, Xbase compiler, an integrated development environment and extensions to the Clipper programming language. The software also features reusable object technology and migration paths for legacy code to objects.

CRAY LAUNCHES SPARC VECTOR II CPU FOR S-MP SUPERSERVER

Cray Research Inc is to begin shipments this month of its new Sparc Vector II processor for its Cray S-MP superserver system. The Sparc Vector II processor is claimed to boost vector performance of the superserver product by a factor of four over the previous S-MP vector module. Shipments begin this month and the company says it has taken orders totalling more than \$4m for systems based on the new chip. The Vector II has a peak speed of 267M-FLOPS in 64-bit or 32-bit IEEE floating point arithmetic, and does a sustained 206 MFLOPS on the Lin pack 1,000 by 1,000 benchmark. The S-MP can be configured with up to eight 15nS Sparc scalar processors or a combination of one to two Vector II processors for 533 MFLOPS total vector performance, and up to four scalar Sparc processors. The system can also include multiple Cray Attached Parallel Processor systems for problems, or parts of problems, that are highly parallel. All currently installed S-MP systems can be field upgraded with the new Vector II processor, Cray says.

FUJITSU LAUNCHES 16-TO-1,024-SPARC SCALAR AP1000 PARALLEL PROCESSOR

In Japan, Fujitsu Ltd has now announced its experimental AP1000 parallel processor, a forerunner of its VPP500 vector parallel monster as a product in its own right. The AP1000 uses the Sparc chip from Sun Microsystems Inc, in configurations of from 16 to 1,024 processors, and features three types of communication networks within the processor complex to reduce overhead in communication between the processors. Peak performance of the AP1000 in double precision floating point work is put at 88 MFLOPS with 16 processors, rising to 5,693 MFLOPS with 1,024 processors. It uses a multiple instruction-multiple data execution control mode from its distributed memory architecture. Fujitsu is targeting mainly academic and research institutions, renting the parallel AP1000 box at from \$11,570 a month.

INTERGRAPH COMMITS TO PUTTING WINDOWS NT ON THE CLIPPER

Unwilling to be a wallflower at the workstation ball, Intergraph Corp muscled in with an announcement that it will implement Microsoft Corp's Windows NT operating system for its Intergraph Clipper RISC microprocessor - despite the fact that although it was one of the very first to declare a commitment, it has still not made good on its promise that it will put OSF/1 on the Clipper. Intergraph and Microsoft also said that Intergraph is also converting its full range of mechanical, engineering, mapping and geographical information system applications for Windows NT. NT for the Clipper will be out in the second half of 1993.

NEC "NEGOTIATING TO SUPPLY CONTROL DATA, OLIVETTI WITH WORKSTATIONS"

NEC Corp is negotiating separate OEM pacts with Ing C Olivetti & Co SpA and Control Data Systems Inc to supply them with "strategic products with high growth potential" according to Jiji Press. The agreement between NEC and Olivetti most likely covers the R4000 series-based workstations, the base technology of which is common between the two companies. NEC has also entered final discussions with Control Data Systems to supply NEC-manufactured workstations and personal computers under an OEM agreement.

...AS OLIVETTI PLANS SHAKE-UP

Still bleeding copiously in the cut throat personal computer market, Ing C Olivetti & Co SpA is to announce a reorganisation to cut costs further, Reuter hears from "industry sources". The second shake-up in the past 12 months is expected to streamline internal services and review some of the marketing structures. "Despite Olivetti's best efforts, it is continuing to be hurt by falling computer prices and must do more to cut costs to bring it back to operating profitability," one source said. The reorganisation would affect Olivetti's office and systems division, where margins are very thin and overheads are high, and would also aim to cut the bureaucratic burden on the company, concentrating the administrative functions into new centres to serve several subsidiaries, the sources said.

SEQUOIA FIRES 60 AS HEWLETT KEEPS A WATCHING BRIEF

Fault-tolerant Unix specialist Sequoia Systems Inc is sinking deeper into the mire and has had to fire 60 people in all parts of the company to cut cost while it looks for new funds to finance its operations. Minority shareholder and OEM partner Hewlett-Packard Co says it is prepared to take over Sequoia's project to develop a fault-tolerant Precision Architecture RISC-based machine. Hewlett told Electronic News that it hadn't seen any fall-off of interest in the HP9000 Series 1200 machines it buys OEM from Sequoia, but if it did, it could "take over what it needed, whether that's technology rights or manufacturing rights or whatever." At Sequoia, Gabriel Fusco has now quit as chairman as well as chief executive, to be replaced by Francis Hughes, who is co-chief executive.

SEQUENT DEBUTS QUERY SYSTEM

Sequent Computer Systems Inc, Beaverton, Oregon, has introduced DecisionPoint/Relational Query System which is the first in the series of announcements that will bundle the Sequent hardware with third party software intended to fill a specific niche market. DecisionPoint/RQS is a query optimised database management system for the Sequent Symmetry 2000 Series designed for decision support processing. The software, called Goldmine, comes from US-based Redbrick Systems. Sequent is aiming the product at users that want to be Teradata owners but cannot afford it. A start-up system would cost in the region of £150,000.

HEWLETT-PACKARD'S HIGH FIVE

As expected (UX No 408), Hewlett-Packard Co's contribution to last week's tripartite events included five new machines in its HP Apollo 9000 Series 700 workstation family, three at the low-end and two high-end affairs. All based on the 7100 Precision Architecture RISC chip and run the firm's HP-UX 9.0 Unix implementation. The low-end 715/33 and 715/50 are 33MHz and 50MHz models of the same machine. They deliver 46 and 69 SPECmarks, 41 and 62 MIPS, and 8.6 and 13 MFLOPS respectively. The 715/33 has 8Mb to 192Mb memory, the 715/50 16Mb to 256Mb. Both can support up to 2Gb disk and have a slot for one optional CD-ROM, Digital Audio Tape drive or 3.5" floppy. Two- and three-dimensional graphics are included on the board with optional 24 plane two- and three-dimensional buffered modelling and visualisation offered on the 715/50. Input-output interfaces include a 32-bit EISA slot; SCSI-2 port; two RS232 serial ports; bi-directional Centronics port and built-in Ethernet adaptor. Both run under HP-UX 9.0 Unix with HP's Visual User Environment 3.0 user interface and come with 17" grayscale or colour monitors - 19" screens are also available for the 715/33. A 15" colour 715/33 with 16Mb RAM and no disk is \$5,700 - £4,330. A 19" grayscale 715/50 with 16Mb RAM and 525Mb disk is \$11,900 - £9,170. The 50MHz 725/50 machine delivers 69 SPECmarks, 62 MIPS and 13 MFLOPS with a choice of 24- or 48-plane two- and three-dimensional graphics. It has 32Mb to 256Mb RAM, 239Gb hard disk, up to 2Gb internal capacity and optional slot for either a CD-ROM, DAT or 3.5" floppy. It has four EISA slots in addition to the input-output and networking interfaces used in the 715/33 and 50 models and comes with 19" colour or grey scale monitor. A 32Mb RAM, 19" greyscale model with 525Mb disk is \$17,900 - £13,840, the colour version is \$20,500 - £15,840.

99MHz

At the high end is the new 99MHz Model 735, offered as an enhancement to the existing 720/730 models with which it is board-upgradable. It offers a performance of 147 SPECmarks, 124 MIPS and 40 MFLOPS. It has 32Mb to 400Mb RAM, supports 125Gb disk with up to 2Gb internal storage, and has an optional floppy disk, optical disk, tape and CD drives. It has an integrated input-output system - with an IEEE and optional FDDI interface, 20Mbps SCSI II, EISA slot, two RS232 and a Centronix interface. Integrated graphics options are 8- and 24-plane grayscale or colour; and 24-plane accelerated colour and accelerated double buffered colour. A grayscale version with 32Mb is \$34,800 - £28,500. Colour versions start at \$37,400 - £30,500. The 99MHz Model 755 offers similar performance and uses the same input-output system as the 735 but offers 64Mb to 768Mb RAM with up to 4Gb internal storage, supports 297Gb hard disk and two removables - either floppy, CD or DAT and has four EISA slots. It is recommended for demanding graphics applications such as three-dimensional modelling and visualisation. It is board-upgradable from the existing Model 750. HP reckons it takes only 30 minutes to complete the swap and get the new system running. A 64Mb RAM colour version with 2Gb disk is \$59,000 - £48,090. All model ship in the first quarter of next year, except the 755, which goes out of the door the following quarter.

Multimedia

HP also introduced MPower, a single solution multimedia package for workstation workgroups. Designed to add multimedia functionality to VUE, it includes electronic mail, faxing, shared printing, video, 16-bit audio, image scanning and the ability to share and edit applications and images across networks. Deliveries begin this year. MPower is priced at \$500 - £350 - in client configurations and \$1,500 - £1,200 - for server versions.

3D graphics

As expected (UX No 408), two new 3D graphic subsystems are also available, the CRX-48Z and CRX-24Z. The CRX-48Z is supported on all the new workstations. It comes with 16Mb of RAM, 525Mb disk and a 19" colour monitor, it is priced at \$27,900. The CRX-24Z supports the 715 workstations and costs \$19,000. It comes with 16Mb of RAM and a 525Mb disk.

DEC UNLEASHES ITS BET-THE-COMPANY ALPHA BLITZ

DEC launched its Alpha RISC last week, spanning desktop to mainframe-class systems, and will later include palm-tops and supercomputers (UX No 410). They all use the DECchip 21064 microprocessor, which has 8Kb instruction and data caches on board. The DEC 3000 Model 400 desktop and server, with 133MHz CPU are \$15,000 and \$19,000 respectively. The engine is rated at 111 SPECfp92 and 65.3 SPECint92. The 150MHz DEC 3000 Model 500 desktop and server are rated at 125.1 SPECfp92 and 74.3 SPECint92 and cost \$39,000 and \$41,200 respectively. The 160MHz DEC 4000 Distributed or Departmental System Model 610s are rated at 140.9 SPECfp92 (3,317 SPECrate_fp92) and 83.5 SPECint92 (1,985.8 SPECrate_int92) in uni-processor configurations. They start at \$77,000 and \$102,000 respectively. The dual-CPU Model 620 delivers 6,214.5 SPECrate_fp92 and 3,816.1 SPECrate_int92. The 182MHz DEC 7000 Data Centre System is available with from one to six CPUs (Models 610 to 660) and starts at \$168,000. A four-way system is rated by the company at 178.1 SPECfp92 (15,739.4 SPECrate_fp 92) and 96.6 SPECint92 (8,366.8 SPECrate_int92). All are available immediately. The 200MHz DEC 10000 Mainframe-Class System also comes with up to six CPUs, the only performance marks offered are 196.5 SPECfp92 and 106.9 SPECint92. It is priced from \$316,000 and is due in the first quarter of next year. DEC didn't specify memory and disk included in the base prices and no European prices were available. All ship only with Open VMS initially: the shade of Ken Olsen still hovers, and if you want OSF/1 Unix, you'll have to wait until March. An advanced developers kit will be available for Windows NT from December or January. Some 500 applications for Alpha machines are available now, and over 2,000 will be released in the near future by 1,000 or so software developers. Users wanting to upgrade their VAX machines to Alpha simply take out their VAX board and slip in an Alpha one. Both can run the same software, and Telecom Eire, a new Alpha user, says it takes only 30 minutes to upgrade VAX to Alpha.

NEW X-TERMINAL STRATEGY

DEC also plans to emulate Hewlett-Packard Co's move into X-terminals by bundling Alpha AXP RISC systems with VXT 2000 line of X-terminals. Mirroring the HP tactic, DEC says it was influenced by the overwhelming success of HP's X-terminal and PA RISC workstation combination, however, DEC hopes to move X-terminals as alternatives to character terminals in large systems, rather than rely on sales through workstation set-ups. The bundled systems will have their own pricing programme. The X Business Group rates DEC third in X-terminal shipments for the first quarter of 1992, after Network Computing Devices Inc and HP. Meanwhile, DEC has introduced a new VXT 2000 model, a 17-inch monochrome version. It supports an optional imaging accelerator board, DECnet and reportedly does 57,000 Xstones. Available now, the 17-inch unit is priced at \$2,100.

ENCORE SWITCHES TO ALPHA FROM 88000 FOR FUTURE INFINITYs

Motorola Inc's design wins for the 88000 are beginning to melt away. Harris Corp has switched to PowerPC (UX No 410), and now Encore Computer Corp says it will use Digital Equipment Corp's Alpha AXP architecture in future designs of Infinity 90 Series. It will work with DEC on high-end commercial products.

...AS DEC SEEKS A SECOND ALPHA SOURCE

Digital Equipment Corp chief executive Robert Palmer has reiterated that the company is looking for a second source to manufacture its Alpha RISC chips. It also said that three more desktop Alpha systems, one priced below \$10,000, will be announced next spring, and that an AXPEluster facility is to follow. DEC is also working on its own RAID disk arrays for the Alpha family.

IBM WORLD

**IBM THREATENED WITH BREAK-UP
MOTION BY SHAREHOLDER GROUP**

IBM Corp's top management faces the biggest threat yet to its strategy and its continued incumbency atop the beached whale. Its long-suffering shareholders are to get the opportunity to succeed where the government failed in 1982, and break the company up. A ginger group, the Washington-based United Shareholders Association plans this month to start soliciting shareholder proxies for a motion that if approved would force IBM's non-executive directors to call in a firm of investment bankers to advise on a plan to maximise shareholder value by spinning off or selling one or more units of the company. According to the Wall Street Journal, IBM officials have not yet studied the resolution, and declined to comment on it, although they are expected to fight to ensure that it is not put before shareholders at the annual meeting. IBM is believed to be working on a much less radical plan to copy General Motors Corp and issue different classes of common shares, each standing pari passu all the others in the event of a break-up, but each paying dividends that were tied to the performance of a single IBM unit, be it AdStar, Application Business Systems or Pennant Systems. But the degree of frustration over IBM's continued non-performance may make it too late for such half measures, leaving break-up of IBM into more manageable units the only option.

WORKS ON NEW PARALLEL MAINFRAMES

Meanwhile, IBM is also working on a range of super-high-end parallel mainframes using a new CMOS RISC processor and running new moderately parallel versions of MVS and DB2, this month's issue of our sister publication **IBM System User** reports. Analysts that have seen the things at beta test sites in the US expect them to be announced next year for delivery in 1994 - but analysts are almost always too optimistic in forecasting IBM announcement dates. The new machines are expected to come in above the ES/9000s and to dispense with water cooling, while being configurable with up to 100 processors working in parallel. It is suggested that the machines will be capable of input-output throughput of up to 1G-byte per second. While the entry price is likely to be high, price-performance should show a big advance on the current generation of mainframes, but it is questionable whether there will be big demand for the machines: sceptics will point out that once again MVS, and this time DB2 as well, will be being asked to do something that they were never designed to do.

READIES AIX DATABASE FOR SPRING

IBM says its much awaited AIX database and a new version of DB2 will now be released in the spring. The AIX database is already a year overdue. Industry watchers say IBM has waited too long to roll-out the AIX database and predict it will only shore up dedicated IBM mainframe clients - users with RS/6000s running Sybase Inc and Oracle Corp databases are unlikely candidates, the company admits. The unnamed AIX software is partly founded on the database manager in OS/2 and features client/server local area network architecture, SQL capabilities, and gateways to the DB2 database. The AIX database solution does not have object-oriented extensions. Version 3.1 of DB2 is slated for release in 1994.

**MICROVITEC PICKS UP WORLDWIDE
IBM OEM ALPHAWINDOW PACT**

UK, Bradford-based monitor company Microvitec Plc is to supply IBM with a customised version of its new MCG3500 AlphaWindow terminal - for distribution in the RS/6000 market worldwide - under a "multi-million pound" OEM agreement expected to begin this quarter. Microvitec says that the £475 MCG3500 plinth, which will go inside a standard IBM monitor, provides text terminals with 80% of an X-terminal's graphics features at a quarter of the cost.

**IBM LAUNCHES WORKSTATION ONE TO GIVE
AIX, OS/2, WINDOWS OR MAC USERS ACCESS
TO HOST SYSTEMS FROM DESKTOPS**

IBM has announced the Workstation One family of programs that give personal computers and workstations running OS/2 2.0, AIX Unix, Microsoft Corp Windows or Apple Computer Macintosh system access to applications on IBM mainframes and Digital Equipment Corp minis - but they all require a server between the desktop machine and the host, with the minimum server being an 80386 machine. The products - Workstation One/6000, Workstation One/2, Workstation One for Windows, and Workstation One for Macintosh - are aimed at scientists, engineers, managers and other professionals. IBM says that at present, these users may have to use separate terminals to do their work. For example, they may be using one terminal to access DEC VAX applications and another one for IBM mainframe applications and yet another for graphics or text. IBM says the Workstation One family obviates the need for this because it combines many features in one product with a common graphical interface. The user can point-and-click on an application icon in a window without needing to know where the application resides. Using a script command, the user is automatically logged on to the appropriate host once an application is chosen. The correct emulator is loaded, and execution of the application begins. IBM Workstation One enables file transfers and use of local area networks. It also provides an assortment of graphic and non-graphic emulators that enable workstations to operate with hosts without changing existing systems. Transmission Control Protocol/Internet Protocol on the host is a prerequisite.

Emulation

Although IBM acknowledges that open systems should be able to use TCP/IP, Unix, Network File System, and X-server emulation at the desktop, Workstation One does not use them all. But because of the TCP/IP protocol it can be customised into this environment. Workstation One/6000 requires 10Mb of disk, and Workstation One/2, Workstation One for Windows and Workstation One for Macintosh require 4Mb. Workstation One/6000 requires an RS/6000 Network adaptor; any AIX-supported bit-mapped monitor; X-Window System 11.4 or higher Motif server including IBM X-station models 120 and 130; IBM AIX 3.2 or higher with TCP/IP, Network File System, and X Window installed; X11 version appropriate for the RS model and AIX version installed. Workstation One/2 needs a machine with minimum 80386SX processor or equivalent; VGA, XGA, 8514/A, NDIS- or ODI-compliant network adaptor (Token Ring or Ethernet); OS/2 2.0 or Novell Netware OS/2 Client 2.0 configured for IPX and Server 2.0 Requester. Workstation One for Windows runs on an 80286 machine with VGA, XGA 8514/A or SuperVGA monitor (or other Windows 3.0-supported EGA-compatible display) and network adaptor as before; it requires a minimum of 4Mb, MS-DOS 3.3 up, Windows 3.0 or 3.1, Microsoft LAN Manager Client 2.0 or Novell Netware Client 3.11. For the Workstation One for Macintosh, a Mac SE with 68000 processor is good enough, with an Apple TokenTalk or EtherTalk network adaptor, and Macintosh System 6.0.5 up. The server needs to be at least an 80386 machine running MS-DOS 4.0 up, any version of OS/2 from 1.3 up, Microsoft LAN Manager 2.0 or 2.1 or Manager Services for Macintosh 1.0; Novell NetWare NFS 1.1, ODI-compliant network adaptor (Token-Ring or Ethernet). The host must be a 390 or 370 capable of running VM TCP/IP or MVS TCP/IP with Token Ring or Ethernet connection, or DEC VAX with Ethernet connection. Workstation One/6000 and Workstation One/2 are set for limited availability from December 18 and general availability June 25; Workstation One for Windows and Workstation One for Macintosh are out now in the US. The program packages cost \$1,000 and additional licences are \$845.

SUN'S \$4,000 TAG IS FOR 12-PACK

As expected (UX No 410), Sun Microsystems Inc set a base price of \$4,000, £3,400 in the UK, for its 15" colour SparcClassic with 16Mb and 207Mb disk - but you must order 12 to get that price and it doesn't include a floppy disk. With a floppy drive the price goes up to \$4,145 by the dozen. The 26.4 SPECint92 and 21 SPECfp92 box is \$4,300 and £3,660 in single quantities. A server version with 16Mb RAM, 1Gb disk and built-in Ethernet is \$5,300 - £4,500 and ships in January. The company is forswearing Sun Express as a distribution point for the Classics and will go through its usual channels instead. The Sparcstation LX, also driven by a 50MHz MicroSparc, is \$8,000 - £6,900 - with 424Mb disk, GXplus graphics, 16-bit audio, ISDN and a 16" colour monitor. The SparcCenter 2000 server starts at \$95,000 - £86,400 - with two SuperSparc modules, 64Mb RAM and 4.2Gb disk. Two-to-eight processor versions ship from next April. It is rated at 8,047 SPECrate_int92 and 10,600 SPECrate_fp92 in eight-way configurations. 20-way systems are due in November. Upgrade programmes for users of existing low-end boxes and MP series servers will be available. Sun's Dragon server line gets its own handler in the form of SunService 2000, a new support programme for business users guaranteeing 99% up-time on the SparcCenter 2000. It's all day, everyday promising two-hour on-site response along with personalised hand-holding. Sun also has the CD-based SunSolve and SunTutor program for the do-it-yourselfers.

Sacred cows

Ever Dennis Peck's Bad Boy, Sun Microsystems Inc chief executive officer Scott McNealy got some mileage out of the fact that Sun, DEC and Hewlett-Packard all made their announcements the same day last week: "there's a lot of noise out there right now," he told his satellite audience. "What you're hearing is the sound of sacred cows dying." He also likened the tripartite event to a three-ring circus characterising HP as juggling a wide assortment of mismatched architectures, hardware and software and DEC as a magic act with more illusions than Siegfried & Roy. Sun on the other hand he called "belligerently consistent."

...AS STORAGE TEK TEAMS WITH EPOCH IN SUN SERVER MARKET

Epoch Systems Inc and Sun Microsystems will be co-developing and co-marketing Epoch's network data management software for Sun's new SparcCenter 2000 server. EpochServ, EpochBackup and EpochMigration will be ported to Solaris 2.1. As part of the pact Storage Technology Corp, which owns a piece of Epoch, will sell and market its 4400 Automated Cartridge System libraries that supply NearTime high-volume automated tape subsystems to the Sun network market. Data on the SparcCenter 2000 can be backed up or migrated through StorageTek's NearNet system, running Epoch software, to StorageTek's 4400 Automated Cartridge System.

LYNWOOD SCIENTIFIC TO GO TO NORTH ATLANTIC INDUSTRIES FOR \$7m

Lynwood Scientific Developments Ltd, the Alton, Hampshire display terminal specialist that regained its independence via a management buyout from Hunting Group Plc, is to give it up again. It has signed a letter of intent to be acquired by the Hauppauge, New York-based peripherals conglomerate North Atlantic Industries Inc for about \$7m in cash and shares. Lynwood has won lusty business in the UK public sector, particularly the Health Service, and is a player in the X-Window terminals market.

CHINA FAVOURS SVR4.2 OVER OS/2 AND NT

Unix System Labs' deal with the People's Republic of China for Unix SVR4.2 - see front page - has spawned the Beijing-based Unix System Technology China Ltd, which has been set up in collaboration with the responsible government agency, the Ministry of Machinery and Electronics Industries (MMEI). It has five other Chinese partners, two local software companies and three hardware firms reported to be independent capitalist concerns. They include Shenzhen Comtec Software Ltd, China National Computer Software and Technology Corporation, China Great Wall Computer Group Company, Langchao Electronic Information Industrial Group Corporation and Chang Jiang Computer Union Corporation. MMEI is represented in the venture through the state-run Beijing Information Development Center. Dascom Holdings Ltd, reportedly Hong Kong's largest distributor, is also a partner. These companies will be the subsidiary's points of distribution across the country. USL declined to reveal how ownership of the subsidiary is apportioned. The eight partners kicked in a total of \$1m to fund the start-up. MMEI evaluated both SVR4.2 and OS/2. The Chinese dropped OS/2 when IBM couldn't guarantee a single binary that the Chinese distributors could all ship. The Chinese also evaluated Microsoft Corp Windows NT but dismissed it as an incomplete and immature platform. Microsoft apparently put little effort into wooing them. USL is currently working with the MMEI to develop a localised version of SVR4.2. Developer kits are scheduled for delivery the first quarter of 1993. USL estimates 200,000 to 300,000 Unix systems will be running in China by the end of 1993. Most of them will be supplied by USL's local partners, it says, who are supposed to start shipping the first batch of user-ready code in February, seemingly an aggressive schedule. China has an installed base of some 200,000 desktops, USL reckons. Apparently the China deal was cut over the head (and protest) of USL's other joint venture Univel Inc and Univel's other owner Novell. They are only now reportedly coming round to the idea. USL says Univel's UnixWare was not part of the deal because China's network market is not sophisticated enough to justify its presence. USL suggested it will actively encourage relations between China and Novell to set up NetWare outlets in the country. Professor Jia Yao Liang, who is also president of the state-run China National Software and Technology Service Corporation, the largest of the country's software companies, is heading up UST China. James Clark, president of Unix System Labs Pacific Ltd, which negotiated much of the deal, has been named chairman of the board. UST China is expected to funnel other USL products, presumably technology like Tuxedo, and third-party products into China. It will also do engineering, systems design, architecture support, education and training. In the meantime, USL whose target of ten overseas joint ventures has slipped from the end of 1992 to the end of 1993 (UX No 380), says its next joint venture will be in either Mexico or Australia.

ORACLE READY WITH ORACLE GLUE PROGRAMMING INTERFACE

In the US, Oracle Corp has introduced a master application programming interface - middleware in its terminology - to connect software running on heterogeneous clients to disparate servers and databases. Oracle Glue provides common commands and language to link to Windows, Macintosh, Unix, PenWindows and PenPoint, and will work with Microsoft's Open Database Connectivity and both MAPI and the rival Vendor-Independent Messaging interface. The first version, Oracle Glue for Windows 3.0, will work with any application supporting DDE Dynamic Data Exchange. Other front-ends will follow.

INTERLEAF OPENS UP RELATIONAL DOCUMENT MANAGEMENT SYSTEM

Electronic publishing software developer Interleaf Inc, Waltham, Massachusetts, will ship an enhanced version of its RDM relational document management system next month, with Apple Macintosh and Microsoft Windows versions planned for the first time. Unix versions will run on IBM, DEC, HP and Sun hardware using the Motif graphical front-end. Interleaf says that RDM can manage document information from any machine and any application. Future plans for RDM include expanding it beyond its current Oracle base to support other databases, including Ingres. The company is also working with Ohio-based Information Dimensions Inc and Advanced Information Systems, based in Paris, France, to incorporate a Standard General Mark-up Language repository into the next release of RDM, expected in fourth quarter 1993. IDI already incorporates the SGML standard into its BasisPlus text retrieval package. An RDM software licence for up to 16 users costs from £1,838 per user.

BIG IBM CUSTOMERS "HOLDING ON TO THEIR MAINFRAMES"

IBM UK Ltd claims its large customers such as British Telecom, Barclays Bank and Thorn EMI, are resisting the rush to "downsize" preferring to hang on to their mainframes for core applications such as billing and accounting. At a meeting organised by Cheshire-based Barclays Computer Operations, the facilities management division of the Barclays group, Peter Eldridge, IBM's IT Infrastructure Consultant, said that this contradicted industry speculation that users want to ditch mainframes in favour of mid range systems and that recession was preventing new investment. BCO, one of the largest users of IBM mainframe systems in the UK - it has 12 - also sees the mainframe's new role as a data warehouse for core business applications such as billing, distribution and accounting. Barry Denton, BCO's head of support, said Barclays had reduced its budget by 10 per cent through centralising and consolidating its systems and automating its major banking processes with mainframes. Network management and data security are other crucial mainframe functions, according to Denton: "People aren't very good at backing up data. The mainframe will back up data on PCs on LANs". But he admitted that the gulf between mainframe and mid-range machines in pricing and performance must be reduced and mainframes must shake off their proprietary tag if they are to survive. He conceded that users' huge investments in mainframe applications prevented them from moving to smaller systems. "Mainframes clearly won't disappear overnight. They will still be around in the year 2000," he said. Barclays Bank has 4Tb data on its mainframes, he said, but it uses Unix workstations, such as IBM, Sun and Digital at branch level. The bank is also piloting management information systems (MIS) based on Unix. Eldridge pointed out that IBM was attempting to make mainframes less proprietary: "MVS and AIX applications can run together by making MVS Posix compliant". Brian Attwell, managing director of industry analyst Gartner Group UK Ltd, backed IBM's view of the mainframe's continuing role in the future of information technology. He said that the recession was not the only reason for users holding onto mainframes. Instead, he claimed they were incorporating them as part of a total information technology system. He said: "people rushed out with downsizing without thinking about backup and storage. They forgot that mainframe developers have worked on this for the last 20 years." Companies which will succeed, he said, will be those with the flexibility of management infrastructure enabling them to change direction in line with technology developments. "Open systems, client/server and case tools cannot provide the answer to information technology alone," he argued.

MICROSOFT NT VERSUS UNIX - COLLISION COURSE OR CO-EXISTENCE?

"NT versus Unix" is the title of a forthcoming report prepared for Unix International with the help of Locus Computing Corp, Inglewood, California (UX No 404). But Chris Sanders of Locus claims that the "versus" may be overstating the situation. "There's probably a place in the marketplace for both", he says. While Unix International is currently keeping the report under wraps, Locus is keen to talk about its own conclusions. "It's hard to ignore the market dominance that Microsoft brings to NT - it is the natural growth path for Windows users, who need a solution to the DOS spaghetti underneath Windows", claims Sanders. NT will sell in volume to users of personal productivity software, and take the lead in areas such as multi-media and workgroup computing. And some Microsoft-led protocols and specifications such as MAPI (Windows Messaging Interface) and ODBC (Open Database Connectivity) are almost certain to be taken up as industry-wide standards, says Sanders. "NT will be a sophisticated system, supporting multi-processing and security at a fairly high-level. As for Unix, that is a time-tested, used and abused system that is one of the most stable of the platforms currently available" he says. It is multi-user, supports sophisticated graphics via X-Windows, leads in networking options available, and is way ahead in distributed systems technology. It is also the most scalable and portable of operating systems. In its UnixWare implementation (from Univel, the joint Novell/Unix System Labs operation), it will boast close integration with Novell NetWare and tight client-server integration with host Unix systems.

Windows for Workgroups

The problem for strategists is that Microsoft is being somewhat vague about its own positioning of NT in the marketplace. Following the success of Windows 3.1, points out John Bondi of Locus, Microsoft has a mandatory requirement to build on the success of that product with NT. The Novell dominated local area network market will be the first area to be addressed - exactly the same market that UnixWare is aimed at. Windows for Workgroups, the first plank in Microsoft's NT strategy, will provide a strong spur for current Windows users to move from a DOS to an NT base, as they notice DOS reaching its technical limits. But Sanders advises caution for those considering using NT for long-term mission critical applications. "It's unproven technology, and Microsoft has not made it clear that it wants it as a server". Users, he says, should ask such questions as: does NT run on the platform I want; do I have input into how NT is developed; and is Microsoft committed to open standards? Microsoft's recent endorsement of the Open Software Foundation's Distributed Computing Environment, the Object Management Group and the SQL Access Group (on whose work MAPI is based) may mark a change in attitude from Microsoft towards industry standards, but most of the underlying technology in Microsoft's Windows Open Services Architecture (WOSA) is anything but open, and there are no guarantees that the APIs won't change with successive releases. Other technologies - Object Linking and Embedding and Dynamic Data Exchange for instance - are well established, but are single-user based and must be heavily modified to become network aware. The Unix International report, when it emerges, will raise some important questions for those wavering between UnixWare and NT. But the battleground is still being marked out, and Unix is likely to find as many problems and hurdles reaching the lower-end of the market as Microsoft with NT will encounter moving up.

AUDITEX ESPANA OFFERS SYNERGIA UNIX DRIVER FOR APPLE MACs

Auditex Espana SA has developed a Unix driver called Synergia, which enables Apple Computer Inc's Macintosh computers to be used as viewdata servers. Synergia is a self-install driver, written in C, which enables conventional Unix programs to run in viewdata mode; it links the programs to the viewdata communications front-end processor, and to the user terminal. Any programming language may be used. It is necessary to modify the screen only slightly. Firmware can be programmed to enable dialogue between Unix applications and the communications front-end processor. Synergia also enables information held in a Macintosh to be transmitted via the Ibertex Spanish viewdata system. The product is aimed at universities and information providers that use Macintosh systems. It has opened up a market to Apple, to which it previously had no direct access. IBM Corp, Digital Equipment Corp, NCR Corp, Unisys Corp, Fujitsu Ltd, Hewlett-Packard Co, ICL Plc and Sun Microsystems Inc are all using the product already in their Unix systems, and also under MS-DOS.

DEC VP OF SOFTWARE DEFECTS TO AT&T

Vice president of software, Dave Stone, one of DEC's fair-haired boys, has jumped ship to become president of AT&T Network Systems Group's Operations System Business Unit. Stone is reported to have been unhappy at being passed over for the DEC presidency. The Network Systems Group is the old Western Electric and makes the equipment the telephone companies use. Stone's new job, which he starts Monday November 16, oversees the systems and application software that runs network management equipment as well as hardware like routers, gateways and switches for data networking, LANs and WANs. AT&T said it liked his strategic and platform-building credentials.

STRATUS EXPECTS DIMINISHING RETURN FROM IBM

As reported (UX No 410), IBM has extended its OEM agreement with fault-tolerant supplier Stratus Computer Inc for another three years, although the fault-tolerant system builder says it doesn't expect to get much more business as a result. IBM, which markets the Stratus line as its System/88 series, says sales of the boxes dipped by 56% in the third quarter, and accounted for just 7% of Stratus' revenues for the same quarter. In the past, IBM sales have accounted for as much as 30% of the Marlborough, Massachusetts-based firm's business. Stratus attributes part of the decline to an increase in its own direct sales.

PROACTIVE SEARCHES FOR EURO ROUTE

Roger Sippl reckons the market for customer service management software and systems will grow to be as big as the Manufacturing Resource Planning (MRP) market is now, and expects there will be room enough for three players. The Informix founder's ProActive Software Inc start-up is running against the likes of Clarify Inc, Scopus Technology Inc and Aurum Software Inc in that sector. Sippl is currently looking at ways into Europe for ProActive and says a component for developing ISO 9000 service compliance may be one route. ProActive will release new versions of its software to meet emerging requirements, but won't sell source code, says Sippl. ProActive is currently putting together a sales and marketing team.

...AS CLARIFY TIES UP MORE FUNDING

Meanwhile, Clarify Inc, San Jose, California, pocketed \$5.4m in its second round of financing, bringing total investment to date to \$8.9m, considerably more than other like-minded start-ups like ProActive Software Inc, Scopus Technology Inc, Aurum Software Inc, Quintus and Lysis Inc, Atlanta, Georgia, have to play with. The company has added New Enterprise Associates and Sigma Partners to its other investors Institutional Venture Partners, Menlo Ventures and Matrix Partners, all of which took a piece of the new round. The money is earmarked for further development and marketing. Meanwhile it opened a branch office in Boston to sell direct.

SYBASE AND TIVOLI TEAM ON OBJECT SOFTWARE FOR DATABASES

Sybase Inc and Tivoli Systems Inc have joined forces to provide object-oriented applications for managing distributed database environments. Sybase is the first ISV to license Tivoli's Advanced Development Environment (ADE) toolkit. The Open Software Foundation and Unix International as well as Sun Microsystems Inc are already using it as base technology. Sybase wants to use it to develop next-generation object-oriented point-and-click administration tools that will appear in Sybase Control Server products, as part of System 10, next year including SA Companion, SQL Monitor, Configurator and Backup Server. Native versions of each will appear, followed by a Tivoli-style edition.

X GROUP EXTENDS DECEMBER DEADLINE

The X Business Group, the force trying to energize this new-fangled trade organisation, the X Industry Association (UX No 410), has extended the December deadline it set to see if it could get industry backing until January because the solicitation letters just went out. It figures it has to raise \$250,000 to make it fly. It's asking \$25,000 from companies with \$25m in revenues, \$15,000 from firms in the \$7.5m to \$25m bracket and \$5,000 from those below \$7.5m. A preliminary meeting to see how Europeans feel about it has been called in Utrecht in Holland.

IMI TAKES THE REINS AT UNIPLEX

Having left its Uniplex Ltd sibling to do its own thing since it acquired the the firm back in December of last year, the Unix office software firm's new parent, Birmingham-based IMI plc has taken matters in hand, appointing its own board director of computing operations, Roy Amos, as group chairman of Uniplex. Uniplex founder, Peter Osbourn, and finance director Dave Jennings have been squeezed out in the re-shuffle, and Patrick Regester, previously head of Uniplex's international operations division has been appointed managing director, reporting to Amos. Lindsay Smith, formerly group controller, steps into Jennings' shoes, whilst Tony Grimsditch continues as director of software products.

...PCS WOOS UNIPLEX USERS TO APPLIX

Meanwhile, hoping to take advantage of the turmoil at Uniplex, UK Sun reseller, Productivity Computer Solutions Ltd, Wakefield, West Yorkshire, is aiming to wean Uniplex office software users on to the rival Aster*x office suite it markets, offering the Applix Inc software for £99 per user to existing Uniplex customers until next May.

WOODSIDE OFFERS SECURITY FOR GUIs

Sunnyvale, California utility start-up Woodside Technologies has introduced Fortress, a four-module graphical user interface-based security toolkit with anti-virus protection for Unix. The thing is supposed to be a defense against Trojan horses, worms, viruses and weak passwords. It's available immediately for Sun boxes under Open Look. Motif and Sun, IBM, HP and personal computer Unix platforms will be added next year. The stuff costs \$500 and will be sold by its sister firm Unix Central while investigating OEM and VAR channels.

SIEMENS LOSSES FORCE MORE JOB CUTS

Siemens Nixdorf Informationssysteme AG reported figures a day after its parent last week, showing losses for the year to September 30 equivalent to \$321m, down from \$489m last time. The company says it will accelerate job cuts this year with its worldwide workforce shrinking by at least 3,400 people. A tie-up with a foreign major is now on the cards - Siemens has long-standing ties with Fujitsu Ltd, and the company said that while it is not presently in co-operation talks with other companies, such a move is likely if industry problems persist. Siemens Nixdorf's plan to improve profitability involves a cost-cutting and restructuring programme that should lead to a reduction of some 9,000 jobs by the end of the 1994-95 financial year from 51,600 jobs at September 30 1991. Siemens Nixdorf's workforce this year is expected to be cut by at least 600 additional people, up from 200 people last year, due to the general decline in demand for computer products.

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Milpitas, California-based, **LSI Logic Corp** has appointed Peter Feist as director of strategic marketing: Feist was previously responsible for LSI's subsidiary in Germany. He reports to Frank Weis, vice president of ASIC product marketing.

Siemens Nixdorf Informatiionssysteme AG has signed to use **Corollary Inc's** C-bus II architecture and Symmetric Integrated Multiprocessor Logic (SIMPL) chip in a future Intel Pentium-based multiprocessor.

Moving to **Microsoft Corp** Windows NT technology may not be as traumatic as everyone makes it out to be, says **ComputerWorld**. Independent software vendors who have developer kits say knowing Windows programming makes migration relatively straight forward. Those with no Windows background are advised to cram up on Windows first.

Renaissance Group will preview version 2.0 of its self-booting diagnostic tool, SB PRO at Comdex next week. According to the company it allows users to isolate hardware problems from software configuration problems, as well as providing system memory tests for locating malfunctioning memory chips. SB PRO runs on NetWare, various flavours of Unix and Pick platforms.

Kapre Software Inc, Boulder, Colorado has won \$3.5m second round of financing for its object application software and C++ development environment from **Hill, Carman, Kirby and Washing**, Boulder, **Institutional Venture Partners**, **Mohr and Davidow Ventures**, and **Stanford University**.

NextStep 3.0 is supposed to show up on **Dell Computer**, **Compaq Computer** and **Epson** 80486 machines at Comdex this week, demonstrating compatibility with MS-DOS and Microsoft Windows applications.

Unix International has canned its press agents **Miller Communications** and hired New York-based **Kahn Communications Group** instead primping for an "image makeover," Kahn's stock-in-trade. Kahn says UI can no longer be a "beacon" and needs to get a lot more aggressive.

Microsoft Corp has released version 2.1A of LANManager for Unix. Its features include a new Windows Network Administration program, a terminate-and-stay-resident print station and support for Windows 3.1 and IBM's OS/2 clients. The company plans to release add-on products for LAN Manager for Unix including Macintosh services and remote access services next year.

The **Object Management Group** has joined the **Open Software Foundation** and the OSF has joined the OMG in a reciprocal membership deal. The dual membership was described by OMG president, Chris Stone, as a move to "integrate and coordinate each organisations technology developments at conception rather than leave it until specifications are out."

Austin, Texas-based, **Tivoli Systems Inc** has appointed Chris Grafft as vice president of Unix development: the distributed management software company, which has collected \$6m in venture money so far, is thinking of going out for a "few million" more in a third round.

At Comdex next week **SunSelect**, the PC-to-Unix connectivity **Sun Microsystems Inc** satellite company, will announce US distribution agreements with **Tech Data Inc**, **GBC Technologies**, **Transparent Technologies Inc**, **Intelligent Electronics Inc**, **Arrow Electronic Inc** and **Merisel Canada**.

DEC has introduced DECVoicebuilder 1.1 for its OpenVMS development software for DECvoice voice response system. DECVoicebuilder is an enhanced voice application generator running under DECWindows-OSF Motif.

Hewlett-Packard Co says it will launch a new range of PA RISC-based servers to its HP 3000/800 and 9000/8000 family of systems next month. They will be multi-purpose machines serving the communications, applications and database specific markets.

Observers are expecting **DEC** to rename its OSF/1 software soon.

Rumours - and these are still strictly rumours - have **DEC** getting ready to lay off 10,000 people on Monday December 7, the anniversary of Pearl Harbour. The company is also said to be canceling personal computer-based projects and turning its resources elsewhere.

Hewlett-Packard meanwhile is downsizing, if not shutting down, what's left of the graphics group and workstation operation it has at its Fort Collins facility in Colorado. People are reportedly being told to pack up and move to California or face having no job to go to.

The **Siemens Nixdorf Osteuropa GmbH** division of Siemens Nixdorf Informationssysteme AG has now spent \$10m on its Moscow office, its training centre and showroom, and the struggling computer company hopes to get a return on this investment by 1995: at present, SNI is concentrating on the development of a dealer network and the creation of joint venture enterprises involved in transferring the technology of some of its lines.

Microsoft Corp said last week it has started ships of the beta test version of the Windows NT operating system: the beta version has not yet been tuned for performance or size, and does not yet include scheduling or the electronics mail.

Hewlett-Packard officials say they were pleasantly surprised at **Sun Microsystems Inc's** Tsunami and SunDragon pricing, as the company was prepared to go even lower on retail price for its new PA RISC 7100-based 700 systems - see page three.

X/Open and the **CCTA**, the UK Government Centre for Information Systems, have published jointly a briefing pack on XPG4, primarily for government audiences prepared in conjunction with **Hoskyns Group plc**: it costs at £25 - \$45.

Spry Inc has reorganised, dividing its system integration and software development operations into two separate companies. Spry will continue to develop multi-protocol products and spin out its software and hardware network integration business as NovX System Integration, a Spry subsidiary.

DEC expects to have production-quality Alpha PCs ready in the first quarter and will be sending them out to ISVs before the end-user version of **Microsoft Corp** Windows NT becomes available.

Microsoft Corp was at AutoFact '92 in Detroit last week trying to position NT as a manufacturing platform.

John Spiers is now **Sybase UK's** European marketing director: he reports to Vincent de Gennaro, UK managing director (UX No 409).

Neuron Data Inc says its object-oriented graphical user interface builder, **Open Interface** (UX No 408), now supports **Microsoft Corp** Windows NT. **Open Interface** provides interoperability across variety of window environments: Windows, NT, Motif, Presentation Manager, Open Look and Macintosh. **Open Interface** for Windows NT will ship as soon as NT does. It is priced at \$7,200.

Paris, France, **Cap Gemini Sogeti Group SA** has signed a systems integration pact with **Next Inc**, in which Cap Gemini will provide applications development training, networking and consultancy services for NeXt client/server sites.

DEC will release a Windows NT and SCO Unix version of its network software suite, **TeamLinks**, next year. **TeamLinks**, which to date only operates on VAX/VME-based systems, comprises an X.400-based mail system and office automation software.

Milpitas, California-based, **Adaptec Inc** has introduced a new range of SCSI-II host adapters, the AIC-7770: scheduled to go into beta test in January, the SCSI-II boards will start shipping later in 1993.

Irvine, California-based, **State Of The Art Inc** has introduced a new accounting graphical user interface, **Momentum**. The software includes a general ledger, custom financial reporting and analysis, sales order processing, payroll, invoice billing, direct deposit, job costing, point of sale and inventory management. **Momentum** is available for Windows 3.0, Windows NT, Macintosh System 7, OS/2 and Motif/Unix. The software is scheduled for release next year - prices range from \$500 - \$1,500 per module.

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Number 412

IBM INTRODUCES FOUR-CPU "PARALLEL" RS/6000

IBM Corp chose Supercomputing '92 in Minneapolis last week to announce a very moderately parallel model in the RS/6000 family, calling the thing the IBM Shared Memory System Power/4. It aggregates a grand total of four 42MHz Power RISCs in a floor-standing tower and is pitched at technical users with large or complex applications, including computational fluid dynamics, finite element analysis and structural dynamics. IBM claims that the Power/4 implements a unique parallel processing architecture, with memory bottlenecks reduced by the use of local memory for each processor in addition to shared system memory, eliminating the need for continuous updating of the cache for each processor unless the data is actually shared. IBM rates the Power/4 at a theoretical 336 MFLOPS peak. The machine has one local memory board slot per processor, taking 16Mb to 128Mb of memory each; seven slots for shared memory, which can be expanded to 896Mb; four disk bays for up to 5.2Gb of internal storage; four Micro Channel busses for a peak aggregate input-output speed of 320M-bytes per second; and 32 Micro Channel slots for external storage media and communications devices. It runs the AIX/6000 3.2 version of Unix with kernel extensions to support parallel processing. The system is being marketed on a per-request basis, with availability planned for December 1. No indication of price was given. Rather more impressive in the parallel stakes is an engineering model of the scalable parallel system in development at the company's Highly Parallel Supercomputing Systems Laboratory, a moderately parallel machine that will have eight to 64 RS/6000 processors scaling up to 6 GFLOPS peak performance. A 16-processor prototype was demonstrated. Details, page seven.

SUN WON'T SHIP 40MHz SUPERSPARC MODELS THIS QUARTER

Only rumours of Sun Microsystems Inc not delivering its 40MHz Viking-based Sparcstation 10 Model 41s were circulating around Wall Street last week until Goldman Sachs lowered the boom and cut its estimate from \$2.00 to \$1.80 on Wednesday November 18. The brokerage company contends that Sun won't be delivering the top-of-the-line machines in volume this quarter because of persistent problems with chip yield. It discounts the few 41s that might be around as non-production units. "It's not a matter of Sun missing volume by a few days," it said, "but by weeks." Goldman itself expects its relatively negative position to be short-lived. It rates Sun's orders for the machine as "outstanding," figuring that the 15,000-unit backlog estimated for September when Sun's quarter closed must have grown to 25,000 or 30,000 units by now. It also figures these orders will stick. While acknowledging that Sun has a "big PR problem," it thinks the few cranky customers threatening to jump to Hewlett-Packard Co don't represent a trend. The "safety" of Sun, it said, made it the "default choice." Meanwhile, there was speculation that Sun might be forced to make another move like it did with the surprise 33MHz Sparcstation 10 Model 20, or promise very cheap upgrades of the Model 30. Either move would impact margins.

PRAXIS GOES TO TOUCHE ROSS

Touche Ross & Co is to acquire UK software firm Praxis plc, in a deal which values the Bath, Avon-based company at around £6.51m. All of all of Touche Ross' UK software engineering activity, including a 30-strong development team hired from Manchester firm Mountsey a couple of years ago, will operate under the Praxis name. Touche Ross has been looking for an acquisition to accelerate the growth of its information technology business for some eighteen months. Praxis, a 165-person concern founded in 1983, sees the acquisition as a way of growing its business, which has been flat for the last few years. Praxis has three areas of business: critical systems (including its work on the UK Defence Research Agency's Architecture Neutral Distribution Format technology, and high reliability display information solutions), database application development for the oil, chemical and pharmaceutical industries and consultancy.

...HAS RS/6000 ANDF INSTALLER

Separately, Praxis revealed that it has completed the initial version of an Architecture Neutral Distribution Format (ANDF) installer for IBM Corp's RS/6000 platform. It has already developed an installer for the Sun Sparc RISC CPU (UX No 389). ANDF is based on UK Defence Research Agency technology and is conceived 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. Both the Open Software Foundation and Unix Systems Labs are DRA licencees. In a new development, Praxis has also been subcontracted by Intermetrics Inc to define the mappings from Ada9x languages to ANDF for DRA. It is hoped an Ada version of ANDF will allow government, defence and corporate procurers to exercise a much greater degree of control over their suppliers, by enabling them to separate hardware and software purchasing considerations.

...AS UNIX LABS PLANS ANDF SOFTWARE VENDOR PROGRAMME

Meanwhile, over in Summit, New Jersey, Unix System Labs says it is pleased with the DRA technology, though its ANDF effort is still at least a year away from release. USL is currently looking at the commercial requirements for producing ANDF in a future iteration of Unix SVR4, which is likely to include bundled installers. In anticipation of that release, an alpha-level independent software vendor programme will be up and running sometime next year, with technology that'll allow ISVs to generate ANDF versions of their applications for evaluation. ANDF details, page four.

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COMDEX '92: WINDOWS NT STEALS THE SHOW

by Alison Hawkings

The overwhelming presence of **Microsoft Corp** haunted Comdex last week. That was not entirely unexpected, of course, but the unprecedented show of strength for Windows NT cast shadows down a full 24 miles of exhibition aisles. At least 260 independent software vendors (ISVs) were showing NT applications, ranging from multimedia to accounting and multi-processing. Confidence is high. Hardware and software vendors exude it. Microsoft knows it. The company expects to have shipped at least 50,000 NT developer kits by the end of the year. That's something a Unix operating system has never achieved, observed Microsoft's NT director, Dwayne Walker. With the backing of the market, Microsoft "has the infrastructure to make NT as successful in the Unix market as Windows on Intel," he believes. For the time being Microsoft has its guns trained on the Unix application base, but it is taking little or no effort to persuade ISVs to port to an operating system that by even its own admission won't be around until next Spring at the earliest. It envisages sucking up 45% of the multi-user Intel market in the first 24 months of NT's life. Mention of **Unix System Lab's** Unix SVR4.2 or **Univel Inc's** UnixWare does not draw breath. Co-existence is acknowledged. "We are pursuing measures to make NT and SVR4 communicate with each other," says Walker, though Microsoft claims its offers to develop interoperability with the two Unixes have been met with downright hostility. "Interesting mating rituals" is how Microsoft views the current jockeying for positions in the Unix camp, but it warns that "the relationship between Microsoft and organisations such as Unix System Labs are cool." Microsoft may be on a limb when it claims to be working alone on connectivity and interoperability between NT and Unix SVR4. But having written TCP/IP and NFS functionality into NT, it is adamant that it'll develop a Windows application programming interface for SVR4 with or without USL's help.

SunSelect, Sun Microsystems Inc's PC-to-Unix connectivity satellite, was demonstrating technology that allows personal computer users running Microsoft Windows NT software to access Unix system networks using PC-NFS.

Vertical Technologies Inc released Scan-One, a device driver that decodes bar-code types and plugs directly into a serial port for SCO Unix.

While **Microsoft Corp** rolled out Bill Gates to demo a slick-looking Windows NT, **Univel Inc** admitted that UnixWare is not as elegant as Windows and probably won't even come near Windows NT in look and feel. "If we try to market UnixWare as a glamorous front-end solution we'll fall flat on our face," a Univel official said. It is relatively negative about its chances at the client end of the market, blaming "the Unix is complicated" stigma.

Chelmsford, Massachusetts-based **American Business Systems Inc's** accounting software has been certified SVR4 compatible and 88open compliant.

IBM, Borland International, Gupta Technologies Inc, Novell Inc and **WordPerfect Corp** rallied to support a new database application programming interface, the Integrated Database API (IDAPI). The API, based on the SQL Access Group's call-level interface specification, accommodates relational and personal-computer databases across multi-vendor platforms and applications. According to the group, IDAPI is an extension of Borland's Object Database API, which creates a single point of access for locating SQL or navigational data. The group is currently developing another component for the API, which will address non-SQL data stored in personal computer databases. Development kits for MS-DOS, Windows, NetWare, IBM's AIX and OS/2 are scheduled for release mid 1993.

AST Research Inc is setting up high-end indirect sales channels for Manhattan, its Intel 80486-based multi-processing machine: the company will sign up to 100 NetWare and Unix-oriented distributors.

IBM Corp duly announced a whole string of speech recognition products, ranging from basic personal computer applications to leading-edge speech technology, developed at the Thomas J Watson Research Center. The IBM Personal Computer Co will offer the products to run in a variety of environments, including MS-DOS, Windows and OS/2 2.0 in an MS-DOS window, and via a licensing and distribution agreement with Dragon Systems Inc, the unit will also offer DragonDictate-7-k and Dragon Talk-to-Plus to its customers. Set to be available from Dragon Systems or IBM in March 1993, Dragon Dictate-7-k will sell for \$2,300.

Elmsford, New York-based **Wen Technology Corp** unveiled a voice activated colour notebook, the Intel Corp 80486-based SuperNote-Voice. In its first release the system runs MS-DOS and Windows. Santa Cruz Operation Inc Unix, Xenix and Sun Microsystems Inc SunOs Unix will be available on the thing later next year. SuperNote-Voice includes a headset with microphone to transmit the user's voice instructions via Wen's proprietary voice recognition technology. Voice recognition features include up to 1,000 isolated words or phrases per user - the company claims the notebook has 98% voice command accuracy. It weighs 6.2lbs and measures 11" x 8.5" x 1.87". It is configured with from 2Mb to 4Mb RAM and 60Mb to 120Mb disk. SuperNote-Voice ships in the first quarter 1993 priced at from \$4,500. +1 914 347 4100

Corollary Inc hitched a ride on **Microsoft Corp's** Windows NT wave and announced it will offer a symmetric multi-processing 80486-based system for developing and debugging NT applications, the MP Developer Station. Corollary president, George White, believes "there is no doubt that NT is going to win a significant stake of the personal computer open systems market. It doesn't matter that Windows NT is late, Microsoft can afford to do whatever it wants. The personal computer market wants NT and it'll surprise the hell out of a lot of Unix vendors." In a base configuration the developer Station includes three Intel Corp 486DX 66MHz CPUs, 16Mb to 256Mb memory, 400Mb disk, CD-ROM and a selection of ports. The software features a multi-processing interrupt controller. There are three ways to handle interrupts in the Corollary system: to transfer all the interrupts to one processor, transfer them to the CPU with the lowest priority tasks or distributing them to more than one processor. The MP Developer Station will be available February 1993 and is priced at \$15,000.

What happens after Pentium? According to **Intel Corp's** Micro2000 vision, a high-end multi-processing chip-set with 40 to 50 million transistors clocking at 250MHz is realisable by the end of the decade. Each of the four 64-bit, 700 MIPS CPUs will have four million transistors. Two vector units will have four million apiece and there will be four to eight million for the two million bits of on-board RAM. It'll come with a graphics unit for full-motion video.

Taiwanese **Acer Group Inc** plans to expand its operations by establishing ten foreign manufacturing sites by the end of 1993: it has four currently. New plants will open in Chile, Brazil, Mexico and South East Asia. Acer is also downsizing its Hsindsheu plant and is reportedly considering relocating it to China. It will open a further 20 sites over the next three years, Acer says.

Pick Systems Inc says it will provide SQL capabilities for the Pick system and offer support for all mainstream operating systems by the end of next year.

THOMSON-CSF BUYS TELESOFT FROM TELEVERKET AS PRESENT FOR ALSYS

Televerket, the Swedish state phone company has decided it was a mistake to buy Ada development software specialist Telesoft Inc, San Diego and turn the company into Telesoft AB. Thomson-CSF SA has come up with an undisclosed sum to buy the company as a present for Alsys SA, the company sold to Thomson by Ada only begetter Jean Ichbiah in September 1991. The combination of Alsys and Telesoft will create a company with annual turnover of about \$40m, putting it head to head with market leader Rational Inc, which claims 25% of the Ada business. The separate implementations and cross-compilers are to be converged in a new Ada9X.

COMPUTONE BOARD FIRED OVER FINANCIAL MISMANAGEMENT

Publicly-held Computone Corp, Rosewell, Georgia, has fired its board and all of its officers for financial mismanagement and is restructuring in an attempt to avoid either bankruptcy or Chapter 11 (UX No 397). Tom Anderson, former president of Computone's now-defunct sister company Princeton Graphics, has been named acting president and chief operating officer with John Freitag as Computone's new chairman. The new team, brought in by the company's largest investor, has laid off 30% of Computone's staff and has already trimmed between \$3m and \$4m off the company's overhead. It is asking creditors to forgive some debts and extend payments 24 to 48 months. The majority have so far agreed. The company believes its technology, Intelliport boards, clusters, servers and wide-area network boards, is far ahead of the competition.

HAMCOM READIES SUN SUPERSPARC CLONES

UK start-up Hamcom Systems Ltd, Banbury, Oxfordshire, will begin offering Sparcstation 10-compatible workstations from next month. The £9,160 Hamstation-1020 is equivalent to Sun Microsystems Inc's Sparcstation 10 Model 20, the company says. As soon as it gets 36MHz SuperSparc chips from Texas Instruments Inc (by the end of the first quarter, it hopes), Hamcom will offer the Hamstation-1030 - equivalent to Sun's Sparc 10 Model 30 - at £9,960. The Hamstation-1041 will follow at £13,960. Each comes with 32Mb RAM, floppy drive, GX graphics, 19" Hitachi colour monitor, Solaris 1.1 on CD-ROM, 2Mbus slots, 4 SBus slots, two serial ports, a parallel port, Ethernet, SCSI, audio and ISDN. No hard disk is included in the price as Hamcom offers a range of different configurations, up to a total of 2.4Gb. Server versions, without monitor, GX graphics, mouse or keyboard are £7,160, £7,960 and £11,960 respectively. Hamcom's sister companies - also Sparc houses - are Hamilton Computervertriebs GmbH, Tuebingen, Germany, and Hamilton AG, Buelach, Switzerland. Its affiliated DEC and IBM-oriented business are impec Computervertriebs GmbH and Xeltec Computervertriebs GmbH, both of Tuebingen, Germany, Xeltec AG in Buelach, Switzerland and transtec Computers Ltd, Banbury, Oxfordshire. Parent company of the group is transtec Computersystemvertriebs AG, Tuebingen, Germany. Hamcom: +44 295 270170.

HP PROFITS SLASHED BY HALF

Hewlett-Packard Co's fourth quarter figures revealed net profits plunging 45.6% to \$68.0m on turnover that rose 12.8% at \$4,324m. Net profit for the year to October 31 fell 27.3% at \$549m after a charge of \$322m for the change in accounting for benefits for retired employees, on turnover that rose 13.2% at \$16,410m. Net earnings per share fell 44% to \$0.28 in the quarter, 28% to \$2.18 in the year. HP said some of the factors that raised its cost of sales in the fourth quarter are not new and are likely to continue. The company said fourth quarter orders were up 20% to a record \$4,420m and highlighted excellent order growth for printers and mass-storage products. It also said HP-UX multi-user computers, test-and-measurement products and medical equipment had good increases over last year, and even personal computers and components had very good order levels. In turnover terms, with \$16,400m for the year, the company sailed past Digital Equipment Corp with about \$2,000m more in annual business - but a significant proportion of its total is not computer-related, whereas DEC is a 100% computer company.

NOVELL BARS USE OF NETWARE CODE IN NEW WINDOWS PRODUCTS

Novell Inc has intensified its dispute with Microsoft Corp over use of its requester technology in Windows for Workgroups and has invoked a clause in its technology-swapping agreement that bars Microsoft from shipping NetWare code in future Windows products, **PC Week** reports. The two are negotiating to resolve the dispute, but if they fail to reach agreement, Microsoft would have to develop its own technology for linking Windows clients to NetWare or license similar code from a third party. Novell could seek an injunction, on copyright infringement grounds, to bar Microsoft from including NetWare code in Windows for Workgroups.

...SPLITS WORLDWIDE SALES INTO THREE

Novell Inc has finally produced the big restructuring that it has been planning and (sort of) denying for so long and which led to the departure of Tony Scrivens as UK managing director. In the new scheme, worldwide sales are divided into three regions each of which report to a new vice-president of worldwide sales. The man in that hot seat is Joseph Marengi, 39, formerly head of channel and OEM sales in US. Gregory Fallon, the incumbent international vice-president, gets shuffled to become vice-president of European sales where, says the company, he "will continue to manage the emergence of a cross-border distribution model in Europe." It was only last July that Fallon professed his dislike of "European umbrella organisations". Now Novell's European offices report to him. He and the executives responsible for the Americas, Asia/Pacific and for a new worldwide major markets division report to Marengi, who himself reports to Mary Burnside, president of worldwide sales. And why the upheaval? "The action is part of Novell's transition to uniform customer-related programmes and support capabilities in countries around the world," declares the company, rather opaquely.

...FINDING NOORDA'S SUCCESSOR "NOT A PROBLEM"

Meanwhile, Novell is not worried about finding a successor to 68-year-old founder and chairman Ray Noorda, chief financial officer James Tolonen told the Los Angeles Society of Financial Analysts. Tolonen described Noorda's role as one involving strategy and planning rather than day-to-day operations, adding "We have a very strong group of executives - we have looked at various times at succession," although no-one has been designated to succeed. At the same meeting, he said that Novell expects its fourth quarter international revenues to be about even with the third quarter, adding "Europe continues to look spotty."

..DISTRIBUTES RUSSIAN LANGUAGE NETWARE 3.11 AT HALF THE US DOLLAR PRICE...

On October 1, Novell Inc started distribution of the Russian version of NetWare 3.11. The price of the Russian language version is pegged to the US dollar and is exactly 50% of the price of the English language version. Until the end of the year owners of old versions will be able to get the new version at a reduced rate. Owners of illegal copies of NetWare will have the chance to get a Russian language version at a discount. Novell has now ratified the certification of Russia's newest NetWare engineers following the Moscow training session set up by Drake Training & Technologies. At present there are about 35 Certified NetWare Engineers in the Russian Federation. A spokesman for Drake Training says that there is a possibility that it may establish an office in Moscow to put the training of Russian NetWare engineers on a more regular footing.

UNIVEL REVEALS UNIXWARE IN UK

Univel Inc will ship the English language version of UnixWare, its shrink-wrapped SVR4.2-based operating system, on 30th November to European distributors. It will be available to end users in December 1992 with European language versions available in first quarter 1993. UnixWare is aimed at the Intel Corp 80386 and 80486 personal computer desktop market but it will also be available for Sparc platforms in 1993. UnixWare Personal Edition client costs £290, the Application Server costs £1,470 and the Software Development kit is £590. UK distributors are Azlan Ltd, Ingram Micro UK Ltd, Interquad Distribution Ltd and Merisel UK Ltd. All are existing Novell Netware distributors.

PRAXIS STRUTS ITS ANDF STUFF

by William Fellows

UK software firm Praxis plc is to be acquired by Touche Ross & Co (see front page). Part of the reason is the firm's expertise in developing the ground-breaking Architecture Neutral Distribution Format technology.

Praxis Systems plc has completed the initial version of an Architecture Neutral Distribution Format (ANDF) installer for IBM Corp's RS/6000 platform. The UK software firm, based in Bath, already has an installer for the Sparc RISC chip under its belt (UX No 389) - it used a Sun Microsystems Inc Sparc workstation running SunOS to do the job. Ideally, Praxis would like IBM to adopt the installer, productise it and bundle it with the RS/6000, though it is "far too early" to say whether this might happen, says the firm's Stephen Robertson. However, if the likes of IBM and Sun Microsystems Inc's SunPro language and compiler unit were to productise the installers, then the ANDF bandwagon could really start to gather some momentum in the market, he believes.

Ada

Praxis has other plans for government, defence and large corporate sectors. It has been subcontracted by Intermetrics Inc to define the mappings from Ada9x languages to ANDF for the UK's Defence Research Agency (DRA), whose Ten15 Distribution Format technology forms the basis of ANDF. The work is an early step in the development of an Ada9x ANDF producer. An Ada9x producer will allow the generation of ANDF versions of programs sourced in Ada9x. These programs could then be installed and run on any machine for which an ANDF installer exists. ANDF has been positioned as a C-oriented technology in its initial guise, although isn't a language-specific, says Praxis. Indeed, DRA expects to provide support for Fortran90 through development of a Fortran90 producer.

ANDF is conceived 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. Praxis argues ANDF will eventually 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. Currently, these kinds of customers are often forced into accepting a proprietary hardware solution simply because a supplier doesn't offer the desired software on any other type of kit. Specifying ANDF alongside standards such as X/Open and GOSIP would allow users to fulfill their hardware and software requirements and gain greater leverage over suppliers in procurement deals, says Robertson.

Fits and starts

Getting ANDF out of the labs and into the industry is progressing in fits and starts. After a lengthy selection process, the Open Software Foundation chose the UK's Defence Research Agency to supply core technology - known as the Ten15 Distribution Format - for the ANDF effort, unveiled with the backing of OSF members in June 1991 (UX No 337). However, earlier this year lack of funds forced OSF to downgrade its ANDF development and re-assign engineering staff to other projects in its stable (UX No 384). It continues to licence ANDF technologies and OSF research labs in Cambridge, Massachusetts, and Grenoble, France, are continuing their co-operative ANDF work as part of the European Commission's Open Microprocessor Initiative. It was left to Unix System Labs to step in a few weeks later and take the reins of ANDF by licensing the Ten15 technology from DRA, saying it would productise ANDF in a future release of its Unix SVR4.2 operating system (UX No 390), see front page.

Ported to ANDF via the relevant producer, an application - and there are distinct parallels between operating systems and applications in the ANDF scheme of things says Praxis - is able to execute on any platform with an ANDF installer, which allows the code to be compiled. ANDF's token mechanism enables executables to take advantage of all the functionality specific to the target environment, without any loss of performance, according to Praxis. OSF currently ships DEC VAX, MIPS, Sparc, Intel iAPX-86 and Motorola 680x0 installers as part of its ANDF offering, and it is believed to have shipped ANDF snapshots to some 25 organisations.

In addition to Praxis' RS/6000 installer, versions for DEC's Alpha AXP chip and Hewlett-Packard Co's PA-RISC architecture are thought to be underway. Although different installers are required for each platform, there is considerable commonality of code between the installers, observes Praxis. Although a fault tolerant Unix implementation would, for example, need a different installer to standard SVR4 - they are not completely estranged. For testing purposes, Praxis ran Unix SVR4 through a C producer and generated an ANDF version which it brought up on an ICL plc DRS6000 box using its Sparc installer. The ANDF version of SVR4 performed slightly better than the Unix code generated by a native C compiler, Praxis claims.

15 minutes

An ANDF version of Informix's Wingz spreadsheet, which runs to some 200,000 lines of code has been tested on Sparc and RS/6000 installers (UX No 404). Praxis says it took less time to install the ANDF version of the program than the 15 minutes it takes to compile the C sources of Wingz. An ANDF version of the Oracle database - some 1.3 million lines of code - is currently underway and should provide a sterner test of claims for the technology. Public domain software such as GNU compilers have been ported to ANDF along with the SPEC benchmarks and OSF's Motif graphical user interface. ANDF does not change the fundamental constructs of software, and data can move between applications on different machines as far as it would ordinarily be able to do. Robertson expects some software vendors - the Oracles and Informixes of the world - to licence the relevant ANDF producer and generate ANDF versions of applications themselves, with some support from Praxis or OSF. Those with less internal resources are likely to contract the whole project out.

All ANDF intellectual property rights are owned by the DRA, which has licensed its technology to OSF and USL. If a hardware or software vendor wants a licence, it can go to OSF or USL and strike a deal. Praxis is available for additional work. The vendor only has rights to any enhanced parts it may develop. The DRA's objective is to see the technology succeed rather than to generate short term income - and Robertson believes the chances are high. With the EC, the UK's Ministry of Defence and the US Defense Advanced Research Project Agency backing it, momentum for ANDF will be generated, he says.

SUNCONNECT LAUNCHES ISDN, FRAME RELAY AND POINT-TO-POINT PROTOCOL SOFTWARE

As expected, SunConnect, the communications part of Mountain View, California-based Sun Microsystems Inc, continued in its quest to merge wide area and local area networking last week. The latest goodies are SunLink ISDN, Sunlink Frame Relay and Sunlink Point-to-Point Protocol. The names of the first two are pretty self-explanatory, and the last implements the Point-to-Point protocol used to connect routers. All three are software products but Sunlink ISDN is the odd one out. For one thing it is available only for the Sparcstation 10, for another it will be shipping free with the machines from next spring. When the Sparcstation 10 was originally launched, much was made of the built in ISDN interface based on an AT&T chip set. Until now users had to find their own or third party drivers to use these chips, but Sunlink ISDN represents delivery of the original promise to have the drivers delivered as standard. Users will have to pay for the other two new products. SunLink Frame Relay provides transparent Internet Protocol communications over Frame Relay networks, and enables up to 1,022 Permanent Virtual Circuits to be set up. The software lists at \$1,150. SunLink Point-to-Point Protocol is designed to let small companies do away with dedicated routers when linking their local area networks. Instead users can let the Sparcstation do the donkey work. It should, says SunConnect, prove particularly attractive to companies that want to link small workgroups to a remote, central system. Sunlink Point-to-Point Protocol costs the same as the Frame Relay software and also shares the ability to be controlled and configured by a central SNMP-based management station such as SunNet Manager.

MICROPORT HAS UNIX SVR4 FOR PS/2s

Microport Inc, Scotts Valley, California, is ready with System V/4, its version of SVR4 for IBM's high-performance PS/2 Models 90 and 95, reportedly the first SVR4 iteration supporting IBM's proprietary controller designs and MicroChannel-based peripherals. It supports desktop and server implementations and runs both DOS and Unix concurrently. Workstation-style graphics, with X11R4 and Motif servers, 1280 x 1024 256-colour adapters as well as VGA and SVGA are included. X11R5 with support for XGA-2 comes later this month. System V/4 supports 56 SCSI devices simultaneously including both caching and non-caching IBM SCSI/Busmaster adapters and third-party products from Adaptec and BusLogic.

TADPOLE TECHNOLOGY ADDS \$3,950 SPARCBOOK, CUTS PRICES ON OTHERS

Cambridge-based Tadpole Technology Ltd has added low-cost Sparcbook LC notebook models to its family of portables, and has cut prices up to 35% on the Sparcbook 1 line. The LC is aimed at users that need to work away from their desktop but still need to access their applications and want to get into the corporate network. It runs Solaris 1.0 and offers full MS-DOS emulation, with single-key switching between the two. The S1-LC model with 8Mb, 180Mb disk and gray scale display is \$3,950 - £3,300 - and the same configuration with colour thin-film transistor display costs \$5,950 - £4,950 - adding another 8Mb costs \$950 - £800 - and a floppy drive is \$750 - £625.

SIEMENS NIXDORF PRUNES ITS PRODUCT LINES

Siemens Nixdorf Informationssysteme AG is developing its Intel Corp iAPX-86-based MX microcomputers and MIPS R-series RISC-based RM product lines at the expense of Nixdorf's Targon Unix box, and has cancelled its decision to release a new 660X0-based machine. It also intends to run its system integration business as independently as possible. Otto-Hermann Gruneberg, a director of Siemens Nixdorf, told *Computerwoche* that both the MX and RM ranges run under Unix System V.4 and compete with Targon. They were developed after the merger of Siemens and Nixdorf when Siemens acquired Targon. Applications development is being focused on the MX and RM too. The company was due to announce new RISC machines in October, and originally wanted to release a 680X0 offering at the same time but has cancelled its decision. Gruneberg said the company was no longer developing 68000 family machines because the market has shifted towards RISC - and parent Siemens AG makes the R-series chips, and is also a significant contributor of support chips for the iAPX-86 family. Research and development expenditure is being focused predominantly on the BS2000 family of mainframes, and systems integration activities will be split off to operate as a separate business unit, he said. Sales of BS2000 mainframes now contribute about a third of Siemens Nixdorf's revenues, and Gruneberg denies any negative effects from the downsizing trend - but then the German market always was notoriously slow to latch onto industry trends that are rampant elsewhere. The aim is to make the BS2000's open - first by supporting the Open Software Foundation's Distributed Computing Environment, and second by becoming Posix-compliant - within a probable time-scale of 18 months to two years.

NEW HIGH-END 4GL FROM PROGRESS

Progress Software Corp is shipping version 6.3 of its Application Development Environment (UX No 405) on Sun SPARC, Sequent PTX, IBM RS/6000 and Data General Aviiion Unix machines as well as those running Santa Cruz Operation Unix. The Bedford, Massachusetts-based company says version 6.3 will be available on the HP 700/800 as well as machines running Unix V.4 by the end of November 1992. The new release includes enhancements aimed at high-end multi-processing Unix systems. A gateway to the Sybase database allows developed applications to call procedures defined and stored in the Sybase database. The company also says it is planning a link to IBM Corp's DB/2 mainframe database in late 1993 in an attempt to attract AS/400 users. Version 6.3 provides semi-automatic recovery from failure of a distributed two-phase commit, enhancements to the Progress database engine and monitoring tools to assist systems administrators with tuning. Progress has aimed its ADE at value added resellers and MIS departments in the past, but says it is now attempting to target large companies. Version 6.3 is available to Progress users as an upgrade, anticipating the release of version 7 in May 1993, now in beta at 15 UK sites.

PORTABLE SNA NOW AVAILABLE TO END USERS

Data Connection Ltd, the Enfield, Middlesex-based UK software house that for the last ten years has provided some of the technical bedrock for the big OEMs, is now making its Unix/SNA connectivity software available to large end-users. Ten-years old Data Connection has until now kept a low profile, selling portable versions of IBM's Systems Network Architecture (SNA) technology to the likes of Control Data, Hewlett-Packard, ICL, Norsk Data, Northern Telecom, Prime (deceased), Wang and even to IBM itself - though it won't say exactly what. It has another division working on OSI, and recently won a contract from Microsoft Corp to supply X.400 technology for Microsoft Corp's NT. The new SNA product package, SNAP-IX, will allow end-users with heterogeneous systems to tie their systems together with SNA technology from a single source. Requiring a Streams interface from the host Unix system, SNAP-IX includes PU type 2.1 (over SDLC or X.25), APPC, CPI-C (as adopted by X/Open), LU6.2, LU 0,1,2 and 3, 3270/3770 emulation and support for NetView. It also includes client/server capabilities, with Unix server software running core SNA components and Unix, OS/2, DOS and Windows clients running 3270 emulation and SNA applications. The software supports most synchronous communications cards. Users receive object code versions of SNAP-IX pre-built for their chosen Unix hardware, along with services and support. But only large users need apply. The company, which has already dipped its toe into the end-user market with firms such as the Bank of Montreal, Library of Congress, Equitable Life and Safeway, would be happy to win just five to ten large SNA accounts over the next year. Typical sales are worth around 100,000. The company, which does up to 90% of its business in the US, has an office in Vienna, Virginia.

WHAT DESKTOP STRATEGY? INFORMIX TARGETS LOW-END

Although its standard Informix SE relational database engine has been available on DOS since 1984, Informix Corp appears to have made little impact on the lower end of the market, concentrating instead on its core Unix business. Its 1987 acquisition of PC office software company Innovative Software - developers of the Smart package - and later developments such as the introduction of the Wingz spreadsheet, did little to change the situation. Now Informix is pushing to get its share of the PC-local area network market with the launch of its Desktop Strategy - a set of "complementary integration products". New on the list is Informix On-Line for NetWare, implemented as a Netware Loadable Module, and Informix SE for DOS/Windows. Existing products included within the strategy include the Informix SQL toolset, Wingz, Informix Net-PC, for running DOS or Windows Informix applications as a client to a remote Unix or NetWare server, and Informix-ESQL/C, giving developers access to the Informix database from third party Windows applications or tools. Informix 4GL/GX, the GUI version of Informix/4GL, will be available for Windows from next month. Next year, the company's Informix-Storm graphical database front-end (UX No 409) will also be included. Scripts from the Smart software have been used to help with installation. And a bunch of third party tool providers have agreed to integrate their own products. These include Channel/ESP's Forest & Trees, Gupta's Quest and SQL Windows, Hewlett-Packard's New Wave Access, Jyacc's JAM, Lotus Corp's 1-2-3 for Windows, Mateysys' Objectview, Pioneer's Q+E, Powersoft Inc's Powerbuilder and Uniface Corp's Uniface 4GL.

INGRES INDEPENDENT TOOLS ON THE WAY

Following the trend spearheaded by Unify Corp with its Accell 4GL toolset a few years ago, Ingres Corp is expected to make the first moves in liberating its own toolsets from the Ingres database next month. Ingres Windows 4GL, well received as a graphical, object-oriented 4GL development tool, but with a surprisingly low profile for a two year old product, is expected to make a two-stage move towards supporting multiple databases, with announcements about a middleware product expected next month. Third party companies such as Boca Raton, Florida-based TechGnosis Inc, with its SequeLink SQL "middleware" product, have taken a similar approach. Ingres hopes to be early with SQL92, the specifications for which should be settled finally next month, and is also working with Microsoft Corp and the SQL Access Group on Open Database Connectivity (ODBC) compliance. Compliance with X/Open Co's XA transaction processing architecture is also promised for next year.

WINDOWS NT "WILL CLOSE WINDOW FOR UNIX ON COMMERCIAL DESKTOPS WITHIN TWO YEARS," SAYS DH BROWN REPORT

by Maureen O'Gara

Market research house DH Brown Associates just released a Consumer Report-style comparison of Windows NT and Unix chillingly titled "The Inevitability of NT." However its findings do not necessarily point to the inevitability of NT on sheer merit, but because of the marketing clout Microsoft is credited with having. In fact, the study's summary basically says NT wouldn't even be a contender if it didn't have Microsoft's name on it.

Albeit a worthy technical effort, NT's "lack of functional and speed advantages would normally prove fatal for a product targeting the brutally competitive desktop market." To begin with, Brown has trouble finding a market for NT. The study discards current Windows 3.1 users in the intermediate term because it neither improves their speed nor enriches their functionality. It throws out current MS-DOS users who don't need a graphical user interface (GUI) because there's no incentive to move. And it figures MS-DOS users upgrading to a GUI will go with it instead of Windows 3.1 only after the pricing comes down and the difference between the two is only \$200 or less. They will also need more stability and higher performance to make the jump. These findings presuppose Microsoft's dominant strength rests with the desktop. Brown estimates that a loss on the server side would adversely impact NT's position on the desktop. "At the very least," it says, "Microsoft must enhance its credibility on the server side to maintain its desktop position." However, Brown figures large networked installations will stick to Novell Inc NetWare or possibly move to Univel Inc's UnixWare. "The relatively small numbers of servers in comparison to the desktop, and the challenges of robustly implementing the distinct product capabilities of NT raise serious doubts concerning its viability as a server operating system." That leaves Microsoft with small peer-to-peer networks as a possible market if users require only simple file- and printer-sharing and electronic mail exchange. NT is a more powerful alternative to Windows For Workgroups, Brown says, and this market niche gives Microsoft the opportunity to undermine Novell from the low end rather than take it on head-to-head. Unfortunately Brown provides no numbers estimating the size of this market.

Best and worst

The study then compares NT to Unix on 80 functional areas falling into three categories: user environment, operating environment and development environment. The Unix systems used in the comparison include AIX 3.2.1, HP-UX 8.0x, Solaris 1.x, Ultrix 4.2a and DG/UX 5.4.2. Their scores are averages and broken out as Best Unix and Worst Unix. NT dominates in the user environment because of the overwhelming proliferation of applications running native mode. However, this claim to fame means NT really offers no new desktop innovations. It relies instead on backward compatibility with current Windows and MS-DOS products. On top of which its MS-DOS compatibility falls short of perfect, essentially emulating a 286 running in real mode. Therefore some MS-DOS applications will not run. Those that depend on MS-DOS extenders, or attempt to control I/O devices directly, fail. In addition MS-DOS and Windows 3.1 device drivers have to be reimplemented. Graphics applications run very slowly because they have to go through a filter to ensure they don't crash the machine. As a result, software vendors will have to ensure their applications work under NT. Unix at its best outperforms the NT windowing system and even at its worst is equivalent. Brown says the lack of network transparency and support for Display Postscript compares unfavourably to the flexibility of the X Windows system offered by Unix. Moreover, NT's graphics performance takes a hit. Preliminary data indicates performance has been compromised in comparison with Windows 3.1. Even allowing for the fact that NT has not yet been tuned for speed or reached production release, Brown says there appears to be additional overhead incurred when executing Windows 3.1 applications under NT. So developers will have to port for optimal performance, **"reinforcing the potential for confusing application and operating environment choices for users."** Brown also faults the NT desktop manager as being much less flexible than the best Unix has to offer. On coordination services, NT is far ahead of Unix thanks to Dynamic Data Linking and Object Linking and Embedding, for instance.

On installation however, Unix is again ahead, and is at least the equal of NT in intra-family portability, an area in which Microsoft's superiority would normally be assumed. NT has a slight edge over the average Unix on-line documentation but falls short of the best available and the introduction of the CD-ROM is a hurdle for the desktop crowd. Moving into the operating environment, Brown says NT's suitability as a desktop environment depends on Microsoft's ability to shrink current RAM and disk space requirement down to something reasonable. NT, it says, has bloated memory requirements with 16Mb needed for practical use. Brown doubts Microsoft's pledge to reduce it to 8Mb in the final release will produce a very useable system, certainly not one that could run multiple applications concurrently. Brown reasons that memory requirements will inhibit NT's widespread acceptance. "NT's massive resource requirements diminish the benefits of upgrading to a high-powered platform. A machine that would be considered fully loaded for Windows 3.1 becomes a minimal NT-suitable configuration." In addition NT has extreme disk space demands for a desktop environment, approximately 50Mb, a severe increase over the 20Mb needed for Windows 3.1 but better than a typical RISC/Unix set-up. Hence Brown figures it's unsuitable on a notebook. If it could boot from a network or a CD, disk space would be less of an issue but it can't. On the other hand, NT's pre-emption matches the best Unix has to offer, typified by AIX 3.2.1 and followed closely by DG/UX. NT also has excellent basic networking support, a key Unix feature, by bundling the functionality of LAN Manager. Its personal computer network protocol support is good but not the equal of Unix at its best. However, NT has yet to define its compatibility with critical software like Novell's NetWare. Brown notes here that NT must interoperate with it to be taken seriously in the corporate community. Unix at its best outperforms NT on the file system front but at its worst hardly scores. The NT File System (NTFS) has only adequate space efficiency, lacking many of the innovations some Unix file systems offer. Also it does not allow cluster fragments. As a result, Brown says, on the desktop, where the user creates many small files and receives mail messages, the fragmentation will consume a disproportionate amount of disk space.

Decades of innovation

Having been designed from the ground up, the NT kernel has yet to mature and rates as only adequate for robustness. Its goals of supporting advanced features like multi-processing and security while remaining very portable and scalable and at the same time backwards compatible with MS-DOS and 3.1 "will inflict costs in reliability and efficiency while it experiences its share of growing pains." Unix, meanwhile, derives its greatest unequivocal advantage from kernel robustness, where its maturity earns it a high degree of reliability. However robustness is not as great a factor on the desktop as on the server. Brown says NT exhibits a superior memory management scheme and is almost but not quite the equal of Unix at its best. Unix schemes, however, vary widely and the worst have little memory management optimization and grant only limited control precision. Brown finds NT has a weaker development environment, lacking the powerful character-oriented tools, shells and scripting ability of Unix. "Microsoft can barely compete with the decades of innovation poured in by workstation manufacturers. Still its GUI libraries give a good showing. However it lacks an integrated graphical application for compiling and editing. Brown figures Unix developers will be frustrated initially by NT's primitive tools. And while it supports common languages well, its compilers lack the maturity of Unix compilers. Microsoft is also pressing C++ which is new and less mature. Despite the advantages of the best Unix systems, however, and the enhancements coming with Solaris 2.0 and OSF/1, Brown reckons the window of opportunity for Unix on the commercial desktop will shut within two years.

SUPERCOMPUTER WORLD GATHERS IN MINNEAPOLIS

by William Fellows and Tim Palmer

The supercomputer world converged on Minneapolis, Minnesota for last week's Supercomputing '92 show. Whilst the conference lacked the hardware launches that dominated last year's show, companies announced more software for their systems as supercomputers try to move into the mainstream. The introductions last year of massively parallel machines by the likes of Intel Corp, Thinking Machines Corp opened up the parallel market and led to forecasts that they would eventually replace the vector machines first developed by Seymour Cray, who did his pioneering work at the then Control Data Corp before moving on to found Cray Research Inc and then Cray Computer Corp.

Chip away

But just as the microprocessor and open software standards are gnawing away at the foundations of the mainframe market, so massively parallel machines are beginning to chip away at the monolithic vector machines - once the parallel software catches up with the hardware. "The focus is moving from the big hardware and into the software," a spokeswoman for nCube Inc, Foster City, California told **Reuter**. Many companies are making software announcements at the Supercomputing '92: nCube reports that off-the-shelf software packages will be available on its massively parallel systems for applications ranging from molecular modelling to design pharmaceuticals and for oil exploration. Intel has a pact with Fluent Inc, developer of software used by aerospace, automotive and chemical firms, and has also co-developed a prototype program called LS-DYNA3D to run on its Paragon XP/S supercomputer. LS-DYNA3D, created by Livermore Software, is used for three-dimensional analysis. Cray Research was showing parts of its first massively parallel computer, the T3D, specifically the basic board, which will not be available until next year. "This show is going to be the noisiest or the most interesting ever because the technologies are in transition," Cray said. And IBM Corp is finally ready to take the wraps off its highly parallel processing system it is developing.

PORTLAND GROUP AND SYRACUSE WORK ON PARALLEL FORTRAN COMPILER

The Portland Group Inc, Wilsonville, Oregon, and Syracuse University's Northeast Parallel Architectures Center have formed a technology alliance to research, develop and distribute compilers and tools for parallel computer systems. First fruit of the agreement, announced at last week's Supercomputing '92 show, is a high-performance Fortran compiler targeted at Multiple Instruction Multiple Data (MIMD) and Single Program Multiple Data (SIMD) systems. The High Performance Fortran (HPF) compiler includes a set of extensions to the Fortran 90 language, allowing programmers to create machine-independent software optimised for a range of parallel architectures. Targets set for the compiler - including provision of a single parallel programming model for developing applications that can run on a variety of computers - were formulated by a coalition of industrial groups known as the High Performance Fortran Forum (HPFF). The HPF compiler, demonstrated at the supercomputing show, is based upon a data parallel language - an optimising Fortran90D compiler - developed by Syracuse group and backed by funding from the US Defense Advanced Research Projects Agency, DARPA. The initiative is part of a wider effort to facilitate the development of applications that will run on future generations of parallel architectures without loss of performance. Maryland and Rice Universities are also contributing to the work, which is being carried out as part of the National Science Foundation's Center for Research in Parallel Computation. The Syracuse group is developing prototypes of software technologies which will accelerate the take-up of general purpose parallel computing. Its alliance with the Portland Group will result in future data parallel compilers for other languages such as C++ and Ada, as well as communications interfaces and run-time tools, which will be targeted at networks and clusters of heterogeneous machines and shared-memory parallel computers. The HPF compiler includes parallel loop analysis, interprocedural analysis, inter-node communication optimisations and vectorisation of Fortran 90 style array constructs and Fortran 77 (f77) indexed array constructs. HPF language is input to the compiler which produces standard f77 and message passing calls as output. Output from the compiler is compiled by standard, single-node f77 compilers. According to The Portland Group the HPF compiler can be targeted for use by all sorts of parallel systems and clusters of workstations on a network. The compiler will be available late next year.

PORTLAND HAS COMPILERS FOR SUPERSCALAR SPARC RISC

Since its formation in 1989, The Portland Group has supplied compilers and tools to developers working with 80860 RISC. As the market for general CPU products based upon the Intel Corp part has dwindled, the company been searching for other outlets, and last week unveils a range of compiler products for superscalar Sparc RISC environments. Portland Group says it will ship superscalar Sparc C and Fortran compilers by mid-1993, incorporating the vectorisation and software pipelining technologies found in its i860 compilers. Prototypes of the Sparc compilers were demonstrated at the Supercomputing '92 show in Minneapolis last week. Alongside its superscalar effort, The Portland Group is also supplying C and Fortran compilers for Fujitsu Ltd's micro-vector processor, which is used to accelerate code in Sparc-based systems. The compilers, due in the first quarter of next year, will feature in the Japanese firm's forthcoming VPP500 monster vector parallel system which is using Sparc RISCs. The micro-vector processor delivers 289 MFLOPS at 70MHz and Portland's compilers will compile programs for Sparc or superscalar Sparc systems using the micro-vector processor. According to Portland Group, the compilers generate in-line, micro-vector processor instructions which execute on the processor when opportunities to accelerate loop-based code segments are found. The compilers will be capable of distributing loop-based code to multiple micro-vector processors as well as running the processors in parallel. Portland Group claims the compilers will be the first available for the Fujitsu micro-vector processor-Sparc architecture. Fujitsu's micro-vector processor effort will deliver accelerated compute power for Sparc system users performing CPU-intensive scientific, engineering and visualisation applications. A forerunner of the VPP500, the experimental AP1000 was announced in Japan last week.

IBM's POWER/4 TURNS BIONUMERIK ON...

Matters arising from IBM Corp's announcement of the Shared Memory System Power/4 four-processor "parallel" version of the RS/6000 - see front page - include an agreement with BioNumerik Pharmaceuticals Inc, a San Antonio, Texas company dedicated to the discovery and development of new cancer-fighting drugs. It will be an early user of the new machine, while the Supercomputer Computations Research Institute at Florida State University in Tallahassee is also planning to evaluate it. Under the agreement with BioNumerik Pharmaceuticals, IBM will become involved in a joint effort dedicated to the development of parallel computing hardware and software for the design of a new generation of cancer treatment drugs.

DEMONSTRATES PARALLEL PROMISE

The company, as reported, has also been showing off - no, not a cardboard replica but an engineering model of its forthcoming scalable, parallel entry system, currently in development at IBM's Highly Parallel Supercomputing Systems Laboratory at the Supercomputing '92 event in Minneapolis. It was accompanied by Model 3 Power Visualization System running Wavefront visualisation software, and an eight-way cluster of RS/6000 Powerstation 560s. Fibre Channel Standard technology was also featured for the first time in a cluster and high-speed networking environment. The Highly Parallel System will have eight to 64 RS/6000 processors scaling up to 6 GFLOPS peak with an optional high-performance switch interconnect. Each RISC can be configured with a maximum of 256Mb of memory and 2Gb of disk; a 64-way system can have a maximum memory of 16Gb and 128Gb of disk. IBM says the Highly Parallel system will be formally announced "shortly" and will be generally available sometime next year with up to 64 processors. By 1995, it expects to expand to hundreds of CPUs and by 1997, to thousands, which will then define it as a massively parallel supercomputer.

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It's an embarrassing thing for a fault-tolerant vendor to have to say, but a bug in Guardian for the **Tandem Computers Inc** NonStop CLX machines caused them to reset their clocks to December 1, 1983 on November 1, causing systems with time-dependent programs to go haywire. The fix is simple but excruciating for Tandem to say - reboot the system.

The latest league table (up to July 1992) of the value of the US installed computer base, compiled every six months by La Jolla, California-based **Computer Intelligence Corp**, includes a Unix machine in the top ten for the first time, among the **IBM** and **Amdahl** mainframes, **AS/400s** and **Cray-YMPs**. **Hewlett Packard Co's** HP 9000-8X0 series, first introduced in the second quarter of 1986, comes in at number nine with an installed value of \$1,168m, a total of 9,730 machines, up by 4% since January. Next on the list is the **NCR Tower** at no 16, launched early in 1984, with 53,000 machines installed worth \$746m, declining at 9%. **AT&T's** 3B2, the only other machine in the top 25, is at number 18, but its \$716m share has shrunk 14% since January. **IBM's** 3090-600 takes top position, with 850 installations worth \$4,080m.

They've yanked that big juicy \$422m CAD 2 contract to supply the US Naval Facilities Engineering Command away from **Intergraph Corp** because of a protest lodged by competitors **Centel**, **Sun** and **Autodesk**. The judge found the scores weren't consistently applied. Now they can either award the deal to the lowest bidder or negotiate some kind of split.

Thanks to a story two weeks ago in **InformationWeek** headlined "Take One, It's Free," **Unix System Labs** is having to explain to potential Destiny customers why they can't have a free copy of SVR4.2. Under its Floodgates programme, USL is in fact seeding large accounts with free copies of the software but there has to be the chance of a thousand-seat contract at stake to qualify.

Info World says **Microsoft Corp** is reversing itself and plans to tell developers about undocumented calls in Windows NT. When exactly, remains an issue. It may not be ready to unburden itself before NT ships. Microsoft said the calls, being much lower level functions, are not comparable to APIs.

Access Graphics Inc, **Sun Microsystems Inc's** master distributor, will be peddling Sun's full line of SparcEngine board products, including the new Tsunami-based SparcClassic engine and the Viking-run SparcEngine 10, to the embedded market.

Apple Computer Inc chairman and chief executive officer John Sculley's name has made it to the short list to be Secretary of Commerce in the Clinton Administration: if he takes the cabinet post, Apple's likely to look outside for a replacement.

Software engineering outfit **Dazix** is now **Intergraph Electronics** after the company that bought it two years ago. The product line will continue as Dazix.

Uniform has tapped **The Kaminer Group** to do public relations for its annual Unix show, a wily move considering its boss Dave Kaminer used to be vice president of public relations for show organiser **The Interface Group**, the mighty Comdex engine. Meanwhile, Uniform's erstwhile executive director Ed Palmer, who's due to retire next year, has moved over to head up the trade show and conferences, making way for his successor Richard Jarros (UX No 410).

Mid way through November, **Microsoft** had 3,000 beta copies of Windows NT out with corporate accounts and boasted of shipping 30,000 copies of the NT developers' kit.

Third parties interested in moving product into the Peoples' Republic of China on the back of this new **Unix System Labs** joint venture, **Unix System Technology China Ltd** (UX No 411), should get in touch with USL's Far East operation, **Unix System Laboratories Pacific**, until such time as the China unit actually gets off the ground. The person to contact is USLP president James Clark who is also chairman of UST China: BR 1 Building, 2-3-18 Shiba Minato-ku, Tokyo 105 Japan. Phone +81 3 5484 8611; Fax +81 3 5484 8606.

Maybe, just maybe, one of the reasons why **Sun Microsystems Inc's** SuperSparc Viking chip hasn't gone as smooth as silk is because Sun's lead engineers didn't listen to the young pups and do all the simulation runs they should have to begin with. SuperSparc's fabricator, **Texas Instruments Inc**, has privately called the experience a nightmare. The thing reportedly couldn't find its critical paths and gave off false signals that everything was hunky-dory when it wasn't. It's recently said it will be making new masks.

Cypress Semiconductor Corp's notion that **Sun Microsystems Inc** has set up a hush-hush research unit to investigate HyperSparc (UX No 410), is what you might call a tad overstated. We checked into it and Sun has two engineers assigned to the case. Sun continues to say it will use the chip but it's kind of hard for them to say where definitively until there's working silicon.

FedUnix, don't forget, is running December 1 and 2 at the Washington Convention Center next week in DC.

Unix System Labs got so excited about its China deal it called in a television crew and had a video done up. It's run on NBC's cable channel and should air on the Public Broadcasting System at some ungodly hour in the morning.

The big thing at Comdex this year was multimedia. Nobody knows what it is yet but it's hot. So's Windows of course and imaging. **Texas Instruments** Fellow, Karl Guttag, remarked in **Electronic Engineering Times** recently that a complete multimedia environment will require a processor architecture that can support more than 2 billion operations/second.

Sequent Computer Systems Inc has named its European vice president and general manager, Roger Cooper, to the position of senior vice president, geographic operations responsible for all of the company's sales and service units worldwide.

They're talking about Comdex/Spring being the launch pad for Windows NT.

We got a call saying we were right on the money last issue with the rumour that **DEC** will scrap up to 10,000 people on Monday December 7, Pearl Harbor Day.

Network Computing Devices Inc has named ex-**Sun Microsystems Inc** windows platform technology manager William Crane as its new vice president, engineering. His predecessor, Edwin Basset, moves into the newly created role of vice president, technology, and will explore using emerging technologies like ATM networking and multimedia in NCD products.

Dataquest Corp says the end-user market in Japan for Unix-based relational databases will be worth \$705.6m in 1996, growing at a rate of 43% a year through that year.

Failing to reach terms with **Silicon Graphics Inc** to OEM a server SGI is developing, **NEC Corp** is now developing its own using a maximum eight MIPS R4400 chips running SVR4 MP. It expects the box, due in late 1993, to do 1,000 MIPS. NEC is telling the Japanese press it couldn't agree with SGI on either price or technical issues.

At Comdex, **PC Week** was trying to stage a runoff among NT, UnixWare, Solaris, Next and SCO. The only trouble was NT kept falling over.

Market researcher, **Summit Strategies**, claims **Sun Microsystems Inc** is talking to **IBM Corp** about "access to CICS" but adds it won't follow **Hewlett-Packard Co** in price listing it and will go through third parties instead.

Alliant Computer Systems Corp, Littleton, Massachusetts is liquidating, and says it is in talks to sell parts of its technology and its service business to a third party. It expects to retain a third party to sell any remaining assets. Shareholders will not see anything.

Sun Microsystems Inc chief Scott McNealy apparently told his stockholders meeting that Solaris would be ported to the PowerPC if **IBM**, **Apple** and **Motorola** come up with the volume.

McNealy, whom we have known to shave three or four years off his age to support his boyish good looks, just passed his 38th birthday. To celebrate, Sun Microsystems staff moved all the furniture out of his office, fixed it up like a Burger King stand, poured Scott into a Burger King uniform and had him handing out his favourite food. One of his people noted the evolution of the "workstation king to Burger King." Happy returns of the day, Scotty.

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UNIX INTERNATIONAL WORKS ON DESKTOP COMPATIBILITY GUIDELINES FOR NEW ROADMAP

In an apparent attempt to rally Unix forces for the coming battle with Microsoft Corp's Windows NT, Unix International hopes to "raise the bar" above the desktop metaphor issue with a new edition of its RoadMap, due next February. In it, Unix International is expected outline specifications or requirements for methods of standardising graphical user interfaces (GUI), as well the implementation of multi-media technologies and installation procedures. Unix International (UI) claims the RoadMap will show that the GUI - an issue which has bedevilled the Unix community for the last four years - "is separable from the operating system." The problem of accommodating inconsistent, if not incompatible GUIs has been a persistent and nagging thorn in the side of industry standards organisations - UI, X/Open Co Ltd and IEEE alike. "We'll let the market decide," was a stock answer to the "which GUI?" question. Although the market would appear to have plumped for the Open Software Foundation's Motif, Sun Microsystems Inc, the largest dedicated Unix system vendor, remains exclusively committed to its Open Look alternative in the Solaris operating system delivered with its machines. Indeed the proliferation of Unix implementations now on offer to desktop system users featuring integrated operating system kernels, graphics, iconic interfaces, networking and other components appears to have made the problem even more intractable. Whilst the majority of Unix applications are still character-based - and most can run unchanged across different flavours of Unix - desktop GUIs create differences which require applications to be modified.

Bone of contention

Raising the bar, argues UI's Dave Sandell, will relegate the GUI issue by allowing firms to use the interface specifications to ensure desktop compatibility, leaving them free "to compete on implementation, not on application programming interfaces (APIs)." UI believes desktop Unix will be successful if it "can convince users of the interoperability and compatibility of applications running on platforms. If users think they can run the same applications on Solaris, Destiny and Open Desktop then they'll buy a desktop Unix client. That is our number one role." Moreover, to compete successfully against Microsoft Corp's NT, users must be assured that applications will run under one version of Unix just as easily as another. "NT is the ultimate competition and we need as much commonality as is feasible to meet the challenge" says Sandell. The bone of contention amongst desktop suppliers is where interoperability ends and where competition starts. All UI members - including SunSoft - will have to sign off on the new document, now in draft form, before it can be published. However, UI RoadMaps do not commit members to using the reference technologies or interface specifications they include. Unix SVR4.0, 4.1, 4.2, ES and MP are all UI reference technologies, but that didn't stop ICL plc doing its own multi-processing SVR4 implementation, Data General Corp working on DG/UX and SunSoft Inc developing its Solaris 2.0 desktop. To fulfill these latest desktop compatibility ideals though, UI will need members to back its interface specifications with technology implementations. Many regard SunSoft Inc as being the most dogmatic in its approach to the issue - some are worried about the company's drift towards what they see as proprietary technology. "Sun is going off on a separate direction. We want more co-operation but don't understand the things they [SunSoft] are doing," says Unix System Labs. The problem is that Sun would have to make fundamental changes to Solaris if USL's Unix SVR4.2 interface specifications are adopted in the new RoadMap. USL says it "would be happy to help Sun do that," but SunSoft, which also has a seat on USL's board, is currently lobbying hard to get its own views adopted by UI, and to do that it needs to get other members on its side.

ERICSSON-HEWLETT TELECOMMUNICATIONS VENTURE SEEN

L M Ericsson Telefon AB is in talks with Hewlett-Packard Co on the formation of a joint venture in the area of telecommunications network management and control according to Swedish sources whose information has not been denied by the protagonists. They talk of significant investment in a company that would start life with over 500 employees. Hewlett-Packard has raised the status of its Telecommunication Network Operation in Grenoble, France to that of business unit: it oversees operations in Cupertino and Singapore as well as at French headquarters. With a relatively tiny home market, Ericsson is always short of the resources it needs to stay at the leading edge of its chosen industry, where the cost of major development projects is measured in hundreds of millions of dollars, and although it has developed its own TMOS Telecommunications Management and Operations Support software suite - which runs under Unix - it needs the muscle of a company like Hewlett-Packard to exploit the product. It initially recommended Sun Microsystems Inc workstations to run it, and also has an agreement with Stratus Computer Inc under which it is marketed under the Stratus FTX fault-tolerant Unix. Stratus of course has switched to Hewlett-Packard's Precision Architecture for future generations of its fault-tolerant RISC machines.

FOUNDATION SUBPOENA'S

UNIX SYSTEMS LABS, UNIGRAM.X

Unix System Labs, which isn't even a party to the action, has been subpoena'd by the Open Software Foundation in its attempt to ward off the now-famous \$100m antitrust suit lodged against it by Adamax Inc that Sun Microsystems Inc could wind up paying for (UX Nos 404, 331). USL's in-house counsel says OSF, which appears to be looking for proof of an industry-wide conspiracy against it, is asking USL to produce not only every piece of paper they've got with OSF's name on it but anything that refers to Unix or even software. He says it could fill a warehouse but he's not going to. He's going to resist and negotiate them down to whatever it is they really want. Meanwhile, OSF's lawyers are casting their nets wide in this Adamax versus OSF matter, deposing everybody they can think of. They've even subpoena'd Unigram.X little realising we print everything we know.

BSD/386 DISTRIBUTION HALTED

A US federal judge has prohibited Berkeley Software Design Inc from distributing production or updated pre-production versions of its BSD/386 operating system to anyone anywhere. BSD/386, which the company may distribute in its current pre-production or beta state, is the centrepiece of the lawsuit Unix System Laboratories has filed against BSDI charging it with copyright infringement and misappropriation of trade secrets (UX No 396). The ruling came after BSDI asked the court to postpone a hearing on a motion for a preliminary injunction against it made by USL. USL is asking the court for a preliminary injunction forbidding BSDI from distributing any of its BSD/386 software hoping that as a result of the anticipated trial the courts will make it permanent. The hearing has been moved from December 14 to January 25.

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OPENFORUM '92, UTRECHT, NETHERLANDS

by John Abbott

Viewed as a technical conference, OpenForum '92 in Utrecht last week was a successful event, with top-class speakers addressing an informed and interested audience. Even the business side included the likes of Doug Michels from the Santa Cruz Operation, Chuck Reilly from the Open Software Foundation and Roel Pieper from Unix System Labs, and was well attended. The problem was that OpenForum '92 was originally intended to be an exhibition as well, and the relatively late decision by the organisers to focus more on the conference side was not communicated clearly enough to some of the exhibiting vendors. DEC, which held the Dutch introduction to its new Alpha machines here, and Hewlett-Packard, had both spent a lot of money on assembling and staffing the stands, and were less than happy with the trickle of visitors descending from the various sessions down onto the show floor.

Key-noters clash over future of industry.

Organised jointly by EurOpen and UniForum, OpenForum '92 has turned out to be a successor to the old European Unix User Group (EUUG) conferences of the past, with a high proportion of technical attendees. This was most evident in the two key-note speeches. Dr J Majo Cruzate, Advisor, Director General, DG XIII at the Commission of European Communities, after outlined the history of the European Single Market initiative up to Maastricht and (probably) beyond, and went on to extol the virtues of creating a single market for IT in Europe, with the European Commission's roll seen as harmonising standards efforts and funding research. Europe's trade deficit in computers with Japan and the US, now coming up to \$40 billion (almost equally distributed) was described as "a crisis". In general, Cruzate said that the IT sector was reaching maturity, and that, as a consequence, global demand was slowing. "In my opinion, there is a paradox in that the IT industry is still in the process of accelerating the technology faster than the pull of the market. There will be a reduction in the rate of technology change over the next few years to reflect the reality of the market". So spoke the voice of business. But second key-noter Dr Arno Penzias, vice president of Research at AT&T's Bell Labs, who besides being a Nobel prize winner has the additional claim to fame of being the boss of Unix creators Ken Thomson and Dennis Ritchie, disagreed. "Demand will not slow down - they will get more interesting. Customers will continue to ask for more - maybe not for higher prices. We are in the middle of a strategic information revolution where the value of information is recognised". Penzias claims that the technology enablers for such a revolution, which will lead to a major business shakeout, are only now emerging. He identified these enablers as the capturing of the necessary information, the conversion of it into something that's useful (ie the big advances in language translation systems recently), protecting information with better security, and information sharing through video conferencing and shared space. Cruzate's more pessimistic view was less well received than Penzias' more technically exciting world, but represented at least a small dose of reality into some technical ivory towers.

Tanenbaum condemns "big" microkernels

In the technical stream covering distributed computing, text-book writer extraordinaire Andrew Tanenbaum of Vrije Universiteit in Amsterdam, the man behind the Minix and Amoeba projects, reviewed the field under the title "What have we learned so far?" - a title he later changed to "What I have learned so far" after concluding that there was no industry consensus. He came down in favour of microkernels, the client-server paradigm, and remote procedure calls. In an apparent reference to Microsoft's NT, which has networking and file system features in the kernel, he condemned some "microkernels" for being too big. "There's no excuse for 8Mb systems in the kernel".

DEC claims multi-vendor support is paying off

DEC's European Open Systems manager, Jean-Claude Money, claimed that DEC's hardware business has started to grow again "both in revenues and units", while the software side, 25% of it middleware, is now worth \$3billion worldwide. A growing \$6 billion now comes from software and hardware services, and a proportion of that is now multi-vendor support. DEC recently won a contract from the UK's Ministry of Defence for servicing ICL and Olivetti kit, and has similar deals with British Telecom, Sabina in Belgium, the Swedish railway company and the Dutch PTT. It has set up a support centre in Warrington, UK, with a network of all the different types of systems it supports. DEC also announced NAS support for Sun and NAS Advantage - a higher level of conformance with DEC's Network Application Support architecture, with SAS and Progress as the first applications to win the brand-level.

Michels on NT, Intel, ACE, V.4 and going public

Doug Michels, executive vice president of the Santa Cruz Operation, told conference attendees that while Microsoft Corp's NT had provided a welcome focus on 32-bit operating systems, it's commitment to open systems remains "very weak". People now realise that DOS is not a good enough basis for future systems, he said. "But at NT developer's conferences we're told that Posix is only for winning Government bids, and we shouldn't use it". He said that Microsoft would like to have the dominant position in the industry that IBM had a few years ago "but I don't think that will happen". NT would not appear on any of the bigger selling RISC processors - Sparc, RS/6000 or HP - for at least a year, probably two, said Michels, due to the difficulties of porting it to big-endian architectures. On alternatives to the Intel standard, Michels said the ACE consortium failed because MIPS was a year late with the R4000 while Intel "got the message" and pulled forward its own chip development plans by a year. "A two-year gap closed up. At some point in the future there may be another move, but there must be something like a five times price/performance advantage before people will move to another standard platform. He justified SCO's recent 50% price hike by claiming that open systems products have been undervalued. "We price our products to be successful". Afterwards, Michels told Uni-gram that SCO had still to commit itself to either Unix V.4 or OSF Unix for its future releases. "The OSF technology is up in the air at the moment. But in an effort to beat OSF, Unix System Labs set SVR4 off on a three source tree path - multi-processing, graphics and security. We can't use it, we have those things in one product. When it comes together as ES/MP it might be an option". SVR4.2 runs SCO applications "because of SCO's help" he claimed. SCO has now completed four quarters profitably and to plan said Michels "as if we were public". He said the company would go public "when the time is right".

CHORUS ACHIEVES HARMONY WITH INMOS

Inmos Ltd has won approval from the European Commission to turn the Esprit-funded Harmony project into commercial products, in partnership with micro-kernel vendor Chorus Systemes SA and parallel computer experts Archipel of Annecy-le-Vieux, France. The Geneva-based CERN Laboratories and Scheidt & Bachmann GmbH were also involved in the project, which aimed at producing a parallel, real-time Unix environment for the Inmos chip. First commercial products should be out by year-end. First reference platform is Archipel's Volvox MIMD parallel processor, but the system is expected to be implemented on a wide range of Transputer-based systems, currently T4 and T8 chips, and in future the T9000. One reason for the slow take-up of the Transputer has been a lack of standard systems software for developers to use as a base. IBM demonstrated OS/2 and OSF/1 running concurrently on a PS/2 at Comdex a few weeks back, using the multiple personality capabilities of OSF's Mach-based microkernel technology.

DESKSTATION SHOWS ARCSTATION-1

R-SERIES PERSONAL COMPUTER FOR NT

Integrated Device Technology Inc, the Santa Clara, California firm that is a licensee of the MIPS Technologies Inc R-series RISC family, still sees the RISC as an attractive personal computer engine, despite the collapse of the Advanced Computing Environment initiative. It has joined forces with DeskStation Technology Inc and OPTi Inc to create the R4000PC RISCNT chip set and combine it with the OPTi 486EISAWB chip set to create a Windows NT desktop personal computer. The resulting machine is being launched by Lenexa, Kansas-based DeskStation Technology as the ARCStation 1, claimed to be the first personal computer to use the power of RISC in combination with an EISA chip set to provide a migration path for current personal computer users to high-end Windows NT applications. The machine uses a 50MHz processor and DeskStation's ARCS-BIOS layer interface to support the R4000PC microprocessor and Windows NT, in combination with the standard AT-alike peripherals.

CONCURRENT ADDS TO ALL DEPARTMENTS OF REAL-TIME PRODUCT LINE

Concurrent Computer Corp, now based in Oceanport, New Jersey has unleashed a torrent of new products and services - it counts 45 all told. They include 33MHz 68040-based models in the Series 7000 family of real-time Unix minicomputers; the GA5000 and GA6000 families of two- and three-dimensional graphics display subsystems; new low and mid-range additions to the family of proprietary Series 3200 real-time systems; standards-based communications and networking products including open systems interconnection software for implementing GOSIP-compliant networks and a Fibre Distributed Data Interface communications subsystem; new data acquisition products and integration tools for very high-volume data processing; the SIMulation Workbench, an application development tool for rapid development and prototyping of complex simulation and training programmes; and a range of SureStart professional services and newly structured maintenance offerings. The 33MHz Series 7000s are otherwise the same as the 25MHz ones, including the multi-bus architecture, Ethernet, and real-time features such as high-resolution timers and counters; they run the RTU real-time Unix. The GA5000 and GA6000 colour graphics subsystems are built around the Intel Corp 80860 RISC and are optimised for Concurrent's Unix systems. Both use the X.11 release of X Window System; the GA6000, developed with Du Pont Co's Du Pont Pixel Systems, uses the Silicon Graphics Inc Iris GL graphics library. The new 3200-400 and 3200-600 models in the proprietary minicomputer line expand the low end and mid range of the Series 3200, using CMOS and ECL gate arrays on the single-board processors, which support a 64M-byte per second system bus. New products on the communications side are Concurrent RTnet-OSI, RTnet-FTAM, RTnet-TCP, RTnet-X25/Plus and FDDI-V6S fibre optic local area networking software. The data acquisition capabilities of the Series 7000 and Series 8000 real-time Unix systems are extended with the Intelligent Bus Interface Module, a new Serial Input-Output board, an Intelligent Bus Developers Toolkit, and specialised software libraries. The Intelligent Bus Interface Module is a data acquisition engine with a 40MHz 68030 processor, which resides on the VMEbus, enabling high volumes of data to be transmitted or received independent of the central host processor when it is used with the new input-output board. The SIMulation Workbench is a graphical user environment designed to automate design and implementation of complex real-time simulation applications and runs on the Series 7000 and 8000.

SUN'S SPARCSTATION 10-20

Sun Microsystems Computer Corp offered the low-end Sparcstation 10 Model 20 in September as a promotional system because it was supply-bound on the faster versions of the processor (UX No 402 and see page five), and never intended the 33MHz box to become a permanent member of the product line. But customers tried it, and liked it, so the company has bowed to their wisdom and is offering the 41 SPECint92, 44 SPECfp92 uniprocessor SuperSparc machine with 32Mb memory expandable to 512Mb, a 424Mb internal disk and GX graphics at \$16,500 with a 19" grayscale monitor. Upgrading it to a Model 41 will cost \$6,500.

ICL PARALLEL SERVER TO USE HYPERSPARC

At Esprit '92 - an exhibition of European Commission-funded information technology projects in Brussels last week - ICL plc revealed that it will indeed use Cypress Semiconductor Corp's 64-bit HyperSparc microprocessor for its SQL parallel database server engine (UX No 410). ICL's Colin Skelton said Texas Instruments Inc failure to deliver a 40MHz SuperSparc CPU (UX No 412, see page five) "raised doubts about the validity of the architecture." A prototype of the database server was developed by ICL, Groupe Bull SA, Siemens Nixdorf Informationssysteme AG and associates under the European Community-backed Esprit II European Declarative System (EDS) project. ICL claims Bull and SNI are at least two or three years behind it with commercial EDS products. Bull, developing parallel Unix boxes with IBM, says it may license technology it developed for the EDS project to big blue. With EDS funding due to end next year, ICL is lobbying the European Commission to extend financing for more software research until 1994. 50% of ICL's EDS research budget came from the EC's Esprit purse. ICL's corporate database server engine will come with up to 128 processor modules each running two 60 MIPS HyperSparc CPUs - potentially running to 15,360 MIPS. The thing will be aimed at the corporate and commercial transaction processing markets and will run SQL relational databases like Oracle and Ingres when it comes to market in 1994 or 1995. The idea is to allow the server to be attached to host systems - Unix or proprietary - where it will function as a database subsystem accelerator. It will run the Chorus Systemes SA Chorus/Mix Unix SVR4 microkernel (UX No 411). A distributed European SQL interface (ESQL) - an SQL extension developed under EDS - can exploit databases for use with parallel architectures. Software optimised to run on the system includes a database request manager, data manager and Delta, a high-speed interconnect system. The request manager translates ESQL queries for parallel execution. The Delta network - developed by SNI - is a 25Mb per second interconnect bus which distributes queries across the parallel modules. ICL is currently developing connectivity with its DRS6000s and is re-engineering its software tools to incorporate code parallelisation.

ACE READIES PARALLEL PROGRAMMING TOOLS

Also at Esprit '92 - Associated Computer Experts bv, Amsterdam, Holland, demonstrated a parallel programming development environment, Prepare. The toolkit, developed in conjunction with Steria SA, Parsytec GmbH and other European research institutes, is designed to parallelise Fortran-based applications for multiple instruction multiple data (MIMD) architectures. It comprises a Fortran programming environment, and an interface model which reports to the user how much code can be automatically parallelised without modification. It connects to Compare, a parallel compiler system developed by ACE and Parsytec under a previous Esprit project. Parsytec will use Compare in its T9000 transputer-based MIMD systems due next spring. ACE is releasing Compare as a compiler toolkit next quarter - a commercial version of Prepare will be released the third quarter 1993.

MICROSOFT RELEASES ACCESS DATABASE

Microsoft Corp has introduced its new relational database management system, Access for Windows and says a Windows NT version will be released in 1994. Access for Windows developers kits are scheduled for release the first quarter of 1993. Microsoft also plans to put Access on other platforms including IBM OS/2 and the Apple Computer Inc Macintosh in future. Unix databases that support Microsoft's Open Database Connectivity (ODBC) application programming interface can interact with Access - Oracle Corp has ODBC, Sybase Inc is developing it. Users can import graphics, video, audio and Word files into Access via Microsoft's Object-Linking and Embedding (OLE) mechanism - or Microsoft Excel, Lotus 1-2-3 and ASCII files directly. Access can be used in conjunction with dBase III, dBase III Plus, Paradox 3.0 and 3.5. Access for Windows developers kits are priced at \$400.

JAPANESE ROUNDUP

NEC VR4400 RISC HAS 2m TRANSISTORS

NEC Corp has announced the VR4400, its version of MIPS' R4400 R-series RISC microprocessor, with over 2m transistors per chip and performance of 113 SPECmarks. NEC is targeting use in workstation, high-end personal computer and multi-processing system applications. The 64-bit chip uses a 0.6 micron fabrication process, and has an external clock speed of 75MHz and a clock-doubling internal clock speed of 150MHz. Sample shipments have begun in Japan with a sample price of \$3,200, and production will be ramped up to 10,000 units per month. US engineering samples are scheduled for April 1993.

UNIX INTERNATIONAL'S JAPANESE ENVIRONMENT

Earlier this month in Tokyo, Unix International Inc demonstrated the first fruits from the publication one year ago of Edition 1 of its Unix System V Common Japanese Environment specifications. A number of Japanese vendors have developed and are introducing products for Japanese localisation, based on the XIM X Input Method and XIMP X Input Method Protocol, which are the basis for the standardised Japanese input method defined by Unix International. The Common Japanese Environment was defined by the Unix International Work Group and the JLSIG Japanese Localisation Special Interest Group of Unix International. Products that comply with the standard include Unix System V.4.2, the DS series operating system sold by Fujitsu Ltd, the EWS 4800 series operating system from NEC Corp and the JFP Japanese environment of Sun Microsystems Inc's Solaris. Adoption of XIMP allows for a common interface to the different vendors' kana-to-kanji conversion front-end processors. Japanese computers use the QWERTY keyboard to input Japanese to the system: this appears as the kana syllabary on the screen, and then by various methods (such as pressing the space bar) a list of possible kanji ideograms that could represent the kana text is displayed for selection. This laborious data entry method comes in various guises - that fact in itself explains the slow pace of computer penetration in Japanese society. Vendors running a supposedly standard Unix operating system until now provided different text input methods. Unix International's specification has enabled all input methods to talk to each other and run on top of each other's systems. Unix International members such as Sony Corp and Fujitsu developed sample implementations of XIMP and provided them to the X Consortium as contribution software for X11.5. Vendors that are supporting XIMP include NEC, Sanyo Electric Co, Just Systems Inc (developer of the most popular Japanese word processor), Sumitomo Electric Corp, Toshiba Corp, Olivetti Japan Ltd, Nippon Sun, Fujitsu, Oki Electric Co and Sharp Corp.

UNIX LABS PACIFIC INTRODUCES JAPANESE LANGUAGE EXTENSIONS FOR UNIX V.4.2

At the same time, Unix Systems Laboratories Pacific announced Japanese language extensions for Unix System V.4.2. These include functions such as complete Japanisation of the desktop including menus, icons, and help messages; X Window-based character input method, XIM; Japanese system messages and Japanese terminal information. General release and sales started on November 16. In addition to the Japanese environment, it is possible to switch to other languages such as Korean and Chinese, with instantaneous conversion of the desktop language, and without re-booting, in much the same way as the Macintosh's System 7 WorldScript. On top of such a language extension, be it for Japanese, Korean or Chinese, individual input methods are maintained. For the Japanese environment, Unix Labs claims many advantages for the new extensions, including easier installation and architecture-independence.

ASTEC HAS NEW RELEASE OF CODECENTER; 1,300 SOLD SO FAR

Astec Inc, the Japanese distributor of CodeCenter, the programming environment from CenterLine Software Inc of Cambridge, Massachusetts, has announced CodeCenter version 4. Astec has sold 1,300 licences of the C programming environment since its release in Japan in September 1990. This is approximately one tenth of the worldwide sales of the the product.

X/OPEN, UNIX INTERNATIONAL AND JDS

TEAM ON OPEN SYSTEMS SOFTWARE TESTING

X/Open Co Ltd, Unix International and Japan's Joint System Development Corp, a technical standards group, are to participate in a four-year project to research and develop technology for testing open systems software in Japan. It is being sponsored by the Information-Technology Promotion Agency (IPA), an organisation for promoting software technology that is related to Japan's Ministry of International Trade & Industry, MITI. Initially the three are to develop an Assertion Definition Language, which will eventually be used to generate test suites. Results of the project will be made public by IPA.

IBM-MITSUBISHI JOINT VENTURE OPENS OPEN SYSTEMS TECHNOLOGY CENTRE

A joint venture company of Mitsubishi Electric Corp and IBM Japan Ltd, AST Co - no connection with AST Research Inc - has made moves to improve its standing in the open systems world, with the opening last month of an Open Systems Technology Centre, which will be a showcase for its multivendor and systems integration strategy. The centre will have a number of machines such as IBM RS/6000, AS/400 and PS/55 linked to Sun Microsystems Inc and Hewlett-Packard Co workstations under Ethernet, and then to personal computers such as the top-selling NEC Corp 9800 under a Token Ring network. AST now earns 7% of its revenue from open systems business, but is hoping to expand this to 30% over the next three years.

LAST YEAR SAW 58% GROWTH IN UNIX DATABASE MARKET, SAYS DATAQUEST

Dataquest Japan has released a new report on the relational database market in Japan. During 1991, Unix-based relational databases shipped in Japan grew 58% over the previous year to a record \$122m. Annual growth to 1996 is expected to be around the 43% mark, reaching \$700m in 1996. Dataquest says that to date much of the growth in the Unix market has been in the scientific and engineering world, but that future growth will be more business-oriented. Factors for this include improvement in user interfaces, application development support tools, and better Japanisation and support.

SCOPUS TO INCORPORATE ATRIA CLEARCASE

Scopus Technology Inc will be integrating Atria Systems Inc's ClearCase configuration management system into the defect tracking system of its ProTeam software hoping to capture and analyse links between bugs and source code. The unpriced software should be available next quarter offering new functions such as automatic release note creation. It checks for the latest bug fixes, cross-referencing bugs-to-source, reports of the severity and quantity of defects in releases and searches for defects based on the audit trail between bug reports and source code.

PROACTIVE SUPPORT FOR INFORMIX SERVERS

Meanwhile, Roger Sippl's ProActive Software Inc is now supporting servers running his Informix database under Unix on its Customer Information Resource module. It has added support for personal computer and workstation clients running X-Windows/Motif. ProActive claims to be the only company with customer service software natively supporting X-Windows and Windows 3.1 user interfaces on Informix and Sybase Inc databases. It claims the feature is important to users of its upcoming Quality Advantage product which integrates engineering and technical organisations with support. Support Advantage for Motif clients and Informix servers ships in the first quarter with prices starting at \$15,000 for five users.

SGI SERVERS TO USE MIPS R4400

The new high-end multi-processing server systems promised by Silicon Graphics Inc for announcement early next year (UX No 407), will use the latest R4400 RISC from its MIPS Technologies Inc sibling, which delivers up to 113 SPECmark89 and 96 SPECint89. Initially, SGI will string up to 16 of the CPUs together. Meanwhile, the Mountain View, California-based company's three-dimensional Realityengine graphics subsystem, which plugs into its Iris Power and Crimson boxes is now available in the UK priced at from £80,000. Driven by up to eight Intel Corp 80860XP RISCs, Realityengine is claimed to perform at 800 MFLOPS and comes with up to 160Mb of memory for handling screen display. With a pixel refresh rate of 320 million per second, SGI claims it can deliver the same amount of data to a screen in one second as appears in during a typical 30 second television advertisement.

IDOC HAS MULTI-LANGUAGE SOFTWARE GENERATOR

Los Angeles-based IDOC says it has a platform-independent translation management package called XL8 that facilitates simultaneous software releases in multiple languages. The company says the stuff automates moving from Macs to PCs to Suns despite the fact they all use different character sets to create their on-screen texts. It claims XL8 automates the entire localisation process and recognises most programming languages. The program maintains standard and customisable glossaries and can search for commonly used words and phrases and offer the glossary's translation. Reportedly it can also learn from the translator's work and repeat phrasing used earlier, distinguishing between wording that is similar but not identical. The initial release is on MS-DOS with Unix, Mac and Windows versions to follow. +1 310 446-4666

DUN & BRADSTREET UNIX PRODUCTS

Dun & Bradstreet Software Corp has launched the first of its Unix applications from the former Management Science America base in Atlanta. It has general ledger, accounts payable and currency management up under Unix, and other financial and logistics applications in D&B's mainframe Millennium suite of software will follow throughout next year. Kent County Council in the UK was the first beta test site for the new Unix versions and says that the new products enable it to reduce significantly the unit costs of functions such as paying invoices and processing journals. Unices currently supported are Data General Corp's DG/UX, Hewlett-Packard Co's HP-UX and ICL Plc's DRS Unix, and the applications will be available under Digital Equipment Corp OSF/1 on Alpha AXP by mid-1993. The new products incorporate a Cobol compiler from Micro Focus Plc and Gresham Telecomputing Plc's TP+ transaction processing monitor for Unix. Integrated General Ledger and Currency Management starts from \$43,000; Accounts Payable from \$41,000. The company also has its Smartstream decision support products ready to ship under Unix at the end of the month. The products were unveiled under OS/2 earlier this year and represent D&B Software's first steps into client-server computing. Smartstream, Smartstream Analyzer and InterQ are aimed at organisations that want to reduce host computer cycles, automate application workflow and provide better information access to users at the desktop, while enabling customers to re-engineer business processes. They require Microsoft Corp's Windows at the desktop and at present the server end is supported only under DG/UX and HP-UX Unices. The suite includes parts of Cognos Inc's Powerplay, Powersoft Corp's PowerBuilder and Sybase Inc's Sybase SQL Server. Prices for the suite start at \$73,000. The firm does not release UK prices for any of its products.

NOVELL "READY TO TAKE ON MICROSOFT"

Looks like there could be an antitrust action against Microsoft Corp whether or not the US Federal Trade Commission, still plodding along with its investigation of the company albeit in ever widening circles, decides to take Bill Gates to court. According to a front-page story in *InfoWorld*, Novell Inc has hired Ablondi & Foster, a law firm specialising in antitrust law, to round up expert witnesses against Microsoft for the FTC to use in its potential case. They are looking for other companies to help. Novell might also try a two-pronged attack or, if the FTC suit fizzles, Novell might go it alone. The paper reports being told by another Microsoft competitor that Novell approached it about joining a potential independent antitrust suit against Microsoft. Ya gotta love him, folks. "Gentleman" Ray Noorda is taking off the gloves.

RE-DESIGNED 40MHz TEXAS INSTRUMENTS SUPERSPARC DUE FIRST QUARTER

Bedeviled by a shortfall in 40MHz Viking chips, Sun Microsystems Inc has confirmed Wall Street fears of a highly limited supply of Model 41 Sparcstation 10s (UX No 412). The Viking chip is basically unmanufacturable in quantity at the 40MHz speed. The realisation of this fact slowly dawned on Sun and its chip partner Texas Instruments Inc sometime in September causing them to redesign Viking's metal masks. The new design, which Sun finished the week of November 16th, still has to be taped out and has yet to reach silicon. The original design, held over to eek out what it can during the transition, will be scrapped once the second design comes on-line. TI's Sparc marketing manager Phil Campbell said the first few lots of the reconstructed chip will be coming off the line in December with volumes following sometime during the first quarter. Pouring over its latest simulation runs, Sun is confident it has broken the back of the technical problem. That still leaves it with the human problem of what to do about its many customers, the sizeable backlog of orders they have created and the delays they face. Sun says it will deliver 36MHz Model 30 Sparcstation 10s in place of the Model 41 and upgrade them as the chips become available. It is promising customers the upgrades will be made on an on-going basis between now and the end of March. Sun's vice president of product marketing Anil Gadre believes Model 41 backlog will be normalised at 30 to 45 days by March 30.

\$10,000 compensation

By way of compensation, Sun will give customers who book orders for Model 41s by December 4 a second free Viking module, valued at \$10,000 and promised for delivery by June 30. The free upgrade will turn those machines into multi-processors. Sun is counting on its argument that the box has twice the useable life of any competing machine to forestall order erosion. The technical problems with the highly integrated highly complex state-of-the-art Viking chip impact not only the 40MHz but also the 45MHz, the iteration destined for the Sparcstation 10 Models 52 and 54. Sun has taken no orders for the Model 52 and 54, originally due this quarter and next quarter respectively, and told securities analysts each would be off a quarter. They will come with the next revision of Solaris. Another series of revisions involving changes in the non-metallic portions of the masks, according to TI, have to be made to get the chip to 50MHz, 55MHz and beyond. These iterations should start coming off the line in the first quarter, another delay for what was supposed to be the standard Viking. The 40MHz species, let alone the 36MHz, was after all a compromise chip when Sun and TI earlier discovered the 50MHz would be harder to make than they thought. Sun had difficulty getting a handle on the actual yield situation because week-to-week data on the silicon lots varied, Gadre said. After a while however the truth became apparent as the team fought for each quarter-megaHertz boost, he said. In the last few weeks an obscure speed path that was constraining 40MHz yield was identified and stripped out. Sun describes it as being a non-functional bug. TI still expects to double total Viking production this quarter over last quarter to 40,000 units. Sun says it is getting 36MHz chips in high volumes. Nevertheless it is making the surprise 33MHz Model 20 Sparcstation 10 a fixed part of the line. The 20 had been brought out to absorb the quantities of low-speed Vikings they were getting. Sun still believes the chip is a leapfrog in integration and will pay a huge dividend by taking the company through '93 and beyond on a price/performance basis. It would not comment on either its current yield or its backlog. Sun told analysts it reckoned the shortfall in margins and the cost of "Free MP" would be cancelled out by higher-than-expected orders for the Model 30 in the current quarter.

SIEMENS HAS NEW CAD/CAM TOOLKIT

Siemens Nixdorf Informationssysteme AG is working on a new CAD/CAM toolkit based on semantic modelling software techniques. It is being developed at SNI's Cambridge Application Software Centre in the UK and will incorporate two- and three-dimensional and other geometric designs in a single package. The toolkit allows users to analyse and assess components and manufacturing processes during the design stage, the company says. The CAD/CAM toolkit runs on SNI's re-badged Groupe Bull SA RW series of Unix workstations and Silicon Graphics Inc's Iris and Crimson workstations. The toolkit is scheduled for release the second half of 1993.

WINDOWS NT OFFERS LITTLE NEW TECHNOLOGY, SAYS UNIX INTERNATIONAL REPORT

by Maureen O'Gara

This is the week Unix International gets to take its shot at Microsoft Windows NT thanks to the publication of a detailed study it's had done by Locus Computing Corporation tellingly titled "NT versus Unix," (UX No 411). Taking potshots at NT is fast becoming an industry recreation despite it being a little unfair. NT makes such an easy target. This study, like others before it (UX No 412), finds it's the Microsoft brand not the software that's responsible for the momentum.

In a nutshell Locus says, "NT breaks little new ground technically." In addition, IDC has come up with some projections that indicate not everybody is buying the hype. Despite a 95.2% compound annual growth rate, it says NT as a client system won't pass desktop Unix anytime soon. In 1996, despite the pundits tolling the bell in anticipation of Unix's imminent demise, Unix desktop shipments will be close to 2.4m units versus only 855,000 for NT. NT will get even slower acceptance as a server with annual shipments reaching only 95,000 units in 1996 versus more than 800,000 for Unix. Locus, meanwhile, has dissected the preliminary release of NT that Microsoft is circulating for a functional comparison with desktop Unix systems like SCO, Interactive, Solaris, Destiny and UnixWare. It warns users interested in open systems to be wary of NT because of Microsoft's reluctance to implement standards or create something more than a limited proprietary system. NT ignores Posix 1003.2, Posix 1002.4, Posix.2, Posix.4, XPG3, SVID3, FIPS and X Windows conformance. NT is, however, compliant with Posix 1003.1 base functions but it gets there via a subsystem that does not integrate with the Windows environment and Windows applications are not Posix-compliant. NT claims to be portable but ignores most of the key open systems portability standards. Microsoft also continues to press for acceptance of its proprietary LAN, e-mail and other technologies as standards despite the existence of de facto and de jure standards supported by desktop Unix systems, a position that must give users pause.

Hoopla

Of course just to run the thing users will have to be prepared to buy more hardware than is typical on a desktop. Configurations need 16Mb or more to achieve acceptable performance. Once up users run the risk of losing data if there's a system incident because of the way NT's file system is built. And for all the hoopla about NT one would think the thing would be multi-user but it's not. It supports only one user at a time. It can support multiple clients but only one actual user. Users hell bent on OLTP, the key downsizing element had better look elsewhere. It's not available to NT. It may also be hard for an NT user to communicate. NT supports basic terminal requirements through add-on programs and combinations of hardware and software. Limited direct-connect support for widely available TCP/IP capabilities are also included. However, the TCP/IP in the developer's release supports only access from NT to other TCP/IP systems. Inbound TCP/IP sessions are not available and it offers only limited terminal emulation capabilities. File transfer functions, for instance, are not supported. A user also has to be prepared for only rudimentary backup and restore features making NT a dicey choice for mission-critical and commercially sensitive environments. NT provides C2-level security only when the user selects the new NT File System (NTFS) option instead of the MS-DOS File System or OS/2's High Performance File System. There is likely to be a compatibility issue moving data from either of these systems to NTFS and with applications that object to being moved between secure and insecure files. While Microsoft is committed to a future custom version of NT that's B2 secure, its plans for network security are not clear. Although it has announced an intention to provide DCE-conformance with the Windows Remote Procedure Call (RPC), it is not implementing all of DCE's functionality, only the RPC. It ignores the security, directory services and the time services that are also part of DCE's secure core. This means it will be difficult to implement servers or distributed applications with a high-level of security or be compatible with systems that do and there will only be very limited interoperability between NT and DCE applications. Multinationals meanwhile are going to find NT a bit parochial. The study finds that NT may be only monolingual with appropriate help files installed for local languages. The application vendor can clearly provide a language version of the binaries if desired, but there appear to be no facilities for multi-lingual binaries. The numerous messages hard-coded into NT will be difficult to find and translate. If this issue is not addressed, NT may come to be viewed as an American English system. NT's greatest strength, on the other hand, is its compatibility with Windows. It's a strength, however, that comes at a price. Users looking to develop distributed client/server applications, beware. NT does not provide remote windowing or networking services. Distributed graphical applications will be far more difficult to develop and will not integrate with existing applications. The addition of networking capabilities will mean a significant level of additional complexity and will require a proprietary and probably expensive support package.

On the GUI side, a user's ability to manipulate system objects from the desktop is limited in NT as are drag-and-drop capabilities, a definite drawback. It does not generally support dragging-and-dropping files onto other applications nor can its drag-and-drop be tailored. Neither can file association be customised to the user. NT is not as easy to install as Windows. It requires the right adaptors and a CD-ROM. Network installation is particularly tricky and TCP/IP start-up is now something done from a MS-DOS session. The TCP/IP implementation is still poorly documented. It is not clear how much of the network administration will be done through the GUI and how much through more primitive facilities. In general, when something doesn't work right from the GUI, the error messages require significant technical skills. The preliminary version is clearly not for the naive user. It remains to be seen how much Microsoft improves it. Compounding the situation, NT's help facility is only minimally acceptable. There is no standard way of adding multimedia help. It offers no compaction format or help compiler to minimise system resource requirements. There is also no character-based interface for remote access making it clumsy as a server. On the other hand, Microsoft has provided NT with a number of system admin tools. In the preliminary version, however, many of the options these tools provide are not fully automated. The administrator is required to update parameter files or use line-mode commands from a MS-DOS emulator session: what will change by NT's release date is unknown. Locus believes Microsoft has underestimated the importance of open networking in the marketplace. The emphasis on LAN Manager as its primary networking facility ignores the state of networking in the real world. Novell connectivity is not provided through LAN Manager. Novell has announced that it will make NetWare available on NT. Users who require Novell connectivity will be forced to purchase an add-on package to integrate NT with NetWare LANs. Worst, perhaps, Microsoft has neither provided nor announced support for NFS or any other native Unix distributed file system. Providing network file services to Unix-based servers will require that LAN Manager for Unix be installed on each Unix file server. LAN Manager is available as an expensive add-on package for some Unix platforms which will allow NT systems to have distributed file services with Unix systems only at significantly greater cost. Though add-on NFS packages may become available, none have been announced. Without NFS support, environments with large numbers of Unix systems already using NFS will have to choose between changing all of these over to support DCE or being unable to integrate NT systems into these environments easily. Moreover, NT provides no native support for OSI, X.25, SNA or DECnet. NT, as study pointed out, is not a multiuser system raising suspicions about Microsoft's motives. While it can be used to share files and resources like printers, clients must be systems based on Windows or Windows NT. Environments not currently using PCs will have to replace existing terminals and systems with Windows-based desktops. With no native capability for remote administration and maintenance, it will be difficult to set up NT servers in locations without a skilled administrator.

Emulation

On the application front, the study says the MS-DOS and Windows emulation scheme Microsoft uses leaves developers facing a complete conversion to take advantage of any of the new advanced features. Each subsystem provides its own interface and applications can't use more than one. For instance, it's either the Windows API or Posix. Applications using a mix of interfaces must be rewritten to native NT - those relying on Dynamically Linked Libraries written for the 16-bit Windows interface will have to be converted to the Win32 API to be ported. Posix-compliant programs can only run in the Posix subsystem. More complex applications using other standardised facilities or interfaces will not be supported. Many of the programs running on Unix systems will have to be ported and hundreds of X applications are unavailable to the NT user. Hindering the porting effort are the tools Microsoft provides, good for only compile and debug. Graphical compile and edit facilities are not included. The MS-DOS shell is the only shell environment available. Outside of MS-DOS and Windows, Microsoft has shown no success in providing advanced systems software products. Its departure from OS/2 and limited marketshare for LAN Manager and SQL Server cast doubts on its ability to deliver a complex advanced operating system, market-ready for business-critical applications. Those wanting a copy of the study call +1 201 263-8400.

SUPERCOMPUTER SYSTEMS MAY GO PUBLIC

So little has been heard from Steve Chen's Supercomputer Systems Inc in the past couple of years that people have been wondering if the company still existed. News is that it's alive and well in Eau Claire, Wisconsin, and is even considering an initial public offering of shares - and IBM Corp, which holds a large minority stake, will be marketing and supporting the SS-1 when it comes out. The bad news is that there is still no news on the machine. Steve Chen broke cover at Supercomputing '92 a couple of weeks ago to give a progress report, but when asked when his company would produce a machine, said only "my answer is very simple, soon, I hope very soon." Chen later confirmed that IBM will exclusively market and support the machine once it is available, lending the lie to gossip that the company was ready to give up on its investment in the company. Irving Wlawdsky-Berger, IBM's assistant general manager for supercomputing, denied the rumours. "We have not thought of pulling out," he told Reuter. "We have our fingers crossed that all the right things will happen and we hope they will be a big success." He declined to give details on the machine and Chen would say only that his new system is not the design that Cray Research Inc rejected, leading to Chen quitting Cray to start his own company. On the likelihood of an initial public offering to raise additional cash to finish development and prepare the machine for market, the company refused to comment. IBM's investment in Supercomputing Systems has never been disclosed, but it is estimated that the company needed at least \$200m to get this far. IBM is a general partner but has less than 50%. Four other investors, believed to be corporations or potential customers, have also invested an undisclosed amount in it.

SOLBOURNE TARGETS ORACLE FINANCIALS

Solbourne Computer Inc, Longmont, Colorado, plans to deliver versions of its symmetric multi-processing (SMP) Sparc server architecture with at least 20 CPUs by the time Sun Microsystems Inc manages to wheel out its own 20-way SparcCenter 2000 slated for the end of next year (UX No 411). By then Solbourne should have stepped-up from its initial superscalar Sparc Series 6 servers to the Series 7. Unlike Sunsoft Inc, Solbourne is not in the process of trying to upgrade its operating system to cope with the requirements of large-scale SMP systems, its had that work under its belt for many moons. What it doesn't currently offer is Unix SVR4 compatibility, and Solbourne commits only to a gradual migration to Solaris over a two year period. Solaris "degrades performance... and is not well balanced yet for multi-processing," the company says. Since the departure of company founder and chief executive officer Doug MacGregor earlier this year - who paid the price for Solbourne's financial 1991, which was, by its own admission, an appalling year - relations between Solbourne and its majority shareholder, Matsushita Electric Industrial Co have "warmed" considerably officials now say. However, with Sun and other compatible players moving into the Sparc SMP market, which Solbourne has had more or less to itself for some time, the company is being forced to look at other ways of differentiating its products. It is turning first to the Oracle Corp Financials world, a niche market, it admits, but one that has helped nurture the rapid growth of database server companies like Sequent Computer Systems Inc. Solbourne reckons its solutions compare very favourably with Sequent's Intel Corp-based SMP systems, and is making aggressive noises about the amount of business it hopes to win. Solbourne has already put together a disk array system tailored for Oracle Financial users - RAID capability and a native Novell Inc NetWare implementation follow next year. Solbourne hopes to ship up to 2,000 of its superscalar Series 6 boards over the coming year - many to Series 5 users who can upgrade their systems. Matsushita will concentrate its Sparc efforts on developing low-end uni- and multi-processing superscalar Sparc desktops, an area Solbourne intends to stay well clear of. Following its retreat from direct sales in Europe back in August (UX No 396), Solbourne is in the process of appointing European country managers who will report direct to Neil McNeill, director of international operations and a European manager who has yet to be appointed, both of whom will operate out of Longmont. Solbourne's UK representatives include sales and marketing manager Hamish Cassels and the company is looking for more country managers including two each for Germany and France, one for Scandinavia and one for Spain. In the US, Regis McKenna Inc's Geoffrey Moore has joined Solbourne's board of directors. Meanwhile, Solbourne's Swedish distributor, CynCrona DeFacto AB, Stockholm, has nailed a worldwide internal purchasing agreement with L M Ericsson Telefon AB: the telecomms company has been using Solbourne servers in its Swedish offices since 1990.

IBM TO MAKE WORKPLACE SHELL PORTABLE OVER MACH...

Having pretty much failed in the single most important objective of Systems Application Architecture, that of creating a single user interface for all its disparate operating system families with Common User Access, IBM Corp's Personal Software Products group is trying again, this time with the Workplace Shell of OS/2 2.0. According to the US PC Week, the company has been outlining plans for a Workplace family of operating systems built under the Workplace Shell and a microkernel that will be scaled for machines ranging from handheld devices to multi-processor RISC machines. The microkernel, which is based on the Mach kernel developed at Carnegie Mellon University, will also be at the heart of the planned operating environment from the Taligent Inc joint venture with Apple Computer Inc. The aim is to enable users to run the same applications on a range of its systems, a similar strategy to that being pursued by Microsoft Corp with Windows NT. IBM will follow its own technical approach and indicates that it will cut all ties with Microsoft when the technology-sharing agreement expires in September, in particular enhancing and promoting its own version of MS-DOS.

...FORMS CLIENT/SERVER COMPUTING UNIT

IBM Corp has announced a new Client/Server Computing unit and assigned 900 programmers in the US to it. The unit reports to IBM president Jack Kuehler with the mission to retain as customers those users worldwide that have given up on mainframes altogether and are moving to open systems. The new unit will offer services even where the customer has decided to install all non-IBM hardware. It will also establish customer centres worldwide to show off client-server skills.

...SPEECH SYSTEM ON RS/6000

Meanwhile, IBM Corp's Speech Server Series, launched at Comdex (UX No 411), is a high-performance speech program that uses an RS/6000 as either a stand-alone workstation or as a server for OS/2 2.0 clients. It was developed at IBM's Thomas J Watson Research Center in Yorktown Heights, New York and the IBM Vienna Software Development Laboratory, and combines software algorithms with high-performance co-processors for taking complex dictation. IBM claims it provides the most accurate speech recognition available, with access to 20,000 words in an active vocabulary, which can be customised to accept additional, more personalised words. It accepts dictation at up to 70 words a minute and was designed to assist organisations producing large quantities of business documentation that encounter delays in transcribing data and for those demanding the highest level of accuracy, such as reporters, medical workers, law enforcement agents, scientists and researchers. As text is dictated into a headset or lapel microphone, the program is trained to accept the speaker's accent, analysing the speaker's voice and displaying the text in a speech window. IBM claims that in many cases, homophones such as "to," "too" and "two" are successfully distinguished. The Speech Server Series supports up to eight user workstations running either OS/2 or AIX on a local area network with an RS/6000 server. The AIX Server program costs \$6,950, the OS/2 client version costs \$700 and the RS/6000 speech accelerator board costs \$1,900, all next month. The AIX stand-alone software costs \$2,500 and will be out in May.

APPLE PLANS TWO ENTERPRISE SERVERS FOR 1993

Two Macintosh servers, one designed to provide faster AppleShare performance and the other a high-speed imaging server, are under development in Apple Computer Inc's Enterprise Systems Division for delivery next year, according to MacWeek sources. Apple chairman John Sculley told analysts at a briefing last month that the servers will be only the first step in a new push to support corporate users. He also said Apple will ship servers based on Motorola Inc's 68060 as well as PowerPC processors in 1994. The hold-up in the server introduction is believed to have been the difficulty of converting AppleShare for A/UX Unix.

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UK-based **IXI Ltd** has signed up Danish Unix software house **Super Users A/S**, Copenhagen - headed up by the Scandinavian Unix guru **Brian Eberhardt** - to sell its X.desktop Motif software in Denmark.

AT&T has come up with the **ComputerWatch** service, calling it a breakthrough for system security administration. It proposes to use data collection software to take a periodic snapshot of a client's system. The snapshot is sent to AT&T for analysis of vulnerability to hackers, security breaches by authorised users and security-relevant portions of a system's log. **ComputerWatch** avoids putting a drain on the client's resources. A personal security analyst will be assigned to each account.

NCR Corp has instituted a trade-in programme to move its installed base of Tower and 3B2 users on to its 3400 servers. Resellers are being given rebates of \$1,000 to \$4,000 a hit depending on the System 3000 configuration. They also get an added 10% discount on certain networking products, OSA software and the Unix operating system plus some free transition tools and a migration guide.

Sybase Inc is putting its SQL Server RDBMS on the **Unisys Corp U 6000** series of Intel-based boxes. Availability on the high-end 75 and 85 models will be the first half of 1993 and the second half of the year for entry-level and mid-range 15s, 35s and 65s.

Inmos is expected to sell about 280,000 Transputers this year, most of them for embedded applications.

Dataquest Corp says the end-user market in Japan for Unix-based relational databases will be worth \$705.6m in 1996, growing at a rate of 43% a year through that year.

Geoff Shingles, who, legend has it, sold **Digital Equipment Corp** minis off the back of his motorbike in the pioneering days, is to resign his post as chief executive of the UK subsidiary at the end of the year, but will retain the post of chairman; the company is looking for a successor as chief executive.

Troubles continue to pile up for **Sequoia Systems Inc** and now **Ultimate Corp** has filed a lawsuit against it alleging among other things that Sequoia has sold and attempted to sell its computer systems and maintenance services directly to Ultimate's dealers and customers in violation of its contractual obligations, that it has disparaged and defamed Ultimate to such customers and dealers, and has interfered with Ultimate's relationships with such customers and dealers. As of November 23, Sequoia's accounts receivable included \$2.62m due from Ultimate, and the company has already reported that any failure by it to collect its the accounts due from Ultimate would have a material adverse effect on its financial position.

IBM UK Ltd will spin off its marketing and communications department into an independent agency on January 1 1993. The as yet unnamed company will compete for contracts from high technology companies, but not one in the computer industry because of the competition this would create with IBM. The agency will take over responsibility for IBM promotions, exhibitions and sponsorship. It will commission advertising for IBM from **GGK London Ltd** and **Still Price Court Twivy D'Souza Lintas Ltd**, IBM's existing advertising agencies. **Chris Heal**, former head of IBM UK's marketing and communications department, will be chairman and managing director of the new company. Its base is not fixed but **Basingstoke** is the favoured location.

DEC has named **Russell Gullotti** vice president US Area, responsible for all sales, service and support, a \$5bn business. He had been vice president, **Digital Services**. His first job is to find a new senior US sales/channels manager.

Computer Reseller News and its vendor sources say **Intel**, which already bumped Pentium into the first quarter, will be delaying it until late next year because of those heat dissipation and manufacturing problems we told you about (UX No 410). Intel swears it isn't true. The paper says third-party software will be delayed too because it will have to be recompiled.

On the heels of **Unix System Laboratories'** great China coup (UX No 411), the **Santa Cruz Operation** announced the availability of the first Chinese version of SCO Unix in this case SCO Unix V/386 3.2 version 4.0. The software was co-developed by SCO, SCO distributor **Steptech FIC Group** and the government-backed Institute for Information Industry in Taiwan. It will be sold in Taiwan by Steptech and SCO's other local distributor **Stridemark**.

Newport Beach, California-based **PickTel Corporation** has Advanced Pick 5.2 up on SVR4-for-Intel machines. Platforms include NCR, Wyse, Everex, Unisys and ICL. It includes the new **Epick** on-line documentation to speed application development. It is available immediately starting at \$8,000 for a 32-user license.

High-profile industry columnist **Will Zachmann** who wrote for **PC Week** for years says he left **Ziff-Davis'** employ because of pressure brought to bear to write more favourably about Microsoft and Windows.

At **Comdex**, UK-based **VisionWare Ltd**, Leeds, Yorkshire, announced a marketing agreement with the **Ask Group** subsidiary **Ingres** to sell SQL-Retriever 3.0, a Microsoft Corp ODBC-compliant version of its client/server link product.

NetWorld '93 is set for January 12-14 at the Hynes Convention Center in Boston, followed by **NetWorld '93 Europe** May 25-27 at the Frankfurt Messe in Germany.

Sun Microsystems has lost its vice president treasurer, **Thomas Meredith**, to **Dell Computer**, where he has been named chief financial officer.

AGE Logic Inc this week is supposed to announce **XoftWare/32** for Windows, the industry's first 32-bit X Window server software for 386/486 Windows-based machines. Based on MIT's newest X11R5 server code, it lets users concurrently run and display Windows and network-based Unix applications on the same PC. Shipments of the \$500 product start in early January. A bundled version of **Novell's** TCP/IP networking software will also be available for \$600.

It looks like **Taligent Inc** is going with an iteration of the Mach microkernel as the guts of its anticipated operating environment - see page seven: **PC Week's** gossip column "Spenser Katt" thinks Taligent's class libraries could be integrated into the OS/2 development system and possibly the Mac application framework next year. The Katt reckons OS/2 and Pink are fated to become one and the same thing.

IBM Corp has created five new senior vice-presidents, all of which are seen as front-runners to succeed **John Akers** atop the company. They include **Ellen Hancock**, Networking Systems, the first woman to get so high at IBM; **James Cannavino**, Personal Systems chief; **Robert LaBant**, North America chief; **Ned Lautenbach**, president of Asia Pacific; and **Bernard Puckett**, Application Solutions.

Hewlett-Packard Co will release an Open Software Foundation Distributed Computing Environment-based developer kit in February: a set of application programming interfaces for core DCE services costs \$2,000 - £1,400 - DCE cell directory services and DCE security are both \$3,100 - £2,800.

As expected (UX No 402), **Melko Scientific UK Ltd**, rolled-out its new 200 MegaFlop CS-2 massively parallel machine at Supercomputing '92 a couple of weeks ago. It uses **Fujitsu Ltd's** microVP vector processor, the **Texas Instruments Inc** 64-bit SuperSparc and customised chipsets. Available now, CS-2 is priced at \$500,000. The machine uses the **Portland Group's** SuperSparc compilers (UX No 412).

Steve Jobs says his **NeXT Computer Inc** is taking a major risk in developing **NeXTStep 3.0** for 80486-based personal computers, but reckons that it is the only serious competition for **Microsoft Corp's** Windows. Jobs said at **Comdex** that **NeXTStep** was created in answer to the problem of ever-increasing amounts of code necessary for today's increasingly complex applications - with **NeXTStep's** object-oriented development tools, custom applications can be written up to 10 times faster than for MS-DOS or Windows, have greater quality and reliability, 83% fewer lines of code, at a 90% cost saving. He said that he was competing with Windows 3 because "when monopolies come into play, innovation slows down."

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UNIX SUPPLIERS "MUST SUPPORT ABI EFFORT IN 1993"

By this time next year, SunSoft Inc wants the chiefs of the Unix tribes, Unix Systems Labs Inc's Roel Pieper, Santa Cruz Operation Inc's Doug Michels, and its own Ed Zander, to have declared how each of them will support and implement a common definition of Unix in their respective desktop operating systems. As reported (UX No 413), the definition - a low-level application binary interface (ABI) - will be owned by Unix International (UI) and is to be published in the next edition of the UI Road-Map, due at the forthcoming UI members meeting in February. UI and the suppliers hope such an ABI will enable independent software vendors to develop one binary version of an application that will, as far as is possible, run unchanged across shrink wrapped desktop Unix products like Solaris, Unix SVR4.2, UnixWare and Open-Desktop. With Microsoft Corp's Windows NT effort gathering steam, SunSoft's director of business development and strategic planning, Michael Sears, believes a resolution of the desktop compatibility issue "must happen in 1993: it is doable in 9-12 months." Although SVR4 ironed out many differences in the various Unix implementations, the problem of incompatible interfaces has precluded a satisfactory resolution of the issue. USL and SunSoft identified areas of difference in their desktops whilst beta testing the environments earlier this year. Most differences have been addressed in an object-level interface definition that takes bits from SVR4.2 and Solaris, which will form the basis of the UI ABI. It will specify that the look and feel of a graphical user interface must, for example, include a common set of widgets, or at the very least, the ability to support them. USL and SunSoft have spent the last few months working out the commercial implications of the ABI on delivery schedules and compatibility issues. With time running short, SunSoft, UI and USL technical teams are working to nail down outstanding differences: the accompanying lobbying campaigns do at least bear testament to their efforts. The success of these individual desires notwithstanding, general belief is that some form of compromise is most likely. UI says it will ensure issues not resolved don't cause major problems for ISVs - they'll be addressed by advanced technology programmes and a new set of relationships with the suppliers. UI expects a fully-converged ABI to result over time, which will eventually include some form of requirement for a common development environment. UK Defence Research Agency's Ten15 Architecture Neutral Distribution Format technology will also be incorporated: UI says it has been working closely with DRA for the last six months on proposals. Other ABIs for multi-processing and security will follow soon after by which time UI expects SCO to join the party. Quietly, UI is also expected to begin relationships with firms other than USL for technology development on its behalf. Not, says UI, to kowtow to any kind of preconditions SunSoft wants UI to meet for the firm to close on the desktop issue, but simply that USL doesn't have resources to do all the development work coming down the line. SunSoft argues "UI needs to move away from USL:" Sears says "many UI members want that to happen," but denies SunSoft is holding UI hostage."

TADPOLE TO DEVELOP POWERPC NOTEBOOK FOR IBM - FILES FOR LONDON STOCK EXCHANGE LISTING

Cambridge, UK-based Tadpole Technology Plc is to develop and manufacture a notebook computer for IBM Corp using the PowerPC RISC under an agreement the two signed on November 24. IBM will implement AIX Unix on the notebook - due in 12 to 18 months - which will be assembled at Tadpole's US arm in Austin, Texas and marketed by IBM. On top of the announcement, Tadpole is also filing for a full listing on the London Stock Exchange today. IBM is taking an initial 2.7% stake in the company, worth some \$500,000: continuation of the development agreement beyond January 29 is contingent on successful completion of the investment. Originally a manufacturer of board-level products, Tadpole is now best known for its Sparcbook notebook which uses the Sun Microsystems Inc RISC. Its SPARCbook 2 notebook computer is expected early next year. The machine will use a 40MHz Cypress Semiconductor Corp Sparc, is rated at 28 MIPS, will come with 16 to 32Mb RAM, 250 to 500Mb disk and run Solaris 1.0 operating system until Solaris 2.1 becomes available and support Open Windows version 3 or Motif interfaces, according US sources. With 16Mb RAM, 250Mb disk and colour screen it will be \$10,950 in the US - £9,125 in the UK. Tadpole will use Tsunami and Super-Sparc for its SPARCbook 3 notebooks, due in the second quarter of 1994. The company will also enhance its Nomadic Computing Environment and develop multimedia applications for the SPARCbook. More details, page two.

NEXTSTEP 486 DELAYED TO Q3

Over in the UK touting the advantages of his NeXTStep object-oriented environment to the City of London's financial services market, NeXT Computer Inc founder and chief executive Steve Jobs revealed that the long-awaited implementation of NeXTStep for Intel Corp's 80486 architecture will not be generally available until the third quarter of next year. Plans for NeXTStep 486 were revealed at NeXTWorld Expo back in January (UX No 370), and the environment was to have gone into beta test in June: that won't now happen until the New Year. Jobs claims there will be 250 third party developers working with the beta release by May and says a six month beta period will increase the robustness of the environment. Personal computer manufacturers like Compaq Computer Corp and Dell Computer Corp have been touted as potential OEM customers for NeXTStep 486 since details first emerged, but Jobs has nothing in writing yet. Jobs is positioning NeXTStep as a means to ride what he believes will be the next wave in IT - custom applications. He reckons NeXTStep can do development five to ten times faster than other technologies such as SunSoft Inc's Solaris or Unix System Labs' Unix SVR4.2 which he says are weak development solutions. Although versions of NeXTStep for other architectures, including RISC CPUs, are expected, Jobs says there are definitely "no plans to put NeXTStep on Sun." As well as NeXTStep, the NeXT Computer, which currently uses Motorola Inc's 68040 CPU, will also be upgraded to use RISC architecture. Jobs says the company has now decided on the RISC it will use, but declined to name it, or indicate when a RISC-based NeXT box would be available. NeXT has been widely expected to endorse Motorola's 88000 RISC CPU as a matter of routine. However, much publicised defections from the 88000 camp have thrown the future of the part as a mainstream CPU product into doubt, and observers are wondering whether NeXT might not just hot-foot it straight to the IBM-Apple-Motorola PowerPC. Indeed, insiders suggest that Motorola is now actively encouraging existing and potential 88000 users to start looking at PowerPC: talk of a NeXT portable has been doing the rounds. Jobs says NeXT has left its loss-making days behind and claims the privately-held company will be in a position to make a profit in 1993. However this is unlikely to be realised, Jobs says: he plans to raise spending on research and development and sales and marketing efforts. He is pinning the future of the company on the success of NeXTStep, saying that 90% of its sales effort will go towards marketing the software: "customers will decide" whether NeXT continues as a hardware operation he said. NeXT has enough cash to keep it going for at least 18 months, according to Jobs, whilst its ballyhoo'd initial public offering is now unlikely before 1994, he says. Jobs expects to have over 50,000 NeXT users by the end of the year - a figure he claims will double in 1993.

TADPOLE PLACING TO BE FOLLOWED BY IBM SUBSCRIBING FOR AN INITIAL 2.7%

Following the placing of 7.4m shares, 5.5m of them new, in Tadpole Technology Plc by Henry Cooke Corporate Finance Ltd, trading in the shares on the London International Stock Exchange is scheduled to start on Monday. Keeping it all in house, Henry Cook Lumsden Plc is the broker to the issue. The company does not have a sparkling financial story to tell - it lost £1.7m pre-tax on turnover of £12.5m in the year to September 30, and its only profitable period in four years was the nine months to September 1991, when it did £684,000 pre-tax on sales of £9.6m. It lost £270,000 on sales of £6.7m in the year to December 1989, and lost £935,000 on £5.7m sales the previous year. The company explains its performance by saying that 1989 was the first year that the US contributed the majority of its sales, 61% of the total, and that it was hit that year by a 35% fall in the UK because it was too reliant on one customer; it raised £1.5m in a rights issue. In 1990 a major supplier failed to complete development of an important microprocessor in time to deliver parts during the year - this was the time when Tadpole was to bring Intel Corp 80860 boards on stream - so it was unable to fulfil US orders for the board. Everything came through in the first nine months of 1991 so the company was able to trade profitably. In fiscal 1992, the drain on finances was development costs for the Sparcbook, exacerbated by a fall in demand for the board-level products: these were sufficiently severe that the company had to raise £572,000 in March in another rights issue after having to throw itself onto the mercy of its bankers and creditors in order to continue trading. Since then, demand for board level products has increased, but the Sparcbook has taken off more slowly than Tadpole hoped, so that by September 30 it had sold 647 of the things, bringing in £3.5m. The £3m or so net of expenses that it expects from the placing will go to eliminating existing bank loans, which stood at £952,200 on November 13, with the balance going for working capital. The company looks for demand for board-level products to continue - OEM customers for these have included E-Systems Inc, Polaroid Corp, General Electric Co Inc, Amdahl Corp, Encore Computer Corp, Xerox Corp and Thomson-CSF SA.

IBM to get up to 12.7%

It also plans to develop notebook computers that will be compatible with the workstations made by other manufacturers. The Sparcbook 2 is nearing release - see front page - and the come-on for potential investors in the prospectus is the agreement with IBM Corp - but this is not signed and sealed yet. IBM will market the resulting product - to be manufactured by Tadpole - but continuation of the development agreement beyond January 29 is contingent on successful completion of an investment in the company by IBM. The presently non-binding agreement calls for IBM to subscribe \$500,000 for new shares at the placing price of 65 pence, giving IBM 2.7%, and to grant IBM warrants to subscribe for sufficient additional shares to represent a total of 10% of the enlarged equity, also at 65 pence a share, subject to adjustments. The warrants will be exercisable from October 1993 for seven years, and would take IBM's holding up to 12.4%. The agreement includes granting IBM a non-exclusive licence to the Nomadic Computing Environment.

SIEMENS, OLIVETTI WEIGH APPLE NEWTON, AT&T HOBBIT HANDHELD...

European manufacturers are afraid of getting left behind if the emerging handheld personal communicators generate a sudden rush of consumer excitement, and rather than wait for their labs to come up with their own local products, are weighing putting their names on one of the American products and manufacturing it locally. According to **Electronic News**, Siemens Nixdorf Informationssysteme AG is in final discussions with Apple Computer Inc and the AT&T Co-Eo Inc-Matsushita Electric Industrial Co before deciding whether to go for the architecture of the Advanced RISC Machines Ltd ARM-based Newton, or the AT&T Co Hobbit-based device. Meantime Ing C Olivetti & Co - which has an interest in the ARM RISC via its 80% holding in Acorn Computers Plc, is developing its own personal communicator, but is also looking at the AT&T Hobbit, and may join the alliance with Eo; its own product would be the next generation of the 2.2lbs Quaderno portable, which uses the 16MHz 8086-compatible NEC Corp V30HL chip.

WORDPERFECT NEXT IN THE QUEUE TO TAKE ON MICROSOFT

In the "we-reap-as-we-sow" category this week there are reports by **Computer Reseller News** that WordPerfect is now thinking about dusting off its long-standing complaints against Microsoft Corp and turning them into an anti-trust action if the US Federal Trade Commission doesn't hop to and litigate. Like Novell Inc, which appears to be doing the same thing (UX No 413), WordPerfect reportedly has big-time legal beagles at its beck and call. Meanwhile, Novell chairman Ray Noorda is said to be circulating a letter among industry executives asking them to be expert witnesses in the FTC case against Microsoft. Naturally a lot of people are scared witless of getting on Microsoft's blacklist and will only cooperate under subpoena rather than appear to be volunteering information.

SES READIES OBJECT TOOLSET

Right after the holidays Austin, Texas-based SES will unwrap SES/objectbench, an object-oriented analysis (OOA) toolset for developing OOA models for technical systems and commercial applications. SES/objectbench currently consists of two products: a graphical modeling tool for creating OOA model and an animated simulator for examining the models' dynamic behavior. Another piece, due later in 1993, will do a statistical analysis of model execution. The company says the software is the first Shlaer-Mellor toolset to offer on-screen animation and dynamic checking. It will be available in March on Sparc platforms. Objectbench Graphical Modeling will sell for \$4,900 and Animated Simulation for \$14,500 per simultaneous user. +1 512 328-5544

DUN & BRADSTREET TO CUT WORLDWIDE WORKFORCE 13%

Faced with the gathering rush by users to downsize to open systems, Dun & Bradstreet Software is having to downsize itself, and will cut employment worldwide by about 13%, 400 people, by the end of next year. It is also closing its personnel applications development and support base in Huntsville, Alabama and moving the work to its Atlanta base. One reason cited for its downsizing is that its mix of skills is no longer appropriate, given that the mainframe software business is declining, and its Unix and client-server applications are only now coming to market. Only seven positions will be lost in the UK, and the 235-strong Bristol-based operation says it'll break out its year-end figures from overall Dun & Bradstreet Software numbers for the first time on December 11. The unit, which does all of the firm's Unix porting work, will start to blow its own trumpet in the new year when the latest workflow automation techniques in its client/server and Unix software will be on parade. D&B Software came into being in 1990 from the merger of McCormack & Dodge and Management Science America, mainframe software rivals. D&B's client/server software, SmartStream (UX No 413), will eventually supercede the competing mainframe products.

KEW OFFERS RAIDTEC DISK SUBSYSTEM

UK open systems integration firm, Kew Research Corporation Ltd, Uxbridge, Middlesex, is setting up indirect sales channels and OEM deals this side of the water for Redundant Array Independent Disk (RAID) developer Raidtec Corp. As part of an informal agreement between the two companies Kew will sell FlexArray alongside its systems integration solutions and to find three Unix and Novell NetWare-based distributors by January 1993. Kew is currently negotiating OEM deals with DEC and IBM in the UK on behalf of Alpharetta, Georgia-based Raidtec: it expects signatures next year. Raidtec's fault tolerant RAID subsystem offers a storage capacity from 1.2Gb to 7.2Gb per six drive array. Multiple systems can be attached to a Unix host via fast and SCSI-II adapters. It supports RAID levels 0, 1, 3 and 5 - and runs with various flavours of Unix, Novell NetWare and Apple Computer Inc Macs (UX No 395). Prices go from \$3,700 - £2,500 - to \$8,500 - £5,000. Kew specialises in open systems integration for the health, retail and local government markets. +44 895 253 543

IBM DIVISIONS BATTLE OVER RPGII MIGRATION ROUTES

According to UK firm, Binary Star Ltd, two IBM divisions are at loggerheads about how to provide migration paths for RPG II-based system users. IBM Corp's System/36 division has signed a worldwide deal with ICS Computing Group - which includes the business of Software Ireland Ltd - to market the Belfast, Northern Ireland-based company's Unibol code converter. Unibol allows System/36 users to move RPGII-based applications to other IBM platforms, including the RS/6000 and AS/400 (UX No 337). The tool supports RPG II's program-to-program SSP 6.0 communication protocol and a data-sharing facility which allows Unix applications to access, close, create and update RPG code. ICS estimates there are some 4,000 System/36 users in the UK. Meanwhile, IBM's AIX division wants to go one better and negotiate a deal for Kingham, Oxfordshire-based Binary Star Ltd's DeltaStar software (UX No 409), a development programming environment which can re-engineer RPG II-based code to run on any system that supports Micro Focus Plc Cobol or C - not just IBM AIX. IBM's System/36 division doesn't want its AIX colleagues to cut this deal. Binary Star's marketing director, Simone Star, says "it will be weeks and weeks before this issue is resolved... the divisional dissent is incredible. The System/36 operation wants to keep sales up, but those running the AIX show want to open everything up." Binary Star: +44 608 658179. ICS: +44 232 833 422.

EDP READIES OBJECT DATABASE FOR FEBRUARY

UK Pick outfit, Electronic Data Processing plc, Sheffield, is readying what it describes as a "nested, object-oriented relational database system" for release next February. The product, called Univision in the US - Quantum in the UK - will run on Unix SVR4-compatibles and can execute Pick code, according to EDP managing director, Richard Jowett. EDP bought Via Systems Inc - which has a Pick-based financial modelling package and graphical user interface - and Open Inc, Colorado Springs, Colorado, which markets a portable interface environment called Aspect, for a total of \$1.25m last month. Both sets of technologies will be integrated into EDP's database, which will be developed to include Object Management Group standards. EDP will use its US acquisitions as outlets for the technology. EDP: +44 742 621621. Open Inc: +1 719 527 9700.

AMD MUST DO OWN MICROCODE FOR Am486

Advanced Micro Devices Inc lost a crucial six months of sales in the 80486 market after Judge William Ingram ruled late on Wednesday last week that the company does not have rights to copy any of Intel Corp's microcode under their 1976 contract. The company was granted rights to use the microcode in its Am386 parts under a separate ruling in a different case, although that, too, is under further challenge from Intel. The new ruling, which Advanced Micro plans to appeal, means that it will have to write new microcode for the Am486 chip that it has been sampling to a few potential customers and had hoped to ship by the end of the year. It says it will now take until the middle of next year to get a chip out. The Am386 is covered by an award from a court-appointed arbitrator, which gave AMD a "permanent, royalty-free non-exclusive, non-transferable worldwide right... under any and all Intel copyrights, patents, trade secrets and maskwork rights contained in the current reverse-engineered 80386 family of microprocessors" as a remedy for Intel's breach of the technology exchange agreement between the two companies. Intel is now appealing that arbitration decision.

HP AND IBM TEAM ON FC/Open FIBRE CHANNEL CONSORTIUM

Hewlett-Packard and IBM have combined forces to lift a brand new consortium off the ground. FC/Open is expected to come into existence sometime next year in support of efforts to standardise high-speed fiber channel interconnects. Its predecessor organisation, the Fiber Channel Systems Initiative (FCSI), is already up and running, scheduled to reveal itself publicly in six to eight weeks. FCSI has reportedly attracted the major workstation manufacturers. Apparently more adherents are being sought. Its charter is to delineate initial recommendations for computer-to-mass storage, computer-to-computer, computer-to-peripheral, peripheral-to-peripheral, computer-to-outside services and heterogeneous cluster-to-cluster standards via switching. It is specifically a Unix/workstation initiative with goals larger than ANSI could handle. FCSI is currently under the management of Hewlett-Packard Co's Components Group and is headquartered in its San Jose, California facility. After it gets the ball rolling, FCSI is expected to wither away over the next two years, passing the torch completely to FC/Open. While FCSI will be smaller and more flexible, FC/Open is aiming for membership of some 50 or 60 companies, 15% of which are end users. Its brief is longer term and written to include missionary work, promotion and oversight of independent interoperability testing and branding. Siemens Components in New Jersey is currently charged with its supervision. FC/Open will eventually require its own quarters, staff and budget. FCSI is reportedly trying to keep its overheads down by being run as a project within HP but it will still cost upwards of a million dollars to organise. The idea for a consortium was born of the year-old fiber channel alliance between HP and IBM, according to Ed Frymoyer the HP alliance manager who is also heading up FCSI. Fiber channel proponents claim the low-latency technology is probably faster and more cost-effective than challenger FDDI.

NEW UNIFORM CHIEF SEEKS CUSTOMER FOCUS

Three weeks into the job and Richard Jaross, Uniform's spanking new executive director, is talking about revitalising the place and giving it more of a customer focus. Jaross, a Data General and before that a DEC alumnus, had been director of educational services at DG and intends to make use of that background at Uniform. Despite a rising Unix base, he is facing flat membership of 6,500 souls and 69 corporate sponsors and a clear lack of enthusiasm for the old user group even among the diehards. He feels he needs to spur membership among resellers and commercial end users and will probably use regional educational programmes to support such a drive. More importantly, however, considering the perilous economic climate and the number of people out of work, he is also considering kicking off an employment register of sorts where Uniform members looking for jobs could avail themselves of free advertising in the group's magazine Uniform Monthly. Sounds like a practical start. Good luck, Mr Director.

NEXT WINS DEAL WITH DOLPHIN SERVER

NeXT Computer Inc has struck a deal with Dolphin Server Technology A/S, the Norwegian manufacturer of Motorola Inc 88000-based server systems. From January, Dolphin, the Norsk Data A/S affiliate based in Oslo, will sell NeXT workstations as clients to its own server systems - targeting public service, banking and finance sectors. A technical element to the agreement sees Dolphin licensing NeXT's NetInfo network administration software for its systems. NeXT already has a similar agreement with Data General Corp, whose AViiON servers are also built around 88000 RISCs.

UNIX LABS CUTS OSI PRICE BY \$40,000

In an effort to resuscitate the moribund Open Systems Interconnection market, Unix System Laboratories is going to try to make its OSI stack a commodity by cutting source code fees from \$50,000 to \$10,000. Per copy licences will also be cut 75%. USL hopes the repricing will spur its vendors to make OSI end-user pricing comparable to TCP/IP, OSI's chief competitor. It also hopes to short-circuit any notions the vendors might have of building their own OSI stacks. The US market for OSI has clearly proved a dud, being limited in the main to government contracts. USL needs OSI to make a better showing to justify the large investment, worth many person/years of effort, that it has poured into the technology since 1987.

DEC AIMS FOR 300MHz ALPHA BY LATE 1994

Digital Equipment Corp told the Microprocessor Forum last month that its Alpha chip is in production at 150MHz, with usable yields up to 182MHz. Despite boasts months ago, it has of course been unable to get volumes at 200MHz and probably won't until third quarter 1993. The forecast 1993 volume pricing is \$1,096 in quantities of 1,000 and \$800 in quantities of 50,000. DEC expects its next iteration EV-45 design to produce 300MHz chips that could start shipping in early 1994. Their performance is pegged at 150 SPECint92 and 250 SPECfp92. Meanwhile another design team is working on a four-way superscalar design called EV-5 specified to produce a minimum 300MHz chip whose performance could exceed 200 SPECint92 and 350 SPECfp92. DEC figures on getting this EV-5 widget into production in late 1994. On top of these efforts, which also include an EV-6 eventually, DEC is also working on a low-cost LCA 21066 chip to rival Sun's Tsunami and HP's Hummingbird, apparently meant for high-volume NT systems. The CPU, floating point, instruction and data caches, memory controller and I/O interface will all go on to a single chip. It is expected to have 8Kb caches, larger than Tsunami's 4K/2K, and will interface to PCI, Intel's next-generation PC bus. Due to ship the last quarter of next year, it should clock in around 100MHz to 150MHz but the **Microprocessor Report** figures its integer performance is unlikely to exceed Pentium's significantly. The Report's observations on the overall development programme are worth repeating. It's "been hyped beyond what the company can deliver," it says, pointing to the failure to produce 200MHz Alphas in volume. The plan "would strain the resources of any large computer company. Digital, in the throes of major staff reductions caused by billion-dollar losses, will be hard-pressed to keep up" with it. Yet it thinks that despite the aggressiveness of the programme, "Alpha may be too little, too late." Much of DEC's future success, it estimates, rests with how well NT does in the market and whether NT ISVs will be willing to write to Alpha machines as well as Intel and MIPS.

...UPGRADES OLTP FOR DATABASE SUPPORT

Digital Equipment Corp has upgraded its seven-month-old Tuxedo-based TPframe software to version 1.1 to support a distributed online transaction processing environment as well as Oracle, Informix, Sybase and Ingres databases. The company says the stuff now provides the run-time system and development tools needed to build and deploy Unix-based OLTP applications and integrates Tuxedo with SQL and XA-compliant data management products. Entry-level pricing starts at \$3,000 for a licence on a DECstation 3100.

BORLAND EXPANDS INTERBASE OPERATION

Borland International's InterBase division is appointing new distributors for its relational database in Scandinavia, Benelux, Eastern Europe, the Gulf, Italy, Portugal, South Africa, India and Japan. Staffing levels are to be increased in all of its 17 international offices: European staff numbers will double to 80. Canadian software outfit, Cognos Inc, will continue to sell StarBase, its version of InterBase, but the product will revert back to the InterBase name. Borland refused to disclose international sales figures for InterBase but said it hoped to double what it claims is a 3.6% per cent share of the Unix database market in Europe over the next year. It claims 10,000 sites worldwide with 400 in Europe. Borland has no plans to downgrade its Dbase and Paradox database efforts or to encourage these database users to migrate to InterBase. Steven Husk, strategic sales director for Borland InterBase Europe, said the company will release Quattro Pro, dBase, Object Vision and Borland C++ SQL links to the InterBase database in the first half of 1993. The object stuff will allow personal computer clients to manage InterBase data as though it were local to the system. Borland will port Interbase to Microsoft Corp NT, Novell Inc NetWare, IBM Corp OS/2 and Digital Equipment Corp Alpha platforms in the first quarter of next year.

UI ANNOUNCES HIGH AVAILABILITY WORKGROUP - PARALLEL PROCESSING, DEVELOPMENT TOOL GROUPS TO FOLLOW

Unix International has kicked off a workgroup to define a future System V release with greater up-time. The High Availability Work Group is supposed to provide requirements for technologies that by 1995 will give System V a Class 4 Availability Rate meaning less than an hour of downtime a year in a 24 hour-a-day seven-day-a-week operating situation. The group intends to have System V achieve a downtime of about five minutes a year by 1999. It will address fault tolerance, restart speed, automatic reconfiguration and systems management automation. It will focus on distributed Unix composed of LANs and interconnected WANs where the reliability of multiple system components and large numbers of apps have to be considered. Members include Amdahl, Bellcore, Chorus, Data General, Fujitsu, HaL, ICL, Locus, Motorola, NCR, NEC, OSSI, Oracle, Pyramid, Sequent, Softway, Sequoia, Stratus, Tandem, Toshiba and Unisys. Other workgroups for parallel processing and development tools are being lined up.

...FINDS HOME IN X/OPEN'S TECHNICAL MEMBERSHIP

Unix International, which found its million-dollar seat on X/Open's board of directors as burdensome as the Open Software Foundation did and was threatening to drop out, as OSF did (UX No 404), has found accommodation in X/Open's new cheaper technical membership classification. UI will continue to participate in X/Open's Online Transaction Processing and System Management Development Group through 1993. Unix System Laboratories, which has never officially been part of X/Open though it's had a lot of informal dealings with it, is also expected to take advantage of the new technical membership and sign up.

SUNPRO HAS NEW MANAGEMENT TOOLS FOR SOLARIS

Sun Microsystems Inc subsidiary SunPro has introduced a new set of code management tools for software developers using its Solaris operating system on Sparc and Intel platforms: Sparworks/TeamWare and Proworks/TeamWare. Noticing that up to 80% of its workstation users have eschewed the use of complex and expensive configuration management tools in favour of basic Unix utilities such as SCCS (source code control system), SunPro says Teamware is designed to bridge the gap between the two extremes. "SCCS is great for working on individual files, but it has no concept of workstations or networks - it thinks it is on a single machine," says SunPro technical specialist Hank Shiffman. "But Teamwork is cheaper and easier to understand and adapt - and remove if necessary - than full-blown configuration management systems." Teamwork extends the existing Sparworks and Proworks programming tools, but is not dependent on them, and will work with third-party tools if required. There are four main components - CodeManager for tracking multiple software releases and integrating work from multiple locations; VersionTool, a visual layer for the SCCS utility; ParallelMake, which runs the various steps of a software build in parallel wherever possible on a single host; and CheckPoint, which captures prior versions of files or directories of files. Also bundled in are two existing tools, Manager and FileMerge from the SparWorks toolset. Recommended US price is \$1,000 for a single licence, going down to \$600 per user for 100 concurrent users on the network: UK prices will be set by the various sales channels. SunPro will sell through the various Sun Microsystems' subsidiaries, OEMS and software distributors. It is already out at 500 Sun sites, including Kodak, Andersen Consulting and Sun's own Sunsoft Inc subsidiary for the Solaris development team.

JAPAN'S NEW 10-YEAR RESEARCH PROJECT

Undaunted by the almost complete failure of the Fifth Generation project, Japan Inc is now embarking on a \$480m 10-year Real-World Computing Partnership with the aim of mimicking the human brain in software. The end product is intended to be a computer that could control a robot to perform such tasks as picking strawberries or blackcurrants. The Japanese government is putting up 90% of the funds, but 14 private institutions are taking part, including NEC Corp, Hitachi Ltd and Fujitsu Ltd.

INFORMIX TO USE CLEARCASE

Informix Software is going to use Atria Systems Inc's ClearCase software as the core configuration management technology for its worldwide software development environments. ClearCase will handle both current and future Informix projects. ClearCase tracks changes, helps build, release and maintain software in parallel and enforces development process policies. It is specifically intended for Unix-based development.

AT&T CLAIMS FIRST IN UNIX SOFTWARE FAULT-TOLERANCE

A breakthrough in software fault-tolerance is being claimed by AT&T Co's Bell Laboratories in Murray Hill, New Jersey. As the world comes to depend more and more on telecommunications and computer networks, AT&T is striving ever harder to pre-empt or avoid the kinds of breakdowns that have plagued its long-distance network and caused chaos in parts of the US over the past couple of years. The target the researchers were working towards in this case was the ability for its systems to recover from transient errors and other faults in the software. The developments at Bell Labs are two software components - designed to run under Unix - called *watchd* and *libft*. The components provide for automatic on-line retry as a way to achieve high system availability, AT&T says, adding that software fault tolerance can be provided in an application whether or not the underlying hardware or operating system is fault-tolerant. And it is sometimes more economical to provide fault tolerance in the software than in the hardware. *Watchd* and *libft* are designed to separate fault detection, process restart and volatile data recovery facilities from the application functions and are claimed to provide different levels of fault tolerance with minimal effort and high flexibility. *Watchd* is composed of distributed algorithms that can run on a single machine or a network of machines. It is designed to watch the life of an application continuously, and when it detects that the application has crashed or hung, it recovers that application at an initial internal state or at the point at which data was last saved. *Libft* is a library of C language functions that can be used in the application programs to specify and to checkpoint critical data, recover the checkpointed data, log events, do exception handling, and do N-version programming - presumably a means of ensuring that something vital written into the first version of a program survives unadulterated in subsequent versions. AT&T says that it is already using the two components in its New Generation Testing system that troubleshoots toll-free 800 number services and can pinpoint problems on up to 42 lines simultaneously. Bell Labs notes that fault tolerance is common in hardware and in operating systems, but generally too costly for many software systems, and says that as far as it knows, these are the first general-purpose software modules, and they set a trend toward low-cost fault-tolerance in user-level software. AT&T says that it is now exploring the possibility of marketing the components externally.

PARCPLACE DELIVERS OBJECTWORKS

ParcPlace Systems is starting to ship ObjectWorks C/C++ 3.0 this week, having delayed delivery from the summer to add significant features like C support. The object-oriented software also includes a drag-and-drop Motif-based GUI, an enhanced source-level debugger and a source code annotation facility within the browser set. ParcPlace reckons the package is the only scalable framework for medium-to-large projects that allows migration of existing C applications to an integrated C/C++ environment. Product design is intended to make team programming more effective. Incorporating the two languages into one environment should accelerate project development schedules because there's no need to switch between tools. The enhanced gdb debugger, integrated with the browser which is able to represent code structure and class relationships graphically, can reportedly debug multiple C and C++ programs simultaneously. The browser will also browse documentation notes. The package includes the industry standard cfront 2.1 C++ language system from Unix System Labs. ParcPlace intends going to cfront 3.0 with the next release. The company expects the Motif drag-and-drop, which it substituted for its proprietary GUI, to shorten the learning curve. The \$3,000 package is currently shipping on Sun 4 and Sparc machines running SunOS 4.1 and RS/6000s with AIX 3.2. Users who bought this year can get a \$800 upgrade. Meanwhile ParcPlace introduced a C++ Partners Programme for companies that offer complementary products including Aggregate Computing Inc, Mercury Interactive, NewCode Technology Inc, ObjecTime, Ontos, Persistence, Pure Software, Rational, Servio and Versant Object Technology. ParcPlace will distribute a CD-ROM with evaluation copies of some of the partners products with each shipment of ObjectWorks C/C++.

HP READIES LOW COST HUMMINGBIRD 7100 FOR ENTRY LEVEL TSUNAMI KILLER

The Lord High Muckamucks at Hewlett-Packard Co always figured there was a cheapo HP workstation on the cards. Now with Sun Microsystems Inc doing Tsunami at \$3,995 there's more reason than ever to step on it. HP has a low-cost entry-level 7100LC chip in the works called Hummingbird apparently bound for an under-\$5,000 box possibly due in the second quarter. The **Microprocessor Report** reckons these boxes will make Sun's new Tsunami-based machines look "truly anemic." The 800,000-transistor single-chip, designed in 0.8-micron CMOS, is expected to yield 50MHz to 75MHz. Michael Slater calls it "the most aggressive superscalar organization yet revealed for a PA-RISC microprocessor." He figures it will be significantly faster than the PowerPC 601 and dramatically faster than Tsunami. Hummingbird is the first PA-RISC chip to support both little-endian and big-endian byte ordering. Slater thinks little endian was added to support Microsoft Corp Windows NT, the operating system HP hasn't committed to yet. There is some multimedia hardware on-board that the company is trying to keep pretty much under wraps. Suffice it to say many important graphics and sound algorithms can take advantage of the design. Claimed applications include image processing, digital video and digital audio. The **Microprocessor Report** suspects that Hummingbird may be aimed at MPEG full-motion video/audio applications and could eliminate the need for a separate MPEG chip. If so, HP could hit the full-motion video market long before its competitors and, with NT in tow, might wind up in the thick of the battle for dominance in the next wave of PCs. Hummingbird's performance, however, being close to what the current PA-RISC mid-range offers, probably implies HP will have to boost the ratings on its mid and high-end machines.

P5 "AT WORST A FRAUD," SAYS MICROPROCESSOR REPORT...

Not everybody's impressed with the P5-aka-Pentium. In the latest issue of **Microprocessor Report**, editor Michael Slater concludes that "Intel's pre-emptive strike against the ACE Initiative turns out to be, at best, a result of wishful thinking, and at worst, a fraud." Calling the P5 a "paper tiger" responsible for the collapse of ACE and claiming that the chip fails to live up to its promises, Slater notes that "the P5 is turning out to be not a few months behind the R4000, but over a year later - and by the time the P5 is shipping, the MIPS semiconductor partners will be shipping the R4400 with perhaps 50% better performance than the P5."

...HEAT SINK AND FAN CONFIRMED

Meanwhile, Intel still denies that there is any delay in volume deliveries of the Pentium 80586 microprocessor for public consumption, but vendors briefed by the company have confirmed that, as we revealed a few weeks ago (UX No 410), the part at present needs a heat sink and a fan, and that Intel is unlikely to be able to ship in volume before the fourth quarter 1993. Developers told **Computer Reseller News** that the company has several fixes in the works, including asking them to install a fan on a small board to blow directly on the chip. The paper quotes Intel's Dave House saying that the part will initially appear in the promised 66MHz version and a cheaper 60MHz version - Siemens AG is said to have been unable to drive the chip faster than 40MHz with cooling before it burned up. It also notes that applications will have to be recompiled to get full benefit from the chip.

TATUNG COMPSTATIONS CUT UP TO 16%

Tatung Science & Technology Inc, San Jose has cut prices up to 16% on its full Compstation 40 line of Sparcstation 2-compatible systems. A high-end Compstation 40 with Solaris and Motif software now costs from \$9,000 with 16Mb CPU and 520Mb disk, 19" colour monitor, a 1.44Mb floppy drive and a single-slot GX accelerator board. It comes with Solaris 1.1 and TSTI's Mdesk 2.0, a set of programs that features Motif 1.1.4, release 5 of the X Window System, and IXI Ltd's X.desktop 3.0 icon software.

OPENFORUM '92, UTRECHT - UNIX SYSTEM LABS AND THE OSF

by John Abbott

Roel Pieper reacted strongly to claims by SunSoft Inc European general manager Peter Watkins (reported in UX No 410) that Sun had developed up to 80% of Unix System Labs' SVR4 operating system. "It is more like 20% of SVR4.0, but only 5% of where we are now", he said. Pieper warned that some "open" vendors were now beginning to backtrack and introduce non-standard elements into their product offerings, in an attempt to lock-in their customer bases. He pointed to Unix International as a forum for limiting the damage caused by arguments over technology, and said that the UI RoadMap of future Unix developments would be broadened to encompass technology from other member companies aside from USL itself: "It'll help keep them honest". Pieper is also looking to achieve a generic "Unix" brand for all Unix vendors. "The industry has caused the perception of Unix fragmentation itself, yet it takes only days or a week to port between an IBM and HP machine".

Pieper also promised delegates at Open Forum that the first wave of systems management tools and utilities for Unix System V.4 would be available during the first quarter of next year.

In what seems like a big complement on our powers of imagination, Unix System Laboratories chief Roel Pieper and Chuck Reilly, vice president of operations at the Open Software Foundation have been re-writing history, claiming at Utrecht a few weeks back that the press made up the entire Unix Wars all by themselves: "they never happened" pleaded Reilly, who didn't join OSF until 1989, after some of the worst was over. Anyway, Unix now faces a much tougher fight for survival against Microsoft Corp - or are we imagining things?

A determined outbreak of agreement between Pieper and Reilly during their combined keynote led Hans Strach-Zimmerman of Grassbrun, Munich-based iXos GmbH to ask if plans for a merger were back on again: "The reasons for a merger three or four years ago are now history," they said: "we both have our own programmes working in parallel."

Despite a great deal of talk about the Foundation moving emphasis away from operating systems towards its Distributed Computing and Distributed Management Environments, DCE and DME, Reilly claimed that the number of OSF/1 binaries shipped this year - set at 100,000 - would be doubled next year. While DEC is the only company currently using OSF's integrated kernel, IBM and Hewlett-Packard are shipping the OSF/1 commands and library set, which Reilly says makes up 75-85% of the whole. As for the microkernel system, IBM recently demonstrated the "multiple personality" concept at Comdex, running OSF/1 and OS/2 concurrently on a PS/2 on top of the Mach kernel. Reilly insists that the future Mach 3-based OSF 1.3 operating system is not simply a research product, but will be on the market in two years time providing support for multiple personalities, real-time, B3 security and clustering of distributed systems.

That again leaves two contenders for the microkernel operating systems business - OSF's Mach-based work and USL's technology from its Paris-based partner Chorus Systemes SA. While Chorus is signing up some impressive allies, including the Santa Cruz Operation, Tandem, ICL and Inmos, Carnegie-Mellon's Mach has found favour with the US defense industry. Roel Pieper says there's room for both efforts, with USL more interested in the fault-tolerance and distributed computing aspects of microkernels rather than OSF's emphasis on multiple personalities, especially attractive to OSF partners with numerous "legacy" operating systems. But Pieper claims it won't matter which microkernel underlies Unix as long as all the standard interfaces are kept to.

UNIX IN THE ASCENDANCY: ASSEMBLY OF ICL DRS 6000s CAN START AT LAST IN TATARSTAN...

Some 18 months after the announcement that it had formally established a manufacturing joint venture in the autonomous republic of Tatarstan, ICL Plc is finally about to start shipping components to its joint venture ICL-KMECS in Kazan. In 1991 the partners had agreed on a trading plan that stated ICL would be paid using a raw materials barter arrangement for its components. However the Tatarstan authorities then failed to grant the necessary licences. Asked how the impasse was overcome a spokesman for ICL Moscow says: "It was by us taking a firm line. They realised we were not going to budge until the plan was implemented. ICL-KMECS will assemble ICL's DRS 6000 Unix systems. The first machines are now likely to be shipped in the first quarter of 1993. The training of six Russian managers in Ashton-Under-Lyne, Lancashire can now also start.

PRICE OF SPARCSTATIONS

TUMBLES FOR RUSSIAN CUSTOMERS

Next month the Russian research Institute of Information Technologies and the firm ArgusSoft are due to open an Open Systems training centre equipped with Sun Microsystems Inc Sparcstations. The centre will have a network of 12 computers. For the Russian Ministry of Science this represents a large investment. The centre will provide free training for Ministry staff and some other state organisations. With the movement of responsibility for the Russian market from the UK to its Mountain View headquarters in California Sun has made a considerable drive in the scientific and academic markets in Russia. At a recent presentation in Novosibirsk, Commonwealth of Independent States regional manager, Robert Hall, said Russian customers will be given slight market discounts on top of the 20% to 40% educational discounts the company already offers. This is different from Sun's previous strategy which basically charged Russian customers European list prices plus high shipment costs. Hall said that organisations in Novosibirsk will now be able to buy Sun IPC workstations for as little as \$3,000.

PARSYTEC REPORTS PROGRESS ON ZEUS EUROPEAN PROJECT

Aachen, Germany-based massively parallel computer manufacturer Parsytec GmbH and the European Community are co-funding a European-based project, Zeus, aimed at boosting European industrial performance through the application of massively parallel processing. The German, Dutch and Greek participants, which joined the project in July, all have freshly installed T805 Transputer-based GigaCube computer systems from Parsytec. Each is to pursue its own individual goals, but will also 'loosely' collaborate on research, mainly into "Grand Challenge" technical and scientific supercomputing applications. The two largest installations are in the Paderborn Centre for Parallel Computing and the Mathematical Institute of the University of Cologne in Germany. Both have 1,024-node Parsytec machines, featuring 16 64-processor GigaCubes. The Paderborn system is to concentrate on algorithmic research, mainly for fluid dynamics and financial forecasting. Cologne University, which acts as a supercomputing centre for industries in its area, is to concentrate also on business economics, global economic models, currency exchange trends and fluid mechanics. Since the university has close links with DLR, the German Space Research Society, it is an ideal partner too for the German aerospace industry. The University of Athens and University of Amsterdam both have entry-level 512-node - or eight-GigaCube Parsytec computers. The Greek machine is to be used primarily for image processing, parallel databases and satellite communications. The University of Amsterdam is to share fluid dynamics research expertise with the Shell Oil Co among others. Together the participants form a supercomputing research base similar to government funded models in the US. The first Zeus report based on research completed this summer into the parallelisation of physics applications, is to be published next year. It is hoped that the initiative will continue to snowball, attracting new participants from European supercomputer manufacturers and sponsorship from wider industry into research projects. Where possible, applications created under the project will be marketed, mainly in Europe - but also in niche US and Japanese markets - to help generate cash. Well over £1m has gone into the project so far but exact figures are not available.

UNISQL READY WITH RELATIONAL/OBJECT DATABASE

This week Austin, Texas-based UniSQL Inc is supposed to come up with the world's first heterogeneous database management system supporting both relational and object-oriented databases. The UniSQL/M Multidatabase System, which the company first talked about back at UniForum in January and was due earlier this year (UX No 368), reportedly lets Unix users unify the schemas of various distributed multi-vendor databases into a single homogeneous database schema accessible through SQL/M's object-oriented query language. Users can represent relational data as standard relational tables which are fully accessible via SQL or as object-oriented classes with full support for methods, composition, inheritance, encapsulation and polymorphism. A key feature is the system's automatic two-phase commit support for distributed transactions spanning multiple heterogeneous databases that support two-phase commit. SQL/M is integrated with the company's other products, the UniSQL/X DBMS and the UniSQL/4GE application development environment tools for a complete application-enabling platform. SQL/M is available for beta testing on Sparc machines with Ingres 6.4 and UniSQL/X DBMS 1.2. When generally available in January, it should support IBM's RS/6000. Oracle, Sybase and DB2 implementations should follow. Future versions will support Informix, IMS from IBM and RMS from DEC. A single-user licence begins at \$4,000 including education. Meanwhile, the company expects to flesh out its next-generation product offerings with UniSQL/4GE ObjectMaster, an object-oriented rapid application development and prototyping tool that allows users to develop customised reusable GUI-based multimedia-enabled applications. It is available for early testing on Sparc machines and should become generally available in April supporting RS/6000s as well. ObjectMaster provides inherent support for various concurrency control protocols, data drill-down algorithms, multimedia data access, sophisticated inter-window message passing and integration with existing non-UniSQL tools, applications and network services. It includes both an ObjectMaster Editor for non-programmers to build graphical apps and an ObjectMaster Application Folder that acts as a central repository for application modules that can be reused, recombined or extended to build additional application prototypes and ultimately components in production applications. A single-user licence begins at \$1,800. UniSQL is funded through 1994 via an R&D agreement with the \$2bn-a-year systems integrator NTT Data Communications Systems Corporation. +1 512 343-7297

LEGATO PROMISES NETWORKER CROSS SYSTEM BACK-UP FOR UNIXWARE

Palo Alto-based Legato Systems Inc intends making its Motif-based cross-system back-up and recovery software, Legato Networker, available for UnixWare at around year-end. It has just come out with Networker for 80386 machines supporting Santa Cruz Unix and MS-DOS and will include UnixWare in the same ClientPak II later. Networker will back up UnixWare to either NetWare or Unix servers such as RS/6000s or Sparc boxes via TCP/IP. Back-up media will be interchangeable between the Networker back-up server for NetWare and the one for Unix. ClientPak II lists for \$1,500. Networker server software will be sold separately, and starts at \$2,000.

DELL UNLEASHES 80486 BLITZ WITH 18 CHEAPER MACHINES

Hoping to deflect attention from its currency-dealing embarrassments, Dell Computer Corp, Austin, Texas, last week added 18 new 80486-based personal computers for immediate shipment. The new systems replace Dell's existing line of 80486 desktops and are priced lower than their predecessors while offering improved performance and such features as integrated Local Bus video, ability to be upgraded to Intel Corp's Pentium chip, and embedded system diagnostics. There are models using the 25MHz and 33MHz 80486SX, 33MHz and 50MHz 80486 and 50MHz and 66MHz 80486DX2. The systems are separated into four product families - 486/L, five low-profile AT bus boxes at from \$1,200, 486/M, five mid-size AT bus systems starting at \$1,450, 486/ME, a mid-size group of five EISA bus machines starting at \$1,750, and 486/T, a new class of three AT bus floor-standing systems, beginning with a 33MHz 80486 system at from \$1,950. Prices include 4Mb CPU, 80Mb disk and one floppy. A variety of Dell monitors are available, at from \$250 for a VGA colour display.

PICK SYSTEMS SETS OUT TO CONQUER RUSSIA, SEEKS TO HIRE

ANOTHER 70 PROGRAMMERS BY YEAR-END

Pick Systems Inc, Irvine, California is making a serious drive into the Russian market, says Constantin Stovolosov, head of the European office of Pick Systems in Moscow. Pick products are in use at the Russia Ministry on Finance, and the former foreign trade monopolist Stanko import and Traktoreksport. The total number of installations in the Russian Federation is put at 200. Pick Systems plans to start distribution of Pick Hits electronic catalogue of software usable in Pick environment. At present Pick Europe has the use of about 32 Russian programmers engaged in development of Pick products. The plan is to increase the number to 100 by the end of the year.

HEWLETT, INTEL, NCR, 16 OTHERS TEAM ON CONSORTIUM TO IMPROVE CUSTOMER SUPPORT

The industry threatens to collapse under the weight of industry bodies and lobbies, yet still they keep being born. Latest, announced from up in Redmond, Washington, brings together 19 computer industry and high technology companies claiming aggregate annual revenues exceeding \$110,000m in the Customer Support Consortium. The group represents a wide cross section of the industry from Hewlett-Packard Co to Intel Corp, NCR Corp to US West Inc, and its mission is to develop an enterprise-wide product knowledge management system to help resolve product-related problems suffered by customers. The aim is a dramatic improvement in customer satisfaction levels and a significant lowering of the cost per customer contact. The effort will be conducted by the support organisations of the member companies and will be managed by Symbologic Corp, based in Redmond, which claims expertise in customer-support technology. The product knowledge management system now under development includes software tools and applications to automate acquisition, management and use of large and complex bodies of product knowledge. The system will use intelligent retrieval technologies to increase the speed, ease and accuracy of answering customer support calls. It will be conceived as an enterprise-wide system because customer support organisations need to share product knowledge with sales and engineering organisations, and will be designed to enable members to distribute product knowledge to corporate help desks, system integrators, value-added resellers and strategic business partners; it will be an open, portable client-server system. Results will be released to the members throughout next year. Founder members not already mentioned are 3M Co, Active Voice Corp, Advanced Technology Laboratories Inc, Banyan Systems Inc, BBN Software Products Inc, ComputerLand Corp, Compuware Inc, Digital Communications Associates Inc, Dun & Bradstreet Software Inc, Maxtor Corp, Santa Cruz Operation Inc, Silicon Graphics Inc, Sybase Inc and something called WSIPC.

SOFTWARE PARTNERS RUNS TO UNIX

Software Partners/32 Inc which has laboured long in the DEC vineyards is branching out into Unix for the first time. The nine-year-old Topsfield, Massachusetts company is extending its Tapesys VAX/VMS tape management system to Unix clients via ThruNet, an automated tape backup and restore facility. ThruNet, still in beta, will allow Sparc and Ultrix clients to backup and restore their files to a VAX storage device using Unix commands. SP/32 anticipates adding AIX and HP clients and by the middle of next year will come up with a Unix server model for Sun, IBM, HP, Ultrix and perhaps Alpha OSF/1. The company touts the product as providing Unix systems with the sophistication of VMS by recognizing multi-file backups. ThruNet supports VAX servers running TCPware or MultiNet TCP/IP. Prices range from \$2,500 to \$12,500 depending on configuration. +1 508 887-6409

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UK, London-based **Schroder Ventures'** latest investment report says the firm has some \$250m venture capital funding available for IT companies: +44 71 632 1000 for a copy.

Univel Inc was down taking pictures for its scrapbook of the first editions of UnixWare coming off the production line last week. First ships went out Friday December 4, four days later than last forecast but who's counting. It says its got 43 distributors worldwide and 150 major hardware and software vendors shipping or announcing availability of their products for UnixWare.

Canadian firm **Elegant Communications Inc's** software for monitoring reliability and security of networked Unix machines, XRSA, which can be used in conjunction with network managers such as **IBM's AIX NetView** or **Hewlett-Packard Co's OpenView**, is now available in the UK from Winchester, Hampshire-based **Avington Systems Ltd.** +44 962 779 894.

Hewlett-Packard Co has won a "several hundred million dollar" piece of action with **PRC Systems Inc**, prime contractor for the \$2.5bn AFCAC 300 US defence contract: HP is to supply up to 5,200 Unix workstations to PRC over the next five years.

Excalibur Technologies Corp, developer of the PixTex/EFS document image management and control system which has been well received in the US, launched a UK subsidiary last month: **Excalibur Technologies International Ltd**, based in Windsor, Berkshire is the first of several operations the company plans for Europe.

The price wars that have left them bleeding and dying in the personal computer field this year are going to spread to the margin-rich personal computer server, **Computer Reseller News** predicts. Prices on RISC- and Intel-based servers are expected to fall 20% to 25% early next year, it says, as vendors respond to the low-priced entries of the **IBM Server 85 XP486** and the trend-setting **Compaq Computer Corp ProSignia**. Even high-end servers won't be safe, it claims. As a result, however, server sales, flat from 1991 to 1992, could increase 19%.

The problem in today's computer industry is that a company needs to be not just adequately well run but superbly well run to turn in acceptable numbers: **Hewlett-Packard Co**, now doing over \$16,000m of business has 20,000 fewer employees than **Digital Equipment Corp**, which is still stuck at around \$14,500m.

Intel Corp is developing its own 100MHz 80486 chip to rival **IBM Corp's 486SLC** offering, shown at Comdex a couple of weeks ago: the chip is called P24C, and should be available towards the end of next year, unless **Advanced Micro Devices Inc** manages to escape Intel's protracted law suit. If that happens, Advanced Micro will be releasing its own version, and Intel will be under pressure to speed its schedule up.

UK firm **VisionWare Ltd**, Leeds, is enhancing XVision, its X-Windows-under-Microsoft Windows software, to support **Novell Inc NetWare**, thereby allowing **Univel Inc** UnixWare application servers to integrate with NetWare-based personal computer networks. +44 532 788858.

Oracle UK Ltd has won a 16-year contract with the **British Army** valued at £4m which will standardise all of the Army's IT projects around the Oracle database.

Intel Corp says it expects to spend about \$2,500m on capital expenditures and research and development in 1993, an increase of 25% on estimated 1992 spending of about \$2m, saying that the expenditures, unusually high as a percentage of sales even for a high technology company, are needed to address the increasing complexity of microprocessors and the high cost of chip plants; the company has started paying a dividend, making its shares attractive to a wider range of institutions, and the expectation is that it will tap the market for new funds.

Digital Equipment Corp has named Mark Brown to head its **Cambridge Research Lab** in Massachusetts. He had been senior consultant engineer at the company's **System Research Center** in Palo Alto, California. The Lab is working on futures in parallel processing, distributed data-sharing systems, transaction processing, graphics, multimedia and visualisation.

Jeff Mason is now assistant general manager of marketing inside **IBM Corp's** brand new **Client/Server Group** (UX No 413). His role as director of **Advanced Workstations and AIX Systems** has been filled by Tom Jarosh, formerly vice president in the company's **General Sector Division**.

NEC Corp has started shipping a 95-MIPS deskside workstation, the **EWS4800/380**, built around a **Mips Technologies Inc R4000SC** processor claiming it outperforms its predecessor 140%. It comes with a maximum 64Mb internal and 29.5GB storage.

Sun Microsystems Inc planet **SunConnect** is moving its headquarters to Grenoble in France to create an international platform for its network business. General manager Denis Yaro, a newly minted Sun vice president, will move there by mid '93. The planet had a technical operation in Grenoble even before Sun spun it out. Now it is moving its sales and marketing centre there. It will maintain its presence in the US. Much of its strength rests with the third-parties alliances it has created and wants to expand on.

Mountain View, California-based, **Network Computing Devices Inc** PC-X Division has come up with a \$200 software package that lets a personal computer at home or in the field access applications on remote Unix- or VMS-based host computers. PC- Xremote Edition turns a personal computer into an X Window System server so that the user not connected to a LAN can access hosts supporting X via a modem or RS-232 serial connection. Available immediately for DOS and Windows PCs, it was created by removing standard LAN driver support from NCD's PC-Xview X servers and integrating the company's XRemote protocol stack instead. NCD's going after volume with the aggressive pricing.

Having ported Advanced Pick 5.2 on to SVR4-for-Intel (UX No 413), **PickTel Corporation** is now touting the Pick database on DECSystem 5000s under Ultrix at \$14,400 for a 32-user system. Availability is immediate.

There's a theory being nurtured in certain quarters that **Microsoft Corp** Windows NT is less a strategic product than it is a dike against Unix and that Microsoft is trying to freeze the marketplace long enough to bring on Cairo, the **Tallgent Inc/Sun Microsystems Inc** Project Distributed Objects Everywhere-like object-oriented environment it's working on. Others say no, that's impossible. Cairo is too far away to be anything more than just a stake in the ground against **IBM/Apple Computer Inc** while the hoopla surrounding Windows For Workgroups is meant to distract attention away from an increasingly late NT. Folks are now saying the best case for a NT rollout is May/June, more likely June, and other ISV types are shaking their heads and betting its September. How strategic is NT anyway after it moves NT stuff like memory management and multi-tasking into Windows 4.0 and DOS 7?

Oldtimers will remember the famous panel from the US comic strip Pogo that had one of the cartoon's forest creatures utter the immortal words, "We have seen the enemy and he is us." In the face of the fight against **Microsoft Corp** (not to speak of the old Unix Wars) we leave you this week with the observation that this is more true of the Unix industry than not.

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GALILEO GROUP PLANS COMMON INTERFACE FOR USERS

A group of users, integrators and vendors is, we hear, attempting to re-draw the laws of conventional computing in a effort to put users - rather than computers - at the centre of the industry's cosmological system. Project Galileo (it was actually the Polish astronomer Copernicus who first proposed that planets, including the Earth, orbit the Sun) sets out to define and develop an overlay for current graphical user interfaces that operates and behaves the same way, regardless of which operating system and hardware lies underneath, providing a common working environment. Starting point is a list of six features including icons for installation, files and home directories. Some common elements, like drag and drop and point and click, have already found their way into most GUIs, and those involved in Galileo say it would be possible to get things up and running within a matter of weeks once agreement has been reached. The initiative was touched off by at least four large IT users - one in Europe, the rest US - each with thousands of different systems, apparently unimpressed by technology standardisation efforts that actually make it easier for vendors to provide a variety of desktops (see opposite and page five). Two US integrators, at least four of the largest US vendors, and a number of software suppliers - including, it is thought, the Santa Cruz Operation - are also involved.

Role model

Users insisted on taking the Apple Computer Inc Macintosh interface and IBM's Common User Access schema as role models. It should be possible to run Galileo across different Unix implementations, as well as Microsoft Corp Windows and other graphics-capable proprietary systems. Technology like the X.desktop manager from UK firm IXI Ltd already provides a common front end to a range of different systems, including the gamut of Digital Equipment Corp kit. As well as "a gloss over the top" for users, the partners view Galileo as a welcome marketing tool for sales divisions and a means of delivering a long overdue common environment to the Unix community. It would be easier to convince senior managers that Unix is a viable platform if all systems were seen to work in the same way, regardless of what was underneath. The majority of the personal computer world is already happily at work with Microsoft Corp Windows, regardless of underlying technology. Galileo development is initially being funded by vendors - under pressure to win new procurement contracts. If successful, however, the likelihood is that users will contribute resources towards establishing a further six common features: talks begin again early next year.

IBM's AIX-OS/2 NETWORKED REPOSITORY "IMMINENT"

Sources extremely close to the development of IBM Corp's network repository claim that its is close to production status and an IBM announcement is imminent. It is widely known that the new repository will run on AIX and OS/2, but it may surprise many that the thing is also up under OS/400 as well as on Ultrix, HP-UX and Solaris and that IBM has funded development work internally for it to appear on these non-IBM versions. Meanwhile, as was already thought, previous work on MVS Repository has been scrapped and the mainframe software is being rewritten from scratch so it can integrate with the networked repository. Few, however, expect that the development effort will survive the next round of cuts. Pick an expected release date in the next ten years.

UNIX INTERNATIONAL WORKS ON UNIX BRANDING SCHEME

The net result of Unix International's latest Application Binary Interface effort may be the creation of a Unix "brand" for operating systems that independent software vendors could use to develop common applications against. The implication is that products like SunSoft Inc's Solaris, Santa Cruz Operation Inc's Open Desktop and Univel Inc's UnixWare - as well as Unix System Labs' SVR4.2 - would undergo a testing and branding process to prove their Unix credentials. Unix International's chief executive officer, Peter Cunningham, says he is "just starting to investigate the technical possibility of such a scheme," and the idea is already doing the rounds of industry executives. "There is a reasonable chance of it happening and there is a collective will to support it", Cunningham believes. Like SunSoft (UX No 414), Cunningham says companies that might not have agreed to the effort in 1991 or 1992 are certain to be driven into the arms of the ABI 1993 by the impending Microsoft Corp Windows NT. Marketing chiefs "have been looking at the mathematics and have worked out that volume counts," says Cunningham, pointing to Unix's one million a year run rate against the huge base of Windows users - increasing at one million a month - many of which will be targeted for NT. Down the road, Cunningham hinted that UI, as reported (UX No 414), is likely to seek other partners for technology development work - it presently uses Unix System Labs almost exclusively. He denied UI would be doing this to appease SunSoft and others reportedly unhappy about the situation, and refuted suggestions that SunSoft wants UI's commitment to use other suppliers and non-USL technologies as a pre-requisite for it signing off on the ABI effort. "There is no negotiation with SunSoft," Cunningham says. He is well aware however, that "if USL were to hold the keys for an industry standard specification there would be problems," and concedes that "one supplier can't fill in everything - the USL issue is recognised."

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TEKTRONIX MERGES X-TERMINAL LINES

Wilsonville, Oregon-based, Tektronix Inc's Network Display Division (NDD) has merged its technical XP330 X Terminals and XP11 commercial machines into one family, TekXpress, and launched a 40MHz Mips Technology Inc R3000-based X Terminal - XP338P. The division also announced the release of version 6.0 upgrades for its X Terminal range. Tektronix's disappointing first quarter results, which included net profits down 1.5% at \$9.5m, pushed the division to combine the two X Terminal lines in order to cut costs. It also aims to eliminate potential product overlap. As a result, the NDD hopes to improve market share and become more responsive to an increasingly competitive market. The division is, nonetheless, one of Tektronix's most profitable businesses contributing 23% - \$250m - to group revenues. The X terminal market is now worth \$400m, according to X Terminal watchdog, the X Business Group. NWD snaps up 15% of the market, Hewlett-Packard and DEC have 17% apiece, IBM lags behind at 14%, while Network Computing Devices Inc leads the field with 25%. TekXpress now comprises 11 monochrome and colour Mips Technology Inc R3000-based XP330s and Texas Instrument Inc 34020-based XP11s. The new XP338P has a claimed performance rating of 105,000 Xstones - Xstones is a graphics benchmark - and clocks 100,000 vectors, 10,000 flat-shared triangles and 5,000 Gouraud-shared triangles per second. It runs two- and three-dimensional graphics simultaneously in multiple X Windows, as well as distributing 3D graphics over a network. The 19" colour XP338P machine has a dual processor architecture: the R3000 to manage networking, 3D rendering and X Window functions; TI's 40MHz 34020 processor supports accelerated graphics, double buffering and z-buffering. It comes with from 8Mb to 32Mb of memory and two single in-line memory modules slots for memory expansion. XP338P supports a variety of host machines including Sun Microsystems Inc's Sparcstations, Digital Equipment Corp's Ultrix Unix boxes and VAXes - support for DEC's Alpha OSF/1-based AXP systems will be added next year - and IBM Corp's RS/6000s. The XP338P X terminal is available now and costs £6,155. NWD also released version 6.0 software upgrades adding two software optimisation kits for Sun Microsystems Inc Sparcstations and DEC Ultrix and VAX machines. The Sun kit comes with a full implementation of Sun's Open Look window manager, support for native Sun scalable fonts and Network File System (NFS) boot capabilities. This software is also coupled with Tektronix's Sun compatible 1152 x 900 resolution display and a Sun Unix keyboard. The DEC software supports Open Software Foundation Motif, DECnet and LAT protocols, native DEC fonts, DEC VT220 X Terminal emulation and VT220 keyboard. In addition, version 6.0 comes with document imaging capabilities, Simple Network Management Protocol for system administrators and a serial compressed X protocol for remote site access. Version 6.0 upgrades are available now. The Sun kit costs £65 and the DEC software is priced at £215.

SCO SETS NEW DEVELOPER PROGRAMME

Santa Cruz Operation Inc has also improved its services for developers by introducing a cheaper two tier support programme worldwide, to defend, it says, its position against its desktop Unix rivals. Now developers have a choice of two levels of support: Partners and Associates. Before, developers paid £600 for SCO Unix and Open Desktop source code, Partners now pay £450 and get source code, technical support and help in establishing market leads. Associates pay £95 and get the basic documentation. Both tiers have access to on-line SCO application directories, technical reference library, a problem and solutions database and a help desk. SCO also offers 25% reductions on training costs and free entry to SCO-run conferences. English, German, French, Italian and Norwegian versions of the documentation are available. SCO hopes the new programme will help it focus on three markets - retail, finance and government - and it expects to sell 1,500 developers kits there in its first year - between 400 - 500 of them in Europe. SCO claims 200 independent vertical market developers provide 5-6,000 applications, hardware products and services worldwide. SCO has certainly taken its time in providing its developers with such services, it seems the rush by Sunsoft Inc and Univel Inc to get a piece of the Intel Corp Unix market has pushed the company to co-ordinate its efforts worldwide and pre-empt rivals. Sunsoft Inc's Solaris 2.0-on-Intel product is still slated for release in April. Univel's UnixWare was released in October.

MORE LAYOFFS AT DEC

Word is circulating that Digital Equipment Corp will be laying off 1,000 software engineering staff in Europe over the next couple of weeks on top of the 6,000 redundancies worldwide that were announced last week. Software managers were said to be deciding which projects to kill at a Geneva meeting last week - one of those mentioned was the Network Application System. The aim of the NAS project is to enable communication between different DEC machines as well as between DEC kit and other manufacturer's boxes. A DEC spokesman said that everything was in the early stages, and that he wouldn't like to comment on numbers - not even the 6,000 proposed lay-offs, although software engineering staff would be among the casualties, he also couldn't say if they would be part of the wave of redundancies mentioned above. To put this in context, he asserted, we should realise that DEC was refocussing its software product line and strategy. Experts in the NAS team will now focus solely on DEC-to-DEC communications because DEC was trying to concentrate on what customers wanted. Work on communications between DEC machines and other manufacturers' kit will go to internal systems integration teams.

VXM HAS POWERTOOLS FOR INTEGRATING TOOLTALK WITH PVM

VXM Technologies Inc, Brookline, Massachusetts, claims its latest PowerTools technology can integrate SunSoft Inc's object-oriented network data sharing software, ToolTalk, with the Parallel Virtual Machine (PVM) message passing system developed at Oak Ridge National Labs. VXM says PowerTools can be used to create networked processing systems - not necessarily parallel in nature - which could be made up of heterogeneous Unix workstations and servers, including those from DEC, Hewlett-Packard, IBM, Silicon Graphics and Sun Microsystems. VXM claims a CPU-intensive subroutine created using PVM and executing on a cluster of mixed network environments could be accessed by applications running on systems running ToolTalk services. ToolTalk, part of SunSoft's Solaris operating system, is now supported by Silicon Graphics, whilst versions for DEC, HP and IBM systems are becoming available. PowerTools will include VXM's Balans dynamic network load balancing software, which automatically finds and allocates spare CPU cycles on a network, from the second quarter of 1993. A ten-node PowerTools licence costs \$2,500 - ToolTalk developers kits for DEC, HP and IBM Unix systems are \$300 - a site licence is \$1,500. PowerTools for SunOS 4.1.x is available now. DEC Mips-Ultrix, HP HP-UX, IBM AIX and Silicon Graphics Irix versions are due in January, with Solaris 2.x and DEC AXP-OSF/1 implementations set for the second quarter. Windows and Windows NT versions of PowerTools will follow in DDE- and ToolTalk-enabled formats, available in the first and second quarter of next year. VXM's PAX-1 range of software tools for networked parallel processing based upon the Linda distributed processing protocols developed at Yale University have been dropped.

COMPUTERVISION HAS NEW COMPUTER-AIDED DESIGN RELEASES

Bedford, Massachusetts-based Computervision Corp has a string of new computer-aided design and manufacturing packages, Windows NT versions of its existing packages, and expanded support for hardware and operating systems from Sun Microsystems Inc, Digital Equipment Corp, Hewlett-Packard Co and Microsoft Corp. The company now has a version of the CADD5 5 parametric modelling software for the DECstation 5000 workstation - the first alternate Unix system on which CADD5 5 is supported: this version is out this month. The Medusa two- and three-dimensional design and drafting software now runs on Hewlett's HP 9000 700 line. Computervision has also been demonstrating a pre-release version of its CVdesign parametric modelling software running under NT - to be made available once Windows NT starts shipping. NT versions of CVdesign, CV-DORS, CVware View & Markup and CVware Conferencing CAD/CAM products are promised for 1993.

IBM SEEKING BIG NEW ROUND OF CUTS

It has long been clear that IBM Corp's latest restructuring into 13 somewhat autonomous business units has taken too long and has not gone far enough, and the company has called an extraordinary board meeting for this Tuesday to decide what cuts need to be made to meet 1993 targets. According to the **Wall Street Journal**, the IBM board does not normally meet in December. The main-frame business and the chip business are expected to be the focus of the cuts, with further plant closures and property disposals thought likely. It is also expected that IBM may want to shed up to a further 30,000 people from its 300,000-strong pay roll, with undisguised lay-offs clearly on the agenda. The jobs that do seem to be safe are those of top management: an official familiar with the agenda for next week's board meeting said that it doesn't include any discussion of personnel changes involving John Akers or any other executive. The biggest worry on Wall Street, where priorities tend to be narrowly focused, is over the dividend: if the company has to take another \$1,000m to \$2,000m of charges this quarter to cover further closures, it is unlikely to be able to meet the dividend out of cash flow. "We expect sweeping changes at IBM to be announced shortly and we believe that if possible, IBM will introduce changes in equity ownership," Merrill Lynch & Co analyst Dan Mandresh told investment clients in a report. He postulates that IBM could create different classes of shares whose dividends would reflect performance of relatively healthy businesses such as the AS/400 and RS/6000, and possibly AdStar storage products, but many observers now believe that nothing less than a full break-up of the company would enable the better bits to prosper and restore shareholder value. The halfway house of floating a part of the equity of the better businesses while retaining a majority is ruled out by the fact that the units so treated have to have a three-year separate trading record first. The biggest shock in the new round of cuts is that IBM's forecasting last year was so abysmal that despite the fact that 40,000 people will have left by the end of the year where it was only counting on shedding 20,000, it still has to make more cuts.

SUNCONNECT EXPANDS, MOVES TO GRENOBLE

As expected (UX No 414), Sun Microsystems Inc's satellite business, SunConnect, is expanding and moving its headquarters from Mountain View, California, to Grenoble in France. The idea is to expand its network business for the international arena, especially the telecommunications market. SunConnect develops and markets products for using and managing global networks. Sun vice president Denis Yaro heads SunConnect and will relocate to Grenoble by the middle of next year. The unit is hiring extra staff that will boost its roll call from 130 to 150 all told: it already claims to have poached several engineers from Hewlett-Packard Co and Digital Equipment Corp research labs out in Grenoble. SunConnect's biggest revenue earners are its SunNet Manager system - which is also being implemented on HP and IBM Corp Unix kit - its Open Systems Interconnection stuff and X.25 products. There will be a new release of OSI technologies for Solaris 2.1 and probably some Intel Corp-specific products for SunSoft Inc's Solaris-on-Intel desktop.

SUN SIGNS COMPUTER SCIENCES IN SYSTEMS INTEGRATION PUSH

While standardising on its Solaris Unix, and, in-house, its Sparc RISC microprocessor family, Sun Microsystems Inc is determined to extend its reach into every aspect of the computer business, and its latest target for conquest is systems integration. As a step in this direction, Sun Microsystems Computer Corp has signed a service alliance agreement with Computer Sciences Corp, El Segundo, California to pursue systems integration business in the wireless telecommunications market. The agreement covers the full range of Computer Sciences' software and services in systems integration and technology consulting and all hardware products provided by Sun. Both have agreements with Longmont, Colorado-based Coral Systems Inc, a specialist in Unix software for the wireless telephony world. Coral's first product, FraudBuster, written to do just that, was launched in October.

HP UNLEASHES THIRTEEN NEW SERVERS

Hewlett-Packard Co last week introduced the latest swat of HP 9000 Series 800 business servers - thirteen uni-processor machines whose top ends are built out of the new 7100 PA-RISC chip. HP has matched IBM Corp prices but can run rings around old Blue on performance, according to General Systems Division general manager, Bernard Guidon. HP figures it has done the same against Sun Microsystems Inc at the low end, claiming Sun's attempt to break into the commercial market is based only on price. It claims the new iron is three times faster than comparable Sun servers or IBM AS/400 equipment and twice that of an equivalent RS/6000. It has designed the systems, available at five performance points, with mix-and-match options to appeal to a wide-range of distributed computing environments. HP says all the boxes, priced between \$11,250 and \$103,000 - £9,180 to £88,480 - are immediately available. They fall into four basic designs or classes: the two-slotted F - configured as 10s, 20s and 30s - the four-slotted G - 30s, 40s and 50s - the eight-slotted H - 20s, 30s, 40s and 50s - and the twelve-slotted I in 30s 40s and 50s. Only the flagship 50 configurations use the 7100; the lower end boxes in each class using previous incarnations of the chip. All are supposed to turn into multi-processors by the middle of next year when HP comes up with symmetric multi-processing upgrade packages that would boost performance at the top end by 75%. As it is now, HP claims 150 tpsA in a host-based configuration, peaking at at 303.1 tpsA, \$5,913 per tpsA, reportedly a new industry price/performance record for single-processor systems, a factor it says is important to the single-stream and batch-oriented applications common in most data centres. HP envisages an on-site upgrade path that requires only a processor swap going, for example, from a 40 to a 50 and a chassis upgrade going from, an F to a G. The F class which HP has poised against Sun reportedly starts at 36 tpsA; the next performance point is 61 tpsA, available as an F or H, then 88 TPS, followed by 110 tpsA topping out at 184 tpsA. The Fs and Gs are directed at small businesses, branch offices and workgroups in large companies; the Hs at mid-sized companies or large company departments and the Is at large company divisions.

...WAITS FOR A NOD FROM MICROSOFT

Hewlett-Packard Co reckons an Intel Corp 80486 platform won't be enough to run Microsoft Corp Windows NT and, while it's watching how Pentium develops, is figuring Microsoft is going to need a better RISC processor than it's currently got. It dismisses MIPS out of hand and writes DEC's Alpha off as too late. It's betting neither IBM Corp nor Sun Microsystems Inc will play Bill Gates' game. That narrows the field and HP does of course have the Hummingbird PA-RISC variant up its sleeve (UX No 414), but it's been burned in its dealing with Microsoft before so it's approaching NT rather gingerly. It wants to see how badly Gates needs RISC and what unknown concessions he's willing to make before making any commitment. It also says NT isn't viable as a server.

MOTOROLA'S INTERNAL IT DIVISION IS ITS BIGGEST COMPUTER SYSTEMS CUSTOMER

Motorola Inc's internal IT General Systems Sector turns out to be its biggest Unix customer. It has apparently bought Delta 8000 Unix systems worth the equivalent of \$40m - 10% of Motorola's worldwide computer systems sales and almost half its European sales to date. The machines have replaced \$90m of mainframe equipment for the cellular telephone business over the past two years. The Computer Systems Group responsible for manufacturing and marketing the 88100-based Unix machines contributes \$400m annually to Motorola Inc's coffers - of which \$100m is from in Europe. Motorola's UK division of the Computer Systems Group sells a whacking two thirds of total UK system sales, the largest contributor to European sales. The IT General Systems Sector involved in downsizing Motorola's internal computing operations - a part of which services the cellular business - itself contributes \$3.5bn in revenues to Motorola Inc. By the end of the year, it claims it will have saved \$69m by junking mainframes in favour of home grown Unix.

HP MOVES TO PER-USER PRICING BASIS

All the tenets of software pricing, laid down by IBM Corp for its mainframes and slavishly copied by the rest of the industry, are being swept away with the erosion of IBM's dominance. Now Hewlett-Packard Co is following Digital Equipment Corp in - as an option - charging for all HP 3000 and HP 9000 software according to the number of users on the machine, regardless of the processor size, the idea being that customers get to pay for what they actually use. The company now offers user-based licences tailored to the particular software product and its possible usage patterns. The licences correspond with the number of simultaneous users, and can be shared across the network or tied to individual accounts, depending on the software product. User-based pricing is available for operating systems, application- and software-development products. User-based pricing provides better utilisation of software, greater configuration flexibility and increased user access to software, the firm suggests. For systems-oriented software such as data communications and systems-management products, the company has made the systems-based approach to pricing more flexible. For HP 3000s, this software is priced per system, according to the number of users licensed for the HP MPE/iX operating system. For HP 9000 Unix workstations and business servers, system-oriented software is moving from a seven-tier model to a three-tier structure based on expandability, not processor power so that in both cases, customers can increase processing power without incurring software-upgrade fees - eat your heart out, IBM AS/400 users. Under the new three-tier structure, level one includes workstations and entry-level business servers; level two includes mid-range business servers; and level three includes the HP Corporate Business Servers. Customers can also evaluate software free via use of temporary licences. Once the customer decides to buy the software, Hewlett provides a password over the phone granting a permanent licence. The company is also seeking to help customers manage their software assets by enabling its software products to take advantage of its NetLS technology. NetLS is a vendor-neutral, client-server tool that manages software access based on systems, users, time or usage, and was chosen by the Open Software Foundation for the Distributed Management Environment and also has been adopted by the likes of IBM Corp. And the company has simplified software-support pricing for new orders. Support prices now are available on a product-by-product basis, replacing a more complex scheme based on categories of software. The simplified structure offers customers telephone support, and software and documentation updates that can be ordered at the time of product purchase.

...DEBUTS OPENVIEW 3.2

Hewlett-Packard Co is now shipping HP OpenView Distributed Management Platform 3.2, a release that lets it manage OSI as well as TCP/IP networks. The new release includes Common Management Information Protocol (CMIP) services as an option plus other services to support further OSI specifications for event handling and addressing. The software provides programmatic access to SNMP and CMIS services via X/Open's management protocol application programming interface, XMP-API. The XMP-API is a key component in the Open Software Foundation's DME. HP believes OpenView 3.2 is the first instance of CMIP management under XMP-API. OpenView with the CMIP option conforms to the Omni-Point 1 specification and the US Government Network Management Profile (GNMP). HP also offers the option of including a \$5,000 Ingres SQL database as the data repository. The CMIP option is \$5,000 and requires OpenView 3.2 which is \$8,000 unless a current user is upgrading. A developer's kit with OpenView itself is \$23,000.

SCO HAS LAN MANAGER FOR WORKGROUPS ON UNIX

Meanwhile, SCO has also introduced a version of Microsoft Corp's LAN Manager that supports Windows For Workgroups, LAN Manager for SCO Systems 2.2. LAN Manager for Workgroups supports personal computer clients running Windows for Workgroups - Microsoft's peer-to-peer connectivity version of Windows. It includes a number of improvements that enable users to interoperate between Windows, MS-DOS and OS/2 on a SCO Unix server. The software's key features include remote boot capabilities, remote administration and increased security. SCO has added support for MS-DOS and IBM OS/2 clients to its standard version of LAN Manager. Prices start at \$1,300 and \$3,000 - both versions are available from the end of this month.

NOW LSI LOGIC SIGNS TO DO CMOS

VERSION OF DOLPHIN'S FAST BUS

The Dolphin SCI Technology A/S arm of Oslo, Norway-based Dolphin Server Technology A/S, already has an agreement with Vitesse Semiconductor Corp to make chips for its Scalable Coherent Interface high-speed bus in Gallium Arsenide - it runs at 1Gbps - and with Convex Computer Corp to use the thing. Now Milpitas, California-based LSI Logic Corp has licensed the technology to do a CMOS implementation of the bus. The new version of the bus, which meets the IEEE 1596-1992 interconnect standard, will be jointly designed by the two companies, and will be manufactured and marketed by LSI Logic, which plans to offer it as an ASIC core through its CoreWare Division.

"APPLE, NOVELL HELD MERGER TALKS AT HIGHEST LEVEL" - SAN JOSE MERCURY

Apple Computer Inc and Novell Inc have been discussing the possibility of a merger between the two companies according to the *San Jose Mercury News*. Apple declined to comment on the report, and Novell denied it, saying that "We're always in industry discussions with them, but we're not having discussions with them about merging," but the paper says that the talks between Apple chairman John Sculley and Novell chairman Ray Noorda were a closely-guarded secret and known only by an elite group of senior executives at the two firms. The future of Novell is an oft-discussed issue because of Ray Noorda's age - he is in his late 60s.

HP WOOS THIRD PARTIES TO SOFTBENCH

Hewlett-Packard Co is going to third parties with its SoftBench CASE environment, particularly to get it up on Sun Microsystems Inc workstations. It has set up a Channel Partner programme and signed Emeryville, California-based Basis Inc as its first reseller. Basis has agreed to sell a half-million dollars worth of the C++ SoftBench 3.0 and SoftBench 3.0 products on Sparc machines. Meanwhile, Paramax Systems Inc has picked the SoftBench framework to be part of the STARS software engineering environment project that is being funded by America's Defense Advanced Research Projects Agency (DARPA). IBM, Boeing and Paramax, a Unisys Corp company, are collaborating on STARS, which is meant to develop and integrate technologies in support of megaprogramming.

...RECKONS ITS IN GREAT SHAPE

Having sailed past Digital Equipment Corp in terms of total turnover with embarrassing ease, Hewlett-Packard Co is poised for more success in 1993. Not quite all of its \$16,000m-plus annual turnover is computer-related, although computers are infiltrating all its non-computer businesses. New chief executive Lewis Platt shows a welcome colourful turn of phrase as he says "We're about as well-positioned as anyone to succeed in the murky environment that fiscal 1993 looks like it will be. Our new-product programme is incredibly effective, and that's how you win in this market. We're getting out new products more rapidly than ever before. We're cutting manufacturing costs, and we're doing a darn good job of applying HP technology in insightful ways." He is also firmly committed to proactive management: "This isn't the kind of business environment in which we can set targets and expect something to happen, and we're not waiting for an economic turnaround to provide us with the kind of results we want to turn in. None of us thinks we can manage this business by putting it on autopilot," he says. In a review of the business, other executives pointed out that in the fiscal fourth quarter, each of the major businesses showed record order levels compared with any quarter in recent years. Acceptance of the mainframe-class Corporate Business Systems has exceeded expectations and the company had more than 200 orders by October 31 and will start volume shipments this quarter. Orders for the HP 9000 multi-user Unix systems grew more than 40% during 1992 and although revenue for the HP 3000 declined, unit shipments of these systems increased about 20% for the year - striking given the move away from proprietary systems, but then the company is opening up an enormous Open bolt hole for HP 3000 users. Despite its voluntary redundancy programmes, total employment for the year was up about 3,500 people, some 3,050 of whom were gained through the infilling acquisitions the company regularly makes. Employment in the Computer Products Organisation increased by about 2,100 people in the year to meet expansion needs. For the medium term, telecommunications is the key.

UNIX ABI PROMISED - FRONT-ENDS WILL STILL BE DIFFERENT

As reported (UX Nos 413, 414 and see front page), Unix International plans to specify a common application binary interface (ABI) for Unix implementations running on different CPU architectures. This will allow independent software vendors (ISVs) - as far as is possible - to create one version of an application that will run under multiple, graphical-based Unix environments on the same microprocessor platforms. Outstanding incompatibilities not resolved by the ABI - and there is little doubt that different look and feels will still prevail - are to be addressed by a streamlined porting environment that can be whittled down over time as more features are incorporated into the ABI. What goes in and what gets left out depends on how much political ground is conceded between SunSoft, Unix System Labs and other UI members. UI chief Peter Cunningham says UI is trying to push the ABI specifications "as high up the code structure as possible." The higher up it can be cut, the lower development and porting costs will be for ISVs, and quicker their time to market. How far past the X-Windows level the ABI will go remains unclear. Bits of both Open Look and Motif are already in there - and some features will be handled as objects - although Cunningham admits it is unlikely to make it up to the XT intrinsics level, on top of which the various interface look and feels are created. How long it will be before branded products are on the market is a function of how high the specification is cut and the time it takes to generate the test suites. It "will be months not years" claims Cunningham, who is shooting for product implementations around the third quarter of next year. The ABI won't be published as part of the next RoadMap because it is too big - although a snapshot is promised - but it will appear in the same timeframe. The RoadMap is already out to members for review in draft form. Other features also under consideration - which won't make it into the ABI this time around - include requirements for application-to-application communication and linking, updated networking topologies, common installation and system administration facilities. As the ABI won't be updated until a year after its first edition, additional requirements like these will be published as addenda.

Cassoni

The project is being positioned as Rev 2.0 of the Unix ABI set. The first ABI effort encompassed specifications for character-based implementations of Unix SVR4.0 across a range of CPUs and converged around the roll-out of SVR4.0 by the then AT&T Unix Software Operation at 1989's Unix Expo show (UX No 255). A year earlier it was Vittorio Cassoni - then head of AT&T's Computer Group and the man who forged the deal with Sun Microsystems Inc which led to the creation of the Open Software Foundation - who was sufficiently encouraged by the work of London firm UniSoft Ltd on a binary compatibility standard for Unix running on Motorola Inc 680x0 and 88000 CPU lines, to back the concept of Unix ABIs. Borrowing from the Intel Corp/MS-DOS world, the idea was that character-based applications should run on an ABI-compliant version of Unix as easily on one machine as on another with the same CPU. As well as Motorola CPUs, ABI Rev 1.0 was eventually implemented on Intel iAPX-86, Mips and Sparc lines too. ABI 2.0 will address the same processors, plus the Hewlett-Packard Co Precision Architecture RISC.

SEQUOIA TO SIGN INVESTMENT BANK IN QUEST FOR NEW CASH

Pole-axed fault-tolerant Unix systems builder Sequoia Systems Inc, Marlborough, Massachusetts has now decided to engage an investment banker to explore all available alternatives to resolve the company's immediate liquidity difficulties. The company, which ran into big trouble after a couple of customers failed to complete big orders as expected - when the orders had already been booked as sales in the figures, says it is unlikely to be acquired because of a Sword of Damocles hanging over it in the form of outstanding class-action law suits. It says it is not currently in active financing discussions with any strategic partner or third party, but is in default under its bank credit pacts and needs new cash now to finance its operations.

ERICSSON TO HOLD 60% OF ERICSSON

HEWLETT-PACKARD TELECOMMUNICATIONS

Hewlett-Packard Co and L M Ericsson Telefon AB duly announced formation of their network management systems joint venture last week. The new Ericsson Hewlett-Packard Telecommunications AB will be 60% owned by Ericsson; 40% by Hewlett. No financial details were given; the deal is subject to European Commission approval. The venture, headquartered in Stockholm with Gothenburg and Grenoble bases, is expected to employ 350 people, and will begin operations in first quarter of 1993. As expected, Ericsson tosses in major parts of its Telecommunications Management and Operations Support family, of which it has sold 65 systems. The products go through Ericsson channels.

SCO LOOKS TO UNIFIED SVR4 ES/MP

California-based, Santa Cruz Operation Inc is likely to choose Unix System Laboratories Inc's SVR4 as an upgrade for its current version of SCO Unix - if USL fulfills its promise and introduces a unified version of SVR4.0, System V.4.2 ES/MP, next year. The company said it will "seriously consider" the software when it is available rather than the alternative Unix-based operating system OSF/1, from the Open Software Foundation. SCO, which licenses its Unix code from USL, has been reluctant to name the successor to its version of Unix, SVRV/386 3.2.4, because it says it is unwilling to commit its claimed six million users to a product - SVR4 - which is at present available in four different versions. USL currently ships the System SVR4.0 kernel; the desktop System SVR4.2; the security System SVR4.1/ES and the multi-processing version, SVR4/MP. SCO claims to have the equivalent of all four in one version - SVRV/386 3.2.4. SCO's main objection for licensing OSF/1 is not the technology but OSF's lack of market support. A SCO spokesperson said "we will only license technologies that are widely accepted by our customer base". SCO said licensing SVR4.2 ES/MP would be a more viable option because USL already has the confidence of the market and shares many features with SCO Unix SVRV/386 3.2. It also supports open systems standards such as X/Open Ltd's operating system and communications XPG Portability Guide version 3, the latest version, XPG4, and OSF's Distributed Computing and Management Environments. SVR4.2 ES/MP would give SCO Unix users improved distributed computing tools and a greater choice of applications and hardware vendors, SCO said.

COMMERCIAL USERS STILL SHY OF UNIX WORKSTATIONS, SAYS IDC EUROPE

Unix workstations haven't made much headway into the European commercial marketplace, according a new report by IDC's European Unix research centre. It says more than 80% of Unix workstations shipped last year went to sectors where they are most commonly used for technical applications. According to IDC, only 3% of workstation kit ended up in the financial sector - which invests more heavily in high-end and on-line transaction processing multi-user Unix systems. More than two-thirds of those workstations which did make it into that market were Sun Microsystems Inc Sparcstations. In the commercial arena, 31% of multi-user Unix systems and workstations shipped in Western Europe last year went to the manufacturing sector, whilst the public sector accounted for 25%. When multi-user Unix systems are included, the financial sector accounted for 8% of systems shipped, transport, communication and utilities 12%, wholesale, retail and trade 10%, services 10% and agriculture, mining and construction 4%. IDC Europe: +45 3118 6344.

DEVELOPERS WARY OF OLE 2.0

Despite Microsoft Corp's efforts to promote Object Linking and Embedding 2.0, leading developers are resisting a move to the first beta version of the development kit for both technical and competitive reasons, PC Week reports. Its object-oriented underpinnings imposes a formidable development burden that means it will be several months, if not years, before they can deliver applications that exploit its improved data-sharing capabilities. But they are also nervous that Microsoft's applications group - responsible for OLE 2.0 - has had the specification, and code, since 1991. Microsoft has been demonstrating prototype versions of Word and Excel that exploit OLE 2.0, leading many third parties to believe that it has a substantial advantage.

unigram · X

The Weekly information newsletter for the UNIX ® community worldwide

Larry Michels, president of California-based **Santa Cruz Operation Inc**, has been charged with sexual harassment in a civil lawsuit filed by three former executive secretaries of the company in Santa Cruz County's Superior Court. The suit, the subject of a lengthy and embarrassingly explicit story in the **San Jose Mercury News** last week, charges that Michels repeatedly groped, propositioned and forcibly kissed the three women, all mature adults, at work. Michels, who denied the allegations, told the newspaper he intends fighting the suit in court rather than settling privately. In fending off the charges, the paper quoted Michels as saying, "Did it say I raped anybody? Did it say I pinned anybody down?". When the **Merc** asked Michels to reply to accusations of hugging and kissing two of the women against their will during business hours, Michels, it said, replied, "How serious a crime is that?". Observers say that in today's social climate both the charges and story could have a negative impact on SCO.

Reading between the lines, insiders say Unix International needs its ABI and branding effort to succeed - see front page - to justify its continued existence.

Uxbridge, Middlesex-based, Kew Research Ltd has an informal agreement with Raidtec Inc's Irish subsidiary Raidtec Ltd in Cork and not its US operation (UX No 414).

Following reports in **Unigram.X** that **Microsoft Corp** is interested in making Windows NT interoperate with SVR4 (UX No 412), the two companies have set up lines of communication. Now it will be interesting to see if they use them and how.

As anticipated, **Unix Systems Laboratories Inc** last week announced that it was joining **X/Open Ltd** under the new technical membership structure the consortium put in place in October. USL said it will be taking full advantage of the new established Integrator Buyout Option, which will cost it \$150,000, and will be participating in all X/Open technical programmes to influence future standards. It intends putting its initial efforts into the Kernel & Commands, Security, Networking, Internationalisation, transaction processing, System Management and Test Groups.

Novell Inc Japan, which will be **Univel Inc's** distributor there, isn't waiting around for the Japanese version of UnixWare to start its assault on the market. It will release the English version next month. The Japanese edition is due in the second quarter.

InterOp 93 Spring is set for March 8-12 at the Washington Convention Center in DC.

X/Open Co Ltd is adding another tier of membership to its roster. Companies that produce enough products to need in-house testing facilities can join a Verification Membership class which gives access to all of X/Open's existing and emerging test software. As well as testing for XPG4 conformance, X/Open's VSX4 suite also tests for Posix 1003.1 and draft FIPS 151-2 compatibility.

X/Open has also published its distributed computing frame work as the XDCS - X/Open distributed computing services - guide. XDCS includes XPG4, the **Object Management Group's** Common Object Request Broker Architecture, the **Open Software Foundation's** Distributed Computing Environment and Unix International's Atlas distributed computing framework.

Quick on the heels of its release of the Windowing Korn Shell 1.0 a few weeks ago, **Unix System Laboratories Inc** has come out with WKSH 1.1 which adds the Tuxedo System Interface library for rapid prototyping. WKSH allows programmers to write windowing apps in shell language, reportedly in about a tenth of the time of an equivalent C-based X Windows application. It works with both Open Look and Motif intrinsics toolkits. WKSH is available as source code for SVR4 from USL and as shrinkwrapped product for **Sunsoft Inc's** SunOS 4.1, **Microsoft Corp's** Open Windows 3.0, **Santa Cruz Operation Inc** Open Desktop 2.0 and **IBM Corp's** AIX via distributors.

Despite the **University of California, Berkeley** having voluntarily stopped distributing Network Release 2 (UX No 409), while it and **Berkeley Software Design Inc** and **Unix System Laboratories Inc** sort out their legal hassles, it continues to be available for anonymous ftp reportedly on over 66 sites and on various CD-ROM distributions. There is nothing that USL can do about it at this point, it says.

Silicon Graphics Inc's new high-end multi-processing servers and workstations based upon its Mips Technologies Inc subsidiary's R4400 RISC (UX Nos 407, 409), are expected on January 26th: **Electronic News** hears they'll debut as the Axys line.

Matsushita Electric Industrial Co Ltd expects to start shipping two **Texas Instruments Inc** Viking-based workstations, co-developed with its investment, **Solbourne**, in February: a four-processor Series 6/700 and an eight-chip 6/900. It figures they can get a thousand out over three years.

San Jose, California-based, **Tatung Science & Technology Inc** 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, **Sunsoft Inc's** Solaris 1.1, Motif, X11R5 and UK-based **IXI Ltd's** X.desktop 3.0 is now \$9,000, down from \$10,700.

Data General Corp is now saying its long-promised **Motorola Inc** 88110-based systems won't be announced until well into next year (UX No 394), but reckons this doesn't indicate any plans to switch away from the 88000 CPU line.

James Meehan, **Lotus Development Corp** former vice president and general manager, international operations, has been named president and chief executive officer of Cambridge, Massachusetts-based **CenterLine Software Inc**. Sessa Pratap, who held those offices, will continue as chairman.

Univel Inc began delivering UnixWare in volume last week and endorsements are flowing in. **Vmark Software Inc** is to port its univ-erse application development environment to the Novell Inc NetWare-ready Unix implementation. Release 7.3 will be available in the second quarter of 1993 priced at \$435 per user for up to 64 users, \$365 thereafter. **Qume Peripherals Inc** will support UnixWare on its QX15 ASCII-ANSI X-Windowing terminal. **Gupta Corp** is to ship Gupta SQLBase for UnixWare in the third quarter of 1993 - the server will be priced at between \$5,000 and \$10,000. Vmark: +1 508 879 3311. Qume: +1 408 942 4242. Univel: +1 408 473 8797, +1 415 329 0289. Gupta: +1 415 617 4617

Digital Equipment Corp is setting up an AXP Design and Integration Services programme, armed with a portfolio of design services from gate array and board design to software and complete systems designs, to get OEMs and end users moving the Alpha architecture cost efficiently into their products and environments. The scheme is also meant to assist customers with prototyping, testing, manufacturing, distributing and servicing AXP products.

SunSoft Inc is reportedly hard at work getting the object-oriented Distributed Objects Everywhere environment into product shape.

The Sun/video people **Parallax Graphics Inc** in Santa Clara, California, has named Frank Florence, former vice president, North America at **Dataquest Corp**, as president.

Melbourne, Australia-based, Computer Power Software Group Inc has set up a subsidiary, Today Distribution AB, Sweden, in association with its Swedish distributor, software house Arcad Technology AB. The new operation will be headed up by Arcad managing director, Lars Andersen, to sell CPSG's application development environment, Today.

Scotts Valley, California-based **Borland International Inc** is moving into the Japanese market with its InterBase database. It has hired Tom Laux, formerly head of OEM sales/strategic accounts at **Mips Technologies Inc**, to oversee efforts as director of **InterBase Pacific Rim Operations**. InterBase 3.2 with support for Japanese, including Kanji and Kana, is scheduled to ship in the first half of next year. The software will be sold direct and through OEMs and resellers including Cognos Japan. It expects to leverage off Borland Japan and is looking for additional Japanese distributors.

A few weeks after announcing System V/4 for **IBM's** PS/2 Models 90 and 95 (UX No 412), Scotts Valley, California-based **Microport's** got its version of SVR4 ready for **DEC Intel Corp** 486 machines. It says it's the first product to fully support the Intel Express motherboard architectures with DEC's high-performance graphics, SCSI and networking chipsets and adapters. DEC is supporting Microport customers. Microport is promising an optimised version of its software for the Pentium chip.

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1992 AND ALL THAT: IBM FOURTH QUARTER CHARGES WILL BE \$6,000m AS 25,000 MORE JOBS GO

Even President-elect Bill Clinton could not contain his dismay last week after IBM Corp announced that business in Europe was so bad that the company would at best break even in the current quarter - and prescribed only more of the same medicine that has so signally failed to save the situation up to now. Announcing that the company would be taking a \$6,000m charge with its fourth quarter figures to cover 25,000 more voluntary redundancies and plant closures, mainly in the mainframe and disk drive businesses, and a \$1,000m cut in research and development spending and an unspecified bigger cut in capital investment, chairman John Akers warned that while cash flow remains strong, current earnings expectations make the company unsure of its ability to maintain the dividend at current levels. "Our services and software businesses are showing excellent growth," added Akers. "We are continuing to move aggressively into these areas while maintaining a sharp focus on our unique ability to create value for our customers by integrating the industry's widest and most competitive choices of services, products and technologies. The actions we are announcing today demonstrate IBM's continuing resolve to deal aggressively with the difficult transition that is occurring in the computer industry. The result will be a stronger and more prosperous IBM." The workforce reductions will come from manufacturing and development organisations and from marketing and servicing units. It also plans to increase the autonomy of its AdStar storage, Pennant Systems printer, and Personal Computer Co businesses. The workforce reductions will continue to be done through voluntary means, but "If business conditions do not improve significantly, it is likely that some business units will be unable to maintain full employment in 1993." As well as \$1,000m off development spending next year, sales, general and administrative expenses will decline by about \$1,000m. Development expenditures and personnel will continue to be shifted to growth areas, including services, software, client-server computing, networking and multimedia. IBM has paid out \$3.63 in dividends so far this year, and cutting out the fourth quarter payout altogether would save it a very welcome \$680m or so. IBM expects the world economy in 1993 to be no better than this year, and the workforce reductions will come from manufacturing and development organisations and in marketing and services units, principally from support areas. President-elect Clinton, in the second day of his barnstorming session on the economy in Little Rock, Arkansas said of the IBM cut-backs "That kind of investment is the exact thing we don't want them to be cutting."

SPARCCLASSIC SPEC "TOO COMPROMISED FOR USE AS WORKSTATION"

The well-anticipated under-\$5,000 Sun Microsystems Inc colour workstation that materialised last month as the \$4,300 SparcClassic is being depreciated in some quarters as a bait-and-switch box for the more expensive \$8,000 Sun LX. Granted, 90% of all Classics will go into distributed environments, but the box was still touted at its introduction as a personal computer killer. So it would be reasonable to assume the thing could run standalone. The problem here is that as a \$4,300 box it's fitted with only 207Mb external disk and 16Mb internal memory, barely enough to handle the Solaris 2.1 operating system that eats up 200Mb of disk space and prefers 24Mb minimum. Even if you go to a 424Mb disk for \$4,800 - £4,060 - you still have pop down more bucks for more RAM. A competitor like Hewlett-Packard Co, which earlier this year took its own lumps for baiting-and-switching, says the machine is "neither fish nor fowl," describing it as "too severely compromised to be a workstation" and dismissing it as no better than a 50MHz 80486 box. HP figures Sun tried its damndest to come up with a full-featured workstation under \$5,000 but when it looked at the margins, dumbed down the box to create the Classic. HP would know something about the exercise since it's trying to do the same thing and the best it's been able to come up with is the diskless 16Mb 715/33 for \$5,700 or 525Mb 715/33 for \$7,400. It reckons a year from now the industry will be at \$4,000. In the meantime it faults the Classic on floating point performance, no graphics acceleration, 8-bit audio and a low-quality monitor as well as memory. In addition it warns Sun that it is alienating its customers by not letting them apply their corporate discounts to the Classic and by letting them perceive Sun as turning its back on its established technical clientele to pursue the commercial marketplace.

We'd like to wish all of our subscribers a happy Christmas and successful New Year. The next issue of Unigram.X will be out during the second week of January.

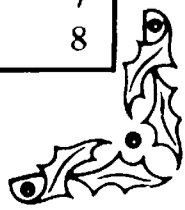
X CONSORTIUM LOOKS TO FRESCO OBJECT TOOLKIT

The X Consortium, guardian and developer of the X-Window system, is looking to release a full-blown object-oriented toolkit as part of X11 Release 6.0, which is due at the end of next year. It's based upon an environment called Fresco, which has been developed by Professor Mark Linton, now principal researcher at Silicon Graphics Inc. Fresco was developed as a portable environment and Linton is thought to have his sights firmly set on Microsoft Corp's Windows NT for the toolkit. Details, page four.

SIEMENS TO MARKET KENDALL SQUARE KSR1 PARALLEL SYSTEM

Siemens Nixdorf Informationssysteme AG has stuck resolutely to mainstream computing technologies and has not pioneered anything exotic since Siemens years ago inherited the scientific machine developed by Telefunken Computers GmbH, and that didn't last long. It is a serious player in scientific supercomputers, but only by virtue of the VP machines it buys OEM from Fujitsu Ltd. Now it has gone out of house again for an emerging technology, agreeing a preliminary marketing pact with Henry Burkhart's Kendall Square Research Corp. Kendall Square is pioneering massively parallel processing for the commercial world with its KSR1 machine, and Siemens Nixdorf will market it through its Scientific Computing Branch to technical and scientific users. The KSR1 systems scale from eight to 1,088 proprietary processors. Kendall Square has several offices in Western Europe that will work with the Scientific Computing Branch to market and support KSR1 systems. Initial efforts will include training, collateral, trade shows and industry exhibits. Europe presently accounts for about 45% of the company's sales.

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THE IBM TRAGEDY: IT COULDN'T HAPPEN TO A NICER COMPANY

by *Tim Palmer*

Partners and competitors of IBM Corp that have suffered at the company's hands will feel a sense of schadenfreude that the company is brought so low, and will reflect on how right they were when they said back in the late 1970s and early 1980s that if the US Justice Department split the company up as it was then threatening to do, they would have four or six IBMs to compete with rather than just one. The best thing that could have happened to IBM was to be broken up a decade or more ago.

Mischief

The wretched state to which the company has been brought is nevertheless a tragedy, a tragedy for all the towns in America and across the world where IBM was until recently the biggest employer, a tragedy for all its surviving employees, who now have to operate in an environment pervaded with gloom and a sense of failure, a tragedy for all the data processing managers that made it their business to know all that could be known about the company and its products and culture, who now find their hard-earned knowledge is a rapidly wasting asset. A tragedy for all those whose pension funds and insurance companies bet too heavily on the company's shares. A tragedy for the customers of all the banks, mostly French these days, that have substantial funds tied up financing IBM mainframes on the assumption of residual values that are emphatically no longer justified, and therefore don't now have that money available to finance new and promising businesses. But don't let anyone get away with telling you that IBM's problems are all the fault of the world economy: if Hewlett-Packard Co can grow at 20% in the current climate, if ICL Plc can remain in the black, if that former corporate basket case Unisys Corp, which compared with IBM started out under its present management with no advantages at all, can return to profit, IBM's woes have to be acknowledged to be primarily the fault of the company itself, and only exacerbated by the economy. And the failure of IBM management is that it didn't understand - and still doesn't understand - the extent of the mischief the genie of open systems it let out of the bottle with the original open IBM Personal Computer, could wreak.

Shorttermism

How're yuh gonna keep 'em down on the farm, after they've seen Paree, they used to sing back in the 1920s. How're yuh gonna keep 'em loyal to proprietary systems after they've seen generic PCs is today's equivalent. It was inevitable - and should have been obvious to the kinds of forecasting brains that IBM could afford - that the open systems movement would spread up from the desktop to infect first the minicomputer world and then the mainframe. And that means that even the AS/400 is potentially at risk, and can only continue to be a winner if IBM builds in a big discount to compensate for the fact that it is proprietary - yet instead of recognising this vulnerability, with its incredible but consistent short-termism, the company is squeezing AS/400 users until they squeal with its software pricing on the machine. The AS/400 business is widely hailed as one of IBM's few current successes: in fact it's a failure - it should have won every System/36 user by now, and have won enough formerly non-IBM customers to be running at between \$25,000m and \$30,000m a year, not the \$14,000m it is currently doing. And incredibly, users at the top end are still crying out for more power because IBM failed to keep its promise of increasing performance at a rate that would keep it ahead of customer demand.

Moribund

But oh no, IBM couldn't do that - it might lose 5% of its moribund mainframe sales to the AS/400. Well here's news for IBM - at the present rate, it will have lost 100% of its mainframe sales in five years, almost all of them not to competing IBM products but to competing companies. Why is Hewlett-Packard eating IBM's breakfast, lunch, dinner and supper? After all, it had a very vulnerable HP 3000 base to protect. The answer is that it saw the way the wind was blowing and instead of desperately tripping its users up as they tried to move to open systems, it embraced them wholeheartedly, giving users the option of either staying on the slow track with an MPE V operating system that over time would converge with Unix, or taking the fast track and jumping across to the HP 9000. Nor can Hewlett be dismissed as having been lucky and got it right first time: it didn't. The early Precision Architecture HP 3000 machines worked fine - until you started hanging terminals off them. Then they ground quickly to a halt, because the company hadn't understood what a drain input-output would be on the functioning of the machine. Instead of offloading underperforming RISC machines on its customers - thousands of which were crying out for more power - it rushed to boost the power of its obsolete 16-bit processor by every tweak possible, and virtually gave the things away. And the unhappy customer base stayed loyal in enormous numbers so that the company is now reaping the benefit.

Dreads and aspirations

But it's decades since IBM last saw beyond its customers' cheque books and recognised vulnerable human beings with hopes and fears, dreads and aspirations. IBM turned its first Unix system, the RT, into a child of the ghetto and told 90% of its customers that they didn't want it, it wasn't for them. And its customers took the hint and bought their Unix systems from Sun Microsystems Inc or aforesaid Hewlett-Packard. For fear of losing one or two sales of its obsolete mainframes, IBM designed the RT so badly that it had to junk the machine completely and start again from scratch to create the (incompatible) RS/6000. As a result, the RS/6000 may be a \$2,200m business this year while Hewlett-Packard and Sun are running at between \$5,000m and \$6,000m in Unix-related sales. There is always another side to the story of course, and IBM still has its apologists: Tim Mead, who was lately in charge at Datamation magazine, another former icon now down on its luck, wrote an outraged letter to the Wall Street Journal after its recent critical piece. He points out that under John Akers, IBM has built its desktop computing business to \$8,500m in worldwide sales in 1991, giving it 19% market share; remained the worldwide leader in information technology revenues, at \$62,800m last year up nearly 30% from \$48,500m in 1985 when Akers took over; and avoided the worst crisis that could have befallen it - which would have been to sacrifice investments in research and development for the sake of a fast buck - it spent \$6,600m last year. Unfortunately, this week, IBM has announced that it is lopping \$1,000m off its research and development budget, and indicated that turnover will slip back below \$60,000m...

DONE DEAL: NEC WILL PAY \$5.3m FOR 5% OF CONTROL DATA SYSTEMS

NEC Corp last week firmed up its agreement with Control Data Systems Inc under which it will acquire a 4.99% stake in the company, paying about \$5.3m. The agreement involves Control Data marketing NEC's 4800 series MIPS Technologies Inc R-series RISC workstations. NEC is to develop a special version of its UP 4800 server series for Control Data, with shipments expected to begin in the second half of 1993. NEC is counting on shipping 1,500 units to Control Data by the end of 1994, and the two are considering developing their relationship further, including the supply by NEC of other UNIX workstations to Control Data, the adoption by NEC of some Control Data applications to fill gaps in its own line - and the marketing by Control Data of NEC personal computers, probably the Ultralite MS-DOS laptop computer. NEC is also said to be negotiating with various US relational database vendors to put their products up under NEC's version of Unix System V.4.

UNICOMP TO BUY UNIBOL DEVELOPER SOFTWARE IRELAND FOR \$5m

Unicomp Inc, Atlanta, Georgia reports that it has entered substantive negotiations to acquire Software Ireland Ltd, Belfast for just under \$5m. It doesn't actually name Software Ireland, but says the acquisition will give its Arccom Management Systems subsidiary three strategic advantages - more control over its mainstay product line; advance information on new products currently in development; and a voice in decisions for follow-on products - and Arccom, in Marietta, Georgia is the exclusive North American distributor for Software Ireland's Unibol migration, conversion and recompilation system, which converts IBM Corp RPG II applications for Unix systems. The resulting combination is expected to produce total sales for UniComp of some \$15m with projected profits of \$2m for the fiscal year ending February 1994. Completion is scheduled for mid-January 1993. Software Ireland is the main business of Belfast-based ICS Group.

NCR TO CUT 160 UK JOBS, 8%

NCR Ltd is warning its UK workforce that it will have to make about 8% of them redundant, leading to loss of 150 to 160 jobs in nearly all areas of the company. It is offering advice on finding other jobs.

METAPHOR TO SUPPORT ITS DATA SYSTEM ON HP 9000s

Hewlett-Packard Co has teamed up with IBM Corp's Metaphor Computer Systems Inc for joint development and marketing of software to provide access from Metaphor's Data Interpretation System decision support software to HP 9000 Series 800 Precision Architecture servers, making the machine the first non-IBM computer for the product. Metaphor has already announced a Unix-based gateway enabling access to Sybase SQL Server and the Red Brick Warehouse repositories. The two have users in common and it was at the request of some large accounts that the relationship was formed. The new gateway will be out in mid-1993. Metaphor will not say whether deals with others are planned.

SCO APPOINTS OUTSIDE DIRECTOR TO ASSESS SEXUAL HARASSMENT CHARGES

Last week, in the wake of the civil suit lodged against Santa Cruz president Larry Michels for sexual harassment by three former executive secretaries at the company (UX No 415), SCO's board issued the following statement: "We are extremely distressed by the recent allegations made against the company and its president. We greatly respect and value each of our employees and we strive to provide for them an appropriate workplace environment. Therefore, we take these allegations very seriously. On December 10, the company's board of directors met and appointed Mr Jim Harris, an outside director, to assess the situation on behalf of the full board. We are committed to addressing this matter thoroughly. Given privacy and legal considerations, it is inappropriate to debate this matter in the press." Outsiders believe the charges may make it difficult for SCO to go public until they are resolved.

IBM LAUNCHES RELEASE 2.2 OF ITS AIX/ESA MAINFRAME UNIX

Everything else at IBM Corp was rather overshadowed last Tuesday by its announcement of the end of the world as its employees know it - and in effect, the death of the mainframe, but the company did also make a couple of significant product announcements, notably Release 2 of AIX/ESA mainframe Unix Version 2, built on the Open Software Foundation's OSF/1 Release 1.1 with additional IBM enhancements to exploit large processor capabilities. AIX/ESA Release 2 adds support of file systems greater than 2Gb - the limit is now 500Gb, and Data Striping on disk subsystems for faster access. Release 2 also provides performance improvements through an enhanced Virtual Memory Manager and asynchronous input-output put using the AIX/ESA Communications Server, which is claimed to enhance usability and performance for those connected to it via a channel or local network-attached RS/6000. This support enables terminals connected to asynchronous ports on the RS/6000 to operate as if they were directly connected to the AIX/ESA system. The RS/6000 combines input from multiple terminals and collects complete lines entered at terminals used with line-mode applications before sending the input to AIX/ESA, reducing interrupts and load on the AIX/ESA system. Virtual terminal support that supports remote logins to AIX/ESA with Telnet and rlogin commands, is now done on the RS/6000. Data encryption is provided by the crypt feature built within a library called libcrypt. The libcrypt library is available as a feature which encompasses the full function Data Encryption Standard and is generally controlled by the US State Department, which means that if you don't speak convincing American, you can't have it. The implementation of asynchronous input-output is based on Posix 1003.4/D 12 Real Time Extensions, dated February 1992. It preserves the order of multiple asynchronous input-output requests issued against a particular file. Being compliant with OSF/1 1.1, it is by definition also compliant with the Unix System V Interface Definition Issue 3 - Base. It is also Berkeley Software Distribution 4.3-compliant. IBM notes that it announced intent in September to make AIX/ESA source code available as a separately orderable option. This offering will enable customers to extend and tailor their systems to meet unique requirements. It now intends to make the source available in the second quarter of next year as separately orderable options for IBM AIX/ESA 2.2 and Network File System for AIX/ESA 2.1.1. AIX/ESA 2.2, available in February, requires a minimum of 32Mb of memory to run, and 36Mb to install it. The graduated one-time charge ranges from \$63,120 on a low-end 9221 machine to \$1.3m on a six-processor 9021. It also announced IBM AIXwindows Environment/ESA 1.2 X Window implementation for the new release; it is based on X Window System version 11.5, and OSF/Motif Version 1.1.4.

SUN BRINGS SITKA BACK HOME

Having dangled its local area internetworking outfit in the shop window for almost two years now, Sun Microsystems Inc has decided to fold the wholly-owned Sitka Corp back into its SunSelect PC-NFS networking arm, effective on December 28th. Sitka, based in Alameda, California - originally Sun's TOPS division - will continue to sell its networking software line through existing channels but will operate under the SunSelect name out of Chelmsford, Massachusetts. SunSelect general manager, Carl Ledbetter, takes the reins of the combined unit. Sitka gained an arms length separation from Sun in January 1990, naming its own board. At the time, Sun appeared to be manoeuvring the business for sale. Sun says it will be able to compete more aggressively in the personal computer networking market with Sitka's peer-to-peer and pen computing network technology. SunSelect suggests it'll have some new combined products in the new year.

SEQUOIA MULLS CHAPTER 11, SALE

Fault-tolerant Unix systems builder Sequoia Systems Inc is considering selling itself, filing for bankruptcy or obtaining additional financing in face of its financial woes. It also restated downward - although not drastically, previously reported results for fiscal year to June 1992 and 1991, to reflect the fact that customers that bought Sequoia gear were not required to pay for some kit until it was resold to end-users. It also cut its workforce to 170 from 295.

FRESCO OBJECT TOOLKIT "TO FEATURE IN X-WINDOWS RELEASE 6"

by William Fellows

There is an effort underway at the University of Lowell to develop C++ "wrappers" for the Open Software Foundation's Motif graphical user interface. However, re-modelling the X-Windows XT intrinsics toolkit - upon which Motif and other X-Windows-based interface styles are built - for C++, still won't, because of X's limitations, allow developers to take advantage of native object-oriented languages, says Dave Sternlicht of the X Consortium. Sternlicht and others hope that a new paradigm, now under development will bring object functionality to X. It may do the same for other windowing schemas too.

Mark Linton, formerly a professor at Stanford University, now principal researcher at Silicon Graphics Inc, has come up with a completely new toolkit that can be applied to X-Windows. It's been developed in C++ and is known as Interviews, though it'll probably come to the market as Fresco. Sternlicht hopes it could be included in X-Windows as soon as the end of next year, bundled with X11 Release 6.0, which is due around that time. However, Fresco must first get past the X Consortium board - "a high hurdle," according to Sternlicht. The difference between Fresco and other toolkits like X-Windows' XT intrinsics is that being object-oriented, it uses a small amount of memory, says Sternlicht. Fresco enables developers to create applications that use tens of thousands of run-time objects: "you'd have big problems if you wanted to do that with conventional X-Windows widgets or XT intrinsics," he says. Fresco incorporates a general management facility called Doc, which is structured like a word processor and includes a range of editing features. Every character written in a program formulated in Doc has an associated run-time C++ object. Doc files and objects interact dynamically.

Gliffs

The base class in Fresco's class hierarchy is a gliff. Gliffs have notions of geometry, and can allocate and request space. There are other sub-classes for graphical user interface components such as push buttons and scroll bars. XT intrinsics makes no distinction between physical information and logical information - sentences and pages are physical occurrences, paragraphs are logical - whilst Fresco allows the designer to utilise resources that are independent of the application. In Fresco, components are linked in a separate hierarchy - a style hierarchy - a logical tree-type model which is derived from the physical layout of the program. Fresco also has a model view controller - an idea borrowed from the object-oriented SmallTalk language which doesn't occur in XT intrinsics but is found in other technologies like the Andrew toolkit. It operates on notions of an observer (views) and the observable (data).

Motif and Open Look

With XT intrinsics - indeed all of the X environment - each widget is effectively a separate window. Fresco has a single window. Gliffs - known as gadgets at this level - occupy "areas" of the window, which makes a big difference, according to Sternlicht. Importantly, the Fresco toolkit can pull down different user interface components at run time and is able to take on Open Look, Motif or other look and feel styles. Fresco has borrowed concepts from Adobe PostScript and the Canute text layout system and includes PostScript-like structured graphics. A Fresco "canvas" on to which gliffs can be "painted" will allow developers create things like two-dimensional geometric figures: like X it has some difficulty with three dimensions at the moment. Fresco is really aimed at the next generation of object applications which will actually use large numbers of objects. Although it is fairly complicated now, it will be simplified over time and will offer a migration route up from things like XT Intrinsics. It is likely that by the time of its release in X11R6 - if that eventually happens - Fresco components could be incorporated into XT toolkits - it should be possible to have a gliff in an XT widget, for example. Linton has developed Fresco with portability in mind and has already tested a version that runs on Microsoft Corp Windows NT, apparently his main target for technology.

X CONSORTIUM SEEKS DIRECTOR, AUTONOMY

Meanwhile, as well as searching for a director to replace its current chief, Bob Scheifler, the X Consortium is also examining ways of distancing itself from its home at the Massachusetts Institute of Technology and developing some kind of marketing focus without falling foul of its not-for-profit status. Overall goals and responsibilities for the group, which develops and oversees the development of the X-Windows environment, are under review. It hopes organisational changes and a new director will be in place by the end of next year, when Release 6.0 of the X11 windowing system is due.

ECOSYSTEMS' "FIRST ONE-STATION ALL-SYSTEM MONITOR"

Cupertino-based EcoSystems Software Inc reckons it has scored a first with its EcoSphere and EcoTools/Oracle client-server systems management software, the production versions of which are just shipping. They are claimed to be the first ever to enable system administrators to monitor and manage all their computing resources - computers, networks, and relational database applications - from one central management console. Prior to announcing production status, EcoSystems says it put the products through a four-month beta test programme covering a dozen US organisations featuring a diverse assortment of Unix hardware and Oracle relational database configurations. The EcoSystems products provide functionality for configuration management, performance management, fault management, capacity planning, automated operations and management reporting, and support Unix servers with Unix, MS-DOS or terminal clients. Pricing starts at \$16,000 and is based on specific system configuration capacity. EcoSystems: +1 408 252 3801

CRAY KILLS REAL-TIME Y-MP EL PROJECT, SEEKS TO PASS IT ON

Cray Research Inc is still having to trim costs further, and the latest victim of the climate of stringency is the real-time computing team that had intended to start shipping products early next year. According to **Electronic News**, the effort involved the low-end Y-MP EL machine and internal and external software. The company now hopes to transfer what has been developed to another vendor - Digital Equipment Corp sells the Y-MP EL, but has been less successful than Cray hoped. Cray licensed the Real/IX real-time Unix from ModComp for the effort.

ASNA HAS MAINFRAME-LIKE DATABASE FOR UNIX, WINDOWS 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 running under Unix and Microsoft Corp Windows NT. Asna 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 data crunch - in the same way as a 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 only process data in one way using Standard Query Language. Asna's president, Anne Ferguson explains, 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 can reportedly 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 CASE toolkits for DataGate. DataGate is available on IBM's RS/6000s and is scheduled for release September 1993 - no prices are available.

TP MONITORS CAN INTERACT WITH NEW RETIX SOFTWARE

Retix Inc, Santa Monica, California says it has developed an Open Systems Interconnection-compliant distributed transaction processing communications manager, which enables different transaction processing monitors to communicate and interoperate with each other. Transarc Corp, Pittsburgh, Pennsylvania, has signed for the software and together with Retix will integrate it with the Encina transaction processing monitor it markets. IBM, whose CICS/6000 transaction monitor is based upon Encina will license the integrated OSI/DTP software once the integration work is complete. The three firms say they will demonstrate the stuff running on RS/6000s next year. Other transaction processing monitor vendors - NCR Corp and Unix System Labs Inc - have also licensed parts of the Retix software, but are doing their own integration work, which will leave them some six months behind Transarc, says Retix. An official at Retix said, "if these companies had taken the entire product, the industry would have seen transaction processing interoperability a lot earlier." Retix OSI/DTP is designed to provide transaction protocol services for peer-to-peer communication between transaction monitors and the OLTP application they manage. Retix says its OSI/DTP software strips application data of its Encina, Top End, Tuxedo and other TP monitor-specific features and recompiles it for the target environment. OSI/DTP conforms to X/Open Co Ltd's Distributed Transaction Processing model and the OSI Application Layer Structure. The X/Open standard provides portability - OSI's model the interoperability, Retix says. OSI/DTP embraces atomisity - preventing transaction operations from being split; concurrency - which keeps all transactions together when passed across the network and monitor manager - which controls the transactions.

CHIP GURUS EXPECT INSTRUCTION RATES TO DOUBLE BY 1995

The industry's multi-processing unit gurus assembled at the Microprocessor Forum in California last month, looked into their crystal balls and predicted that by the middle of the decade a typical high-end microprocessor would run at 250MHz-300MHz with about 64Kb of on-chip cache and a maximum issue rate of 4-6 instructions a cycle, double today's leading silicon. There will also probably be a strong emphasis on chips for portables with battery life being the driving factor in microprocessor design. Current techniques like superscalar design and on-chip cache are reaching their limits and future performance increases may require new computing paradigms including a trend to single-chip multiprocessors. Performance improvements will probably require changing the way software is written.

HP SQL INTERFACE CAN READ AND WRITE NON-RELATIONAL DATA

Providing something that is high on most corporate users' wish lists, Hewlett-Packard Co has come up with an SQL-based interface that can read and update data in a non-relational network database, and reckons it is the first vendor to do so. Image/SQL can be used with new applications, existing applications and SQL-based applications generation languages and client-server tools. The company believes the new interface helps users to take advantage of new technologies at their own pace, while protecting their investments in applications, data and training. End users will be able to use personal computer and workstation-based tools that feature graphical user interfaces for easier manipulation and analysis of data, it suggests. Users will be able to do decision analysis and support at the desktop, and prepare reports based on Image/SQL data - Image/SQL is the new name for the TurboImage database management system. Tools are expected to include all those currently working with Allbase/SQL, such as those from Channel Computing Inc, Cognos Inc, Gupta Corp, Information Builders Inc, Ingres Corp, JYACC Inc, Powersoft Inc, Speedware Corp, Trifox Inc, Uniface Corp and Unify Corp. The company reckons that as the SQL-based interface is easier to use, it means that programmers will be able to develop new applications more quickly - and the applications can be designed to access Image/SQL or Allbase/SQL data, providing full database compatibility. Languages such as C, Cobol, Pascal and Fortran can also be used to develop SQL-based applications that read and update Image/SQL data. The read-only version of Image/SQL will ship before year-end, with the full version following in mid-1993.

SUN SPOTS

Sunsoft Inc says it will start delivering OEM versions of Solaris 2.1-on-Intel by mid-January, fulfilling its promise to get the desktop Unix for Intel Corp iAPX-86 boxes out during the first quarter of 1993. OEM customers, including **Dell Computer Corp**, **AST Research Inc**, **Compaq Computer Corp**, **CompuAdd Corp** and **Toshiba Corp** are breathing sighs of relief, but said they were unwilling to comment until final copies are delivered. Sunsoft has had problems meeting time schedules for Solaris in the past, but it seems to be back on target. Sunsoft says all it has left to do is upgrade localised versions of the software from Solaris 2.0 to Solaris 2.1: German, French, Italian, Japanese and two Chinese editions are due. The company expects OEMs to start delivering Solaris 2.1-based systems the beginning of the second quarter.

Illinois-based **Open Business Systems Inc** has started selling the Tsunami-based SparcClassics over the Internet to the home market. It pre-installs the operating system or any other software ordered and domestic carriage is free. But you have to convince them it'll be used at home. If orders are pooled they'll honour the Sun 12-pack discount for orders of four or more. +1 312 739-1111

Sun users in education and research can access public domain software, shareware, research articles and images via InterNet and SunSite, a new easy-to-use interactive information repository set up with the **University of North Carolina** at Chapel Hill. info@sun-site.unc.edu

Tivoli Systems Inc is porting its Management Environment from Solaris 1.1 to 2.1, expecting it to be ready by the second quarter, with all applications available by the third quarter. Tivoli says the TME will speed and simplify users' transition to Solaris 2.1 by allowing them to manage both operating environments from a common set of applications. Meanwhile, the company's vice president of sales, Charles DeVita, has turned up at Mountain View, California-based **Consilium Inc** as vice president, worldwide sales and service.

Sun Microsystems Inc's Colorado-based master distributor **Access Graphics Inc** is picking up **Qume Corp's** \$700 QX15 ASCII/ANSI terminal which supports Sun graphical windows. The box's server software supports SCO Unix, SCO ODT, RS/6000 AIX, Univel and Data General as well and will also be sold by the US distributor **Robec Inc**.

In a deal worth £500,000, 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.

Resellers report that Sun's new 50MHz Tsunami-based SparcClassic and LX machines, introduced last month and advertised as immediately available, were put on allocation last week. A reseller ascribed the move to the ramp-up.

The Clinton/Gore transition team is using Sun workstations with Resumix software to process 2,000 to 3,000 resumes a day from people looking to fill all those old Republican jobs by Inauguration Day. They've gotten 100,000 resumes and have 4,000 jobs available.

LDS HAS NEW PC-TO-UNIX DATA TRANSFER TOOL

Lenexa, Kansas-based **LDS Inc** says almost any personal computer connected via serial hardware can transfer files and other data between any popular Unix-type system using **EMPath**, its new comms package. With a user-defined hot-key, EmPath permits switching from MS-DOS to Unix and back from the MS-DOS prompt without exiting apps 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 lets DOS files be copied to Unix and vice versa and lets Unix files be printed by a printer connected to DOS. +1 913 492-5700

CZECH-SLOVAK DIVORCE THREATENS INFORMIX

A question mark is hanging over the \$1m contract awarded to Informix Software Inc last January by the Czechoslovakian Federal Ministry of the Interior to provide citizen registration and administration software to local municipalities. Not only is time ticking away before the country splits itself asunder into its constituent Czech and Slovak republics, but both the ministry and the concept of Czechoslovakian citizenship will officially cease to exist on January 1 1993. Informix was contracted to supply 140 of Wyse Technology Inc's machines, with its own database and software tools, running under Santa Cruz Operation Inc's version of Unix. Informix's Munich-based marketing director for Central and Eastern Europe, Werner Neibel, stated that although some systems were already in place, installation had been scheduled to take place "over a number of years". He refused to say whether his company had received any payment so far, claiming that to do so would be breach of confidence with regard to OEM suppliers. Nonetheless, as the software has been given both Czech and Slovak language user interfaces, the project could conceivably continue under the auspices of the individual republics.

MICROAGE PARTNER BUYS INTO BUDAPEST WEEK

MicroAge Inc's Hungarian distribution network, Duna Elektronika, has taken an unspecified stake in Budapest Week, the country's widest circulation English language newspaper. Terms were not disclosed, although the tabloid did say that it has received a capital injection from Duna, which will be used for investment purposes. Budapest Week will move over the river to the red-light district in Budapest, where Duna's headquarters are situated. Duna is Hungary's largest computer distributor, with independent dealers in every major town. It also owns 22 showrooms. However, no decision has yet been taken on how the company will exploit its investment. According to president and chief executive Peter Freed, things are still "at the ideas stage". On the one hand, Duna is said to be thinking about buying the rights to a publish a Hungarian or European version of an unnamed US Unix programmers title, with current circulation of 7,000. On the other hand, rumours are that it may launch a computing supplement under the Budapest Week name. Duna's ultimate aim is to support its distribution activities by advertising in its own local computer publications, while also hoping to attract advertising from its competitors. Until last month, Budapest Week and the Daily News, a former communist publication published by the Hungarian news agency, MTI, were the only English-language publications in the country. Budapest Week is now locked in a circulation battle with the new weekly broadsheet, the Budapest Post.

COGNOS SIGNS ASHISUTO TO MARKET PRODUCTS

Ottawa, Ontario and Burlington, Massachusetts-based Cognos Inc has gone to American expatriate Bill Totten's Ashisuto KK, Japan's largest software marketing company, for sales and distribution of all its software tools, including its new client-server and Unix products, directly to the Japanese market. Cognos notes that it first entered the Japanese market in 1985 and initially sold its products there through distributors for Hewlett-Packard Co, Digital Equipment Corp and Data General Corp hardware. In 1990, it established its own Japanese office in Tokyo and began offering technical support on a local basis. It has adapted its primary product, the PowerHouse applications generator for use in Japan and to date, has over 2,000 Japanese installations. Japanese customers include Canon Inc and Toshiba Corp.

NEW NIXDORF TARGONS RUN SINIX-TOS V5.41

There seems to be some confusion at Siemens Nixdorf Informationssysteme AG over the future of its Nixdorf Targon Unix series. SNI director Otto-Hermann Grunberg's statements to *Computerwoche* last month indicated the company was not going to release any new Motorola Inc 680x0-based Targons (UX No 412). However, SNI has now added the Targon/31 M35 and M65 models to its range, which use one and two 33MHz 68040s respectively. They run Sinix-TOS V5.41, which SNI claims makes Targon/31s source code compatible with its other Intel Corp and Mips Technologies Inc-based Sinix systems, the WX200, MX300, MX500, RM400 and RM600. Sinix-TOS V5.41 is backwards compatible with version 4.1 of the Targon operating system - TOS V4.1. With 32Mb RAM, 702Mb disk the model M35 is around \$22,500 - £14,500.

ARAN TAKES ON ICL SOFTWARE AS TRANSACTION POINT GOES DOWN

ICL plc software house, Transaction Point Ltd, Reading, Berkshire, went into liquidation last week citing recessionary trends as the reason for its collapse. However, with its eyes on new markets, Digital Equipment Corp value-added reseller Aran Ltd, Thatcham, Berkshire, acquired the products, contracts and 20 of the 25 staff employed by Transaction Point. Financial terms were not disclosed, but Aran expects the Transaction Point acquisition to contribute £1.5m in revenues, to a combined company turnover of £5m by the close of its financial 1994 on March 31. Aran doesn't expect the Transaction Point acquisition to impact end of year net profits to March 31 1993 - the costs will be incurred as an extraordinary item charge. Aran has set up an ICL division to accommodate the new business, which will be run by ex-Transaction Point employees. Transaction Point company has sold the rights to its flagship fourth generation language tool and relational database system, Demon, its Range Text Manager word processor and project management system, Kernel-PMS. Liquidator is Clogg & Whitehill Ltd, also of Reading, Berkshire. Aran: +44 635 872122.

PICK SYSTEMS WILL HELP THE RUSSIAN TAXMAN PICK THE POCKETS OF THE POPULACE

Pick Systems Inc, Irvine, California is making rather a splash in the former Soviet Union and has now been awarded what it reckons is one of the largest computer automation projects to be undertaken by the Russian government in the next 12 months. Its wholly-owned Pick Systems Ltd of Moscow has signed a contract with the Russian Tax Department through the commercial arm of the Russian Ministry of Finance to provide Pick software and development services to computerise Russian tax collections. The initial order calls for 350 multi-user tax collection systems to be installed in Moscow by the end of the year. The systems will vary in size from six to 33 users and are expected to provide on-line tax collection system support to more than 3,000 tax officials by the end of the year. The company notes that in the past six months, Pick Systems has also provided municipal services software for the city of St. Petersburg and has established Pick training centres in most of the major Russian scientific and technical institutes. Pick is also installed at the Moscow City Archives, Russian Ministry of International Affairs, Ministry of Foreign Economic Relations, and Department of Tractor Export. Pick Systems got into the market early by establishing sales operations through French resellers more than 10 years ago. It was translated to Russian and became a popular mini-computer product in the former Soviet Union, where more than 600 mid-range machines have been operating Pick-based applications for the past 10 years.

INTERACTIVE DEVELOPMENT ADDS NEW SOFTWARE THROUGH PICTURES PRODUCT

San Francisco, California-based Interactive Development Environments Inc has introduced a new Software through Pictures/Information Modelling product, which enables users at a workstation to analyse and customise existing relational database management systems. The tool, targeted at the transaction processing market, enables a developer to prioritise and alter the company database using Structured Query Language statements. The software supports the Informix, Sybase, Uniface and Ingres relational databases. StP/IM captures the conceptual model of the database data - which can either be an overall visual view of an application or the whole distributed computing environment - and focuses on the data objects and their relationships, regardless of the database structure. It then extracts the required object or attribute and presents its graphically. The data can then be analysed or altered and placed back in the database. The key features of the software include a graphical editor - which constructs the model; data element and table domain editors - which stores extracted data and allows users to reuse information; a create, read, update and delete table; SQL data declaration, control and manipulation language support - that allows data to be changed - and data administration tools. StP/IM is scheduled for release March 1993 initially on Sun Microsystems Inc Sparc stations with support for IBM Corp's RS/6000, Hewlett-Packard's HP 9000s and Digital Equipment Corp Vms to follow; no price has been set.

IBM BLUES

The **Federal Aviation Administration** is reviewing a proposal submitted last week by **IBM Corp** to save its endangered contract for en route air traffic control workstations. IBM says that the workstations are based on RS/6000 stations and servers, and that all the problems are in the software. The Administration is threatening to withhold payments and even cancel the \$3,900m contract to modernise the US air traffic control system if IBM does not fix the problems quickly. The move is seen as a spur to get IBM working on the case rather than a serious threat: rivals say they haven't been approached to propose alternatives. The problem has delayed the second phase by 18 months.

On the IBM Corp dividend, it's going to be a nailbiting month for holders of the shares, because IBM said that it will address the issue at its next regularly scheduled board meeting, which will take place sometime in January. John Jones of **Salomon Brothers** - who last week said there was a 50% possibility of a dividend cut - now says there is a 50% chance that it will be completely eliminated. Joseph Payne, an **Alex Brown & Sons** analyst, said elimination of the dividend is unlikely because it would let loose a huge supply of stock onto the market and fund managers wouldn't stand for it - a rather naive statement since the non-executive directors would be in breach of their fiduciary duty if they allowed IBM to pay a dividend they judged it could not afford.

Analysts were rushing to cut their forecasts for next year's earnings per share, with Stephen Smith of **PaineWebber** the most bearish - and the most often right: he is going for just \$1.75 a share for 1993. Most analysts said IBM Corp is not done with its restructuring, and there will be more to come - "I think basically the mainframe business and the problems they are facing are very fundamental and will likely worsen in 1993," Smith said - "the mainframe business is the main source of cash flow and it will be very difficult to offset that by improvements elsewhere."

Less than half the 25,000 job cuts planned by IBM Corp will be made in its operations in Europe, Middle East and Africa, a spokesman for **IBM Europe** told **Reuter**. A spokesman for **IBM France** said it had already earmarked 1,500 job cuts for 1993 through voluntary redundancies, but did not rule out further measures if the market deteriorated. IBM France currently employs about 18,000 people. Italy will lose about 750 or 6%, as will other southern Europe countries; the UK is expected to lose 1,000 or 7%.

Subscribers may have noticed the scepticism with which we have tended to greet analysts' forecasts for IBM Corp's earnings, and invariably their forecasts have proved too optimistic - but it seems to take time for the true awfulness of the situation to sink in with them. The **Wall Street Journal** has called their bluff and finds that 12 of the 31 analysts that track IBM had buy recommendations on the stock on September 1 - and even after details of all the new cuts came out, only three had an outright sell recommendation on the stock, and last Tuesday morning, some were still rating it a buy. "Why am I so stupid?" asks Lehman Brothers' Don Young, adding when asked where he stands on the stock now, "I am under water." The most consistently bearish - well he is a Brit - Stephen Smith of **PaineWebber**, says that until recently, saying you didn't like IBM was "like standing up and saying I don't like apple pie." When asked why it had taken him so long to change his view of IBM, Joseph Payne at **Alex Brown & Sons** said abruptly that he had to take another call and promised to call back later. He didn't, nor did he return a second Journal call.

Is nobody minding the shop at **IBM Corp** these days? Last Wednesday's heavy New York papers, the Times and the Wall Street Journal, devoted acres of newsprint to the disastrous turn taken in the tide of IBM Corp's affairs - but alongside, IBM still ran a chirpy RS/6000 ad with a picture of computer-generated bubbles, with a blurb entitled The Computer That Made This Picture is Also Making History. The text includes the message that IBM spends \$6,000m a year on research and development - now cut to \$5,000m - but the image of John Akers in the bubbles had mysteriously disappeared. And the ad's caption? Bursting Bubbles...

DATAFLEX 3.1 ARRIVES ON SPANISH MARKET

The Madrid-based Spanish Association for the Development of Information Technology has released Dataflex 3.0.1 for Unix. The Dataflex relational database management system is written in a fourth generation language and has an IBM Corp SAA/CUA-compliant user interface, which enables users to write dBase applications. The new release provides header integrity checking, on-line help for applications development, and the association claims that error handling has been improved.

FEAR OF THE UNKNOWN, LACK OF STANDARDS, HAMPER ACCEPTANCE OF PARALLEL SYSTEMS

Companies, banks included, are reluctant to switch to massively parallel supercomputers because of a lack of industry standards. According to director of the European Centre for Parallelism in Barcelona, CEPBA, Mateo Valero, people are afraid that investment in programming will simply be wasted if new standards emerge. Another problem, he says, lies in the inexactness of the machines' results. This is due to so many processors running applications at the same time and the numerical methods used for rounding off figures. But, Valero asserted, "some application users are aware that they have to make changes to their algorithms and to their way of programming if they want applications to run quicker." CEPBA itself has Parsys Ltd's SuperNode CN-1000, Convex Computer Corp's C-3840, and a Thinking Machines Corp Connection machine. "For research purposes, we don't want to have the fastest machines in the world, but one of each there is, so that when the user comes along, he can develop his own models," Valero maintains. It has been operating for a year now, with the aim of showing researchers both the benefits of massively parallel computers and how to use them. The centre has been involved in a series of projects. It has already developed a C++ compiler for the object-oriented supercomputer, Comandos II, and is now developing compilers for such new high-level supercomputing languages as High Superformance Fortran. The latter is a Eureka project, led by Barcelona Ingenieria del Software SA. It has also signed a deal with Convex to develop compilers for the US company's multiprocessing systems. In addition, the centre completely designed a parallel operating system, Paros, for the European Community SuperNode II project. Paros is used in the Transputer-based SuperNode II - Esprit I - machine. It also collaborated with Barcelona-based optical lens manufacturer Indo SA to develop numerical algorithms for transputers in order to improve production of optical lenses; undertook a simulation project for BMW to create more environment-friendly petrol engines with higher performance; is participating in 15 different Esprit and RACE, Research into Advanced Communications in Europe, projects, and is developing supercomputing applications for the European project APPARC - Esprit III.

TWO SPANISH COMPANIES PIONEER REMOTE READING OF WATER METERS

La Compania Aguas de Sabadell SA, Sabadell, Barcelona, and Telecom Valles SA, Terassa, Barcelona, claim to have developed the first system in Europe for reading water meters over the telephone. Some \$615,000 has been invested in the project, which is now in pilot with 310 homes. Pulse emitters send metered information to concentrators, which are connected to a Unix host. The host processes the readings and is responsible for the general maintenance of the system. The two companies assert that the system avoids reading errors as well as avoiding the need to have inspectors tramping round trying to read meters in empty houses whose occupants are all at work. It can detect sudden increases in water consumption, such as leaks. The companies plan to apply the concept to gas and electricity supplies as well as security systems.

BSI MULTIMEDIA FORMS UNIT TO DO OS/2, UNIX PRODUCTS

Barcelona-based multimedia developer BSI Multimedia SA is setting up a new division to specialise in Unix and OS/2 products. The aim is to develop a wide range of office automation software. The new division is ready with its JetForm 3.0 family, which enables users to design business forms under Microsoft Corp's Windows and to enter data from different open systems environments. The division resulted from user demand for open products.

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What driving to the store would be like if operating systems ran your car

MS-DOS: you get in the car and try to remember where you put your keys.

Windows: You get in the car and drive to the store very slowly, because attached to the back of the car is a freight train.

Macintosh System 7: You get in the car to go to the store and the car drives you to the church.

Unix: You get in the car and type GREP STORE. After reaching speeds of 200 miles per hour en route, you arrive at the barber shop.

Windows NT: You get in the car and write a letter that says "go to the store." Then you get out of the car and mail the letter to your dashboard.

Taligent/Pink: You walk to the store with Ricardo Montalban, who tells you how wonderful it will be when he can fly you to the store in his Learjet.

OS/2: After fuelling up with 6,000 gallons of gas, you get in the car and drive to the store with a motorcycle escort and a marching band in procession. Halfway there the car blows up, killing everybody in town.

S/36 SSP [mainframe, obv.]: You get in the car and drive to the store. Halfway there you run out of gas. While walking the rest of the way, you are run over by kids on mopeds.

OS/400: an attendant locks you into the car and then drives you to the store, where you get to watch everyone else buy fillet mignons.

Following in the footsteps of its peer group, **Unix International**, the **Open Software Foundation** is going to take its own pot shot at **Microsoft Corp's** Windows NT. Its preparing a white paper like UI's "Desktop Unix and NT: A Functional Comparison" that will presumably seek to bloody its potential rival. OSF's press office says the thing is nearing completion.

VenturCom Inc, Cambridge, Massachusetts has released a high-speed accelerator for its Venix real-time Unix system. The company says all previous Unix systems have been based on a clock granularity of 100Hz and that it has developed an extension that allows an operator to select the clock or alarm granularity that optimises the equipment. It is not dependent on the operating system, the faster the CPU, the faster the data acquisition. A beta site reportedly accelerated a 33MHz 80486 2,000%. It is being provided free to customers.

IBM Corp claims its 100MHz "Blue Lightning" chip is the world's fastest 80486. Right now it's only a technology demo but it's believed it will be marketed to system OEMs as part of motherboards and CPU daughtercards. It can plug into a 33MHz system design.

Objectivity Inc is introducing interactive object browsing of its ODBMS with **Center-Line Software Inc's** ObjectCenter C++ programming environment. CenterLine's software can now define object classes with Objectivity/DB and interactively access Objectivity/DB objects. Developers can use ObjectCenter to create and test an Objectivity/DB application. They can check syntax and access object while debugging. Meanwhile, Montreal's **Visual Edge Software Ltd** is integrating its UIM/X 2.0 interface development tool with Objectivity's ODBMS to allow creation of custom interfaces to specialized Objectivity applications.

Wang Laboratories Inc has asked the US Bankruptcy Court to extend by 90 days - to March 16 from December 16 - the time during which Wang has the exclusive right to file a plan of reorganisation under its Chapter 11 bankruptcy proceedings.

Roger Sippl quit as **Informix Corp** chairman to pursue his start-up interests: Phil White, president and chief executive, succeeds him. Sippl's new venture **ProActive** is staffing up, hiring itself a vice president of sales Paige Hiatt, ex of **Grid Systems**, and a vice president of consulting Bill Morton, formerly of **ViewStar Corporation**.

Littleton, Massachusetts-based **Alliant Computer Systems Corp** is taking a long time to die - too long for Craig Mundie, who resigned as president and chief executive to accept a position with **Microsoft Corp** as general manager, Advanced Consumer Technologies. Mundie, one of the three founders of Alliant in 1982, will remain on the board to advise in final sale of the service business and ultimate liquidation of the company.

IBM UK Ltd lost its RS/6000 chief Clive Parminter to **Oracle UK Ltd** last week: Parminter will head Oracle's major accounts division from the new year and report to Allen Swann, director of Oracle's direct sales channels. The incumbent, Steve Hill, was said to be "considering his options."

Informix software house **Mountfield Software Ltd** of St Leonards-on-Sea, East Sussex, is to supply its Informate II code generator and report writer to **Informix Software Inc** in Menlo Park, California. The system will be used in an internal pilot project in Informix's US and UK offices and should lead to a major deal across the US if all goes well. Mountfield says most Informate customers are UK-based, including 15 local councils and the Inland Revenue. The system is also used by the Government of Malta.

Alpha Microsystems Inc is anticipating a mild comeback figuring it'll have a profit between \$190,000 and \$250,000 for the third quarter ended November 28 on revenues between \$10.5m and \$11m.

FourGen Software Inc opens its first overseas offices this month in Amsterdam, hoping to capitalize on downsizing trends among large European corporations. It will focus its sales efforts on companies that have departments or divisions in several countries and need a global package.

Applix Inc claims it's battering the heck out of **Uniplex Ltd**, especially in Europe where folks are reportedly getting sick and tired of waiting for Uniplex's graphical upgrade. It's latest coup however came out of the US. It's part of an eight-year \$92m government contract called JSAM that its group, including GTE and IBM with the RS/6000, won over two protests by the opposition, Grumman, Pyramid, AT&T and of course Uniplex.

Hewlett-Packard Co is crossing itself to ward off any demons that would give it the same misery **Sun Microsystems Inc** is going through moving from Solaris 1.0 to Solaris 2.0. Far from adopting a desktop solution like SVR4.2, HP is streamlining and modularizing its own HP/UX to suit upcoming low-cost boxes. Of course it may define desktop differently from other players and forego a saturation strategy. HP by the way thinks 1993 will be the year the market comes to appreciate Unix.

Solbourne Computer Inc's vice president of marketing, Travis White, has resigned from the company for personal reasons. It is looking for a replacement. Meanwhile, the company is working on getting Kbus-based half-gigabyte RAM boards out in the first quarter, followed 1GB boards in the second though that later date is still kind of iffy.

Hewlett-Packard Co is starting to realize a heartfelt wish: passing DEC as number two computer maker. According to numbers InfoCorp worked up HP has finally surpassed DEC in US revenues from midrange systems (priced from \$25,000 to \$699,000), giving HP the spot right behind IBM. InfoCorp figures HP owns 17% of the \$14.1b market versus Blue at 24% and DEC at 13%. HP claims the number one spot in the Unix midrange.

System builders that **Microprocessor Report** spoke to at Comdex last month said they did not expect volume production of **Intel Corp's** Pentium chip until mid-1993 at best, suggesting the part has slipped another few months. The OverDrive, P24T, version of Pentium will not ship until early 1994.

Microsoft Corp has started delivering a preliminary version of its Windows NT device driver kit.

It's hard to keep your eyes away from documents people beside you are reading on the train, especially when they are **X/Open Co Ltd** internal memoranda: the one seen by a Unigram.X spy at Lewisham, South London last week promised in its first paragraph "a 0% payrise" for unfortunate X/Open employees. Happy Christmas?

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