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X/OPEN AND EUROPEAN COMMISSION TO PICK UP RE-POSITIONED ANDF TECHNOLOGIES...

ANDF may be getting thrown out with the bath water over at Unix Systems Group - see below - but the universal software distribution mechanism is now being touted as a panacea for a number of other thorny industry issues and appears to have won the backing of both X/Open Co and the European Commission.

...for API adherence, portability testing...

TenDRA, developed by the UK's Defence Research Agency (DRA), adopted by Open Software Foundation in ANDF, its Architecture Neutral Distribution Format technology, and licensed to Unix System Labs by DRA, was conceived as a ground-breaking way of enabling ISVs to write, package and distribute a single version of an application or system software environment across heterogeneous hardware and system software environments. Despite arousing considerable interest in many circles, there has been little commercial progress for ANDF over the last five years (UX No 228). However, a radical repositioning of the technology is being formulated that may finally give the DRA-developed technology a much-needed leg-up into the industry. In separate but related efforts, both X/Open and the EC are expected to endorse ANDF components for use in solving a number of problems. The slide of Novell Inc's ANDF project - see below - has only accelerated DRA's plans, the seeds for which were sown last summer. The initiative is designed to help break the deadlock that has so far prevented industry acceptance and commercial implementation of the technology. Despite continued concerted effort by its backers, only a cataclytic event such as an influential company adopting ANDF unilaterally, a standards body mandating it, or a new technology coming to market on it was seen as likely to drive ANDF out of the labs (UX No 429). As well as a universal distribution mechanism, DRA says ANDF also delivers a number of other interim byproducts which are suited to solving a number of other industry problems. These include provisions for allowing ISVs to write more portable versions of their products around a single source tree - even if those vendors continue to ship their applications in binary, rather than ANDF form - and for defining and checking conformance to the ballooning number of open systems application programming interface specifications (APIs). In one example, DRA says ANDF's static analysis conformance checks of applications and system headers against specifications give API definitions "teeth" in a way they have not had before.

...combined with Sun Labs' ADL, TDL...

As a result, DRA is currently formulating an agreement with X/Open which is expected to result in the UK, Reading-based standards body using ANDF constructs in its standards definition and conformance work, of which the Spec 1170 Unix API is now a part. X/Open is expected to combine ANDF's static analysis functions with a technology for better semantic test suites for implementation branding, such as the Assertion Definition Language and Test-data Description Languages being developed at Sun Labs Inc's PrimaVera development group. DRA believes that such a combination could solve many API issues. "Getting Unix interfaces solid is essential to the long term success of Unix," says TenDRA project manager, Dr Nic Peeling. ANDF as a distribution format was "one leg of the tripod X/Open needs," he says, "the new ANDF can be all three." X/Open is currently working on funding and implementation plans. Meanwhile, another prong of the ANDF relaunch was cast on the Wednesday before Christmas, when the European Commission's Esprit technology project signed an agreement with DRA for a range of ANDF developments. Although terms won't be known for some weeks, it is understood that the EC will provide funding for a number of ISVs to establish preliminary ANDF-based procurement specification requirements that could be used by government, defence and other public bodies (UX No 450). In the long term, organisations will be able to exert a greater degree of control over their suppliers by separating hardware and software purchasing decisions using ANDF mechanisms. DRA will continue to sell its own implementations of open ANDF standards to generate a revenue stream for maintaining the ANDF programme.

...as Novell decommits from its ANDF project

AT&T Co's Unix System Labs was an enthusiastic supporter of ANDF from the outset and finally licensed the technology from DRA last summer, sometime after its acquisition by Novell Inc. It bought the right to bundle ANDF installers with its products and create a portability compiler for Unix SVR4 based upon DRA technology (UX No 450). That effort looks to have been stymied by the winds of change now blowing through Novell's Unix operation. "It's a clear sign that Novell is not pursuing that part of the business that's promoting the good things in Unix," says DRA's Dr Nic Peeling. For its part, the division of Novell's Unix Systems Group responsible for development environments, tools and compilers, and formerly home to the ANDF effort blames "higher priorities" within the company for its admission that Novell "has no commitment to ANDF" and has no engineers working exclusively on ANDF.

OSF LOOKS TO SUN FOR A LIFELINE

With its continued existence now in serious doubt, the Open Software Foundation is dutifully casting around for an elixir to sustain life. Options were discussed at a recent board meeting, and OSF is now talking-up such options as offering the COSE process a home and signing fee-paying, board-level members from the now-defunct Unix International. OSF believes if it can find a way of accommodating the likes of Sun and Novell, then it has a better chance of bringing the whole COSE process home and ensuring its own continuation. With Motif and DCE its only successes to date - and layoffs and restructuring looming - OSF desperately needs a new *raison d'être*. Indeed, it has contemplated a range of measures to make it more attractive to potential members, including a new fee structure, a change of name and a new business model. Tinkering like this won't be enough to win Sun over despite a rash of recent reports. SunSoft Inc vice president of marketing, Jim Billmaier quashed reports of talks with OSF on membership. Moreover, Billmaier and OSF's business area manager for DCE, Ram Kumar, say there are no plans or intentions to swap the Distributed File System component of DCE in favour of Sun's NFS. SunSoft will talk to anyone about licensing ONC, but won't say whether OSF members have approached it individually. Ways of "throwing Sun a bone to join" was how OSFers described ideas floated internally. No layoffs or other changes will be decided until an OSF board meeting this quarter. *More details see page 3.*

SEQUENT'S MPP PROJECT

Sequent Computer Systems Inc hints it has a project up its sleeve to counteract all the hype about massively parallel commercial systems from rivals at ICL, NCR and Unisys - but it's not quite ready to talk about it. Sequent's current SMP architecture is unlikely to expand beyond 32 processors due to the bus bottleneck, although clusters of Sequent systems linked via fibre optics are available for customers needing to expand in the short term. The pre-requisites for any Sequent technology along these lines, says new UK marketing manager Chris Elliot, is to have a well-balanced system, sufficient support from peripherals sub-systems such as backup units, no applications re-writes and a smart way of commoditising the technology. While some "hot tin" announcements will follow this year, Sequent hopes to make a gradual transition towards "architectural selling", where its hardware is a key element in enterprise-wide messaging and workflow installations, part of a decision support and professional services package. To support these types of applications, it is currently 3-5 months into a search for client/server framework software, including object libraries.

IBM TO PUT PERSONAL COMPUTERS, POWERPC INTO CONSUMER UNIT...

Continuing chairman Louis Gerstner's policy of appointing outsiders to key positions within IBM Corp, Richard Thoman, who recently resigned as boss of RJR Nabisco Holdings Corp's Nabisco International operation and has virtually no high-tech experience, is to head-up IBM's newly formed consumer unit. It brings together personal computers and forthcoming PowerPC products and has been created to try and regain a decisive edge over competitors with large corporate clients. Thoman, who worked with Gerstner at three previous companies, including American Express, and has considerable international and marketing experience, will be primarily responsible for pushing more consumer awareness. He will also oversee IBM's Pen-nant Systems printer business and Prodigy Services Co, the on-line joint venture with Sears Roebuck & Co. Gerstner has appointed other outsiders to areas such as finance, but the appointment of a non-techie to this position is seen as a gamble for IBM, given that there are some fierce technological battles to be fought in Thoman's domain, like guiding the PowerPC to widespread industry adoption, not least by its own PC company. The consumer unit will take in the IBM Personal Computer Co and the new PowerPC group, which are being split away from the RS/6000 and OS/2 divisions - recently re-named in what appears to have been a distancing exercise (UX No 467). The latter will report to the executive in charge of IBM's high-end offerings to commercial customers.

...TEAMS WITH US NATIONAL LAB ON LARGE DATA SYSTEM

IBM Corp has teamed with the Fermi National Accelerator Laboratory in Batavia, Illinois, to develop a system capable of accessing and analysing large amounts of data on disk and tape at gigabyte per second speeds. Fermi will use a 24-node IBM PowerParallel system with IBM's Vesta parallel file system in conjunction with its own Operations Control System and Cooperative Process Software. The system is rated at 3 GFLOPS, with 1.5Gb memory, 24Gb disk and other attached tape and disk storage subsystems. Information Resources Inc will test the parallel data access and mining system against its marketing research applications as part of the project. IBM and Fermi will be experimenting with a new I/O node mechanism which dedicates a subset of processors to manage the input/output of data to storage devices with remaining processors performing the actual computation. IBM says it'll also be looking at alternative ways to organise systems handling large amounts of data using object-oriented technologies. The research is intended to benefit both the scientific and commercial community.

ALSYS MERGES WITH IGL TECHNOLOGY TO OFFER CASE TOOLS TO FRENCH USERS

The French arm of Thomson-CSF SA's Ada software products and services subsidiary Alsys Inc has merged with local consultancy and training specialist IGL Technology SA to try to provide users in France with a broader range of software engineering tools and professional services. Although terms of the agreement were not disclosed, the deal now means Alsys SA has distribution rights to software engineering products from such vendors as Hewlett-Packard Co and Centerline Software Inc.

PHASE X CUTS PRICES ON CA SERIES X TERMINALS, ADDS LOCAL MOTIF MANAGER

Phase X System Inc, Beaverton, Oregon, has cut the price of its CA Series of colour and monochrome X terminals and added local Motif windows managers. The family comprises a 15CA1 15" colour model, which now costs \$1,500; a 17CA1 17" colour model, priced at \$1,800; a 20CA2 20" colour model that costs \$2,600; and a 19CA1 19" monochrome model, priced at \$1,400. They all sport an AMD-29000 RISC chip, plus a 64MHz ASIC as a graphics accelerator, and support Sun, Hewlett-Packard, IBM, DEC, and SCO Unix servers. The X terminals are rated at 65,000 XStones, and are targeted at such applications as transaction processing, finance, manufacturing, and two-dimensional computer-aided design. Phase X also sells the CE Series of X terminals, a family based on a MIPS-compatible 33MHz RISC LR 33020 processor from LSI Logic, which it launched jointly with Samsung at Unix Expo in September (UX No 451). +1 503-531-2400.

OMG SETS UP FAST-TRACK PROCESS, SEEKS APPS INTEROPERABILITY MECHANISM

The Object Management Group has formed a Common Facilities Task Force to look for services that can be used by various applications, like a common document architecture, spell-checker and e-mail. The task force will endorse an object request broker-conformant IDL-based mechanism for application interoperability. The technology will sit above Corba and OMG's other object services and is needed before other interoperability issues can be settled, says OMG, referring to the Corba 2 submissions process. Like other standards bodies, OMG has felt the need to establish a Request for Comment process that it says will fast track the group's technology adoption process. An RFC is an internal OMG technical committee process for speeding adoption of technology that is deemed unlikely to have competition in the marketplace. An RFC proposal can be submitted by firms which think their technology fits the bill. OMG members and others will be invited to comment - any dissensions and the fast track becomes the slow track of the normal adoption process. As expected (UX No 466), OMG has also created a special interest group within its technical committee for the European Portable Common Tool Environment CASE standard. The group will provide information to foster PCTE compliance with OMG standards, the convergence of interoperable CASE environments and fine grain repository tools for the evolution of PCTE.

LUCID SIGNS DEVELOPMENT/MARKETING DEAL WITH NIPPON TELEGRAPH

Unix programming tools specialist Lucid Inc has signed an exclusive distribution deal with INS, a subsidiary of Nippon Telegraph and Telephone. The contract is worth more than \$3m over the next three years. Under the terms of the agreement, the two companies will collaborate on making Lucid's Sun Microsystems Inc-based products more suitable for the international market, and will port them to Hewlett-Packard Co HP 9000s and IBM Corp PowerPC-based RS/6000s. INS is an engineering services company, which also resells Sun and other Unix workstations to NTT and other customers.

NOVELL RELEASES VERSION 1.1 OF UNIXWARE

Novell Inc has released version 1.1 of UnixWare, which it has now integrated more tightly with NetWare. UnixWare 1.1 also incorporates Advanced Merge for Windows in both the Personal Edition and Application Server versions, which enables Windows applications - including those written for NetWare - to run on top of it. It accesses NetWare services through NetWare 4.x servers. Both versions additionally come bundled with TCP/IP support for PPP, SLIP and SNMP, enabling remote node dial-ins to look like native clients. Network administrators can see both NetWare and UnixWare nodes on a single display and manage the UnixWare system from a central site. UnixWare 1.1 also includes a European Language Supplement to facilitate internationalisation and localisation, and supports OSF/Motif 1.2 runtime libraries. Further enhancements include: support for Adaptec and Future Domain SCSI adapters; 3Com and NE Ethernet adapter cards; source routing for IBM Corp's Token Ring; and video support for Compaq Q-Vision. Online Data Manager, a high availability file system, manages files and disks online. UnixWare 1.1 will be available through Novell Gold, Platinum and Unix Master resellers.

REFLECTION 4.0 SUPPORTS CONCURRENT UNIX, VAX SESSIONS

Version 4.0 of Walker Richer & Quinn Inc's Reflection terminal emulation and networking software enables Apple Computer Inc Macintosh users to connect their machines to different Unix and VAX hosts and run the host sessions side-by-side in separate windows, concurrently. Network connections are provided via the Apple Communications Toolbox, which is both a Telnet tool and a tool for Novell Inc's new NetWare for LAT. The Seattle, Washington-based connectivity firm has also added other enhancements to Reflection such as graphical keyboard mapping; a floating host keyboard; file transfer tools; and a script recorder with the product's own built-in scripting language. Reflection is available from January under both MultiFinder and System 7, and supports multitasking. Both Reflection 2 Plus for VT320 emulation and Reflection 4 Plus for VT340 ReGIS and sixel graphics emulation will both be updated to version 4.0. Prices start at \$370. +1 206 726 7368.

NO PLAN FOR NFS IN DISTRIBUTED COMPUTING ENVIRONMENT

The Open Software Foundation's Distributed Computing Environment (DCE) business area manager, Ram Kumar, is keen to dispel any suggestion that OSF might even consider swapping out DCE's Distributed File System (DFS) with the Network File System (NFS) found in Sun Microsystems Inc's Open Network Computing environment (see front page). DFS, derived from the Andrew File System developed at Pittsburgh's Carnegie Mellon University and productised by the same Pennsylvania city's Transarc Corp, was chosen above the Sun mechanism during OSF's request for DCE technology process back in 1990. Kumar acknowledges NFS's widely-installed base - well over three million - but argues few people are using the NFS Remote Procedure Call (RPC) for running distributed or networked applications as the environment lacks a full set of services, and that applications aren't there yet in any case. NFS planted the notion of a distributed file system for Unix, Kumar believes, who says DFS should be regarded as a complimentary rather than competing technology. Indeed, Sun offers DCE on its price list - it distributes Transarc's DCE package on Solaris - and Kumar suggests the IBMs and HPs of the world would have already developed NFS flavours for their DCE implementations if they thought that was what users would buy. One irony of the current debate is that the greatest number of DCE sales have so far been achieved on SunSoft Inc's Solaris operating system.

Can't be expressed

There is a well understood need for users to be able share files, and interoperability, such as it exists, allows DCE users to run NFS clients, and DFS file names to be exported so that they are visible to NFS systems via a DFS exporter. NFS clients can access data from DFS data from Unix or DFS file systems. As both mechanisms work according to the constraints of NFS, that may pose some problems because of NFS' lack of security provisions, say Kumar and Transarc chief executive officer, Alfred Spector. In addition there's no mechanism for users to share directory services under the two environments as yet. However, it is understood that at least one vendor is building a value-added gateway for DFS that will provide some common naming space of DFS to NFS, which could be made available to NFS clients. Sun will enhance NFS as a matter of course in any case, they observe. Both Kumar and Spector agree that it is unlikely that an RPC created in one environment could ever be picked up under DCE and ONC. Spector says there are some DCE RPC features simply not expressible in the ONC RPC and that therefore no-one should expect to see any kind of RPC translator either: "there's been no customer requirement in any case," he says.

Roll over

Looking at political and technical issues facing COSE's distributed computing effort, the problem is that "Sun can't roll over to DCE like it did to Motif," says Kumar. Meanwhile, all COSE firms, bar Sun, have plumped for DCE as their chosen distributed environment, as has X/Open Co. Kumar maintains OSF has a good working relationship with Sun, and is confident that it made the right technical choices in its original DCE decision. Sun's ONC will be picked up by the X/Open and OSF federated naming service project, which will be compatible with Sun's ONC NIS+ naming convention. A prototype will be built soon, says Kumar. Although DCE services have been available for some time - IBM Corp has offered a DCE implementation on AIX for a year now - the DFS element has only been available since the end of last year, when Transarc brought its system to market.

DFS for Solaris

Meanwhile, Transarc began shipping its DFS implementation for Solaris last week, and says it has now has some 200-odd customers using its DCE technologies. DEC and Hewlett-Packard Co will soon ship their implementations of Transarc's DFS supplied by OSF as part of DCE, with NCR Corp and Siemens Nixdorf Informationssysteme AG expected to follow suit. Transarc says it is waiting to announce a large DCE-on-Sun deployment currently under wraps.

IBM, DEC "LINING UP FOR UNIXWARE"

With Novell Inc stepping up the campaign to get UnixWare up beside other Unix-on-Intel operating systems on major vendors' price lists, the software should win endorsements from IBM Corp and DEC in the New Year. Novell has already picked up the likes of ICL Plc, Unisys Corp, Ing C Olivetti & Co SpA, and most recently Hewlett-Packard Co (UX No 466), which will offer UnixWare either alongside or instead of rival Unix-on-Intel solutions from Santa Cruz Operation Inc and SunSoft Inc on iAPX-86 kit they supply. IBM already offers DOS, Windows, OS/2, Windows NT, SCO Unix and Open Desktop on its PS/2s - DEC currently supplies SCO system software as the only Unix option on its Intel boxes.

MULTIPOINT HAS HOPES TO CHALLENGE WABI YET

Multipoint Inc, Mountain View, California, the successor to Hunter Systems Inc and quiet little Wabi rival (UX No 443), believes it could have its development finished by June. Its issue remains how to productise it. Currently it still has no OEM hot to trot, so to speak, though enough companies, even those in the Wabi camp, are reportedly watching its progress. (Others have looked and decided not to pursue it however.) Multipoint believes that what it will offer will be vastly superior to Wabi, a combination at least of the capabilities of Wabi, Mainsoft Inc and Bristol Technology Inc in one unnamed package. Basically what Multipoint is doing, it says, is to re-engineer Windows including Microsoft Corp's DDE and its associated OLE technology, both of which are missing from Wabi, making it impossible for Wabi to run certain Windows applications without Windows 3.1 riding underneath - exactly the thing it was designed to prevent. Multipoint says the DDE part has been done and OLE is in progress. It is also promising 80486 performance out of the gate on all the key RISC platforms: Sparc, Mips, PowerPC and PA-RISC, which it says are done, and Alpha too, when Multipoint, which still doesn't have an Alpha box, gets around to it. It's also got a Mac port in development and says it could go to OS/2, Windows NT and even Acorn. The Multipoint technology, which company president Rob Farnum refers to as "Windows technology for multiple platforms," could be broken apart into such things as a Windows run-time, an SDK and a suite of tools. Farnum muses that it could function as the reference specification for the Sun Microsystems Inc-proposed Public Windows Initiative (PWI) little heard of since it was first suggested back in (UX No 434) of last year. Farnum is concerned he will not be able to compete against the marketing dollars of a Bristol and a Mainsoft and so is toying with the idea of somehow porting to the net and making it profitable. Multipoint is counting on Wabi proving to be only a "tactical" product and figures that when users realize how few Windows apps it can actually run, the pressure to find out what else is available will play to its advantage.

MICROSOFT SHOWS DISTRIBUTED OBJECT LINKING & EMBEDDING

Windows developers gathered at Anaheim for the Microsoft Corp developers conference last month were treated to the first demonstration of distributed Object Linking & Embedding. A distributed, object-based file system is going to be one of the key components of the Cairo version of Windows NT and the networked Object Linking & Embedding shows that the company is in earnest, as well as helping Microsoft to avoid developers defecting to DSOM - the Distributed System Object Model that IBM Corp has put together. *Computerworld* reports that Microsoft plans to ship a distributed Object Linking & Embedding developer's kit this month - but the technology will not be generally available until 1995, when Cairo's other parts are in place.

A YEAR IN UNIX, 1993 - JANUARY TO JUNE

Beginning with the acquisition of Novell Inc by AT&T, continuing with the formation of the Common Open Systems Environment, and ending with the demise of Unix International, 1993 has been a year of consolidation. In the first of a two part article, Cath Everett looks back over the significant events of the past year.

JANUARY

After months of speculation, **Novell Inc** takes the first step towards acquiring **Unix Systems Laboratories** from **AT&T Co.** with the blessing of the USL board. It follows up by taking a 20% stake in object-oriented specialist **HyperDesk Corp.** saying it would use that firm's Distributed Object Management as an object interface to services and resources in NetWare. Unix pioneer Larry Michels, also president, chairman and chief executive of the **Santa Cruz Operation Inc.** resigns after three former executive secretaries file a civil suit against him for sexual harassment. European boss Lars Turndal takes over as president and chief executive. Meanwhile, the Federal Trade Commission completes its 30-month investigation into business practices at **Microsoft Corp** and decides the firm has engaged in anti-competitive behaviour. The Commission begins preparing recommendations on how it will proceed against Microsoft as **Intel Corp** announces that Pentium chips will be in short supply throughout 1993 due to production difficulties. Intel also threatens dire consequences if OEMs leak information about the part or systems being built around it. The 66MHz Pentium is proving too hot and so action is taken to remedy this. **ICL Plc** also says it will incorporate **Pyramid Technology Corp's** symmetric multiprocessing bus in new high-end SuperSparc-based servers due in 1994 and will resell Pyramid's MIServer ES machines.

FEBRUARY

The threat posed by **Microsoft's** NT begins to push the Unix industry's warring factions towards compromise. **Digital Equipment Corp** finally bows to the inevitable and announces a System V Release 4 personality for its OSF/1 operating system. **Silicon Graphics Inc** launches its high-end Challenge series, fitted for the R4400, TFP. **Unix International** wheels out its latest RoadMap on future directions, while the **Open Software Foundation** says it should be able to pay its way by 1995 - the two say they are discussing unity - again. Re-inventing itself, UI wrestles responsibility for selecting reference technologies sitting above SVR4 away from **Unix System Labs**, and opens this selection process to the industry at large. USL finally releases **Destiny**, Unix SVR4.2, for Sparc and Mips-based hardware, whilst the Mips ABI group (the Apaches) produces its long awaited Unix SVR4-on-Mips ABI. Some 15 companies, including **Hewlett-Packard Co.**, **Sun Microsystems Inc.**, **Tivoli Systems Inc** and **Novell Inc.** make a single joint submission in response to the **Object Management Group's** request for Object Services technology, while **Sun** says its illusive object-oriented Spring system has been written from scratch and is not based on Unix. The first rumblings about **COSE** are heard on the grapevine.

MARCH

In an attempt to end the Unix graphical user interface wars, **Hewlett-Packard**, **IBM Corp**, **Sun**, **USL**, **Univel Inc** and **SCO** agree to work together on developing a Common Desktop Environment front-end for workstation vendors. **Sun** finally ditches its Open Look user interface for a Motif-based front-end. The **Common Open Systems Environment** - not a group, organisation or process, and with no official members - comes into being. Its long-term goals centre on developing networking, graphics, multimedia, distributed object technology, and systems management, but **DEC** declines to join the party. **HP** is apparently offered a piece of **Taligent Inc.** **SCO** continues to consolidate the desktop market, acquiring UK GUI specialist, **IXI Ltd.** under a stock swap arrangement. IXI becomes a wholly-owned subsidiary of **SCO** and assumes responsibility for developing **SCO's** front-end technologies. A week later, **SCO** begins preparations for flotation. Meanwhile, **USL** suffers a surprise setback in its lawsuit against software house **Berkeley Software Design Inc** for copyright infringement and a US judge

lifts restrictions on Berkeley, which had been forbidden to distribute advanced BSD/386 beta code and production software, and the organisation begins shipping production code the following week. **Sun** declares that it intends to build a new family of workstations and servers based on 64-bit multiprocessor chips or UltraSparc, scheduled for 1995. In an attempt to encourage growth in a very dull Sparc-compatible market, **Sun** opens its Spare Technology Business to licence Sparc silicon and system designs.

APRIL

HP reveals that **COSE** is the first part of a three-part Unified Unix vision: it joins with **IBM** to draw up a list of requirements for Unix that match those found in **Microsoft's** NT. **HP** says it is involved in a strategic relationship with **IBM**, the results of which will become clear by the end of the year. In a letter, **Microsoft** says **SunSelect's** Wabi Windows-under-Unix software violates intellectual property rights. **SunSelect** says **Microsoft** hasn't a legal leg to stand on, and **USL**, **IBM** and **HP** endorse the technology. Meanwhile, **Insignia Systems** takes a 10% stake in **Bristol Technology** and the two begin integrating SoftPC, which runs 16-bit binary MS-DOS applications under Unix, and Bristol's Wind/U source level Windows-under-Unix software. Their aim is to develop a product that runs binary Windows applications under Unix. This has **Microsoft's** blessing. **COSE**, on the other hand, hands over responsibility for developing a systems management specification to **X/Open's** existing systems management workgroup, while **Tivoli** volunteers to create a common systems management API, based on its object-oriented framework. **Hitachi Data Systems Ltd** announces its Osiris SuperServer running OSF/1, and **ICL** unleashes a bunch of DRS servers using the **Ross Technology Inc** HyperSparc **88Open**, the Motorola 88000 RISC supporters club, spins off a separate organisation to sell its conformance test suites to other RISC vendors as its funding is reduced. A core 88Open unit remains to support a dwindling number of 88000 system vendors.

MAY

Playing cat-and-mouse with **Microsoft**, **Sun** establishes a Public Windows Initiative pressure group to try and force **Microsoft** to make the Windows 3.1 API public. **Sun** announces Wabi as **Microsoft** launches Windows NT at Windows World. **nQue Technologies**, a Santa Clara County start-up, outlines an alternative Unix/Windows approach - putting SVR4.2 on top of Windows. **Apple Computer Inc** ports its crown jewels, the Mac ToolBox, to the RS/6000, HP 9000 and Sparcstations. **Addamax Corp** finds its suit against **OSF** too burdensome for business and forms an independent company to carry it on. The PowerPC gains momentum with the creation of the **PowerOpen** association. **Cypress Semiconductor** gives up the unequal struggle against **Texas Instruments'** SuperSparc chip and sells its **Ross Technology** subsidiary - the repository of all its Sparc work - to **Fujitsu Ltd** for \$23m. Pentium deliveries from **Intel** are now pegged for October.

JUNE

Fighting for its life after staff lay-offs, **Unix International** expands its charter to include middleware, but **Unix System Labs** is slammed by the UI board as **HP** and **IBM's** "whipping boy." Nonetheless, **USL** plans a microkernel version of SVR4.2 using **Chorus Systemes SA** technology. **DEC** takes the **COSE** pledge, while **Fujitsu Ltd** and its **ICL** and **Amdahl Corp** siblings decide to pool their costly Unix development resources - **Amdahl** promises to deliver Sparc boxes. **SunSoft** plays its first object hand and says it will work with **IBM** and **HP** on developing common distributed object interfaces for their respective object paradigms. **UI** is told it has to show it can cut the mustard if its relationship with **Novell's** Unix System Labs is to survive.

HEWLETT-PACKARD TO MOVE TO VERY LONG WORD ARCHITECTURE

Multiflow Computers Inc. the Branford, Connecticut company with the Very Long Instruction Word computers and Trace scheduling compilers may be dead, but those Trace compilers - and its core ideas - won't lie down. Hewlett-Packard Co was one of several companies that paid \$1m or so for non-exclusive rights to those Trace compilers when Multiflow was winding its affairs up and raising money to pay off its debts, and it turns out that HP's planned Precision Architecture 9000 RISC CPU, the part due around 1997/98 and described briefly in the last issue (UX No 467), will use Very Long Instruction Word constructs. The project to develop a VLIW version of PA-RISC is currently underway at HP Labs, where Multiflow co-founder Josh Fisher is a researcher. The principle behind VLIW is to provide lots of functional units - for adding, multiplying, storing and loading - in the hardware and have the compiler carry out the difficult task of scheduling instructions for them. Unlike the currently popular pipelining and superscalar techniques, VLIW technology uses Trace Scheduling to compile C and Fortran programs into long instruction words for simultaneous execution. The compilers are designed to keep all processes in a multiprocessing 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. The problem, and the reason that VLIW machines eventually acquired what HP calls a "bad reputation" is that the concept of portability via binary compatibility - a technique now so important for open systems - goes out of the window with VLIW, because code has to be recompiled specifically for each processor taking into account the particular configuration of each.

Raw performance

HP says it'll take only the best bits of VLIW and implement them in the PA-9000, and that the result should not be seen in the same context as the Multiflow architecture. Indeed, it was Fisher, at a recent Microprocessor Forum gathering, who described a possible solution to the VLIW problem. He suggested that if the final portion of compilation is done when software is installed on a particular system, the final binary could then be targeted specifically for that system. HP's PA-9000 will be a 64-bit processor, which was the word-length on the Multiflow processors, but Multiflow used a 256-bit instruction word in combination with the Trace compilers. Where Multiflow machines were able to execute up to seven instructions per cycle, HP is talking of anything between four and 20 instructions per cycle for raw performance of several Giga-instructions per second, offering the same rate of improvement as RISC did over complex instruction set. Although HP's advanced technologies group warns that the technology is in any case still at HP Labs and has yet to reach the stage where it could be taken up by a product group, it is optimistic that new compilation techniques will result in a VLIW part - or "wide word," as HP describes it - that is compatible with today's PA architectures. "We're talking about a machine that won't be around until towards the end of the decade," HP reminds us. Digital Equipment Corp was another licensee of the Trace compilers, and used them at one point in the Alpha development effort. HAL Computer Systems Inc and its new parent Fujitsu Ltd were also licensees, and even Bell Atlantic Corp was last year working on a Very Long Instruction Word 64-bit Sparc variant, having acquired rights to the compilers when its maintenance arm picked up the Multiflow base. Intel Corp also licensed the compilers for use on its Hypercube machines in return for a \$4m investment in Multiflow. Hewlett-Packard is expected to fabricate its new 64-bit - or perhaps 96-bit - CPU in BiCMOS.

CISCO, CASCADE SET MULTIPROTOCOL SYSTEM FOR PHONE FIRMS

Cisco Systems Inc, Menlo Park, California is taking a "small" shareholding in Cascade Communications Corp, Westford, Massachusetts to seal a deal under which the two will jointly develop a multiservice wide-area network system for the telecommunications market. Terms of the transaction were not disclosed. The planned product is intended to give carriers worldwide the first unified system that delivers Internet Protocol, Open Systems Interconnection, Frame Relay, Switched Multi-Megabit Data Service and Asynchronous Transfer Mode networking - with the functionality, reliability and performance required for public networks. Cisco and Cascade will jointly market Cascade's products to service providers worldwide, and Cisco will license the Internet Protocol and Open Systems Interconnect routing technology modules of its Internetwork Operating System software to Cascade for use in product development. The agreement runs for three years.

UNIR RATTLES CONIX SABRE, LIGHTS OUT AFTER NEXT, TALIGENT & CAIRO

Unir Technology Inc, the Naperville, Illinois-based distributor of the Bell Labs-developed C+@ (pronounced CAT) object-oriented programming language and accompanying Conix operating environment (UX Nos 429,446), says this is the year the gloves come off and it starts going up against the competition, namely, Taligent Inc, NeXT Computer Inc and Microsoft Corp's promised Cairo technology. Last year, Unir says it had moderate success as Bell Labs' sole manufacturing reps selling source licenses to the stuff mainly to corporate developers and universities, despite the fact that there's an estimated \$3m-\$5m worth of engineering still to be done. As it stands, however, Conix means that every significant facet of Unix such as Berkeley Sockets and files has been made into an object that Unir says it much easier to work with than the originals. Unir has also taken an architecture-neutral approach and can take a binary off a Sparc machine and move it to any other environment anywhere without any recompilation. It believes this factor will be of significant importance in software distribution, easing the travails of software retailers who would not have to stock multiple application versions. That however would imply shrinkwrapping, something Unir itself would not attempt, it says, limiting its interests to the OEM side and source licensing.

Investors

Unir has reportedly collected 12 private investors but believes it will be able to cut a deal in the third quarter with an unidentified European company willing to invest the \$30m-\$50m necessary to proliferate the stuff. By then it should have moved to other platforms such as PowerPC and Alpha besides its current Solaris and Solaris x86 implementations. Unir's first step this month will be an attempt to heighten the general awareness about Conix and C+@. On the evening of Wednesday January 26 at a meeting of the Chicago Chapter of IEEE held at AT&T Bell Labs in Naperville there will be a presentation and demonstration of the technology led by Dr Jim Vandendorpe, one of the original C+@ language designers. Membership is not required and those interested should call +1 312 236-4333 to reserve a seat. The overview will cover C+@'s use of data representation independence to enhance code reuse, its implementation of multiple delegated inheritance, its concept of "default" methods, its library of reusable parts, its GUI tools, its notion of incremental compile-load-and-go and its real-time garbage collection. Unir feels that it has more than a fighting chance against the likes of NeXT, which is not language-based, and Taligent, which it believes is proposing compilers. Taligent it practically writes off as no contest and Unir president Jim Fleming claims NeXT developers have told him "your stuff is real. Ours is just smoke and mirrors."

3COM TO PAY \$104m FOR SYNERNETICS TO PREPARE FOR ASYNCHRONOUS MODE

3Com Corp, Santa Clara has definitive agreement to acquire long-standing North Billerica, Massachusetts-based Synernetics Inc for \$104m. Synernetics specialises in Ethernet and FDDI switching technologies with its LANplex 5000 and 6000 lines, the latter providing an upgrade path to switched FDDI and Asynchronous Transfer Mode. Its 1993 sales are estimated at some \$27m with about 45% of that sales to 3Com. 3Com will write off most of the purchase price and related transaction costs in the current quarter. Synernetics will keep its base in Massachusetts and become 3Com's switching division.

unigram·x

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Taligent Inc is so ticked at **Sun Microsystems Inc** over the **NeXt Computer Inc** deal it asked Sun to send back all the documents it gave it about its own stuff. Overall, the Sun/NeXT alliance left a lot of people shaking their heads quizzically over how it all fits together. Sun itself gives every indication of being tickled pink - no pun intended. Maybe one of the reasons people didn't "get" the Sun/NeXT pact is because, as we've heard alleged, it points out a surprise shortfall in Sun's own homemade technology.

Folks who claim to know something about Sun's still-mysterious Project DOE, its Distributed Objects Everywhere scheme, describe it as looking suspiciously like a distributed database management system which may explain why Sun has historically been so reticent about it. Unlike Microsoft Corp, Sun has appeared reluctant at times to invade the space of certain competitors. If DOE is a database management system, then it will have to go up against the likes of Oracle Corp and Informix Software Inc.

The now-famous Spec 1170 was quietly trundled back to **X/Open Co** before the end of the year, just as it was supposed to, after being reviewed by the Open Software Foundation and the late Unix International. It is now on the X/Open Fast Track. The **COSE** people, reportedly Hewlett-Packard Co in particular, were very anxious to publicise the fact before Christmas, but were persuaded to pause for the holidays. The announcement should by rights come from X/Open anyway.

The old **Unix System Labs** lost one of its key players when director of engineering and architecture Jeanne Baccash left for **NCR Corp** the week before Christmas. Another 14 USL people reportedly made the bridge back to AT&T when the December 31 deadline.

We're now hearing reports that if in fact **NewOrg** comes into existence this year, it will have little or no connection with **COSE**.

Documentum Inc, the Xerox-backed object-oriented client/server document management systems start-up (UX No 467), will start rolling out the results of its three-year development project later this month though shipments are reportedly already underway to targeted customers. We've been given to understand the back end currently runs on Sun, the client end on Mac, Windows and Motif and it supports Oracle and Sybase.

Last month, **Apple Computer Inc** was lugging an HP box and a Sparc 10 with one of those big fancy 20-inch screens around the States showing off the Mac interface running on RISC to various and sundry analysts and press who would sign a non-disclosure agreement. Apple is due to take the wrapper off round about Uniform in March.

Rapidly expanding distributed systems management house, **OpenVision Inc**, has picked Richard Kreysar as senior vp of corporate marketing, from **Computer Associates**.

Apple Computer Inc is to launch its own on-line service to compete with Prodigy, CompuServe and America Online in April, the *San Francisco Examiner* reported. It will cost \$10 to \$20 a month and 250,000 subscribers is the first year target.

Data General Corp will unveil a range of enhancements to its Clariion RAID storage subsystems on January 17th.

Intel Corp predicts Pentium systems will capture about 15% of the personal computer market in 1994 and that figure would grow to 25% by the fourth quarter. The microprocessor will be fabricated in five factories worldwide by the end of 1994, up from two wafer fabs currently, however the company will continue to emphasise the 80486 microprocessor as well and will introduce several new versions of the chip next year. Work on the P6 and P7 continues and P6 is on target for a 1995 launch.

Intel says it also expects to double the performance of its chips throughout its microprocessor line at every price point over the next year, a faster pace of innovation than in the past. The traditional rate of advance has been to double the performance of a microprocessor - at a constant price - every 18 to 24 months. It sees \$2,000 Pentium machines by the end of 1994 - all of which will make it an uphill struggle for IBM Corp and Motorola Inc's PowerPC - "by the time they are at \$3,000, we'll be at \$2,000" the company said. Nevertheless, Intel does not expect sales of Pentiums to pass 80486-based machines before 1995. It will however, cut Pentium's price by 14% to \$675 in 1,000-up quantities and the 66MHz 80486 by 18% to \$360, in the second quarter of next year.

Sun Microsystems Inc says its Sparc Technology Business has signed **Mitsui & Co Ltd** and its Electronics Group to distribute all its RISC microprocessor, ASIC, module and system board product lines in Japan.

Verdix Corp, Herndon, Virginia now has definitive agreement to acquire **Rational Corp**, whose holders will end up with 60% of the enlarged firm in the pooling of interests.

SunSoft distributor **Credal AG**, Dietikon, Switzerland, has now also become a distributor for **NeXT**. +41 1 741 11 15.

Encore Computer Corp has won a \$1.2 million contract from Grumman Corp's Aerospace and Electronics group to supply it with real-time systems for two US Navy E2C Navy radar surveillance aircrafts.

The **Precision Risc Organization** is working on its PRO standards and conformance testing tools for both PA-RISC systems and applications to ensure they conform with the Common Application Programming Interface Specification proposed by **COSE**.

One of our darling readers, Harley Hahn, has co-authored *The Internet Complete Reference*, an 817-page tome published by Osborne McGraw-Hill that tells you everything you need to know about the famed information highway.

An issue of *The Microprocessor Report* a few weeks ago reckons that **Ross Technology** went through 10 turns on its HyperSparc CPU (all metal-layer changes, it says) before it got the darn thing functional. Now it's able to stick two TAB-packaged HyperSparcs on a single MBus board, something it says Sun planned to do with its SuperSparcs but hasn't been able to get SuperSparc to work in a TAB package. It notes that with Sun's current dual-CPU modules using PGA packages "they are so large that they cover an adjacent SBus slot; thus, with four processors, an SS10 is reduced to two SBus slots instead of four. *The Microprocessor Report* also says to watch for a 80MHz HyperSparc about now before Ross tries shooting for a more aggressive 90MHz-100MHz this half.

The **Transaction Processing Performance Council** has released fourth quarter TPC results from 27 companies on 220 systems: 125 on TPC-A, 75 on TPC-B and 20 on TPC-C. From now, all TPC benchmarks have to be approved by a TPC auditor before a company can publically claim a TPC result. +1 408 295 8894.

Fast growing Massachusetts-based integrator **Cambridge Technology Partners Inc** will ramp up its European effort from early in the new year. The company recently opened a UK office in Richmond, Surrey, and is convinced it can take on Europe's best mainstream integrators and consultancies such as Hoskyns and Andersen Consulting (UX No 458).

Early versions of **Apple Computer Inc's** OpenDoc software are now with Macintosh developers - general availability is scheduled for mid-1994. OpenDoc users can create a single document combining various forms of text, graphics, sound and video. OpenDoc supporters Novell Inc and WordPerfect Corp are doing a version for Microsoft Corp Windows, whilst IBM Corp is readying an implementation for OS/2 and Unix. Apple, Novell, WordPerfect and IBM, plus Sun, Taligent, Xerox, Oracle and others will be forming a Component Integration Labs venture to support OpenDoc environments.

Sparc-compatible system house, **Solbourne Computer Corp** has a new SunOS 4.1.x-based release of its OS/MP 4.1C operating system due this month: a Series 6/900 system with eight 50MHz CPUs, 256Mb memory, eight Axil Workstation model 311 clients and 4,544 remote terminals connected to 71 terminal servers, four disk subsystems with 109.2Gb space, CD-ROM and 5Gb tape drive weighed in at 451.40 TPC-A transactions per second running Oracle7, or \$6,185 tpsA.

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HP BITES THE OBJECT BULLET, TAKES 15% OF TALIGENT

Finally driven, some say, by the spectre of Sun Microsystems Inc's recent partnering with NeXT Computer Inc, Hewlett-Packard Co last week bit the bullet and bought a 15% stake in Taligent Inc, the IBM Corp/Apple Computer Inc joint-venture developing next-generation object-oriented operating system technologies. Taligent will issue new stock to HP - thought by insiders to be worth up to \$50m - leaving IBM and Apple with 42.5% of the company each, while HP gets a seat on the Taligent board. With both Apple and IBM strapped for cash, Taligent has been seeking a partner with development dollars to spend ever since it was formerly established in March 1992. *Unigram.X* readers will remember that HP came close to joining the Taligent team in March last year as it and IBM plotted the COSE initiative (UX No 425). One of HP's key preconditions to climbing aboard was that Taligent adhere to industry standards such as Object Management Group's Corba and OSF Distributed Computing Environment, something that wasn't assured last year when IBM was pressing for the use of its non-standard object model. Taligent boss Joe Guglielmi last week pledged that Taligent, now a voting corporate member of OMG, will become more involved with object standards. Moreover it plans to submit Taligent Application Framework APIs to X/Open Co Ltd for consideration as a standard, and as part of the deal is licensing HP's DOMF framework and components of the HP DCE/9000 implementation for use in its environment. Indeed, initial obstacles to HP's joining Taligent were ostensibly removed during last year when IBM and HP agreed to integrate their respective object models (UX No 441). HP's money will help fund Taligent's development effort, though it is now burdened with the extra requirement of having to port its environment to HP's PA-RISC architecture and HP-UX system software, even though a generally available product won't ship until next year. HP's input will help Taligent move beyond its current desktop focus towards an enterprise-wide distributed model said Bernard Guidon, HP's director of computer systems marketing in Europe. Apart from Sun/NeXT and Taligent the main contender in the object-oriented operating system field is Microsoft Corp's Cairo. HP brushed aside implications of its Taligent deal for its existing agreement with NeXT, saying it is happy to continue to have NeXTStep sold on its boxes and that the relationship is entirely consistent with its strategy. "The NeXTStep agreement is tactical rather than strategic", said Guidon. "Some customers do require NeXTStep as a native environment on the PA-RISC".

Three-pronged Taligent rollout aims to avoid software re-writes

Along with the HP announcement, Taligent made its clearest public statement so far that its product should not now be regarded as an operating system but rather as a software environment that sits atop a variety of operating systems, ranging from IBM's OS/2 and AIX to HP/UX, Microsoft NT and (it is assumed) Apple System 7. Taligent's approach is to allow the incorporation of its technology into existing platforms step by step, rather than offer a brand new single step replacement in the manner of NeXTStep and Microsoft Corp's Cairo. As previously detailed (UX No 465), the Taligent rollout is now being planned around the three major components - the development toolset, application environments and object services components. Initial development tools are now in beta, and IBM's Jean-Claude Malraison said that object frameworks relating to specific functions of operating system and applications would be out for OS/2 and AIX in the first half of this year. IBM is already working with large independent software vendors to help them incorporate the frameworks into their existing software applications using published APIs - the availability of APIs independently from X/Open would allow companies to build their own competitive frameworks. Some pieces of the object services component - based on the Mach 3 microkernel technology - have already been incorporated into AIX and OS/2, although these won't hit the marketplace until the end of 1994, said Malraison. Although it has rights to the whole caboose, HP itself will start out by using only Taligent's programming tools on top of DOMF/DCE residing on HP-UX Unix. They'll sit alongside HP's other C++ and SmallTalk offerings, and will begin appearing in HP products during the second half of this year, said HP's Bernard Guidon. *See also page 2 and Iona, page 4.*

CETIA COMMITS TO POWERPC 603, 604

Thomson-CSF SA subsidiary, Ceta SA will this week publicly commit to developing products based on both the PowerPC 603 and 604 chips. Development work on 603-based VME boards and workstations is already underway, and these offerings will include PCI interfaces for the first time. They will also mark Ceta's first move into the embedded market and are scheduled for shipment at the same time as the 603 goes on general release - sometime in the second half of the year. Work on high-end 604-based kit has also already started.

REKHI OUT AS NOVELL INC CHANGES UNIX BATTING ORDER

Novell Inc, whose lustre has considerably tarnished in the year since its acquisition of Unix was announced, was in the midst of a major corporate reshuffle last week as *Unigram.X* went to press. The reorganisation will result in Unix being given a new master, a move insiders have expected for some time. Corporate sources at Novell headquarters in Provo, Utah were expecting Unix Systems Group chief Kanwal Rekhi to be replaced by Unix stalwart and long-time second-in-command Mike DeFazio. DeFazio, who has been with Unix Systems Labs since its creation and weathered the stewardships of both Larry Dooling and Roel Pieper as well as Rekhi, a champion of Novell's acquisition of Unix from AT&T, will reportedly be made executive vice president and general manager of USG, the unit Novell created out of USL, Univel and some of its pre-existing entities. It is one of three Novell product groups and responsible for both UnixWare and Unix source licensing as well as ancillary products. Rekhi will remain Novell's chief technology officer, a position he acquired a few months ago when the company created an office of the president. DeFazio will report to that office of the president consisting of Novell CEO Ray Noorda, executive VP, operations Mary Burnside and chief financial officer James Tolonen. Bob Davis, a Novell legacy it made USG's chief marketing officer after its acquisition of USL, has also apparently lost hands-on responsibility for the unit and been kicked upstairs as senior VP, corporate marketing. The DeFazio appointment promises to be a popular choice both with USG insiders and Unix licensees.

INTERGRAPH CANS CLIPPER RISC, TEAM GOES TO SUN

Our sister publication *Client Server News* reports the effective demise of the Intergraph Corp Clipper RISC chip. Intergraph turned its California-based Advanced Processor Division over to Sun Microsystems Inc on January 1 and the 70-man unit along with general manager Howard Sachs has become part of Sparc Technology Business unit which is working on making the Sparc chip a fit platform for Windows NT. No further Clipper development will be undertaken. Meanwhile, Intergraph cut around 130 manufacturing and distribution jobs in Europe - see page 5. *The swings and roundabouts of the RISC marketplace in 1993, as seen by the Microprocessor Report - see page 2.*

SILICON GRAPHICS ADDS A HIGH-END R4400-BASED MODEL TO INDY LINE

Silicon Graphics Inc, Mountain View, California is already souping up its bottom-end Indy multimedia workstation with a faster chip. The company has introduced the Indy R4400, which replaces the 100MHz R4000PC chip in the present version with a 150MHz Mips R4400, claiming it boosts performance by over 50% - and speeds two- and three-dimensional graphics performance to 1.6m X lines per second and 800,000 three-dimensional vectors per second - but at a substantially higher price. Performance is rated at 96.6 SPECfp92 and 88.1 SPECint92. The original Indy sells for \$5,000 diskless with 16Mb RAM, but the new one, available in March, costs from \$15,500, which buys Virtual24 bit - dithered 8-bit - colour graphics, 32Mb main memory, 535Mb system disk, 16" 1,280 by 1,024 resolution colour monitor, IndyCam colour digital video camera, keyboard, mouse, Irix 5.1 operating system and Indigo Magic user environment. It is aimed at computer-aided design, photo retouching, animation, video production and media authoring applications the firm says.

DOLPHIN ABANDONS 88000-BASED HARDWARE DEVELOPMENT

Former Norsk Data affiliate, Dolphin Server Technology A/S, has been acquired by state-owned Norwegian telecommunications group, TBK Telematik, for an undisclosed sum. Striking another nail in the coffin of Motorola Inc's 88000 RISC - and of 88Open, the architecture's seemingly doomed supporters club - Oslo, Norway-based Dolphin says it is leaving the manufacturing business and won't develop any more 88110-based servers, although it will continue to support existing customers. Its most recent machine is the \$500,000 Dolphin 340. Dolphin will instead start buying in products OEM, noting that new parent TBK has a "strong relationship" with Hewlett-Packard Co. As a wholly-owned subsidiary of TBK, Dolphin will provide consultancy services, in particular to the multimedia market, where it sees evidence of telecommunications and computer technology coming together. Indeed, the growing convergence of these two markets forms the basis of TBK's takeover: TBK lacked computer expertise, while potential Dolphin customers were put off by the latter's size and vulnerability. Up to ten staff have been lost as a result of the buy-out. Five more have gone to Dolphin Interconnect Solutions, a unit spun out from Dolphin Server in 1992, and five others have gone to start a company in Brazil, where they will install and support a Dolphin system at Banco de Bradesco of Brazil. In fact, Dolphin generated about 50% of its \$10.3m turnover in Brazil last year. The firm is left with 34 employees.

NORSK DATA, NORDIC DATA, COMMA DATA MERGE TO CREATE COMMA DATA SERVICE

Norsk Data A/S plans to put Humpty together again: the Norwegian former minimaker has staged a three-way merger with two companies that were spun off during its near-death experience, to create Comma Data Service A/S. The firm combines the existing Comma Data Services A/S, Norsk Data A/S and Nordic Data A/S under common management, and also takes the ND ServiceTeam UK Ltd arm of Nordic Data. The new company will have an annual turnover of some \$107m. Comma was spun off from Norsk Data as part of a broad restructuring in 1991 - it was previously known as ND Service Team A/S. Comma Norge will be the largest unit in the combination, contributing some 50% of sales to a group that will encompass services, facilities management and maintenance, installation and network services. Comma Data Service will employ 800 at 50 offices in Norway, Sweden, Denmark, Finland, England, Ireland and the US.

RATIONAL AND CELSIUSTECH FORM JOINT VENTURE IN SWEDEN

Object-oriented tools and technical services provider Rational Inc has set up a joint venture company with command-and-control systems specialist CelsiusTech Systems in Sweden. The new firm is intended to supply applications developers in medium to large organisations with software engineering support, consulting, training, and tool integration services. Both Santa Clara, California-based Rational and Stockholm, Sweden-based CelsiusTech have an equal stake in the firm, which employs software engineers from both companies. CelsiusTech is part of the Sweden, Stockholm-based Celsius Group, which focuses on the defence market, employs 2,000 staff and generates revenues of about \$275m. Rational, meanwhile, is in the process of going public by reversing into Ada specialist Verdex Corp.

ANNUAL CHIP AWARDS DECLARE MOTOROLA 88110 THE LEAST LIKELY TO...

The *Microprocessor Report* has come out with its annual assessment of the RISC microprocessor battle over the last year, suggesting suitable awards for the major players. DEC wins first place in the World's Fastest Microprocessor category with the 200MHz Alpha 21064, and wins First CPU to Integrate PCI on chip with the new 21066. Less encouragingly, DEC also takes the World's Fastest Vapourware award for the 275MHz 21064A, expected to ship some time in the third quarter of this year, and its plans to develop Alpha CPUs for handheld devices gets the Biggest Stretch of the Imagination award. IBM's PowerPC claims a gong for Most Operating Systems Supported (Windows NT, Workplace, OS/2, AIX, Solaris, Taligent and perhaps Macintosh) and its Power2 processor gets Most Superscalar Processor and Best Floating Point Performance of any shipping chip. The PowerPC also comes up trumps with the industry's Biggest Advertising Budget. Mips takes both the Most Expensive Processor award with the TFP and the Lowest List Price with the R4200. Sun's SuperSparc and microSparc lines give it the Best Selling RISC Chip for general purpose systems tag, but the overpriced SuperSparc is identified as the Slowest High End RISC processor. HaL Computer, now a wholly owned subsidiary of Fujitsu, gets the Waiting for Godot award for its long-awaited 64-bit Sparc part. Hewlett-Packard saw DEC, Mips and IBM surpass its PA-7100 in performance terms, though its latest announcements (UX No 467) should help put it back in the race. Its PA-7100LC, now sampling, is fighting with the PowerPC 601 for the Fastest Low-End Processor slot. Motorola Inc wins the Longest Time as Vapourware award - 27 months - for the 88110, which began shipping last January, with the Ross HyperSparc, 15 months in the vapour, coming second. And Motorola wins the George Romero zombie award for a chip with little future (despite strong support from Data General). Last year's Most Likely Casualty, the Intel i860, has now been officially declared dead.

DEC PICKS UP LITTLE-KNOWN ALPHA LICENSEE IN CANADA

Digital Equipment Corp continues to pick up licensees for the Alpha AXP RISC, but in general they are not companies that are exactly household names in the industry. The latest, turned up by *Newsbytes*, is Northern Micro Inc, an Ottawa, Ontario personal computer manufacturer and integrator, which plans to build systems using the Alpha AXP line of processors, for sale mainly in Canada. The Canadian federal government, already one of its main customers, is a likely market, the company says, adding that it has only very limited plans to sell the machines outside Canada, although it has some connections in Africa and may sell some units there. The first machine is the Spirit/150, using the low-end 150MHz version of the RISC and claimed to offer nearly twice the performance of a 66MHz Pentium-based machine. The Spirit/150 comes bundled with Windows NT, and has 16Mb memory, 16Kb internal cache, 512Kb external cache, a six-slot EISA bus, 32-bit Fast SCSI-2 disk controller, 525Mb disk, a double-spin CD-ROM drive, 3.5" floppy and 32-bit 1,280 by 1,024 graphics adaptor with 15" non-interlaced colour monitor and costs the equivalent of \$7,500.

AMDAHL MAY GO TO FUJITSU FOR NEXT GENERATION MAINFRAME

Amdahl Corp and 44% shareholder Fujitsu Ltd are consolidating all their mainframe manufacturing at Fujitsu in Japan after 1996, which would mean the closure of Amdahl's plants in Sunnyvale and Ireland. With the mainframe market in terminal, if slow, decline, the move would make a lot of sense, and the most striking aspect of it is that it confirms that Amdahl is developing a new generation of monolithic mainframes, whereas it is understood that IBM Corp currently intends to confine itself to further kickers for the present generation of ES/9000s while new development is concentrated on the embryonic parallel machines, while noises out of Hitachi Ltd suggest that it plans to follow the IBM parallel path. If that is so, Amdahl would be the only company with a new generation of monolithic machines after 1996, and these are likely to appeal to a substantial number of users leery about entrusting their business to the emerging parallel generation.

POWEROPEN ABI 2.0 DUE

PowerOpen, now under the new leadership of Tom Mace and anticipating opening a European office in Paris by February, expects to start circulating Draft 2 of its ABI to only a small number of software houses later this month. General distribution to anyone who comes calling will be in April. PowerOpen, meanwhile, which counts five sponsors and over 150 members, also has a handful of secret members all apparently with plans to do something with the PowerPC chip and Intel is reportedly starting to fight a rearguard action against the chip.

SUNSELECT HAS NEW RELEASE OF SOFTPC-BASED SUNPC EMULATION KIT...

SunSelect has released version 4.0 of its SunPC Unix-to-personal computer emulation software, which now supports Solaris 2 - SunPC 3.1 only runs under Solaris 1. But, while the new release provides serial communication speeds of up to 19.2Kbaud, an eight-fold increase over version 3.1, it is still only capable of Intel Corp 80286 emulation. SunPC is based on Insignia Solutions Ltd's SoftPC MS-DOS emulation product, although SunSelect added its own user interface, and supplies optional hardware accelerator cards for users that require 486 performance. When they do, SunPC automatically switches off its emulation capabilities, enabling the cards to take over transparently. SunSelect also says it has cut prices on both of the above SunPC releases by 25% to \$300 until March 15, and by 33%, if the software is sold with hardware acceleration cards.

...AS INSIGNIA APPOINTS NEW CEO, MOVES HQ TO US

Meanwhile, Insignia Solutions Inc has appointed former Symantec Corp executive vice president Robert Lee as its new CEO and president, and has moved its corporate headquarters from High Wycombe, Berkshire in the UK to Mountain View, California. Most of Insignia's customers are in the US and its new CEO lives there. Former CEO Nicholas Samuel will retain the position of non-executive chairman of the company and will stay in England. Insignia says research and development will remain in the UK and no staff will be transferred. The company has 170 employees, 110 in the UK of which 60 or 70 are engineers. The US operation will oversee development of strategic relationships - chief financial officer Roger Friedburger is based there too. Insignia has a small office in Boston serving the East coast.

SUN ADMIRAL SEEKS CAPTAINS

Sun Microsystems Inc CEO Scott McNealy cannot only not make up his mind about who should become president of SMCC, the company's hardware business, the same appears to be true about a president for its chip unit, Sparc Technology Business. STB has only had an acting president, Bob Graham, who warned he was going to leave back in October and finally did over the holidays. Sun was unable to come up with a firm appointment and last week decided to name another acting president Bert Sutherland, head of Sun Labs, and postpone for six months making STB a planet.

GEOFF SQUIRES TO HEAD OPENVISION'S INTERNATIONAL UNIT

For some, news of Geoff Squire's appointment as president and chief executive officer of fast-growing OpenVision Inc's newly-formed international operation based in Surrey, UK, confirms what had appeared to them to be a sideways shunt delivered by former employer, Oracle Corp, which last year moved him from head of international operations to a shadowy post developing new business opportunities. Squire resigned the post last November after a nine year stint at Oracle which took him from being the firm's first UK reseller to managing director of the company's UK unit, European boss and then executive vice president in charge of worldwide distribution before heading its international operations (UX No 464). He will sit on OpenVision's board alongside chairman, CEO and former colleague at Oracle, Michael Fields. OpenVision International will operate as a subsidiary of the Pleasanton, California-based systems management outfit. +44 81 781 1200

X/OPEN ASKS DM HOPEFULS TO DECLARE THEIR INTENT BY 16TH

Whilst members muse whether the organisation should take Tivoli Inc's TME 2.0 submission forward to consideration by its distributed management committee (UX No 465), X/Open Co has apparently asked that anyone else who intends to propose a submission for distributed management to declare their intent to do so by the 16th of this month. The request appears to be X/Open's way of trying to clear up confusion and find out at least who is going to pitch for the standard, if not what those submissions will be. OpenVision Inc, which has already embraced DEC's Object Broker as a distribution services mechanism for its systems management product line, says it will be making a submission, and that as part of its proposal will make its advent and policy management engines and collector services freely available.

OBJECT DEALS PUT COSE, CDE UNDER THE LAMP

Where the Hewlett-Packard Co/Taligent Inc tie-up leaves COSE's object efforts is unclear. Sure, as HP says, the firms have agreed to maintain a level of compatibility but, asked the same question at his firm's link-up with NeXT Computer Inc event a few weeks ago, Sun Microsystems Inc boss Scott McNealy's observation that "the world is moving on" looks decidedly ominous. Indeed, speculation that COSE's pride and joy, the Common Desktop Environment, may end up as an also ran in some quarters is gathering credence amongst the whispering crowd. After all where do Sun users turn now? From Open Look to Motif, fine. But from Motif to where - CDE or NeXTStep? They should be told. That CDE development isn't moving at breakneck speed is painfully evident. Sun may ship a CDE implementation by the end of the year, but will it be much different from what was on offer at last Autumn's CDE developer's conference? Meanwhile, everyone knows the NeXTStep technology is good. He may not have sold many units of the NeXT Cube, but thousands of punters have packed keynotes at Unix shows over the last few years to see Steve Jobs crank the same old NeXTStep product demos. Indeed, the NeXTStep review system we had in the *Unigram.X* office for a while was a hit with everyone - its just that you couldn't do much with it in the box that it came with.

SUNSOFT GIVES ITS SLANT ON HP-TALIGENT DEAL

SunSoft added its two cents to all the industry talk swirling about the HP-Taligent deal last week, which seems only fair since HP was probably the most quizzical about the Sun-NeXT deal when it got done. SunSoft rallied two of the people most intimate with the goings-on, both ex-Apple people, and one, Bud Tribble, also a NeXT founder. They said they wondered how Taligent was going to stretch its resources to accommodate HP but that was the least of it. Taligent, they charged, is using a standalone Apple model and its work isn't exactly what you'd call distributed or client/server, simply reworking of AppleTalk. That, they said, was the technical reason why Sun decided against going with Taligent. How, they wondered, does such a thing like an object-oriented Mac fit sensibly into HP's marketplace? Even IBM, they added, has been down to Taligent trying to get them to move away from their Applecentric Weltanschauung. A little more probing, however, revealed that it was the business terms that really did in any Sun-Taligent combine. Whatever they were - and we couldn't get them to specify this time around exactly what they were - they made Sun realise they couldn't get the product they needed in the time allowed. With a different set of terms they thought they might have.

TRIVISION SYSTEMS GOES INTO LIQUIDATION

Former Sparc systems builder Trivision Ltd called in the liquidators on December 14, 1993, after its work dried up and it could no longer pay its debts. According to liquidator, Edwin Hunt, the Cheltenham, Gloucestershire-based firm had been trading as a one-man operation - in the form of Ian Smith - for several years, offering computer consultancy and supplying limited amounts of hardware. As a result, there will be no buyers because there are no assets.

IONA TECHNOLOGY IS ONE TO WATCH

One company tipped to be worth keeping an eye on in the object world is Irish software house, Iona Technology Ltd, Dublin, Ireland. Iona has made two separate technology submissions to the OMG over recent months - one to do with transaction processing, the other, a C++ interface co-developed with SunSoft to link OMG's Interface Definition Language with C++ programs. Iona is also involved in discussions with other vendors about enabling their respective object request broker implementations, which are all based on the Common Object Request Broker Architecture (UX No 467), to interoperate with each other. (Object Request Brokers (ORBs) enable objects and non-object applications to communicate with each other.) According to Iona, OMG's idea was to issue a request for technology, see which vendors responded, then sit them all down in one room and have them thrash out ideas for designing such a mechanism. Iona divides the responses into two camps. The first, it reckons, is led by the Open Software Foundation, which hopes to rally IBM Corp and Hewlett-Packard Co behind developing a "common underwire protocol" based on the Distributed Computing Environment - or a completely new protocol. The second camp, headed by Sun Microsystems Inc, advocates the use of protocol-to-protocol translators. Iona says it doesn't really care which camp wins the political struggle - it will simply evaluate each of the recommendations and go with the best one - or might develop its own product, when it has enough of an understanding of other manufacturers' ORBs. As for Iona's other submissions, it is working with Novell Inc and Compagnie des Machines Bull SA to enable their respective implementations of the Novell Tuxedo transaction processing monitor to work with its Orbix C++ object request broker. Prototype models are already complete, it says.

Struggle

Iona also claims that the C++ interface for linking OMG's Interface Definition Language with C++ programs, which it co-developed with SunSoft and submitted to the OMG, has not yet lost the struggle against the HyperDesk Corp equivalent. HyperDesk's offering, it says, has simply been ratified by the relevant taskforce, and not by the OMG board (UX No 466). Iona says that SunSoft and HyperDesk were unable to compromise, but errs on the Californian company's side given its relationship with the firm. Strategically, Iona says its main aim is to provide links between different operating systems and to establish itself firmly as a hardware-independent vendor. Orbix is currently available for SunSoft Inc Solaris and Microsoft Corp Windows NT - support for HP-UX, AIX, OSF/1 and Santa Cruz Operation Inc Unix is planned for the first quarter. A Windows 3.1 version is scheduled for January or February. Iona was established as a company in 1991 by researchers who had formerly worked at Trinity College in Dublin, where they went by the name of the Distributed Systems Group. Their research on distributed technologies was funded by the European Commission's Esprit project, which initially also provided the young firm with contracts to offer C++, object-oriented technology, design and methodology training courses, and to provide consultancy services for setting up Unix networks. Iona now subcontracts the training work out, while the consultancy side "is fading away" because it is too labour-intensive and too expensive. The income from these contracts provided the company with the resources to develop Orbix, which shipped in June. The 10-person outfit claims about 100 organisations are currently evaluating Orbix, and several are said to be negotiating OEM rights. Iona is also talking to software houses about integrating their products with Orbix.

ATRIA AND SCOPUS UNVEIL INTEGRATED CLEARCASE AND PROTEAM PRODUCT

Natick, Massachusetts-based Atria Software Inc has integrated its ClearCase configuration management software with Emeryville, California-based Scopus Technology Inc's ProTeam problem tracking software. ClearCase/ProTeam Integration transparently updates the database of each product every time a new operation is performed, and integrates the query and reporting facilities found in each individual product. It creates release notes automatically, checks that releases include all the latest bug fixes, cross-references bugs-to-source, and finds defects based on the audit trail between bug reports and source code. ClearCase/ProTeam Integration is available now on Hewlett-Packard and Sun Unix workstations and costs \$2,500 per site.

BULL'S ZENITH SHUNS POWERPC, PLANS MIPS-BASED LINE FOR NT

When Compagnie des Machines Bull SA signed up with IBM Corp to collaborate on Unix development and the PowerPC, and to construct its Unix line around RS/6000 processors bought in from IBM, it seemed that the Mips Technologies Inc RISC on which it had majored was out of the picture, despite the fact that the R-series chips are made by its other major partner, NEC Corp. Not so, it seems: according to *Electronic News*, in the US, its Zenith Data Systems unit is planning to build and offer a line of personal computers built around VR4400 and VR4200 RISCs from NEC - aimed primarily at the Windows NT market. Zenith plans a full line from servers to portables, but has not yet decided whether to build them itself, or buy them in OEM from NEC or possibly from Acer Inc in Taiwan. Now that NEC has tossed another \$65m into the bottomless Bull pot while IBM sat on its hands, Bull is expected to favour NEC in any conflict.

CLARIS HAS DUAL STANDARD VERSION OF CLARISWORKS 2.1 FOR THE POWERPC MAC

You might not actually be able to buy a machine yet, but Claris Corp has announced a native version of ClarisWorks 2.1 to run on PowerPC-based Macintoshes. In a move that may presage the direction to be taken by other software houses, Claris has decided to stick both the native PowerPC and Motorola 680X0 versions on the same disks. The installer will automatically detect which type of machine is being used and copy across the appropriate binary code. The US price is \$300 and the two versions are identical, apart from there being support in the PowerPC version for the PlainTalk Text-to-Speech technology.

IBM IS PREPARING A NETWORKING PRODUCTS BLITZ FOR 1994

IBM Corp is reportedly preparing a networking splurge for the first half of this year. Watch out for a CICS client tailored to run over Novell Inc's NetWare; a line of Asynchronous Transfer Mode local network adaptor boards, and switches; wireless local net adaptors, and improved bridging and routing. IBM's 100Mbps Asynchronous Transfer boards for Micro Channel-based PS/2s and RS/6000s will cost around \$3,000 apiece and ship late spring, to be followed by \$1,200 25Mbps AT-bus variants in the summer. And 1995 should see the company produce a more expensive, 155Mbps board for machines equipped with the PCI Peripheral Component Interconnect bus. *Communications Week* reports, however that IBM is using third party ATM chip sets, rather than those under development in its own Zurich laboratories - once home-grown chips are incorporated, the adaptor's prices are expected to fall. The magazine quotes Don Haile, general manager of IBM's Networking Software Division as saying that the \$1,200 model will cost about in 1995.

ICL REARRANGES UNITS, SEEKS MORE CONTRACT MANUFACTURING WORK

ICL Plc is welcoming the New Year with a string of initiatives and disposals. It is putting its contract manufacturing operations into a separate subsidiary in a bid to increase the business it takes in from the likes of Sun Microsystems Inc, forming a new services subsidiary in France, and selling the rest of its stake in International Network Services Ltd to its partner. The new manufacturing and supply company is to be called Design to Distribution Ltd, and starts life with revenues from outside ICL of a reported \$100m, which it aims to triple by 1996; total turnover at the unit is put at \$400m. In France, the new ICL Services SA will take in ICL France's maintenance, advisory, engineering and equipment supply services. It has also taken a 70% stake in Vendome Formation SA, which specialises in multimedia training and is planning to establish a facilities management unit in partnership with the parent's CFM subsidiary. And the sale - to GE Information Services Ltd - of its 50% stake in International Network Services Ltd - a company it formed in 1987 to offer Electronic Data Interchange services before bringing the General Electric Co Inc subsidiary in as a partner, sees it exiting the EDI business, except as a user of the services; terms of the sale were not disclosed.

SYSTEM SIX DEBUTS RUSSIAN-BUILT USIX UNIX

Golden, Colorado-based System Six Inc, the company that went to Russia for its answer to Unix (UX No 442), says it is now shipping its Unix SVR4.2-compatible microkernel for Intel Corp hardware architectures. The firm says Usix will run off-the-shelf applications without modification or recompilation as long as they do not require kernel-linked device drivers. It supports symmetric multiprocessing, complies with SVID and IEEE p1003.4, 1003.6, 1003.7 and 1003.0 Posix standards, runs in under 2Mb memory and is suitable for real-time applications. As expected, the system supports ISA, EISA, C-bus and Multibus configurations and a RISC version is expected within six months. System Six says the kernel itself only requires 200-300Kb of RAM and a basic system can be installed from one disk. A single-processor, two-user system goes from \$375, a uniprocessor multiuser system starts at \$800. The multiprocessing system is \$2,400 for an unlimited number of CPUs. TCP/IP costs \$75, X Windows \$150, NFS \$250, DOSix Windows and MS-DOS applications translators are \$100. The development system is free, though reproduction rights are \$50. Usix was developed by engineers in Moscow at INEUM, Russia's agency for computer technology development below the mainframe. System Six has 55 employees. +1 303 526 1747.

SAP AND ORACLE PLAY TIT-FOR-TAT

Following PeopleSoft Inc's criticisms of SAP AG and Oracle Corp concerning their lack of true client/server products (UX No 464), both companies have issued responses in their defense. Oracle says it has sold more than 150 copies of Oracle Personnel worldwide and not the 10 claimed by PeopleSoft. Moreover, it is not using "yesterday's technology", and will, in fact, launch its second generation of applications, using Oracle Forms version 4, in Spring of this year. SAP, conversely, declares its client/server human resources module, part of the R/3 suite of products, has been on the market for a year, and has more than 125 customers worldwide. R/3, it says, is not a mainframe re-write, but was developed "from the ground up" - the firm spent more than \$200m building it and continues to invest heavily in it.

INFORMIX ADOPTS USER-BASED PRICING FOR ITS NEW DATABASE PRODUCTS...

Informix Software Inc is grasping the thorny problem of charging for software. It has decided to move to a comprehensive user-based pricing model for its new relational database products, after customers demanded pricing that was easier to understand and administer, and reflected more accurately the value they derive from it.

...FORMS LAB WITH SIEMENS-NIXDORF

Informix Software Inc and Siemens Nixdorf Informationssysteme AG will build and staff a research and development laboratory at Informix's Menlo Park headquarters. Collaborations will include maximising overall speed and optimisation of the Informix-OnLine Dynamic Server parallel processing database server on Siemens Nixdorf's high-end RM600 system under Sinix Unix System V.

INTERGRAPH CUTS 130 EUROJOBS AS IT TAKES WORK BACK HOME

Huntsville, Alabama-based Intergraph Corp is shutting its manufacturing and distribution shop in Europe and moving the functions back home to its headquarters in Huntsville - at an astonishing cost of \$70m pre-tax, given that only about 130 jobs will be lost at Nijmegen, Netherlands. The change is intended to result in improved manufacturing efficiency and lower costs - it should save \$30m a year starting this year. Intergraph has also revalued its field service inventories due to changing product strategies and written down investments in companies and technologies that no longer add value to the firm's future business model. It looks for fiscal fourth quarter sales of \$270m to \$275m.

ICL SIGNS UP FIRST CUSTOMERS FOR DAIS OBJECT DEVELOPMENT SYSTEM

ICL Plc's DAIS object-oriented development system and systems integration tool (UX No 457) will go on general release at the start of February, but two customers have already signed up to use it. The first is Scottish Hydro-Electric, which is developing a new customer service system that integrates its existing diverse range of kit. This kit comprises an ICL mainframe, Unix workstations and servers, personal computers, and ICL's IDMS, Ingres and Oracle databases. Hydro-Electric has also developed its own bespoke object database, which holds customer details and can access VME transaction processing services. The second customer is DEVETIR, the Queensland Department of Employment, Vocational Education, Training and Industrial Relations - a recent amalgamation of several local government departments. DEVETIR is using DAIS to integrate its existing heterogeneous systems and rationalise its business. Financial terms of the deals were not disclosed.

APPLE OUTLINES POWERPC UPGRADES FOR EXISTING MAC USERS

Apple Computer Inc will encourage existing Macintosh users to move to the PowerPC by providing them with both logic boards and processor upgrades based on the PowerPC 601 chip. Logic board upgrades will be available for Quadra models 840AV, 800, 660AV, 650 and 610; Centris models 660AV, 650 and 610; Performa 600s; and Macintosh models Iivx and vi. Processor upgrade cards will also be available for 68040-based Macintosh systems with a Processor Direct Slot - Quadra models 950, 900, 800, 700, 650, and 610; and Centris models 650 and 610. These upgrades are claimed to double the performance of existing machines when running native applications, and will range from \$700 to \$2,000. Apple will release them at the same time as its PowerPC-based workstations and servers in March.

MORE SERVERS IN THE APPLE WORKS...

Complicated stuff. Apple code names: Apple UK sources dubbed the first PowerPC-based servers Red Dwarf, Polaris and Blue Giant. But *MacWeek* now reports the firm has a new server, due out this autumn, which bears the moniker, Brigadoon. The machine will initially be based on an 80MHz 601, and have six PCI slots. The magazine also hears that two new machines for the education market will be launched in the US early next month. Both will have an integral CD-ROM drive. The LC 550 is essentially an LC 520 with the processor upgraded to a 33MHz 68030. The new LC 575 will have a 25MHz 68LC040. Meanwhile, the company has given the Work-Group Server 95 its expected mid-life kicker. The new version is expected to ship by the end of February, with a new storage subsystem that increases hard-disk performance and supports capacities of up to 10Gb. Apple says AppleShare Pro 1.1 will improve performance by up to 40% - though it neglects to say exactly what it is measuring. The new software also runs on existing models.

MICROMODULE UNVEILS PENTIUM-BASED MULTICHIP MODULES

The Cupertino, California-based buyout from DEC, MicroModule Systems Inc, has a new family of Intel Pentium-based multichip modules for Unix and Microsoft Windows NT-based servers and workstations. The Northstar line, available from the second quarter, comprises one Pentium processor, one Intel 82496 cache controller, and 18 Intel 82491 dual-port cache SRAMs with 512 Kb of secondary cache. The products support 64-bit and 128-bit memory interfaces, either strobed or clocked bus protocols and operate at 5 volts - 3.3 volt versions will be available by the middle of the year. + 1 408 864 5986

APERTUS TAKES OVER SYSTEMS STRATEGIES

Apertus Technologies Inc has acquired Systems Strategies Inc, a wholly owned subsidiary of Nynex company, AGS Computers Inc, in a deal worth \$14m. The new company is valued at \$40m and expects to merge the two product lines. Systems Strategies, known for its SNA technology, sells Unix-to-IBM host communications software and Apertus is strong in TCP/IP. Apertus also expects to leverage Systems Strategies European distribution channels.

PREVIEW OF 1994

By Tim Palmer

January

QVC Networks wins auction for Paramount, immediately launches takeover of rival bidder Viacom. Microsoft says Chicago will need only 6Mb of memory. IBM admits it sold out of mainframes during the fourth quarter because it decided to sell them at 12% of list to try to get rid of the things; warns that Wall Street estimates for the fourth quarter are way too high. DEC says Alpha AXP sales are going better than expected. Japanese government says recovery is just around the corner as NEC announces first lay-offs in its history. Dell relocates to China.

February

DEC tells analysts that Alpha AXP machines accounted for 15% of hardware sales in its second quarter. Bell Atlantic decides to spin off its local phone network to concentrate on cable, seeks to buy NBC from GE. You may no longer call your defunct computer brain-dead: it's computationally challenged. Flush with Korean money, Maxtor launches a 0.5" disk drive storing 100Mb. Lay-offs at Hitachi as it pulls out of mainframes. The Bundesbank holds interest rates as the mark falls to 55 cents. New Bull chief says things worse than he thought, asks French government for \$1,000m more.

March

IBM finds that the chips for its parallel mainframe are costing it \$50,000 each to make, decides to switch to a microcoded commodity chip. DEC announces 27 new complex instruction set VAXes, describes it as biggest launch in its history. Bell Atlantic spins off Tele-Communications cable arm to shareholders, says it wants to concentrate on its movie and TV show interests. Microsoft demonstrates version of Chicago on a 20Mb Pentium that runs nearly as fast as Windows on an 80286. Nippon Telegraph & Telephone relocates headquarters to China. Apple's first PowerPC Macs run 10 times as fast as equivalent 68040 Macs. IBM launches CICS for Macintosh. Germany raises Lombard rate as mark hits 43 cents.

April

Figures show Hewlett-Packard will be a \$30,000m-a-year firm by year-end as it forms joint venture with Chinese government to buy IBM Japan. IBM launches first PowerPC personal computers: the PC-DOS personality under Workplace Shell runs applications almost as fast as an 80286 machine. British Telecom agrees to give up video-on-demand plans if it's allowed to take over the BBC, change its name to BeebT. Virgin wins UK National Lottery, decides to maximise cash for charity by giving prizes in kind. Users report Windows NT 1.1 much faster than 1.0 - on a 64Mb machine. Citizen launches a wristwatch computer that runs Windows; keyboard is Koperated with pin. Mark at 39 cents.

May

Little old lady of 83 wins first lottery jackpot - balloon crossing of Pacific with Branson. IBM abandons plan to use microcoded Pentiums in parallel mainframe, says 10,000 gallons of water a minute needed to cool it make it uneconomic. Hewlett-Packard reveals big multimedia plans, bids for Matsushita with Chinese backing. Spun-off cable arm of Tele-Communications bids for Pacific Telesis. France refuses to cut agricultural subsidies unless European Community partners bail out Bull; Germany demands matching terms for Siemens Nixdorf. Please don't call them mother and daughter boards: they're parent and offspring boards. Kyocera launches signet ring computer running NT. European exchange rate mechanism bands widened to 50% as mark falls through floor against Irish punt.

June

Creative Technology heralds next wave of multimedia, adding aroma to sound and video, calls it PongBlaster; Sculley's Spectrum immediately licenses it. AT&T-France Telecom-Bundespost alliance to be announced in August. Unemployment in France rises to 14%, in Germany, 10%. Luxembourg PTT joins British Telecom's Syncordia. Santa Cruz Operation relocates to Long Island, becomes Great Neck Operation. You don't disable your printer - it's differently abled. First cases of Chronic Dented Digit Syndrome seen in users of Citizen's wristwatch computer. Exchange rate bands now 90%.

July

Zilog announces that IBM has licensed the Z80 core for a top secret project. DEC reveals that Alpha AXP accounted for 7% of hardware sales in fiscal 1994, insists that that is much better than its internal forecasts. Microsoft declares that it's happy with Chicago performance on 128Mb Pentium machine. Cable & Wireless forms joint venture with ICL to make computers in China. France threatens trade war with US unless it is admitted to NAFTA and so NAFTA is renamed Even NAFFTA. Anglo-phone Canada quits in protest.

August

Novell announces that it has a pact to license undisclosed operating software to IBM. France Telecom and Bundespost Telekom are allowed to merge if they agree to take over Bull, Siemens Nixdorf. A hold-up is reported in their alliance with AT&T. France decrees three-day week throughout industry to combat unemployment, now at 16%. Portuguese PTT, Greek OTE join Syncordia. Japan dubbed Land of the Setting Sun as Sun Microsystems relocates Asia-Pacific headquarters to China. IBM Europe closes all German plants, transfers work to Hungary, Czech Republic. Japan sets 3% negative interest rate, says recovery starts tomorrow; Nikkei slumps to 12,000. Crisis as Deutschmark plunges against Hungarian forint.

September

Intel shares fall as Cyrix introduces Cx486 with on-chip VGA controller, sound circuitry and MPEG2. IBM says it will definitely ship a parallel mainframe in 1995 as it is revealed that ES/9000s are selling at 2% of list. The terms mega, massively, mini, micro are all banned as sizist. President Clinton agrees to accept France Telecom-Bundespost merger only if they agree to take IBM as well as Bull, Nixdorf. French farmers mass tractors, burn punch cards outside the Elysee in "Hands off our Bull" demonstration.

October

Telephone tariffs soar in France and Germany. British Telecom launches multimedia Yellow Pages with PongBlaster option, saying it expects it to appeal to fast food outlets, fertiliser merchants. Object-oriented programming becomes entity programming: it's wrong to draw attention to an entity's orientation, and demeaning to describe anything as an object. Maxtor announces a 0.3" disk drive for keyring computers that stores 512Mb. Word out of IBM Hursley is that a rush project is under way to develop CICS for CP/M. The Deutschmark plunges to 20 cents.

November

France-Allemand Telecom warns it will lose \$10,000m this year, appeals to Brussels to bail it out. Spectrum offers cellular nosy-phone with PongBlaster digital scent: it enables you to detect who is calling before you answer by their smell. France goes onto two-day week as unemployment hits 19%, Italy follows suit and demands rest of European Union follow suit - "it's not fair that UK unemployment is only 8%, German only 14%". Belgacom joins Syncordia. AT&T abandons talks with Bundespost-France Telecom alliance, says won't accept Paris insistence that working language be French.

December

IBM previews its parallel mainframe built of 10,000 Z80s running CP/M, unveils suite for converting MVS applications to 8-bit code. Microsoft announces that Chicago will be held back until 256M-bit memory chips are freely available because it needs 4Gb of memory to run. DEC says Alpha AXP sales account for 4% of total, unveils road-map showing progression of VAX models to year 2010. Nippon Telegraph & Telephone unveils plan to close its terrestrial network, replace it with low earth orbit satellite network launched on Long March rockets and run from China. A young Turk at the British Computer Society is censured for calling the committee a load of old Cobollers. China agrees to take over France-Allemand Telecom after Brussels says it can't help - it's bankrupt as well. The German Deutschmark falls to parity with Italian lire.

GETTING TO THE BOTTOM OF HEWLETT-PACKARD'S VERY LONG INSTRUCTION WORD PLANS

By Chris Rose

Hewlett-Packard Co's plan for Very Long Instruction Word processors is basically an attempt to bring back the good old days when RISC processors were simple things (UX Nos 467, 468). Over the last few years, with the search for ever more speed, RISC processors have become inexorably more complex, with superscalar techniques taking up silicon real-estate in the quest to increase the number of instructions executed during each cycle. And the processors are set to get even more complex: the next generation of RISC chips promises speculative execution with one part of the processor executing potential program branches, on the off-chance that the main application will need the results at a later date.

Compiler writers

With its proposed Very Long Instruction Word architecture, HP is aiming to move all this complexity off the chip and dump it in the laps of its compiler writers, which it says, are among the best in the business. The proposed PA-9000 processor then, should be a relatively simple affair - lacking all of the sophisticated superscalar support circuitry cluttering up other chips. What it will have, however, is a series of specialised processing units that operate independently and in parallel. The aforementioned Very Long Instruction Word is actually a string of conventional Precision Architecture RISC-type instructions, chosen by the compiler to be suitable for keeping these units busily executing in parallel. The Word is submitted to the processor, and with a single crank of the handle all of its constituent instructions are executed. The term Very Long Instruction Word is something of a misnomer, since it leaves the impression that the processor has an instruction set composed of a handful of very long instructions - which would imply a very complex instruction set: in fact the instruction set is perfectly straightforward, and it is the compiler that creates the aforesaid Very Long Instruction Word. Hewlett-Packard is hoping to get anything from four to 20 instructions executed per cycle to produce raw throughputs in the Giga-instructions per second range.

Problems

The traditional problem with the Very Long Instruction Word approach is the intimacy required between compiler and hardware. To parallelise the instructions, the software needs to know exactly what processing units are present in the chip, and how they are related to each other. This close coupling runs counter to the demands of portable software. To provide a degree of portability HP is planning two-stage compilers, which initially produce an intermediate or 'meta code'. This code is translated into the finished machine code on the fly, as it is loaded onto the processor to execute. The company isn't planning to have actual machines ready until the end of the decade, but it is already pondering how to move its software base to the new architecture. One approach under consideration is a compiler that outputs dual binaries - conventional Precision Architecture RISC and Very Long Instruction Word. Another approach is binary translation where a Precision RISC binary is run through a software translator that spits out a Very Long Instruction Word-format binary. Hewlett-Packard's Joel Birbaum, the original architect of the Precision Architecture RISC, back in the days when it was still called Spectrum (you'd forgotten that, hadn't you...) and now senior vice-president and head of Hewlett-Packard Laboratories, said at a recent presentation: "Our experiments indicate that it [Very Long Instruction Word] will be a superior target for binary translation and that means that we can produce a seamless migration from PA-RISC and perhaps other architectures". The mention of other architectures is an intriguing addendum, about which the company is keeping mum, but on the Precision Architecture side it seems confident that its knowledge of the PA-RISC architecture will enable it to produce simple and efficient translators for the new chips.

Sensitively

Birbaum dismisses scepticism over Very Long Instruction Word's applicability for commercial processing, and argues that the sceptics raised the same queries over the original Precision Architecture RISC (in the event, that worked perfectly, and it was the problems of creating an appropriate input-output subsystem for the HP 3000 versions of the RISC processor that caused all the headaches and confronted Hewlett with a very uncomfortable transition from its old 16-bit complex instruction set HP 3000s - a troubled transition, it has to be said, that was handled so sensitively by the company that it succeeded in retaining the loyalty of the HP 3000 base against all odds, to the point where its approach should be captured in a text book for others faced with difficult transitions). The company's planned Very Long Instruction Word processors are inherently parallel, and are being designed to work in multiprocessor configurations - "Today many question the application of the VLIW concepts to transaction processing; we expect to prove them wrong again" Birbaum says confidently. He'd better be right, but Hewlett-Packard has made a habit of defying the sceptics and turning out to be right over the past decade.

LACK OF BENCHMARKS MAKE ANALYSTS SCEPTICAL ABOUT DEC'S OSF/1-ALPHA SERVER PRODUCT LINES

Aberdeen Group analyst John Logan is worried about Digital Equipment Corp's failure to come up with TPC-A benchmarking results for its Alpha server range, originally promised to them back in June, and then again in December. DEC also appears to be lagging behind with TPC-C figures, although IBM, Hewlett-Packard ICL and others have had results out for some time. Without the figures, Logan's conclusion is that the systems just don't work properly yet. "DEC is saying all the right things, but it must solidify the OSF/1 operating system", said Logan. He poured scorn on DEC's claims to have over 2,500 OSF/1 applications, saying that public commitments were different from concrete implementations. And he said he was unaware of any major customers willing to standardise on OSF/1, aside from NASA and a few scientific users. "With only DEC offering it, OSF/1 is in effect a proprietary system", said Logan. Although the Alpha chip currently just tops the PowerPC in SPEC performance ratings, Logan expects IBM to catch up with the Alpha by the middle of this year, because it is offering a range of chips rather than cranking up the speed of a single chip. In DEC's defence, Rob Noble, UK marketing manager for Alpha claimed that TPC-C figures would be forthcoming from DEC later this year. TPC-A figures submitted by Oracle are available for some "Open" VMS servers and on three OSF/1-based workstations. He pointed to the European Commission-funded Eurocontrol air traffic control project which DEC won in conjunction with Siemens-Nixdorf, Plessey and Thomson CSF, as an example of a major Alpha customer, and said DEC had already supplied half of the 800 OSF/1 workstations and servers needed for the project to sites in France, Germany and the UK.

CABLETRON JOINS FAE

Cabletron Systems Inc has now joined the Fast Ethernet Alliance - which was formed to promote the CSMA/CD proposal for 100Mbps Ethernet that is currently before the IEEE 802.3 committee - despite having previously thrown its full weight behind another proposal, that for 20Mbps Full Duplex Switched Ethernet. Cabletron is not, however, abandoning its proposal for duplex Ethernet, which it claims is a cheaper option as an upgrade for existing 10Mbps Ethernet users, requiring only new concentrators, rather than the new concentrators and new interface boards that Fast Ethernet requires. Duplex Ethernet could feasibly be incorporated with Fast Ethernet, effectively giving 200Mbps transmission. Meanwhile, Intel Corp and SynOptics Communications Inc - both Fast Ethernet Alliance members - are to join forces on the development of products that conform to the 100Mbps Ethernet specification. The planned products are intended to comprise an interoperable 10Mbps/100Mbps switched network offering, with SynOptics producing the switching hubs, and Intel the adaptor boards.

DEC APPOINTS NEW EUROPEAN PRESIDENT

Digital Equipment Corp has turned to IBM Corp for another top executive, this time tapping Italian Vincenzo Damiani to become the new president of its European group: Damiani was general manager of European marketing and services at IBM and moves to Digital Equipment Corp International (Europe) headquarters in Geneva. He has a reputation as a cost-cutter not afraid of firing surplus people, and told the *Wall Street Journal*, he is already bolting together a step-by-step 10-point plan intended to fix DEC's business in Europe, which produces about half the company's worldwide sales, and admits that it may include cutting even more jobs from DEC's 30,000-strong European workforce than already planned - 3,000 jobs were to go in Europe for the fiscal year that began on July 4, on top of 5,000 already gone; he aims to announce his decision within 60 to 90 days to get the bloodletting done and to restore morale.

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The weekly information newsletter for the UNIX™ community worldwide

As **Unix System Labs** chief house counsel Sandy Tannenbaum heads back to **AT&T Co.**, we hear there's a settlement in the works between USL and the **University of California at Berkeley**, aimed at resolving their cross-lawsuits by forgiving each other any breaches. The agreement-in-principle reportedly reiterates USL's trademark claims and acknowledges Berkeley's contributions to Unix. Meanwhile, USL continues to press its suit for copyright infringement, trade secret violations and unfair competition against **Berkeley Software Design Inc.**, which raised the whole issue to begin with.

Taligent Inc is looking for a product marketing manager, which as one wag noted suggests it actually has a product to sell.

PowerOpen is looking for a vice president of business development to be stationed in California.

LSI Logic Corp of Canada Inc has now reached agreement with a management-led employee buyout group for the purchase of its Edmonton circuit board assembly operation: the agreement for the sale of the Edmonton operation does not currently include the Sydney, Nova Scotia operation but discussions regarding the sale of that facility are still continuing; LSI Logic Canada is a 55% owned affiliate company of LSI Logic Corp, Milpitas, California.

OpenVision Inc has an OEM agreement with Hanover, New Hampshire-based **Tally Systems Corporation** to incorporate Tally's census recognition technology into its OpenV*Assets product. Tally, whose PC-based automatic recognition software has reportedly sold a million copies to 4,000 customer sites worldwide, can itemise both hardware and software assets by brand name, version number, serial or model number and foreign language edition.

The Microprocessor Report, now a **Ziff-Davis** bastion, is pulling in its horns after trying to diversify with both the *MicroSystems Insider* newsletter and a new conference *MicroSystems Forum* last year. We just got a note in the mail saying both ventures have been discontinued. Too bad as well. What we saw of the two issues of *MicroSystems Insider* was good. The editors over there will try their hand this year at research reports on stuff like x86-based PCs and handheld computers.

And bowing to the restructuring going on, *RISC Management* has changed its name to *Inside the New Computer Industry*, a result of its loss of faith in RISC and Unix, as it says, "snatching defeat from the jaws of victory."

Progress Software Corp is now shipping a Motif interface development tool for Version 7 of its database and 4GL application development environment announced last July, initially for Sun, SCO, HP and DG Unix.

For the third year in a row, **MIT** is going to offer its intensive five-and-a-half-days Japan Effective Training to help professionals in doing business. The course offers immersion in the core values of Japanese culture, business and technology and can be followed by an eight-week course in First-Year Japanese or Japanese for Computer Science and Electrical Engineering. Course size is limited to 30. The enrollment deadline is April 15. Call +617 253 1965 or e-mail digenti@mit.edu.

Wordperfect Corp named Dutchman Adrian Rietveld as its new president and CEO and formed a new Office of the President with John Lewis and Duff Thompson.

Unix System Group, aka Unix System Labs, is reportedly losing its sales whip Joel Moss to **Legent Corp**, after he turned down an offer from **Kaleida Lab Inc**.

Thomas Watson Jr, 79, who is credited with turning **IBM Corp** from a punch card tabulator maker into the full-line computer manufacturer that dominated the industry for two decades, died on New Year's Eve of complications following a stroke. He always felt overshadowed by his father, who joined the struggling Computing-Tabulating-Recording Co from **National Cash Register Inc** in 1914, and later became president, and changed its name to International Business Machines Corp in 1924.

The **IBM Corp** RS/6000 workstation division and Personal Software Products division, which handles OS/2, will now report to John Thompson, senior vice-president already responsible for AS/400s and mainframes. The move is seen as splitting IBM into server and client divisions.

IBM Europe/Middle East/Africa needs to shed at least another 10,000 jobs from its 77,000 payroll by 1995, says new chief Hans-Olaf Henkel.

NEC Corp, Sharp Corp and Toshiba Corp will all supply **Nintendo Co Ltd** with 64-bit microprocessors designed by **Mips Technologies Inc** for games machines for the 1995 season, the *Nippon Keizai Shimbun* reported. It estimates annual sales of 8m a year, or \$460m-worth of RISC chips.

Oracle System Corp expects to introduce more workgroup-type products like the one it introduced with **Novell Inc** this year. That offering combines Oracle's Oracle7 and Novell's NetWare, but the relationship with Novell is not exclusive, although an important one because it uses Novell's extensive distribution channel.

Data General Corp reports an eight-way AViiON AV 9500 server running Oracle7 with CLARiiON disk arrays achieved 523.64 TPC-A transaction per second, \$5,357 per tps-A; a two-processor AV 5500 measured 130.19 tps, at \$5,780 per tps-A.

Olivetti UK Ltd has merged its three marketing arms with the loss of between 10 and 20 people: previously it had separate software engineering, document processing and systems management arms.

Benchmark abuse: recent SPEC92 results based on the use of extensive compiler tuning provide untypical indications of processor performance, and the *Microprocessor Report* suggests the next generation SPEC benchmark, dubbed SPEC94, rules out compiler flags that modify data types, which distort the intention of the original benchmarks, and unsafe flags, which can create runtime problems when used with some programs.

As well as interoperability and networking support, **IXI Ltd** is working on Microsoft OLE and DDE functionality for its Win-tif environment in conjunction with parent **Santa Cruz Operation Inc**. IXI, which hopes to have basic OLE capabilities in place by the middle of the year says the aim is to have an object in a Motif widget dynamically linked to a Windows application. The UK, Cambridge-based firm will be swapping ideas with DEC at the end of the month - DEC is working with Microsoft to provide interoperable technologies that allow OMG Corba-compliant object request brokers to interact with OLE and DDE and vice versa.

Meanwhile, **IXI Ltd** says it has won Charles Schwab & Co in the US for its Motif-based Desktop product (formerly X.desktop): apparently the stockbroker is not alone in giving up on the wait for COSE's Common Desktop Environment - Portland, Oregon utility North-West Gas has also decided to pick up Desktop for the same reasons.

In a bizarre case, one retired and two current New York State workers have filed a \$75m lawsuit against **Unisys Corp** for allegedly using their names while falsifying expense vouchers over a four-year period: the three say Unisys falsely reported entertaining them with meals over at least the last four years, the `reported; all three are, or were, employed in senior positions overseeing computer operations in the state Department of Social Services; "We think it is without merit," Unisys declared frostily.

IBM Corp had a reputation for periodically changing the code-names on all its unannounced products - it confused the IBM-watching fraternity, left people unsure that they were talking about the same thing, and made it easier for IBM to trace leaks - but sometimes, code-names have to be changed for quite other reasons: **Apple Computer Inc** doesn't attempt to keep the lid on its code-names, but the decision to call one of its new PowerPC machines the Carl Sagan did not do too well with the Great Man, who apparently complained to the firm, and the *San Francisco Chronicle* reports that Apple obligingly changed the tag to BHA - which of course does not stand for Butt-Head Astronomer.

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SUN TO STRIKE OUT ON ITS OWN: BUYS OUT UNIX SOURCE RIGHTS FROM NOVELL

Sun Microsystems Inc was reportedly closeted with Novell Inc last week cutting a deal to buy out the rights to its Unix-based Solaris source code. The purchase, which insiders said could cost Sun anywhere from \$90m to \$125m, would mean it never again has to pay royalties for its operating system to Unix's titular owner. It would also allow Sun to license the code to other Unix vendors, develop the thing in its own way and collect all the royalties for itself. This would effectively elevate Sun to the position of "Second Rome" in opposition to Novell's tarnished orthodoxy, possibly refragmenting the industry along major new fault lines and driving despairing OEMs into the Microsoft Corp Windows NT fold. The move is a logical one for Sun, which has been dead set on such a course since the middle of last year when its SunSoft unit organised a swat team to proselytise Solaris among Unix OEMs and top PC houses (UX No 453). Its first convert was Amdahl Corp (UX No 454). Last week's deal was said to cover only Unix SVR4-derived code, putting potential customers Hewlett-Packard Co and IBM Corp beyond Sun's immediate reach unless it can persuade them to the unthinkable - adopting Solaris. HP-UX and AIX are derived from pre-SVR4 Unixes. HP, however, is believed to currently be negotiating the rights to its HP-UX binaries from Novell. Sun is expected to pay Novell about \$15m this year in binary royalties. Projecting on the price Sun could be paying - probably around the \$100m mark - it could represent five or six year worth of royalties provided its market maintains current levels. Unix System Labs, under either AT&T Co or Novell, never cut such a deal to knowingly set up its own competition. In the only other arrangement that is the least bit similar, Cray Research Inc last year bought out its source code license, but the intention was in no way the same. Its customers need source code and were used to buying it and paying royalties to both USL and Cray. Novell is said to be aware of the risk it is running letting Sun set itself up as an alternative Unix source. However, it is also apparently betting that it can outmarket Sun with its SVR4.2 UnixWare kit. Currently, it looks a foolish bet since it reportedly sold only 35,000 packages since the thing hit the market 13 months ago. Sun, on the other hand, has been meeting considerable resistance to its Solaris 2.x software, with its users reportedly forming "4.1.3 or Die" clubs. Observers are highly sceptical that the number of Solaris 2.x units SunSoft says it has shipped are actually in use, and the success of its swat team effort has yet to be proven.

..TAKES STAKE IN IONA TO SEAL OBJECT PACT

In a rather low-key announcement at Object World in Boston last week, SunSoft Inc revealed a non-exclusive agreement signed with Irish software house Iona Technologies Ltd, Dublin, the company we predicted would play an increasingly pivotal role in the unfolding object paradigm (UX No 469). The agreement will ensure that the two company's independent implementations of the Object Management Group's CORBA standard - respectively Distributed Objects Everywhere (DOE) and Orbix - interoperate with each other. To seal the technology deal, SunSoft has taken a small equity stake in the firm for an undisclosed sum and gets a seat on the board. Iona, which claims to have developed the first truly platform-independent Object Request Broker (ORB), announced Orbix, an operating system and network-enabled ORB implementation that enables both objects and non-objects to communicate with each other, last June. Orbix ships for Windows 3.1 and Windows NT next month. According to SunSoft DOE director, Jim Green, the arrangement will enable Windows and Windows-NT-based applications to access, manipulate, and modify objects in SunSoft's shadowy DOE-for-Solaris from Orbix, and enable DOE users access to Windows and Windows NT objects via Orbix. Communication between the two ORBs will be transparent to the user, SunSoft promises. Though non-exclusive, Iona's technology-sharing agreement is confined to Solaris for the moment. It is working on similar deals with other firms that it hopes will be in place by February and March respectively. SunSoft hopes it has hitched its horse to the right wagon and that Iona's technology will catch the eyes and votes of the OMG team currently searching for Corba interoperability technologies. SunSoft and Iona see their agreement as an alternative to the recently forged DEC/Microsoft Corp alliance, under which DEC will adapt its object request broker for Common Object Model bridging technology. This will enable DEC ORB-based objects to communicate with Microsoft's Object Linking and Embedding 2.0 specification (*see page 4*). SunSoft claims the DEC/Microsoft solution is only partially-based on OMG standards and does not address other OMG requirements for common compound document facilities. SunSoft and Iona aim to submit their combined technology specification to OMG for use as an interoperability mechanism and common facility for compound document exchange. Orbix is up on, or is promised for, a range of environments, including Hewlett-Packard Co HP-UX, Silicon Graphics Inc, Santa Cruz Operation Inc and OS/2.

COSE SPECS HOBbled

The handover of COSE's Common Desktop Environment specification to X/Open Co Ltd, due by the end of last year, has been delayed. The standards body will say only that it is evaluating the impact and preparing a revised plan. Insiders say part of the problem is simply functional and that the disparate CDE development teams have had difficulty finding time to get together. However, sources also say that one of the COSE firms has made it known over the last couple of weeks that as far as it is concerned CDE code is "not stable enough to build a product upon." Extrapolating the consequences of any prolonged delay to X/Open's fast-track process, HP and IBM, both keen to get to market with CDE products, may start shipping non-certified implementations. Meanwhile, the Spec 1170 Unix API is being turned over to X/Open Co Ltd's fast-track process (UX No 468): its just that one of the wheels has a flat tyre at the moment. X/Open says an initial version was delivered to it in the middle of December, but adds that the sponsors are still completing a small section of the specification. A formal handover and report on the resolution of comments arising from the industry review is expected by mid-January. X/Open will now carry out an acceptance review prior to submitting the spec to the fast-track process, to ensure it has broad industry support, and will carry out a quality assurance check to ensure all agreed changes arising from the original industry review have been correctly applied, and that "industry consensus" is built around areas "where mutually incompatible comments were received." X/Open says the initial quality assurance process should be complete by the end of the first quarter, and aims for fast track approval by mid-year.

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WORLD COMPUTER MARKET GREW MODEST 6.3% IN 1993 AS MAINFRAME SALES FELL

Tim Palmer reports on the latest set of market share analysis figures from Dataquest

One of the problems with the market analysis business is that it is perceived to be more important to get the numbers out quickly than to be correct down to the second point of decimals, and some amazingly sloppy and unconvincing market research is doing the rounds. Nevertheless, many people need ball-park figures - not least because many bosses or boards are unwilling to act on an inspired suggestion unless it is backed up by the name of an expensive market researcher. Dun & Bradstreet Corp's Dataquest unit is one of the few computer industry market researchers that is widely respected, and part of that respect seems to require that it tots up the previous year's estimates in the first week of January.

PC sales outstrip the market

Accordingly, Dataquest is telling the world that overall, its purchases of computer systems rose 6.3% on 1992 at \$120,700m, with **personal computers**, already just over half the market in 1992, increasing their preeminence, with sales up 16.2% at \$66,300m, making up 54.9% of the total market, up from 50.2%. **Workstations** grew a modest 8.6% to \$10,100m - but is a Pentium machine running NT a personal computer or a workstation? An R-series machine running NT? Down in the doghouse, needless to say, were **mainframes**, with estimated sales down 9.5% to \$21,200m. Mainframes took 17.5% of the market, down from 20.6% in 1992. And **mid-range** systems, where the AS/400 and the VAX predominate, were down 3.7% at \$21,000m. Both these sectors are expected to fall again this year, with mid-range flat at best. Sales of **supercomputers** rose 6% to \$2,200m. Dataquest's results show IBM Corp losing market share and revenues in every segment except personal computers, where it picked up half a percentage point, and supercomputers, where it saw a strong gain - which means that it sold a handful of its RISC-based Powerparallel systems. It is pretty clear here that in the supercomputer sector, parallel machines should really have a category of their own, separate from the monolithic machines such as the Cray Research Inc Y-MP family and successors.

Worldwide Computer Systems

Estimated 1992 and Preliminary 1993 Factory Revenue and Market Share by Product Segment in millions of dollars

	1992		1993	
	Revenue	Market Share	Revenue	Market Share
Supercomputer	\$2,062.1	1.8%	\$2,198.3	1.8%
Mainframe	\$23,376.4	20.6%	\$21,151.1	17.5%
Midrange	\$21,809.8	19.2%	\$21,000.5	17.4%
Workstation	\$9,327.9	8.2%	\$10,127.5	8.4%
PCs	\$57,045.2	50.2%	\$66,265.0	54.9%
Total	\$113,621.4	100.0%	\$120,742.4	100.0%

Top Five Supercomputer Vendors

	1992		1993	
	Revenue	Market Share	Revenue	Market Share
Cray Research	\$608.3	29.5%	\$657.0	29.9%
IBM	\$219.3	10.6%	\$338.3	15.4%
Fujitsu	\$213.4	10.4%	\$254.6	11.6%
NCR	\$230.5	11.2%	\$195.0	8.9%
Convex Cmptr	\$177.9	8.6%	\$132.5	6.0%
Others	\$612.7	29.7%	\$620.9	28.2%
Total	\$2,062.1	100.0%	\$2,198.3	100.0%

Top Five Mainframe Vendors

	1992		1993	
	Revenue	Market Share	Revenue	Market Share
IBM	\$12,214.3	52.3%	\$10,648.9	50.4%
Fujitsu	\$1,564.1	6.7%	\$1,581.7	7.5%
Unisys	\$1,538.4	6.6%	\$1,466.5	6.9%
Hitachi	\$1,344.1	5.8%	\$1,420.3	6.7%
NEC	\$1,363.3	5.8%	\$1,409.6	6.7%
Others	\$5,352.2	22.8%	\$4,624.1	21.8%
Total	\$23,376.4	100.0%	\$21,151.1	100.0%

Top Five Midrange Vendors

	1992		1993	
	Revenue	Market Share	Revenue	Market Share
IBM	\$4,860.6	22.3%	\$4,170.3	19.9%
DEC	\$3,185.8	14.6%	\$2,848.6	13.6%
Hewlett-Packard	\$2,147.2	9.9%	\$2,477.2	11.8%
Fujitsu	\$1,367.4	6.3%	\$1,429.4	6.8%
NEC	\$1,268.5	5.8%	\$1,383.6	6.6%
Others	\$8,980.3	41.1%	\$8,691.4	41.3%
Total	\$21,809.8	100.0%	\$21,000.5	100.0%

The list highlights the fact that proprietary business computers are dying much more slowly in Japan than they are in most of the rest of the world.

Top Five Workstation Vendors

	1992		1993	
	Revenue	Market Share	Revenue	Market Share
Sun Micro	\$2,991.3	32.1%	\$3,220.6	31.8%
Hewlett-Packard	\$1,753.7	18.8%	\$2,289.6	22.6%
IBM	\$1,516.7	16.3%	\$1,470.3	14.5%
DEC	\$982.4	10.5%	\$970.8	9.6%
Silicon Graphics	\$675.1	7.2%	\$936.3	9.2%
Others	\$1,408.7	15.1%	\$1,240.0	12.3%
Total	\$9,327.9	100.0%	\$10,127.5	100.0%

This one is striking, because Dataquest is saying that IBM's challenge with the RS/6000 is fading, and that all its confident claims that it would lead the market by this year won't be met. DEC's early lack of enthusiasm for Unix is still hurting

Top Five Personal Computer Vendors

	1992		1993	
	Revenue	Market Share	Revenue	Market Share
IBM	\$7,448	13.1%	\$9,015	13.6%
Apple	\$6,048	10.6%	\$7,267	11.0%
Compaq	\$3,478	6.1%	\$6,603	10.0%
NEC	\$2,824	5.0%	\$3,795	5.7%
Dell	\$1,769	3.1%	\$2,532	3.8%
Others	\$35,478	62.1%	\$37,053	55.9%
Total	\$57,045	100.0%	\$66,265	100.0%

This table makes it appear that IBM's achievement in turning its personal computer business around has won it much less than commentators have been suggesting: a mere 0.5 percentage points of market share, far less than Compaq Computer Corp was able to put on - and few believe IBM is making more than the tiniest of margins on PS/1s - far too little to keep it in the manner to which it is accustomed.

HP WANTS 35% OF INDIAN RISC MARKET

HCL Hewlett-Packard Ltd aims to grab 35% of the RISC-based computer market in India over the next 12 months, and has just won \$2.3m worth of orders for its HP-9000 800 series machines to help it on its way. Hindustan Aeronautics Ltd has bought eight boxes for \$1m and intends to use them for production planning, inventory management and accounting, while the Godrej Group has spent \$1.3m on kit for its engineering divisions. The Indian RISC market is estimated to be worth \$102m this year. Of this, workstations for scientific and engineering applications are expected to account for \$34m, while multiprocessing machines for business applications make up the remaining \$68m. HCL HP claims to have sold \$17m worth of RISC-based Unix boxes in the third quarter of 1993, and last year generated revenues of \$75m. It expects to increase market share by 20% in the year ahead, and intends to sell the full range of Hewlett-Packard's peripherals and palmtop and notebook computers directly in its 104 outlets and through its marketing subsidiary, Frontline Solutions Ltd. Until now, Microland Ltd and Godrej & Boyce Manufacturing Co Ltd, were the only ones selling the peripherals in India. + 91 1 9940106

ELONEX BUNDLES NEXTSTEP FOR CORPORATE APPLICATION DEVELOPERS

London-based Elonex Plc is now selling NeXT Computer Inc's NeXTStep 3.2 object-oriented operating system and application development environment pre-loaded on its Intel-based personal computers in Europe. NeXT is keen to sign up OEMs to stimulate local sales, while Elonex wants to diversify out of the desktop arena "which is dying out," into new higher margin areas, such as Unix - it already sells Santa Cruz Operation Inc Unix and Novell Inc's UnixWare. The NeXTStation range is targeted at applications developers working for large corporates in vertical markets such as finance, telecommunications, education and the legal profession. It comprises the Intel Corp 66MHz 80486DX2-based PC-466B/VL, the 60MHz Pentium-based PC-560B/VL and the 60MHz Pentium-based PC-560F/VL. The PC-466B/VL comes with 256Kb of external cache, up to 64Mb of RAM, up to 4Gb of hard disk and a video adapter with an S3-928 graphics processor and 2Mb of VRAM. The PC-560/VLs have 512Kb of external cache, up to 128Mb of RAM, a video adapter with an S3-928 graphics processor and 2Mb of VRAM. Each comes with one of three versions of NeXTStep: the user edition - systems bundled with this range from £2,775 to £3,755; the developer edition, which ranges from £4,575 to £5,555, and the academic edition, which incorporates both of the above editions and ranges from £3,255 to £4,235. The two firms will market the products jointly, and aim to capture 20,000 seats within the next twelve months.

AT&T AND NCR TO SHARE EXEC

In the first obvious move indicating that NCR Corp and its parent AT&T Co are actually moving closer together and could in fact someday become the entity IBM Corp always feared, NCR last week announced that Phil Neches, who came into the company with Teradata and has responsible for R&D and its product strategy, will become group technical officer of AT&T Multimedia Products and Services effective February. However, he retains his management responsibility over at NCR for growing its commercial enterprise solutions business. In his new role, Neches will be responsible for leveraging key multimedia technologies across AT&T's business units. He will be working with the former chairman of Unix System Labs Bob Kavner who is now executive VP and CEO of AT&T Multimedia Products & Services. Meanwhile, NCR was supposed to decide on Friday January 14 what its name was going to be. Its head of worldwide marketing Bill O'Shea told us we went to press that he didn't know whether the final recommendation was going to be AT&T with a tag line or AT&T-NCR. The time might be right for NCR to go ahead and change its name. Having gone through a massive reorganisation, it has finally decided that the thing that it is still missing is marketing and some kind of profile in the industry. So, later this month it is to come out with a corporate positioning statement, followed up by all the press frills Regis McKenna can provide in BusinessWeek, The Wall Street Journal, Fortune, Forbes et al, and then a campaign aimed at vertical markets. Its problem has been attracting new customers - this so far has been down to word-of-mouth and superhuman sales efforts.

SUN DRAGON NOW UP TO 20 CPUS

Announced back in November 1992 (UX No 410), Sun Microsystems Inc's Sparccenter 2000, aka the Sun Dragon, is now shipping in 20 processor configurations. A beast with 20 50MHz CPUs, 5Gb RAM and 100Gb disk will set you back some \$1.2m. The entry level system with 8 50MHz CPUs, 128Mb RAM and 8Gb disk costs \$126,000. Sun says there are some 1,000 Dragons installed.

SIEMENS WARNS OF 15% PROFIT PLUNGE THIS YEAR AS 10,000 MORE JOBS TO GO

Siemens AG's announced last week that it expects profits to fall by up to 15% this fiscal year, to September. The profits warning was accompanied by the bad news that another 10,000 jobs are to go this year, on top of the 16,000 that went last year. The company says sales are stagnating and it is faced with sharp falls in prices in many of its business areas as German companies trim prices in order to win any sales at all. Group pre-tax profits for the year to September were down 10% at the equivalent of \$1,680m, with financial - non-operating - profits now accounting for two thirds.

NOVELL SAYS USG EXECUTIVES WERE REMOVED TO FOCUS ON BUILDING CORPORATE ENTERPRISE IMAGE...

Novell Inc's Unix Systems Group took exception to the way we wrote the story about its executive shuffle last issue (UX No 469). We are to understand, it said, that Kanwal Rekhi has been removed from day-to-day concerns over USG so he can focus on pulling together an overall corporate product strategy that, among other things, knits NetWare and UnixWare more closely together. Novell is not being perceived as an enterprise player and it desperately needs to fix that, it says. Vice president Bob Davis was moved from USG marketing to corporate marketing for the same reasons. Looks to us more like they were both temporarily put in the penalty box as Novell is wont to do. Meanwhile, USG is using the number 50,000 for what it sold in UnixWare the first year out. Insiders think the number is actually closer to 35,000. A lot of it is the result of a few contracts: the US Treasury reportedly took 5,000 (\$2.4m worth) under the TMac contract; Chrysler Corp took another 5,000 and the reason Hewlett-Packard Co signed for UnixWare on its Intel Corp boxes was reportedly so it could nose NCR Corp out of a deal at Swiss Bank which wanted UnixWare on its clients.

...AS UNIXWARE IS RE-POSITIONED AS AN APPLICATION SERVER

Meanwhile, Novell Inc senior VP, corporate marketing Bob Davis says that in the last few months the company has changed its stance on UnixWare and is now positioning it as an application server rather than as a desktop OS. The shift represents a considerable admission for Novell whose prior view as the volume Intel desktop seemed writ in stone.

DESTINY TECHNOLOGY AND NOVELL INC SETTLE CODE-NAME DISPUTE

Destiny Technology Corp, the imaging controller software and ASICs company that brought suit against Unix Systems Labs, Univ-el and Novell Inc last year for using Destiny as a code name for SVR4.2, says it has settled the dispute. It has agreed to dismiss the suit and USL et al have agreed not to use the Destiny name as a trademark or in any other marketing or product-related activities. Destiny declined to say whether any money changed hands.

OLD ORDER CHANGETH AS IBM WONDERS WHETHER IT STILL NEEDS ARMONK

Thinking the unthinkable is a way of life at IBM Corp these days, and the latest unthinkable thought is that the firm should perhaps vacate its Armonk headquarters, the New York Times reports. IBM emphasised that the 400,000-square-foot Armonk building had not been listed at any estate agents and was not yet up for sale, and said the decision would depend on factors such as locating a much smaller alternative, projecting the cost savings, and finding a buyer. The company currently employs 700 people at Armonk out of a total headquarters staff - scattered across major IBM locations - of 3,900. That is down from 5,100 last year, and the cuts will continue this year. The building, designed by Skidmore, Owings & Merrill, was opened in 1963; a glass atrium by I M Pei was added later.

OSF SELECTS BULL TO COMPLETE DME NETWORK MANAGEMENT OPTION

The Open Software Foundation has chosen Compagnie des Machines Bull SA to integrate the various components that will make up the Network Management Option part of its Distributed Management Environment (UX No 464). The other two components of DME comprise distributed services and object management frameworks. Bull has also been asked to test the resultant source code, which is due for release in the middle of 1994. The Paris, France-based firm will integrate its own implementation of X/Open's management protocol (XMP), already included in DME, with Hewlett-Packard Co's Postmaster router software, which is found in OpenView and supports SNMP and CMIP protocols. The Network Management Option will also incorporate naming services, which support the X.500 standard, from Siemens-Nixdorf Informationssysteme AG.

OBJECTWORLD ROUNDUP

By Alison Hawkings

NEXTSTEP IS KEY TO SUN'S OBJECT FUTURE - CDE FINE FOR THOSE REMAINING IN THE PROCEDURAL WORLD

SunSoft Inc used ObjectWorld in Boston, Massachusetts last week, to try and convince the world that integration of its Distributed Objects Everywhere (DOE) technology and OpenStep, the interface it has licensed from its deal with NeXT Computer Inc, can happen. SunSoft, which has kept its DOE developments pretty much under wraps over the last year, says it will provide a more indepth synopsis of the infrastructure of its object kit to delegates at its developers' conference in April. Meantime, according to SunSoft DOE project director, Jim Green, Solaris provides the modular component structure, whilst at the heart of the new technology is the Object Management Group's Common Object Request Broker Architecture specification, which acts as a backplane to all new object-oriented Solaris DOE components. Interfacing with this is Sun's JOSS (Joint Object Services Submission) - now renamed COSS by the OMG (UX No 442) - object services, which define object relationships with each other, networks and applications. It covers conventions like persistent object storage, naming, events, execution and addressing. At a higher level are a set of common facilities, which deal with compound documents and embedding and linking objects and parts of applications. Also on this tier is OpenStep. It will specifically provide developers with visual programming capabilities such as a graphical user interface builder and object gluing techniques. The two other planes connected to DOE CORBA are application specific and generic specific applications. How will it work? SunSoft's DOE operating extension system, which comprises DOE CORBA and COSS object services, will sit a top the existing Solaris operating system. This is also where HP's DOMF and IBM's DSOM technologies reside in the Taligent Inc environments. The OpenStep interface sits on top of this and provides developers with DOE's application development environment. As far as the Common Desktop Environment is concerned, SunSoft says CDE will only be available for developers who wish to remain in procedural C coding environments. Organisations looking to object modelling techniques in any form will be urged, Green says, to go to the NeXTStep interface and migrate to DOE-based Solaris later. "We will not abandon the CDE interface and will provide a solution for company's that want it. But our long term operating system strategy is to introduce a fully object-oriented version of Solaris," says Green.

NEXT DEBUTS NEW PORTABLE DISTRIBUTED OBJECT FRAMEWORK

At last week's Object World show in Boston, Massachusetts, NeXT Computer Inc introduced version 2.0 of the Portable Distributed Objects Framework 2.0 (PDO) for NeXTStep and announced that it will be up on SunSoft Inc Solaris by the end of the year. The PDO development which was unveiled last year with co-developer Hewlett-Packard Co (UX No 457) is already shipping on HP's HP-UX Unix operating system. NeXT says PDO is a distributed object framework that allows objects built in NeXTStep or Unix environments to reside in each others client/server systems, by incorporating the same object model and messaging services used in the NeXTStep operating system. The new release integrates a new C++ compiler with the firm's existing Objective C compiler. This will allow developers to merge Objective C, C++ and ANSI C code into one application automatically. Other features include the inclusion of the GNU make program. According to NeXT this allows developers to have a single set of makefiles irrespective of which operating system or PDO versions used. Both the compiler and the GNU compiler will be available for NeXTStep, HP-UX and Sun OS. The deal with SunSoft to provide native support for Sun OS, and later Solaris, to PDO is another condition of Sun's equity agreement signed in November (UX No 464). PDO is, according to NeXT, a stepping stone technology to OpenStep that will enable Solaris users to begin to develop and deploy OpenStep compliant objects now before official application programming interfaces become available in June.

Protosoft Inc, Houston, Texas, demonstrated Paradigm Plus 2.0, the firm's object-oriented CASE tool for personal computer and Unix environments. New enhancements to the product include: support for different object methodologies including Rumbaugh, Shlaer Mellor, Booch and HP Fusion; project management and requirements tracking functions; and support for third party tools such as HP's SoftBench and Microsoft's OLE 2.0 specification.

Nashua, New Hampshire NetLinks Technology Inc has introduced ORBitize, a systems integration tool that enables developers to integrate ORB technology into distributed enterprise computing environments. The software provides a graphical user interface for creating and browsing OMG Interface Definition Language (IDL) and different CORBA implementation definitions without causing syntax errors. ORBitize works on multiple platforms and is claimed to support Iona Technologies Orbix, IBM's DSOM, SunSoft's DOE and DEC's ObjectBroker ORB implementations.

Expersoft Corp previewed the latest version of XShell DOME, its own implementation of the OMG's Common Object Request Broker Architecture. New features include a range of development tools, object services for naming, security, transaction and life cycle management, and a suite of systems administration tools.

DEC OUTLINES PLANS FOR ITS COMMON OBJECT MODEL OLE AND CORBA BRIDGE

Digital Equipment Corp says the so-called Common Object Model bridging technology between Microsoft Corp's Object Linking and Embedding 2.0 and its own ObjectBroker (UX No 465) will be implemented in stages over the next one to two years. The two firms intend to publish specifications for their Common Object Model (COM) by the end of March. These will be available to everyone, including standards bodies, such as the Object Management Group, to which they will be submitted without the usual requests for technology. An alpha application developers' kit is scheduled sometime during the second and third quarter of this year, and a beta version by the second or third quarter. The final product should be available by the first half of 1995. DEC's first step to implementing COM will come with version 2.5 of ObjectBroker due in the Spring. This will fully comply with the OMG's Common Object Request Broker Architecture version 1.1, and form an interim gateway between OLE and CORBA-compliant environments. The OLE Network Portal will be able to export a limited range of OLE interfaces to "remote OLE-aware" servers. Version 3.0 of ObjectBroker will go beyond 2.5 to begin supporting COM and the joint wire protocol, based on object extensions to Microsoft's DCE remote procedure call. Microsoft, meanwhile, is expected to ship an OLE application developers kit in the Spring, and include a common communications wire protocol in beta versions of Cairo developers' kits. This project started in November 1993, when the two firms agreed to develop a single object-oriented software model and jointly define a common wire communication protocol for cross-platform application development, based on Remote Procedure Calls found in the Open Software Foundation's Distributed Computing Environment. Microsoft has supplied DEC with unspecified elements of OLE technology to integrate with its ObjectBroker. This will enable environments supported by ObjectBroker, such as Windows, NT, Ultrix, OpenVMS, OSF/1, HP/UX, SunOS, System 7, and AIX, to access OLE applications.

PARCPLACE WINS HP, DEC AND SUNSOFT FOR SMALLTALK OBJECT DEVELOPMENT SYSTEM

Having abandoned its ObjectWorks C++ development environment last year due to lack of interest, ParcPlace Systems Inc, Sunnyvale, California, is trying to make up ground with its SmallTalk-based VisualWorks object application development environment. VisualWorks, it says, will be up on SunSoft Inc's Distributed Objects Everywhere in the second half of the year. DEC will be marketing the toolset on its OSF/1-based Alpha RISC systems around the same time. Meanwhile, Hewlett-Packard Co will be marketing and supporting VisualWorks with HP SmallTalk 2.0, its Corba 1.1 implementation for distributed object systems.

PUBLIC WINDOWS INTERFACE SPEC COMMITTEE FORMED AS SUPPORT MOUNTS

A Public Windows Interface (PWI) Specification Committee has been set up to create and submit a PWI specification to both US and European standards bodies. The PWI is an application programming interface for running Microsoft Corp Windows applications, and the Committee includes representatives from The ASK Group, Borland International, Santa Cruz Operation, and SunSelect. It has already begun trying to generate industry consensus on the contents of the PWI specification, and expects to submit a first draft abstract specification and C programming language binding to X/Open and the European Computer Manufacturers' Association by the Spring. In December, it distributed a list of PWI function calls to Windows developers and users over the Internet and CompuServe, and over the coming months, intends to refine and enhance this list based on input from interested parties. It is possible to download the function call list from the anonymous FTP on the Internet (sunsite.unc.edu/pub/sun-info/PWI), or from the SunSelect Forum on CompuServe (go sunselect). Meanwhile, Amdahl Corp, the ASK Group, Oracle Corp, Scotland's economic development agency Scottish Enterprise and Australian software house Cybersource Pty Ltd have all committed to support the Public Windows Interface.

TRANSARC SHIPS DCE DISTRIBUTED FILE SYSTEM FOR SOLARIS

As expected (UX No 468), Transarc Corp, Pittsburgh, Pennsylvania, is now shipping a Distributed File System component for use with Open Software Foundation's Distributed Computing Environment on SunSoft Inc's Solaris. Transarc sells basic DCE services for SunOS and Solaris and resells IBM Corp's DCE implementation for AIX. DFS licences on Solaris start at \$3,000 per server. The client DFS code comes in Transarc's \$300 DCE base services licence. A DFS cell also requires a cell directory and security service, priced at \$2,500 each, which brings the total cost to \$8,300.

VERY VISUAL BECOMES VISIGENIC

Roger Sippl's latest venture is now called VisiGenic instead of Very Visual like he wanted (UX No 427). Even though he offered Visual Edge Software Inc, which figured it had dibs on the name, money to let him share it, it was no-go. Sippl says Visual figured Very Visual would be very successful and would overshadow it too much. VisiGenic is nearly ready with a beta version of its first product, a graphical interface builder for the Informix 4GL for Windows, to be followed by the same sort of thing for Informix's Motif stuff. VisiGenic will produce a similar product for Micro Focus Cobol, C and C++. It will also do a Microsoft Win32 version for Chicago and NT.

VISIX PUSHES ON INTO EUROPE

Visix Software Inc has begun trying to penetrate the European market, and expects to generate up to 35% of its total turnover there within the next 18 months. It set up a sales and support office in Amsterdam, the Netherlands, in August, followed by a UK operation in September, and has appointed Jon Forrest as UK country manager. Forrest was formerly sales and marketing director of the UK arm of Easel Corp. UK customers include British Telecommunications Plc, Philips Research, Rank Xerox Corp and JP Morgan, and the Reston, Virginia-based firm reckons the UK should contribute between 10% and 15% of its total revenues by the end of the next financial year, which ends in June. Visix also says it plans to open new offices in France and Germany very soon, followed by another in Japan by the end of this quarter - it already has a Kanji version of its Galaxy cross-platform application development environment.

EVANS & SUTHERLAND COMPUTER CUTS 170 IN RESTRUCTURING

Salt Lake City-based Evans & Sutherland Computer Corp has to take a fourth-quarter restructuring charge of up to \$7.3m to trim its workforce by 170 people or 13%. It envisages profits for the year, but a loss for the quarter. The graphical software specialist expects the move will cut costs and operating expenses by about \$14m. It says it needs to adjust to meet new opportunities for its emerging products and technology, and will now market its graphics accelerators on an OEM basis only.

DG EXPANDS CLARIION RAID OFFERINGS, ADDS MIRRORED CACHING

Data General Corp's two-year-old storage subsystem division, which now styles itself the Clariion business unit, will today expand its Series 2000 line of RAID systems downwards and bring what it believes is the first open systems implementation of a traditional mainframe storage technique known as mirrored caching to some of the new offerings. As well as improving data write performance, with mirrored caching, the Redundant Array of Inexpensive Disks subsystem copies not only stored data to a safe place to maintain integrity in the event of failure, but also active data stored in the CPU motherboard's cache memory. As well as on the Westborough, Massachusetts-based manufacturer's own AViiON series servers, Clariion disk arrays are also available for IBM RS/6000s, Sun Sparcservers and EISA bus Novell Inc NetWare-based systems. The Clariion RAID subsystem is already re-badged as a low-end solution by mainframe disk supplier, Storage Technology Corp, following a \$100m OEM deal signed last year, whilst Groupe Bull supplies them OEM on the RS/6000s it re-badges.

Peace of mind

The Series 1000 Model 1100 is available in 3Gb, 10Gb and 20Gb configurations and costs \$19,100 (\$6.36 per Mb), \$30,000 (\$3.00 per Mb) and \$48,000 (\$2.40 per Mb) respectively. It ships next month. With 8Mb mirrored cache, the 10Gb Model 1300 costs \$39,800 (\$3.98 per Mb) - with 16Mb mirrored cache and 20Gb storage it is \$57,250 (\$2.86 per Mb). The Model 1300 is out in March. The Series 2000 includes the existing Model 2200 with 20Gb disk at \$54,000 (\$2.70 per Mb), or \$91,500 (\$2.29) with 40Gb. The new Model 2300s with mirrored cache, due in March, come with a number of options. The 20Gb, 32Mb cache model is \$72,850 (\$3.64 per Mb), and with 40Gb disk and 64Mb mirrored cache it is \$117,500 (\$2.94 per Mb). Model 2200 customers can upgrade. DG claims the Model 2300 with 20Gb supports up to 3200 input/output requests per second. All models support RAID levels 0, 1, 3, 5 and I/O concurrently and simultaneous RAID 3 read and write over two I/O processors. Director of Clariion marketing, Joseph Uniejewski, says users of other RAID systems who have had to trade performance for RAID 5 functionality can get their performance back with the new Clariions. With dual active control processors in hardware, DG has added some 20,000 to 30,000 lines of code to Clariion's existing 60,000 lines of software, and the firm will send off the new models with an ad campaign touting "peace of mind." DG claims 3,000 Clariion sites - around 700 on non-DG systems. The Clariions are priced just above DEC's StorageWorks solutions and below NCR Corp's RAID technology.

Integrated disk and tape

After a tortuous turnaround to the new world of open systems, there is much speculation that DG may spin-out Clariion, its major success story of late. The unit is certainly forging an independent identity and acts like a start-up, claiming to have doubled revenue every quarter and paid back initial investment in it. Although most of its current business is dependent on AViiON shipments, Uniejewski expects the business to be driven by new OEM deals he hopes to cut this year. Existing distributors include the likes of Solid Computer Ltd in the UK, Nippon Steel in Japan, Daewoo Electronics Co of Korea and Invincible Technology, Boston. Clariion's next major development is an integrated, automatic disk array and tape back-up system that it claims will relieve users of many time-consuming archiving tasks. It is due late next year: fibre technology-based solutions should arrive around the same time, it says.

CONCURRENT REORGANISES SALES AND SERVICES ACTIVITIES

Concurrent Computer Corp has reorganised and expanded its worldwide sales and services activities, forming a new worldwide field-operations group. This comprises three new decentralised geographic business units: North and South America; Europe, Africa and Middle East; and the Asia/Pacific. The group also says it has expanded its worldwide field salesforce, assigning additional resources to its recently launched OEM and strategic sales initiative, and has strengthened its marketing capabilities.

ABANDONING CLIPPER, INTERGRAPH PLOTS FUTURE WITH PARTNER SUN MICROSYSTEMS

Coinciding with the transfer of Intergraph Corp's California-based Advanced Processor Division to its NT-on-Sparc partner, Sun Microsystems Inc (UX No 469), the Huntsville, Alabama, company has decided that instead of putting Microsoft Corp Windows NT on its Clipper RISC, which it pledged to its customers it would do by the third quarter, it has come up with the Phoenix alternative. The Phoenix project, also referred to by Intergraph as simply the Clipper upgrade, will be a field-upgradeable 60MHz Intel Corp Pentium-based module existing customers can swap for their Clipper units and run NT, reports our sister paper *Client Server News*. Intergraph figures it has to do the device drivers anyway so the equity investment is the same and the Intel alternative avoids the hassle of x86 emulation on Clipper. Intergraph, whose first priority is moving its Unix applications to NT, says there is no urgency to the project. It will be ready in the third or fourth quarter. Intergraph has been selling NT on its new Intel line and is happy with the results, estimating it currently accounts for 15% of sales: the rest is still Unix. It arranged last year with Sun to top off its hardware with NT-on-Sparc platforms due in 1995 and is doing the NT-on-Sparc port. The old Intergraph contingent, under former general manager Howard Sachs, now vice president of engineering at the Sun Technology Business unit, will continue the work it started three months ago making Sparc bi-endian and a suitable NT platform. The deal Sachs cut with Sun over the summer will still have Intergraph doing the NT-to-Sparc port, building a SuperSparc II-based reference platform and moving all its software over to Sparc-on-NT, the engine Intergraph intends to use to supplant its own Clipper-based machines though its experience with NT so far is teaching it the platform is immaterial.

Bi-Endian Sparcs

Apparently Sachs' work is not the only bi-endian project Sun has going. It seems there is at least one other Sun-internal project aimed at producing a bi-endian Sparc that will tape out soon. Like his own project, it too can be construed as a SuperSparc, Sachs told *Client Server News*, adding that all future Sparc chip will be bi-endian. (Others at Sun described Sachs' project as a "next-generation SuperSparc II.") Sachs is hopeful his project, not due to produce a system until 1995, will offer more performance at a lower cost. It is possible the other project could produce systems this year that would be used by software developers to port their software over while Sachs' project is used in systems that Sun puts on the open market. It is also possible the two teams will vie with one another for that honour. Sachs believes that Sun's acquisition of the Intergraph team, some 70 people, will heighten the company's ability to compete effectively against the likes of DEC and Hewlett-Packard Co which have consistently had larger architectural design staffs in-house.

HUMAN DESIGNED SYSTEMS UNVEILS NEW X TERMINALS

King of Prussia, Pennsylvania-based Human Designed Systems Inc, like rival Tektronix Inc - see back page - has unveiled a new line of X Window terminals that support two monitors simultaneously. The ViewStation Dual Series is aimed at commercial markets such as financial trading, emergency dispatch and process control, where users need to view or interact with more data than can fit on a single screen. Each terminal has two monitors that are controlled by a single X terminal base, keyboard and mouse. Windows can be moved from one monitor to another by simply "dragging" them with a mouse. The ViewStations are based on Intel Corp 960 RISC chips, come with 4Mb of RAM, local hard disk storage of up to 100Mb, and have two PCMCIA ports. The family comprises a Dual Base model, which doesn't include monitors and costs \$2,300; a Dual 14C with 14" colour screens for \$2,800; a Dual 15C with 15" colour monitors for \$3,000; a Dual 17C with 17" colour screens for \$4,000; and a Dual 19C with 19" colour monitors for \$5,400. The products are available now.

IBM WINS POWER PC DEAL WITH BELL ATLANTIC FOR TV CODERS

IBM Corp may have lost the deal to supply Bell Atlantic Corp with RS/6000 systems for its interactive programming and home shopping services to Oracle Corp - see page 7 - but it has won an order to supply it with PowerPC-based set-top television decoders. Decoders will also be supplied by two other groups - the partnership of Compression Labs Inc and Philips Digital Video Communications, and a consortium of DiviCom Inc, Adaptive MicroWare Inc, Fort Wayne, Indiana and Eurodec SA of Paris, France. They are offering Motorola Inc 68000-based decoders.

RDI COMPUTER OPENS IN EUROPE, HOPES TO BE BIG IN JAPAN

This month should see San Diego-based RDI Computer Corp's official launch in Europe and volume customer shipments, which were delayed by one month, of its new generation PowerLite portable Sparc workstation, says Reg Broughton, RDI vice-president of marketing and international sales. RDI's office is based in Aalen, near Stuttgart, Germany. Although RDI has resellers in most European countries, the company attended its first trade show last week - London's SunScope - and plans to be at CeBit in the spring, he said. The PowerLite features a 1024 x 768 active matrix colour LCD screen sourced from Sharp, and has an optional Peripheral Expansion Unit for extra hard disks, SBus slots or high density floppy disks. This year, RDI also plans to add new technologies, notably PCMCIA, to its portable workstations in order to accommodate diverse media. "Key for us is cellular and PCMCIA," he said, adding that the company would, however, follow Sun's lead and the requests of its users in determining which technologies to implement first. The company is particularly curious to see whether combining WABI and PCMCIA technologies in its portable workstations could nudge RDI into the high-end personal computer market. Bulk shipments of the PowerLite hit the road this month as well, he said, although initial shipments have already reached Seiko Epson Corp, RDI's master distributor in Japan, which agreed in early December to market the PowerLite. RDI has high hopes for the Japanese market, since its machines can run Japanese Solaris - as well as the French and German versions. Its competitor Tadpole Technology Plc takes Solaris source code and enhances it to include its own Nomadic Computing Environment, making it more difficult to ship the latest Solaris versions. RDI takes the straight operating system object code. SunExpress sold a certain number of Tadpole units in Japan, but has cancelled that contract to go with RDI, said Broughton. The price of portable workstations cannot decline much without a drop in the price of colour active matrix liquid crystal diode display technology, which is currently owned by the Japanese. RDI, which is largely backed by Korean giant personal computer manufacturer Trigem Computer Inc, claims it beats Tadpole at the high-end of the market (oil, geographic information systems, network monitoring etc), while the smaller, cheaper and lighter Tadpoles win out as software demonstration systems. But RDI faces more competition from Tadpole's PowerPC collaboration with IBM, and from the rumoured entry into this marketplace from Hewlett-Packard. To keep competitive, RDI is keeping a close eye on Sun's MicroSparc 2 developments, which may be announced in March. Privately-owned RDI expects to do \$25m in revenue for its current fiscal year to May 31, on which it is thought to be breaking even. *Marsha Johnston and John Abbott.*

DEC WINS \$20M CONTRACT TO COMPUTERISE POLISH STATE RAILWAY

Digital Equipment Corp has won a \$20m contract from the Polish State Railway (PKP) to supply it with its first computer system. This will be used to manage the organisation's freight business, the aim being to make it more competitive as Poland moves to a market economy. PKP has ordered two Alpha 3000 series 800 boxes for applications development, two Alpha 7000 servers to handle disaster recovery applications, and 36 dual Alpha 3000 series 800 regional servers. The systems all run OpenVMS and will be linked by an FDDI and X.25 wide area network. They will be installed at PKP's head office in Warsaw, at regional offices, and main railway stations and yards across the country over the next two years. DEC says it won the deal against competition from IBM Corp, Unisys Corp, and Compagnie des Machines Bull SA.

ORACLE SIGNS BELL ATLANTIC TO TAKE ITS MEDIA SERVER MULTIMEDIA DATABASE, BT IS STILL AT EVALUATION STAGE

The Bell Atlantic Video Services arm of Bell Atlantic Corp and Oracle Corp announced last week that they intend to jointly develop and market interactive multimedia software and services in and around Washington DC. Bell Atlantic will use Oracle's Media Server database management software - which Oracle will formally announce on Tuesday, January 18 - as the basis of its Stargazer interactive programming and home shopping services. Oracle Media Server currently runs on nCube Corp massively parallel machines and comprises three elements. The first is an Oracle Video Stream Server multimedia database, which has all the relational capabilities of the firm's existing products, but can also deal with video and audio data streams. Object capabilities will be added later with the release of Oracle 8. The product can store digitally compressed TV programmes, films, magazines, books and catalogues, and then transmit them digitally to set top boxes attached to televisions in the home. The second element is Oracle Media Objects, a development environment for building interactive multimedia applications, such as finders for video-on-demand and home shopping, that run on both desktop computers and set top boxes. Media Objects is based on Oracle Media Talk, an object-oriented, English-like scripting language that has its "heritage in hypertext", and runs under Microsoft Corp's Windows and Apple Computer Inc's Macintosh. The third element is Oracle Media Net, a message-based protocol for linking application clients and servers via standard telephone lines. Bell Atlantic will also supply users with video dial tone providers so they can phone into the Oracle database and, for example, download the film of their choice. The company says it will start offering the Stargazer services to a test market this spring, and will deploy them commercially later this year if it receives regulatory approval. It hopes to connect 250,000 homes this year, a further 1m in 1995, and almost 9m by the end of the decade. Bell Atlantic is believed to have spent between \$35m and \$50m on four nCube-based systems from Oracle so far, each of which are capable of processing about 25,000 video streams simultaneously. This means 25,000 customers can call up 25,000 different films at once, but Oracle hopes to increase capacity to 100,000 video streams by early 1995. The two companies plan to offer their software and services to other telecommunications and cable companies, and Oracle says it is talking with other Baby Bells and telcos elsewhere at the moment, including Japan. In Europe, Oracle has also managed to interest British Telecommunication Plc in making an internal technical evaluation of its Media Server product running on an nCube 2.0 machine at its research laboratories in Martlesham.

AXIL FAST MAKING UP LOST GROUND

Axil Workstations Inc, the Sparc unit of Hyundai Electronic America is now said to have gone on a hiring binge, trying to recoup the ground it lost last summer because of the Sun Microsystems Inc lawsuit against it for copying one of its boards. It has named William Shellooe as its vice president marketing and sales. Shellooe, who joins from MasPar Computer Corp where he was vice president, worldwide sales, but is probably best known for his stint as executive vice president at Pyramid Technology Corp, will report to Dr CS Park, Axil's president and chief executive officer. Park came over from Korea last summer to pick up the reins. However, it is believed the US management team once it is formed will be given its own head. Hyundai intends to set Axil up as an independent subsidiary soon with a view to its going public. Axil, which lost momentum because of the lawsuit, claims to be getting its drive back and was reportedly shipping around a thousand units a month in November/December. It expects its 1994 performance to triple or quadruple its 1993 showing. With Sun weeding out its own reseller contingent, Axil has reportedly picked up 60 resellers domestically and 25 internationally.

SEQUENT CUTS 5% OF WORKFORCE IN \$15m to \$20m RESTRUCTURING

Sequent Computer Systems Inc says it will take a hit of between \$15m to \$20m against its fourth quarter figures to cover the cost of making 75 - the equivalent of 5% - staff redundant in the US and writing down pre-paid software licences. The Beaverton, Oregon firm has closed two sales offices, which it said were no longer economically viable, and lost some employees from head office. No staff will go in Europe. At the top, Roger Cooper, VP worldwide field operations and Michael Simon, VP business development are to leave. The new line-up leaves Mark Miller as VP enterprise marketing and partner management; John McAdam, senior VP European and Asian operations; Larry Evans, VP and general manager platform division; Joe Marvin, VP sales enterprise division; Paul Gifford, VP architecture and engineering enterprise division; Paul O'Mara, VP enterprise and customer services; Dave Gunderson, VP sales platform division; and Casey Powell (chairman and CEO), who will act as general manager of the enterprise division until that position is filled. However, the charge mentioned above will wipe out the company's operating profit, estimated at between \$13.9m and \$15.6m for the year. Fourth quarter sales are believed to be about \$104m up from \$88.7m a year ago, while profits are expected to be between \$6.3m and \$8m. Sequent has also restructured its US operations into two divisions: the Enterprise division, a direct corporate sales arm that will also add value to Sequent's basic SMP offerings by going outside the company where required; and the Platform division, which has responsibility for general development and manufacturing work, OEM procurement and OEM sales. Sequent's European operations are not affected. In a separate move, the UK office has set up a new wholly-owned subsidiary, Open Education, which began trading on January 1. Open Education is an autonomous unit that offers training and education services to non-Sequent customers for the first time. It will focus particularly on courses providing Microsoft Corp's Windows NT skills, but will also cover Oracle, Ingres, Informix, Hoskyns and personal computer training.

HP LAUNCHES OPENVIEW 3.3

Hewlett-Packard Co will today - Monday - unveil version 3.3 of its OpenView network management environment. HP claims it offers 31 specific enhancements over the previous release. Network Node Manager improvements include user-definable event categories and event configuration control on a per-node basis. HP says SNMP platform 3.3 solves performance problems when the SNMP configuration file contains many entries, enables users to configure separate SNMP communities for get and set operations, improves performance when managing proxied devices and contains a bunch of new SNMP APIs. HP OpenView Network Node Manager 3.3, with SNMP platform is \$15,750. An SNA Node manager starts at \$12,750; Node Manager for NetWare goes from \$7,250; SNMP platform 3.3 is \$7,000 and SNMP developer kit goes from \$13,150.

ATTACHMATE BUYS CANADIAN PC-TO-ALPHA CONNECTIVITY HOUSE

Desktop-to-host connectivity products supplier Attachmate Corp purchased Vancouver, Canada-based KEA Systems Ltd for an undisclosed sum on December 31 1993. KEA Systems' VT 100 emulation products enable MS-DOS, Windows and Windows NT-based personal computers to communicate with mainframes and Digital Equipment Corp VAXes and Alpha AXPs, running OpenVMS and OSF/1. The personal computers can be based on either Intel Corp, Alpha or Mips Technologies Inc chips. Bellevue, Washington-based Attachmate says it now intends to develop its own version of KEA's VT emulation product with an EXTRA! look-and-feel. As a result of the move, KEA will become Attachmate Canada, but will lose no staff. Its products will still be sold under the KEA name by both its own and Attachmate's distribution channels and also by Attachmate's direct sales team.

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X/Open says the **Tivoli Systems Inc** distributed management proposal will be discussed this week and that a decision will be made on its adoption as a base document for development into a specification. Some of our sources seem to have been premature in their readiness to jump aboard the bandwagon as X/Open says it hasn't issued a request for potential contenders to declare themselves to it. It says only if and when the Tivoli proposal is not accepted will it have to decide upon its future course of action.

Sun Microsystems Inc promises new functionality for PC-NFS within 90 days and says it'll gradually fold some currently unbundled services back into SunNet Manager where applicable. There will be a solution that provides access to Microsoft Corp's Hermes distributed management system, but it won't say where it'll come from.

Unisys Corp vp marketing Joe Brown hung up his spurs at the firm's Unix Systems Group before the holidays to go with **Auspex Inc**. Director of marketing Bob Sprowls is stepping into the breach as the company mounts a search. Meanwhile, Unisys expects to squeeze a new Pentium multiprocessor in between its 486-based U6000/65 and Sequent-procured U 6000/75 sometime this quarter.

Consensys Corp has had to change the name of Unite!, its new Unix-to-NT product introduced last month because another software company has dibs on it. Now it's going to rechristen the thing Portage.

At the end of January, the beginning of February, **Mips Technologies Inc** president Tom Whiteside along with the heads of **Integrated Device Technology** and the semi sides of **NEC** and **Toshiba** are going to make a bombing run over key hardware sites hoping to persuade their presidents and VPs of engineering to adopt MIPS as a platform.

Following months of wrangling (UX No 451), in an out-of-court settlement last week, Cupertino, California-based **Globetrotter Software Inc** bought Palo Alto, California-based **Highland Software Inc's** interest in the Flexible License Manager (Flexlm) product line: Globetrotter will be responsible for sales, marketing, service and support. Highland will focus on its Unix presentation tools.

Bull HN Information Systems Inc, Billerica, Massachusetts, has created a separate unit for its UniKix downsizing tools. John Noonan becomes president of UniKix Technologies and will report to Bull HN CEO Axel Leblois.

Thierry Breton, **Compagnie des Machines Bull SA's** newly appointed manager of strategic partnerships and business development, said the company "has not yet concluded" an agreement with **NEC Corp** to use its VR4400 and VR4200 RISC processors for a new series of Zenith Data System personal computers. Other company sources indicate, however, that the French state-owned company "already has an ongoing relationship with NEC in the personal computer area."

Right before New Year's, **Toshiba** started shipping first samples of its long-awaited R4x00 chip set Tiger Shark, the widget for R4000, R4400 and R4600 chips with the 486 bus. Samples are free. Toshiba has previously quoted prices of \$65 each in quantities of a thousand. Design wins could reportedly start coming forward next month but production isn't likely until the end of the quarter. Meanwhile, Toshiba has started work on a new PCI-based chip set code named Maco, expecting to have it ready by Spring Comdex.

Dell's chief technology officer Glenn Henry has jumped ship for **Mips Technologies Inc**, moving, observers believe, because Dell's reliance on standard hardware does not present enough of a challenge. Henry is to be director of the personal computer division at Mips, a new position dedicated to developing variants of the R-series RISC that are tailored for personal computers. Henry was instrumental in development of the IBM RT 6150 but left after IBM Corp decided to cripple the thing for introduction. Mips apparently beat-off an attempt by IBM to win Henry back.

Tektronix Inc has added a dual display X terminal system, the XPI00D. This comes as a single processing unit - \$4,700 - with two 17" colour screens (\$2,850) or two 19" colour screens (\$4,250).

Lachman Technology, Naperville, Illinois, is to help **General Magic Inc** get its Telescript network agent programming language up on a range of hardware platforms.

IBM Corp has extended its agreement with **Object Design Inc** and will now market the ODI ObjectStore object database directly in the US.

Next Computer Inc has added Austin, Texas-based **Pencom Software Inc** as a member of its Object Channel of NextStep reseller, training and support programme. +1 512 343 6666.

VMark Software Inc has a letter of intent to acquire privately-held Framingham, Massachusetts neighbour **Constellation Software Inc** on undisclosed terms. Constellation develops client-server software that simultaneously extracts and updates information between multiple disparate databases and applications.

Sun Microsystems Inc's Sun Microsystems Federal Inc in Vienna, Virginia, which was originally awarded the National Security Agency High Performance Workstation contract, filed a formal protest with the US Government Accounting Office challenging the rebid of the procurement: it contends that the Maryland Procurement Office violated Federal Acquisitions Regulations by changing the requirements of the original contract and is asking the Government Accounting Office to direct the Maryland Office to cancel its changes and issue a new spec based on current requirements.

Siemens AG's expects profits to fall by up to 15% this fiscal year - to September - bad news is that another 10,000 jobs are to go this year, on top of the 16,000 that went last year.

Mitsubishi Corp is to market **Sun Microsystems Inc** workstations and servers in Japan.

Concurrent Computer Corp has installed the first beta unit of its Maxion multiprocessor system (UX No 458) at the Boeing Co's Defense and Space Group in Huntsville, Alabama. Full production shipments begin in the first quarter of 1994. Boeing will use its Maxion to control radio array targets in anechoic chambers.

Dansk Data Elektronik A/S, the Herlev, Denmark Unix multiprocessor manufacturer, hadn't pulled itself back into profit in the six months to October 31. Although pre-tax losses were down to the equivalent of \$1.9m from \$2.7m last time, net losses climbed to \$1.9m from \$1.6m. Turnover, meanwhile, dropped 26% to \$19.7m.

Xerox Corp spin-out and object-oriented tools developer, **ParcPlace Systems Inc**, has filed to go public, with an initial offer of 2.03m shares, 1.8m of them new, at a target price of \$10 to \$12 a time. No word on plans for the \$18m or so net proceeds. The offering is underwritten by Robertson Stephens, Bear Stearns and Wessels, and the Arnold and Henderson Ltd Partnership.

Gresham Telecomputing Plc has followed up its acquisition of **Interwork Ltd** by appointing Interwork's Christopher Swinbank as group managing director and Christopher Howes-Davies as group sales director. Swinbank replaces Sid Green, who still retains the majority of the shares in the Southampton-based firm, but has moved into the less active role of executive chairman because of ill health.

The **EMS Euro Marketing Systems Ltd** joint venture between Volkswagen Corp and its exporters (UX No 467), has chosen **Versant Object Technology Inc's** object-oriented database for its new dealer information system. Menlo Park, California-based Versant says the deal is worth more than \$2.6m.

Onward Novell Software (India) Pvt Ltd, the joint venture between **Onward Technology Group** and **Novell Inc**, has launched UnixWare Personal Edition and UnixWare Application Server in India, and intends to sell the products via resellers.

The **Object Management Group** has set up a Business Object Management Special Interest Group to focus on how end-users can address business issues using object technology. The aim is to "develop solid object-based solutions to business process problems".

Sequent Computer Systems Inc says it will release a symmetric multiprocessing machine capable of competing with a Pyramid Technology Corp's Nile superserver in the second quarter (UX No 468).

ISG International Software Group Ltd, based in Haifa, Israel is to acquire **Cortex Corp**, of Waltham, Massachusetts. The stock swap is expected to be complete by February 28. Cortex develops and markets a repository-based application development tool, CorVision for client-server and open systems environments, employs some 90 people worldwide and generates about \$11m in annual revenue.

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HP FUELS DRIVE TO LOW-END UNIX, INVADES SUN'S COMMERCIAL GROUND

As expected (UX No 467), Hewlett-Packard Co last week unleashed new workstations and servers built around its latest PA RISC 7100LC processor which are clearly aimed at invading some of the low-end commercial Unix ground occupied by the likes of Sun Microsystems Inc, but also at the high-end of the Intel desktop heartland. Although HP's entry-level price of \$3,995 was reached by Sun back in November 1992 with its SparcClassic, the 60MHz 9000 Series 700 Model 712/60 "Gecko" at 58 SPECint92 and 79 SPECfp92, 1.1m X11 vectors per second graphics, with 15" colour screen, two expansion slots, 16Mb RAM, 260Mb disk, Desktop HP-UX 9.03 and the Visual User Environment front-end offers better performance plus on-chip multimedia support. The servers, Models E25, E35 and E45 start at between \$6,000 and \$11,320 from May with two slots, 16Mb RAM, 535Mb disk and SCSI-2. They are positioned as PC server-level systems, are aimed at department and small businesses and come with HP-UX 9.04. With the 80MHz Model 712/80i workstation, an 84 SPECint92 box which is \$8,820 for a 17" colour screen, two slots, 1.4m X11 vectors per second graphics, 16Mb RAM and 260Mb disk, the two workstations are part of HP's Enterprise Desktop Program, designed to provide a range of price and configuration points for users looking to buy large numbers of the things. Although primarily known as a technical workstation vendor - and that community is still very much its bread and butter customer base - the new workstations are not seen as stand-alone offerings. Backing its campaign, HP says at least 100 large users it interviewed identified price, followed by performance and a full feature set to be their most important buying criteria. Indeed, it claims to have several firms evaluating networks of up to 5,000 of the new systems, and expects financial trading, document and image management, customer service and application development firms to be its markets. Up on the boxes are version 2.0 of HP's integrated MPower, 30 frames per second digital video, audio, graphics and imaging system; Teleshare, a phone, fax and modem system (available only on the 712/80i); HP's Wabi 1.1 implementation (when it arrives later this quarter) and Insignia SoftWindows - both Microsoft Windows emulators - plus the Ready-to-Ware Desktop builder kit. Also unveiled during the week was the alpha version of Next Computer Inc's NeXTstep 3.2 object-oriented environment for HP 9000s which is due by mid-year. Although combinations of these software items are on limited offers - MPower 2.0 and RTW together are \$100 in client versions, \$1,000 on the servers - Mark Taylor, HP marketing programme director for enterprise desktops admits a typically-configured system will require a couple of thousand dollars spending above the cost of the basic system, bringing a more realistic \$6,000 tag to the 712/60. Even a system stuffed full won't cost as much as \$10,000 though, he says. HP claims the two operating systems, HP-UX 9.03 and 9.04, are binary compatible with each other and with system software up on other HP Unix lines. A harmonised HP-UX release 10.0 is now as far away as the autumn - HP says it won't make the transition a hurdle like Sun's tortuous move to Solaris, though it doesn't say what 10.0 will feature, except binary compatibility.

WHOLESALE REORGANISATION EXPECTED AT DEC...

Whispers heard on the grapevine about DEC over the last couple of weeks have apparently taken on a more serious note with the release of the firm's latest dismal figures - see page 2. They reveal another quarter in the red for the troubled manufacturer - indeed the firm has posted only one profitable quarter since March 1991. In a conference call after the figures were released last Tuesday, DEC said that Alpha sales still represented only 10% of all product sales; they have been restrained by delays in some commercial-strength software for Alpha and DEC says it will be another two or three quarters before all of the gaps in the line are filled. Late last week DEC was understood to have mapped out a new corporate structure and a boardroom shakeup which will see CEO Bob Palmer, who took over from Ken Olsen in mid-1992 with a new recovery plan, shuffled sideways. See our sister publication *CleNT Server News* for other details.

...AS DEC READIES ITS NEXT 150 PRODUCTS

Following DEC's 150 product bonanza last October (UX No 458), the firm is now steeling itself for another huge product announcement on February 8th, when it will unveil new software for networking, including the software equivalent of Ethernet, wireless communications, groupware, storage, mobile communications, enterprise-wide object-oriented technology, client/server systems, workstations, network management, databases and technology to bridge Windows, Unix and other environments. Included will be an environment for managing multiple database servers, a diagnostic tool for routers, more PolyCenter NetView management applications up on VAX and Alpha systems, OSF/1 Alpha client and server support for the VAX-based Accessworks database server, and DBA workcenter support for Informix, Ingres and Sybase.

OBJECTIVITY 3.0 SUPPORTS SQL INTERFACES

Objectivity Inc, Menlo Park, California, will today unveil version 3.0 of its Objectivity/DB object database system, claiming that the new Objectivity/SQL++ release it includes provides the first ANSI SQL and SQL 3 interface to an object database, and the first with support for SQL using a Microsoft Corp Open Data Base Connectivity interface. Other enhancements over the 2.1 release delivered last June (UX No 441) include replicated services, Objectivity/Partition - for workgroups connected over WANs - and a new C++ interface. Objectivity 3.0 is between \$5,000 and \$15,000 per developer and between \$500 and \$1,500 per user. 3.0, SQL++ and Partitions are out in February. The object database market was worth some \$60m last year according to IDC and is expected to grow to over \$400m over the next two years.

NOVELL/SUNSOFT SOURCE DEAL DUE BY FEBRUARY

Novell Inc and SunSoft are expected to conclude their Unix source licensing deal by the end of this month - because Novell wants the money, insiders say (UX No 470). SunSoft executives were reportedly "fuming" about revelations of the deal - they'd wanted to put their own spin on the proceedings. Financial details may not surface now until accounts for the period become public, and it is not known whether the money will be accounted for as ordinary or extraordinary revenue.

MICROSOFT TO GAIN RIGHTS TO WINDOWS NAME AFTER ALL

In a development that will not play at all well in large parts of the industry, Microsoft Corp says that the US Patent & Trademark Office has opened the way for the company to gain a trademark on the word Windows when used to describe personal-computer software products. The ruling reverses the decision last year denying Microsoft the possibility of a trademark on Windows. Opponents of such a move, who in the past have expressed fears that the trademark would be used by Microsoft to bludgeon rivals, can comment on the proposed action before it takes effect, but according to the *Wall Street Journal*, the industry is now resigned to seeing the controversial trade mark granted.

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DEC'S FAILURE TO CONVERT VAX USERS TO ALPHA CAUSES SALES PLUNGE...

The technology sector on Wall Street was overshadowed by dire figures from Digital Equipment Corp last week, which wrong-footed analysts with losses much worse than expected on a precipitous ~~12% plunge in turnover. It reported a second quarter net loss of~~ \$72.1m, down from a loss last time of \$73.8m, on turnover that slumped 11.8% to \$3,254m. The mid-term net loss was \$155.3m after a gain of \$20m from the cumulative effect of an accounting change, down from a loss last time of \$334.4m, on turnover that fell 10.5% at \$6,269m. The company blamed the plunge on falling sales of VAXes and associated software and services - which means that users are unplugging VAXes but are not replacing them with Alpha AXP's. DEC's fiscal second quarter figures were truly horrible, with a loss no better than this time last year on what are beginning to look like free-fall sales. Judgement on whether the transition from VAX to Alpha is going to be successful cannot be suspended any longer, and it has to be acknowledged that DEC is in deep trouble. The real shocker is the 11.8% plunge in turnover for the quarter, which if annualised means that the \$14,000m company we have been talking about for the past four years is now only a \$13,000m company. Wall Street was stunned by the figures: the loss per share came out at 53 cents, and that compares with a worst forecast of a loss of just 10 cents, and a mean forecast that came out to a profit of 11 cents. "It's very bad," said First Boston analyst Curt Rohman. "Revenues were ugly and margins were ugly." He can say that again, and DEC itself can deliver little cheer going forward: it says that it remains cautious about its outlook for the second half of fiscal 1994, citing the economic uncertainty. The problem with that "product transitions" excuse is that DEC went through one of those in 1985, when it finally replaced the then antique VAX-11/780 with the 8600 and quickly thereafter the 8650. Pent-up demand was such that almost the entire VAX-11 base converted in a year or so, DEC's sales and profits soared, and the company stormed forward to the end of the decade, only hitting the buffers with the arrival of the 1990s. The same need for more power now exists in the VAX base: it's simply that those users are reviewing their options and are emphatically declining to take a risk with the Alpha RISC.

Decked with superlatives

The company said the sales plunge in the second quarter was primarily due to continued decreases in sales of its VAX systems, associated software and services - but if those users are not going to convert to Alpha, DEC is sunk. Indeed William Milton at Brown Brothers Harriman & Co estimates that Alpha-based system sales generated just \$170m in revenue for DEC in the quarter. The personal computer business continued to double in unit volume, year over year, and showed strong double-digit revenue growth. On the Alpha AXP, the company says that the workstation business "continued to show good growth in the quarter," but at this stage in the quarter, growth in that business should be decked with superlatives, not simply "also" and "good". Foreign currency had a negative effect in the quarter, and business in Europe and the US remained weak, while it experienced growth in Asia-Pacific and Latin America. Margins declined compared with the same quarter last year as the mix continued to shift to lower-margin, lower-cost products, such as personal computers and its Alpha AXP workstations. "We expect continued product margin pressure and are adjusting our business unit strategies and cost structure accordingly" said chief financial officer William Steul. Cash at quarter-end was \$1,100m.

... BUT IT WINS £4M CONTRACT TO SUPPLY SCOTTISH HOSPITALS WITH ALPHA SYSTEMS

DEC will automate the outpatient administration procedures at 18 National Health Service sites in Scotland over the next three years, in a contract estimated to be worth about £4m. DEC will supply each site with Alpha AXP servers running Oracle databases under OSF/1, which will be accessed via DECpc LPv personal computers. The firm will also provide project management and training. Application development and implementation will be undertaken by Shepton Mallet, Somerset-based software house, Perihelion Software Ltd, which developed the Unix-lookalike parallel operating system, Helios. The pilot sites are Crosshouse Hospital and Ayrshire Central Hospital, which are expected to go live in the summer.

ICL EXPANDS ON DESIGN TO DISTRIBUTION PLAN TO TAKE IN OTHER PEOPLES' WASHING

The Stoke-on-Trent, Staffordshire-headquartered Design to Distribution Ltd wholly-owned subsidiary of ICL Plc, formed on January 1 this year out of ICL's manufacturing and supply division has been ~~outlining its future strategy and predicted revenues for the coming~~ three years. Building on the original success of its partnership dating back to 1990 with Sun Microsystems Inc in which ICL provided the circuit boards for assembly by Sun in its Spare-based workstations at Sun's plant in Linlithgow, Scotland, ICL wanted to expand its manufacturing position and gain a niche in the contract manufacturing marketplace. Design to Distribution plans to target both those companies that already have a market in Europe but are not manufacturing there and also those who require subcontracting to feed their existing manufacturing plants. It hopes to increase its non-ICL contract electronics manufacture business from \$100m last year to \$300m in 1996 by expanding its customer base with more strategy partners and is presently talking to large global computer manufacturers. It also wants to extend its services beyond printed circuit boards which contributed around 90% of its 1993 revenue. The business will be concentrating on its core competences. These include: procurement, bare board manufacture, assembly and testing of printed circuit boards and system assembly; configuration and system testing as well as electromagnetic radiation testing to ensure compliance with European Community directives on interference; supply and distribution services and repair; and refurbishment and recycling services. Due to greater demand, the firm will also offer more turnkey systems, not only manufacturing the bare board but will also provide service, and software replication services. As a separate entity the company will aim for a position of independence from ICL so it can approach customers that are potential competitors to ICL. However, it will continue with ICL accounts which in 1993 made up \$300m of the total \$400m revenue.

MICROSOFT OUTLINES PLANS FOR ODBC

A beta software developer's kit for version 2.0 of Microsoft Corp's Open Database Connectivity (ODBC) interface will go on general release this month, *PC Week* reports, with the final release scheduled for April. ODBC 2.0 supports 32-bit applications, scrollable cursors for navigating through data, and navigational extensions for accessing non-relational data, but apart from that the update from version 1.0 is fairly minor, according to several beta testers. It does provide several new tools to help developers write bug-free ODBC drivers, however. ODBC Test is a testing tool specifically revised for testing version 2.0 drivers, while ODBC Spy keeps a log of all the calls a driver makes, so they can be used in further tests. Microsoft also says it intends to establish an ODBC driver-certification process, and is working on a test suite to ensure that applications, which pass the tests, have plug and play interoperability with all other certified applications. Furthermore, *PC Week* says Microsoft wants to move some of the system overhead associated with ODBC driver access from the desktop to the server. Although it has no specific plans to develop a product itself, it is talking to third-party vendors about doing so. In the longer term, the firm also intends to build a Unified Engine. This will be based on its Jet database engine, and support ODBC and other Microsoft APIs. A client/server version of Unified Engine will support object-oriented technology, Object Linking and Embedding, and the ability to do distributed database joins that include data from relational and non-relational database sources.

LEGATO UNVEILS NETWORKER BACK-UP AND RECOVERY SOFTWARE FOR ORACLE

Legato Systems Inc has unveiled an Oracle database version of its Networker Motif-based cross-system back-up and recovery software. The Module works in conjunction with the Oracle Corp Parallel Backup and Restore Utility found in Oracle 7, and can simultaneously back-up multiple data files, file systems, tablespaces, single or multiple tape and optical storage devices. It enables systems administrators to monitor, configure and control back-up from any node on the network, even if the database is a distributed one. The Oracle Database Module can also be configured so that back ups are always sent to a specific storage device connected to the backup server. The product will be available under Sun Microsystems Inc's Solaris in April, and under IBM Corp's AIX and Santa Cruz Operation Inc Unix in May. Licences for Solaris and AIX will cost \$3,000, SCO versions, \$1,500.

COGNOS ROLLS OUT POWERHOUSE 7

Cognos Inc last week rolled out PowerHouse Series 7, the latest version of its flagship product and the jumping off point to its second-generation client/server technology embodied in Axiant, the new graphical application development tool it currently has in beta, due for general release around the US Labor Day holiday in early September. PowerHouse Series 7, Axiant's foundation base, provides a scalable application architecture for building industrial-strength enterprise-wide client/server applications immediately, the company says. The applications leverage distributed resources including application servers, desktop PC clients and most importantly distributed databases such as Sybase SQL Server and Borland's InterBase as well as proprietary databases. PowerHouse 7 supports ANSI SQL92 level syntax, and extendable transaction control gives developers control over database transactions including the timing of locks and transactions and multiple read/writes. It is out now on a number of Unix platforms plus OpenVMS, MPE, DG AOS/VS and AS/400. The Ultrix release will be dropped for DEC's OSF/1 platform in the future. Support for Oracle 7 will be added in June. Prices for a development license start at \$3,000 and vary depending on the number of users or machine model. Cognos describes PowerHouse Series 7 together with PowerHouse Windows 1.2 with its full implementation of Windows 3.1 as the foundation of its second-generation client/server solution. Axiant will use the PowerHouse language engine, so PH application code can be imported into Axiant for redevelopment as fully graphical distributed client/server applications. Cognos will have an Axiant Software Developers Kit in May.

START-UP OPENOBJECTS TO DISTRIBUTE OBJECTIVE'S OST-LOOK!

Start-up company, OpenObjects Inc, was launched last week, with the stated aim of identifying, marketing and supporting object-oriented productivity tools that are currently at the beta stage, but not yet in general release. The San Mateo, California-based firm's founders are Michael Seashols, also founder and former chief executive of Versant Object Technology Inc, and Bill Baloglu, former director of European operations at Versant. Both have put an undisclosed amount of cash into the venture, but have also received backing from Silicon Valley-based venture capitalist firm, Draper Associates. OpenObjects intends to source its products from commercial organisations that do not have the means or the interest in selling internally developed products externally, and from independent development companies that do not have the resources to sell their products themselves. Target offerings include object-oriented migration technology and application development tools. To make such products more commercially attractive, OpenObjects says it is prepared to port them to specific operating environments, particularly Unix and Windows, to integrate them with other complementary products, and to help in product development. It also plans to support the products it sells by offering quality assurance checks, documentation, maintenance, training and consultancy services. The first offering it is launching on the US market is Livingston, Scotland-based Objective Software Technology Ltd's OST-Look! animation tool, which enables users to reconstruct an animated object-level view of a C++ program as it is executed (UX No 444). This will be marketed simply as Look!, is available now, and costs \$500 for a single copy Windows version, \$1,200 for a single licence Unix version. +1 415 638 1000.

DCE-BASED ENVIRONMENTAL ANALYSIS APPS TO BE DEMOED AT UNIFORM

The first so-called superhighway application, Earth Data Systems, will be demonstrated at UniForum '94. EDS was developed by the National Information Infrastructure Testbed, a non-profit-making industry-led consortium, comprising corporations, universities and government agencies. These organisations are working under the US Government initiative, the National Data Superhighway or National Information Infrastructure. EDS is a suite of environmental analysis applications, which are targeted at earth scientists and based on the Open Software Foundation's Distributed Computing Environment. The product enables users, located in different places, to evaluate the effects of environmental change by accessing, analysing, modelling, and visualising historical and current information on the environment, as if they were sitting side by side. The EDS information bank holds 20 years-worth of environmental records, including satellite images of land and oceans, weather statistics, coastline and river data, salinity levels and fishing yields gathered from large and small databases from a variety of public and private sources around the world.

"20 TRIALS" FOR ORACLE MEDIA SERVER...

Oracle Systems Corp's much flagged Media Server launch finally came to pass last week, at least in London, the Californian event delayed due to the earthquake until February. London attendees were treated to descriptions of how video on demand will change the world. However little new was revealed about the technology (UX No 470) other than claims that it is possible to build a system to support 1m users, for the cost of \$50 a user a year. That includes the estimated cost of a set-top decoder box - not something that Oracle will build. Using MPEG compression, a 90-minute film takes up about 1.5Gb of disk storage. Mike Harrison, Oracle's UK managing director, summed up the nebulous nature of the product by describing Media Server as "a group of products that we have historically worked on and are now extrapolating into the information age - but more important it is a strategy". The software, then, is closely related to Oracle7, with the previously described parallel query and other specialised modules. Traditionally, the Media Server has been closely associated with nCube Corp hardware, but Oracle says it is working with all the other massively parallel processor manufacturers - an ICL Plc engineer said that work was well advanced to get the system running on its Goldrush database server. Initially, most revenue will come from software sales, but systems integration will follow. 20 trials of the Media Server are now under way or committed, with six or seven expected to be up and running in Europe by year-end.

...BT CONFIRMS VIDEO SERVER TRIAL...

British Telecommunications Plc has confirmed it is looking at Oracle's multimedia server for use in its UK video on demand trials. "We are testing the Oracle multimedia server at our research centre in Martlesham," it told *Reuter*. BT plans to use the Oracle kit in a trial in which it will send video on demand to the homes of 60 BT employees, before moving to 2,500 house trial if the initial tests are successful. "We've got no commitment to use Oracle equipment for the 2,500 trial. We'll go through normal procurement procedures," BT noted, but declined to say whether it was looking at any rival kit.

...ORACLE WINS WASHINGTON POST, ABC

Capital Cities/ABC Inc and the Washington Post Co are both keenly interested in Oracle's multimedia offerings and have announced deals with the company. The Post says it plans to develop new forms of interactive electronic publications and advertising, combining text, audio and video for use on personal computers, advanced television systems and portable devices, and is working with Oracle on the project via its Digital Ink subsidiary. Initial products for the service will be news and information, but the offering would later be expanded into other areas of video, data and audio. With Capital Cities/ABC, Oracle is developing a new video service, including interactive customised news service. The service will build a multimedia news-on-demand application and is intended for use in trials this year.

SUN LICENSES CHINESE HARD-HAT LX...

Sun Microsystems Inc's Sparc Technology Business has licensed a high-volume microSparc-based board design to Beijing Huasun Computer Co, which is said to have 21% of the Chinese workstation market. It is a joint venture of the Sixth Research Institute of the Ministry of Electronics China and Frobil Pte Ltd of Singapore. The technology is used by Sun in the Sparcstation LX, and this is said to be the first time a Chinese company has licensed this level of technology from the US. Huasun plans to produce ruggedised workstations for factory floor and other industrial applications such as oil exploration.

...AS SAIC UNVEILS RUGGED SPARCSTATION

Science Applications International Corp has unveiled an enhanced version of its RSC-1X ruggedised portable workstation, based on RDI Computer Corp's Britelite product (UX No 402). The RSC-1X+ now incorporates Weitek Corp's Power RISC chipset (UX No 441), an 80 MIPS Sun Microsystems Inc SparcStation IPX motherboard, and sports a Sharp Corp Colorplus 640 by 480 pixel active matrix display. It comes with 16Mb of memory, a 535Mb removable hard drive and runs Solaris 1.0. Support for Solaris 2.0 is planned in the near future. The PSC-1X+, like its predecessor, is aimed primarily at the military market, although the San Diego-based firm says it does sell about 10% of its boxes to commercial sectors such as the oil industry. But it is interested in moving further down the commercial path, and will release new, less expensive products later this year to try and appeal to just this market. The RSC-1X+ is available now and costs £24,500. No US pricing was available.

API TESTING AND CHECKING: THE WINDOW OF OPPORTUNITY ANDF CANNOT AFFORD TO MISS

By William Fellows

A cursory glance at the status of once trumpeted Architecture Neutral Distribution Format (ANDF) efforts could easily be taken as an indication of the impending demise of the initiative. The Open Software Foundation has de-emphasised ANDF within its programme and Novell Inc has deferred work on an ANDF implementation for Unix. Proponents say the picture is more complicated and that in fact ANDF, which in any case means different things to different people, is caught up in the long-running debate about what open systems ought to be. They argue that unilateral action by a vendor like Novell probably wouldn't be effective in establishing ANDF as it was originally conceived and now see a quite different and more subtle - though no less effective - route leading to its more widespread adoption.

If an open IT marketplace includes the supply of quality products supplied by multiple vendors which are able to work together by virtue of their adherence to standard application programming interfaces (APIs) then ANDF very definitely has a role to play, believes Paul Tanner, European Operations manager at X/Open Co Ltd, the UK, Reading-based standards organisation which leads the effort to establish common API specifications based upon de facto industry technologies.

API agreements increasingly in evidence

COSE's Common Desktop Environment and the Spec 1170 API are evidence of the increasing agreement that APIs must be standardised, and the greatest impact of a standard is felt where the standard is widely adopted and forms the boundary between products from different vendors. Buyers are used to going to more than one vendor for a solution, but if the open systems market vision is to be achieved Tanner says they will require increasingly sophisticated applications; standards covering all the APIs that will delineate applications from platforms (including APIs to middleware required to support database access, distributed computing and systems management); ways to procure platforms that support these standards; an application to be supported for a wide range of platforms and all at a reasonable price. Moreover, he argues, buyers "do not care precisely how these objectives are achieved. The most common position is that it is "up to the industry" to sort these things out, and the industry has to resolve a series of potentially conflicting interests if it is to do that." Issues like product availability and the ability to respond quickly to market demand are becoming paramount. However, Tanner observes, where major investments are needed to move closer to the open systems vision, "vendors are understandably reluctant to respond to 'requirements' like these unless they translate into a willingness to buy something additional.

Intermediate format for any hardware platform

ANDF was proposed by OSF as a way of providing an application with access to a wide range of platforms at a reasonable cost, and as such could address a component of the open systems vision. The concept is to split the compilation process into generic and architecture-specific parts. The intermediate "Architecture-Neutral Distribution Format" would be distributed instead of the multiple binaries needed at present. The ANDF "producer" (the compiler front-end) would be used just once and the "installer" (the back-end) would reside on the target platform. By reducing the number of distributable versions it was envisaged that the cost of porting and supporting an application on additional platforms would be dramatically reduced, increasing the buyer's choice. There were several steps conceived as being necessary to realise the potential of this approach: identification of a two-stage compiler technology with sufficient performance and maturity; agreement on the right set of standards for ANDF, especially the APIs to be supported; implementation of installers on a sufficient range of platforms; and adoption by the providers of a sufficient number of applications. The first requirement has been met with the UK Defence Research Agency's TenDRA technology. OSF's Application Environment Specification was not sufficient as the API set, and the final two conditions are a hurdle that won't likely be crossed for some time. However, Tanner believes "they can be, and given sufficient support from buyers they will be."

Third generation API issues "still unresolved"

X/Open, he says, is gradually answering the API question, although many "third generation" API issues are still unresolved, including platform-to-platform protocol interfaces, various language mechanisms and most importantly, the standardisation of object interfaces. Meanwhile, if buyers are convinced that adherence to a standard will give them a clear commercial benefit, they will make it a requirement, thereby putting a value on it, and demand like this will justify the necessary investment by suppliers to meet the remaining conditions, he argues. At present, ANDF is clearly not supported by many platform suppliers or independent software vendors. To see where support may come, ANDF must be looked at in a different way, says Tanner. The idea is that application developers could begin to use TenDRA technology as a means of checking adherence to APIs long before they

adopt ANDF as a distribution format. Indeed, all ANDF proponents concur that TenDRA offers significant benefits that result from the enforcement of the correct use of API sets. It works like this, says Tanner. In the normal process of "making" (compiling, linking and installing) an application it is current practice to make numerous assumptions about the interface to the target platform. Functional testing is used to check these assumptions before the software is shipped. However, the assumptions made by the platform provider may be subtly different, possibly with serious consequences. Using the TenDRA approach, a much greater degree of testing is introduced by precisely informing the "make" process about the API set being used. According to ANDF proponents this approach is all the more valuable in view of the fact that there is no single API view of the world, rather it represents an evolution towards an ideal. Add to this the consideration that the target platform will often be pieced together from the offerings of multiple vendors and there are compelling reasons to check that the same assumptions are being made. Despite X/Open's best efforts at standardisation under initiatives like the Common Application Environment, Tanner says ISVs it has polled say it is still costing them too much to port to and support multiple platforms. In which case, argues Tanner, ISVs, using the methods described above, could use TenDRA technology to assist these efforts long before they adopt ANDF. It should "also create the conditions for a gradual increase in the use of the distribution format. This means that ANDF's chances of success are much greater than they would be - ANDF will take a while to happen but there is no reason to give up hope just yet."

The European Commission's Deploy project

Apart from OSF and Novell efforts, the European Commission's Open Microprocessor Initiative has been supporting ANDF for some time, hoping it will facilitate the creation of an environment in which new low-level technologies can be introduced into the market on an affordable scale. An initial project funded the development of ANDF installers for several leading platforms. A second phase, known as the Deploy project, approved by the EC just before Christmas, should be underway soon (UX No 468). Project members, apart from X/Open, are DRA, OSF Research Institute, IXI Ltd. Software AG and two consultancies, Etnoteam and ET International. As well as providing APIs as a full partner in the project, Tanner hopes X/Open's ISV and user members will give the organisation the go-ahead to spend money to get involved as an active participant and stimulate the development of an application testing capability. X/Open is already working in conjunction with the Japan's Ministry of International Trade & Industry on a generic project to specify interface using existing technologies from Sun Labs (UX No 468). This kind of effort could open up a market for a range of testing tools which use ANDF mechanisms as their base, says Tanner. If X/Open gets the nod from its members - and it will get the first indicators in two or three months' time, Tanner says - it will begin to look at ways of providing DRA-based constructs for testing components like CDE and Spec 1170. (Before this can happen, Tanner says the Spec 1170 API must first be more clearly defined. He says X/Open will likely do what the vendors did in the first place to put it together, such as asking ISVs, developers and suppliers just which parts of Unix API sets they actually make use of.)

Support for object technology

Tanner hopes that interest in ANDF-based API testing techniques from other industry organisations, like the Object Management Group, can be turned into concrete support. OMG, like many other standards bodies, is heaving under its workload and is looking to borrow proven porting, testing and verification technologies where it can rather than doing the job itself from scratch. X/Open's interest in object paradigms will in any case lag sometime behind OMG's frontier. Tanner says object techniques must first pass from the "expert domain" into more general usage before X/Open can begin find out what kinds of object standards are needed. Pressed into use in these kinds of services, ANDF has a window of opportunity, and Tanner believes ANDF can prevail if ISVs support the current initiative. If they don't, "success may still be possible but I, for one, will not be betting on it," he warns.

SUNPRO OFFERS BUNDLED WORKBENCH TOOLSET FOR SPARC, FIRST MULTITHREADING ENVIRONMENT FOR MP DEVELOPMENT...

Going after what it perceives is the growing demand from people that actually write the code that keeps us all in business, SunPro, the Sun Microsystems Inc language and compiler planet, has integrated and bundled a package of compiler and development tools, some old, some new, as SunPro WorkShop. The suite includes the first generally available tools for developers writing applications or software tools ~~designed~~ **of multiprocessing Sparc environments, plus an enhanced set of compilers and testing tools. The WorkShop is available for C, C++ or Fortran** developers and comes with SparcCompiler C, the SparcWorks toolset, TeamWare code management tools and multithreaded Impact development tools. New SparcWorks features include the ability to debug source code on the fly, thereby eliminating some of the repetition associated with traditional debug/edit/compile/link cycles - support for applications with more than 1m lines of code, a run-time error checker integrated with the Sparc debugger providing interactive filtering and scoping, plus enhancements to the data inspector, debugger, source browser, file merge and stack inspector. There are new SparcCompiler 3.0 implementations for C, C++, Ada and Fortran and an object code generator which

SunPro claims increases application performance by 10% and speeds compile times for C and Fortran programs by up to 40% and up to 300% for C++ software. The new C++ compiler eliminates the usual process of translating to C before object code is produced. The main component of the announcement is SparcWorks/Impact, Sun's first multithreaded development tools for Sparc, which allow developers to debug C, C++ and Fortran applications which use the Solaris user-level threads library. There is a version that has utilities for building concurrent tasking into Ada applications. SparcWorks/Impact is also the first general release of the automatic parallelisation extensions to SunPro's Fortran compiler, which has been in beta testing since last summer (UX No 442). This automatically parallelises Fortran applications without changing the source code. Ada, C and C++ applications aren't, by the nature of their construction, so readily suited to such optimisation. Whether extensions for these environments are still on SunPro's agenda as they were last summer, is unclear. SunPro WorkShop for C, C++ and Fortran costs \$2,200, \$3,000 and \$3,200 respectively. Separately, SparcWorks Impact 1.0 is \$1,000 and requires a SparcCompiler Fortran or SparcWorks 3.0 license. Impact Ada 1.0 links Ada's multitasking runtime model directly to Solaris multithreading and enables Ada tasks to be executed under the direct control of Solaris rather than via intermediate runtimes. It works with the SparcWorks Professional Ada 2.1 development environment which includes the language and tools. Impact Ada is from \$3,000, Professional Ada 2.1 from \$10,000.

Software lags behind hardware

Although multiprocessing Sparc systems - and the multithreaded Solaris - have been around in some form for many months now, as sure as night follows day, applications and tools to write software designed to take full advantage of these features remains largely in the blocks. As of last summer, none of the 7,500 applications up on Sparc had been optimised to take advantage of all multiprocessing features and been built with user-level threads, a situation that appears unchanged. SunPro believes that when a prominent ISV, such as a CAD supplier, starts advertising the performance benefits of a parallelised application, then other ISVs will come running. Some software, such as SQL-based relational databases will never be able to take advantage of parallelised compilation techniques, which is why those vendors have undertaken, and for the most part completed, their own parallel implementations.

Marriage with NextStep

Beyond today's technologies, SunPro's longer term responsibility is to providing tools to help ISVs and users make the next quantum leap, to object kernel technology. However, SunSoft Inc's deal with Next Computer Inc will see a NextStep implementation called OpenStep up on Sun boxes, with an associated tool and application development environment. Doesn't this stymie SunPro's development path? Not according to its executive team, which says that at the very least there will be "a marriage" with OpenStep. It'll be providing development tools at some level, and as it observes, even OpenStep and its application development environment will be written using the kinds of tools it deals in. Support for more languages in its existing product range is planned for the near-term. Interactive Development Environments Inc currently ships a version of its CDE workbench that works with SparcWorks, Cadre Technologies Inc is integrating its Ensemble line with SparcWorks and the University of Illinois has an integrated ERA emacs editor for SparcWorks.

ADOBE AND VISUAL UNVEIL GRAPHICS TOOLS FOR MOTIF APP DEVELOPMENT

Adobe Systems and Canada's Visual Edge Software Ltd last week announced the Visual Action Toolset for Display Postscript, a new software developer's kit for Unix and Motif environments. It lets developers build applications using the high-quality graphics available through Adobe's Display Postscript - the kind of applications that aren't practical to build with X or Motif. It is a full suite of software libraries, widgets, fonts, sample programs and documentation. It facilitates the broad availability of what the pair call Live (interactive) Documents, which require tools that display documents, still the chief data source, and tools that enable users to interact with them. The two companies believe Live Document Technology (LDT) has the potential to create a whole new generation of document-centric applications that are more graphical and easier to use than now. Using the toolkit, Motif developers can build next-generation applications that overlay GUI behaviour on the same graphics previously available only through desktop publishing systems. The new toolkit is available immediately for a quantity-one list of \$2,500. Initial platforms include SunOS 4.1.3, AIX 3.2.4 and Irix 5.1.1. By the end of the quarter it should also support OSF/1-on-Alpha, Solaris 2.3 and HP/UX 9.0.1.

DEC OUTLINES PLANS FOR OSF/1

Digital Equipment Corp says it will begin shipping version 2.0 of OSF/1 next month (UX No 466), along with beta releases of version 2.2 - its symmetric multiprocessing offering. This is expected to go into full production about three months later. The Habitat SVR4 personality for OSF/1, which DEC claims is currently 99.25%-compliant with the Spec 1170 Unix application programming interface, is also scheduled for release at the end of February or the start of March. Meanwhile, DEC plans to start bundling free runtime licences of its implementation of the Distributed Computing Environment with OpenVMS. OSF/1 users will still have to pay \$235 or £147 for each DCE licence because DEC says it is not selling enough OSF/1-based systems to justify the \$600,000 annual royalty fee it pays to the Open Software Foundation. The firm also intends to port NeXT Computer Inc's NeXTStep object-oriented operating system to the Alpha AXP, but will not sell it as a bundled product.

ALPHA DATA PARALLEL SYSTEMS PLOTS PROGRESS TO DATE

Alpha Data Parallel Systems Ltd says the beta release of its Alpha-based AD66-100 parallel processing boards (UX No 465) has been delayed because Digital Equipment Corp is not shipping 21066 parts until February 2. This is due among other things to a lack of clamping guides for the chip, but means the Edinburgh, Scotland-based firm won't be able to release prototype boards until mid-February. Full-blown products should be available by mid-March. Nonetheless, Alpha Data has already signed up Dallas, Texas-based Hyperception Inc to port its digital signal processing (DSP) software, Hypersignal, to the AD66-100s. Hypersignal is a graphical application development package that runs under Microsoft Corp's Windows 3.1. It can be used for graphical analysis, data acquisition and processing, digital filter design, DSP code generation and algorithm development, but when running on the AD66-100 will be able to do all this in real-time. The product is scheduled for release in June. Alpha Data may also have a £500,000 contract in the bag to design some custom boards for DEC Germany, although DEC was unable to confirm the deal.

CAMBRIDGE TECHNOLOGY ACQUIRES SWEDISH SERVICES PROVIDER IOS GROUP

Client/server consultancy and services provider, Cambridge Technology Partners Inc, has signed a definitive agreement to purchase Swedish firm, IOS Group AB - which is in the same line of business - on a stock swap basis. Cambridge will issue 425,000 shares of common stock, worth approximately £7m, in exchange for all of IOS's shares, and the transaction is expected to be complete by February. For the next five years after that, former IOS shareholders, including Ulf Arnetz, who continues to serve as the Stockholm-based group's president and chief executive, will be able to exercise a buy-out option. IOS will retain its name and become a daughter company of Cambridge. It generated turnover of approximately \$6m in 1993, boasts a growth rate of about 60% per annum, and has about 60 employees, all of which will keep their jobs. The firm says that, with the financial security now offered it by Cambridge, it intends to expand out of Sweden to cover Scandinavia as a whole and ultimately Northern Europe. It is currently working at 15 different sites for customers including Saab/Scania, L M Ericsson Telefon AB, and the Swedish Employers Federation. Cambridge, on the other hand, feels a strong push into Europe is critical as many of its customers are international corporates needing worldwide support. It already has offices in the Netherlands and the UK, and hopes to generate revenues of about \$14m in the region next year. In 1992, the Cambridge, Massachusetts-based company's turnover amounted to approximately \$33m, and it expects to have made about \$60m in 1993 - the official figures will be released in about a week's time. Moreover, since going public in April last year, Cambridge claims to have already tripled the value of its shares - it reckons it is now capitalised at around \$300m.

IBM PUTS THREE KEY AKERS REFORMS INTO REVERSE

Louis Gerstner is energetically reversing many of the big changes set in motion during the last year of his predecessor John Akers' chairmanship at IBM Corp. The company has thought better of giving financial breakdowns of the performance of its newly-decentralised business units, the PS/2 and ValuePoint personal computer lines are to be merged, and the "let 100 flowers bloom" strategy on operating systems is to be reversed. According to the *Wall Street Journal*, the annual report for 1993 will contain a lot less financial data on the different units than had been promised, and the paper says such a decision underscores the extent to which IBM has abandoned efforts to increase the autonomy of its various businesses - as well as riling analysts hungry for numbers to help them forecast the company's future. But more detail is expected on the performance of IBM Credit Corp and other finance activities. *PC Week* gathers from an interview with Louis Gerstner that he has ordered reviews of IBM's entire product line portfolio, including its operating systems, to eliminate or modify redundant development efforts. With profit margins dropping, IBM can't afford to keep developing multiple products fulfilling similar needs, Gerstner said, noting that the company has two mid-range computer lines and multiple personal computer lines: "We're going to have to kill things earlier." Areas under review include "all of our operating systems, the evolution of OS/2 to what we call our Workplace OS operating system - there are lots of people who would argue that operating systems are not going to be as valuable in a world of object-based software," he declared. A high-level task force, led by senior vice-president of strategy and development James Cannavino and senior vice president and group executive Ellen Hancock, is overseeing the operating system review, said an IBM insider, who confirmed Taligent doesn't carry a high priority.

EC BLOCKS FURTHER STATE FUNDING OF BULL

The European Commission is expected to order the French government to hold up further state funding for Compagnie des Machines Bull SA. Commission officials told *Reuter* last week. Competition Commissioner Van Miert intends to block the final \$500m or so of subventions, and plans to widen the official inquiry into the financing of Bull to cover funds totalling some \$2,000m. The Commission discovered in December that government and state-owned France Telecom had injected cash into Bull without the necessary advance approval from Van Miert, and is furious that it has still not received a restructuring plan to justify vast state subsidies.

DATA GENERAL BLAMES LOWER MARGINS FOR LOSS

Data General Corp has reported a first quarter net loss of \$21.1m against profits last time of \$800,000, on turnover that fell 6.5% to \$261.2m. The company said that product revenues from Europe were 30% lower than in both the prior and year-ago quarters, and that lower volume sales and a shift in product mix resulted in particularly low margins on equipment sales. Total revenues generated by the AViiON product line were higher than in both the prior and year-ago quarters, with encouraging results from AV 9500 systems. DG now claims a customer base of more than 23,000 AViiON installations, worth over \$1,000m; cash and marketable securities were \$168m at the end of the quarter compared with \$192m in September.

LYNWOOD LAUNCHES A VIDEO-CASSETTE-SIZED INTEL-BASED UNIX WORKSTATION

Unix workstation and terminal manufacturer, Lynwood Scientific Developments Ltd, will launch an Intel Corp 33MHz 80486 personal computer this week, which runs Santa Cruz Operation Inc Unix, Windows 3.1 and Windows NT. The product is the size of a standard video cassette, comes with up to 260Mb of hard disk and a 3.5" floppy disk drive, and is aimed at users that do not have enough room for a standard 486 desktop or tower system. Farnham, Surrey-based Lynwood was acquired by North Atlantic Industries Inc last January.

RATIONAL ENHANCES CASE TOOLSET

Rational Inc, Santa Clara, California, will offer a new version of its Rational Rose software engineering tool from next month. Release 2.0 supports Booch '93 notation, has a common interface for PCs and Unix machines, syntax and semantic checking, integration with external configuration management systems, querying, and filtering and browsing mechanisms. Rational Rose costs \$750 on PCs and \$4,000 on Sun workstations; upgrades are \$250 on PCs and free for Sun users. The company has also added a Rational Rose/C++ development tool, which costs \$1,100 on PCs and \$5,300 on Sun workstations. Existing Rational users can get the new tool for \$600 and \$1,300 respectively. +1 408 496 3891

NOKIA TELECOM AND HP JOINTLY DEVELOP UNIX INTELLIGENT NETWORK SYSTEMS

The Nokia Telecommunications unit of Finland's Nokia Oy has teamed up with Hewlett-Packard Co to develop Intelligent Network (IN) systems. The companies hope to leverage their respective expertise in telecommunications network solutions and Unix-based computing and communications in the alliance, which does not involve setting up a new company. Specifically, the deal calls for integration and further development of key elements of the IN architecture, with Nokia and HP jointly contributing the Service Control Point (SCP), coming from Nokia, and the Creation Environment (SCE) from HP. The SCP will be available on both Nokia's DX2000 digital switching system platform and HP's Unix system-based computers, which include the Common Channel Signalling System Number 7 (SS7) protocol. The SCP's will be connected to the network via Nokia's DX200SSP (Service Switching Point). HP's SCE environment will be used to create IN service applications for both SCP's, which will be managed via the SMS. Nokia will be responsible for final system integration and customer delivery, and says first commercial shipments will be in 12 month's time. Target markets include both fixed and mobile network operators.

AUSPEX AND ATLANTEC TEAM ON HIGH-END NETWORK SOLUTION

San Jose, California-based Atlantec and Auspex Systems Inc are teaming to offer their respective switching hub and network server technologies as a combined solution for users with heavy networking demands. Atlantec's PowerHub and Auspex NetServers both support multiple Ethernet channels and Fiber Distributed Data Interface capabilities. The firms say in such a configuration, PowerHubs can be used to front-end NetServers, off-loading network processing functions such as bridging and routing to free-up the NetServer to process more client requests. The companies say they decided to provide a combined solution following enquiries from customers about how to integrate the two. PowerHub accommodates up to 10 Ethernet channel, a range of routing protocols and FDDI. NetServers come with up to eight Ethernet and two FDDI connections and can support up to 200 users. Atlantec: +1 408 944 2311

SUN PROFITS GOOD, BUT SLOW GROWTH GIVES CAUSE FOR MILD CONCERN...

The improvement in profit at Sun Microsystems Inc look superb, but less splendid is the single-digit increase in turnover in the most recent quarter. The company reported second quarter net profits ~~soared 81.9% at \$43.8m against a period that included a \$15m litigation charge~~, on turnover that rose 7.6% at \$1,130.7m. Mid-term net profits jumped 108.9% at \$60.4m on turnover up 9.6% at \$2,091.1m. Net earnings per share rose 100% to \$0.46 in the quarter, 121% to \$0.62 in the half. Kevin Melia, Sun's chief financial officer comments "We are very pleased with the results of the quarter. Our focus on earnings and the quality of our products is paying off with high demand and earnings growth. Sun's successful new product offerings and the resulting strength in the high-end product mix, as well as our continued focus on cost management, helped increase gross margins from last year's level." He says the company managed to reduce operating expenses as a percentage of revenues compared with the prior year for the fifth consecutive quarter. The company claims a new record for its order book, fuelled by the Sparcserver 1000 and Sparccenter 2000 servers and ZX and SX high-performance graphics products. The company claims that inventory turns, at 10.8, remain among the highest in the industry - that means that it effectively fills and then empties its warehouses 10.8 times a year. The reason the earnings per share figure is up so much is that Sun has spent a lot of its spare cash buying back 10m shares since June. The company reckons it has made excellent progress in migrating to Solaris 2, with nearly 2,000 applications available from independent software vendors. But the company does not really address the slow growth in turnover, which is in sharp contrast to the growth being achieved by Hewlett-Packard Co.

...AS CFO MELIA RESIGNS

Kevin Melia has resigned as Sun Microsystems Inc's chief financial officer, effective from March 1 because personal reasons require that he move to the East Coast. He will continue as acting president of Sun Microsystems Computer Corp until a permanent president has been named, something Sun CEO Scott McNealy has been promising for months - he recently stated that the appointment would be made in the next few weeks. Melia's resignation is a blow to both Sun and McNealy personally - he has been prized for his management skills and ability to establish systems that work. His departure could affect the skillset McNealy is looking for in a permanent president for SMCC. Melia will be replaced by Michael Lehman, currently Sun's VP and corporate controller, a job he has had since June 1990.

SUN HAS LOW-COST ATM, FAST ETHERNET BOARDS

Sun Microsystems Inc hopes to steal some of the market for Ethernet and Unix-based Asynchronous Transfer Mode solutions from specialised hub and router manufacturers with new high-speed networking adapters launched last week. Sun is striking out with a 100Mbps SunFastEthernet board, which will retail at \$800, and a 155Mbps SunATM adapter at \$1,000. The FastEthernet solution is implemented on a single, wide SBus card, and offers 100Mbps and 10Mbps auto-sensing functionality over category 5 UTP wiring, initially through external third party transceivers. It complies with 100Mbps Ethernet technology specifications, developed by a consortia of firms in the Fast Ethernet Alliance. Initially unbundled for Solaris 2.3 with additional device drivers, the thing will be fitted as standard from 1995 on a slew of machines and could be retro-fitted to work with SunOS like other technologies that made their debut on the new operating system. The SunATM SBus solution is a 155Mbps card supporting multimode fibre - a \$1,300 solution - or 5 UTP wiring at \$1,000. It uses Sun's Segmentation And Reassembly data packaging technology aligned with the CCITT-endorsed ATM Adaption Layer 5. Importantly, Sun is hoping to spawn a third party market, using its technology to drive ATM along. It is making its specs available and has signed a major semiconductor house, which will be offering versions of the Sun-devised ATM chip it will take to the market. If ATM takes off, there will be 622Mbps and 2.4Gbps Sun solutions down the line.

POSC PUBLISHES SPECIFICATIONS FOR SOFTWARE INTEGRATION PLATFORM

The Petrotechnical Open Software Corp (POSC) has now completed its Base Computing Standard (BCS) and sent it off to be published, for general release in about three months time. BCS (UX No 421) is essentially a document detailing the specifications that make up POSC's Software Integration Platform (SIP), and a reference guide to other standards, such as Posix and the X/Open Portability Guides 3 and 4, which POSC endorses. It is intended to help vendors in procurement choices. SIP, meanwhile, comprises four elements. The first is Epicentre, an integrated common data model that is used to build databases. It is based on ISO's Standard Exchange of Products standards group's Express information modelling format, and describes business data items and how they should be stored in a database. The second is the data access interface, which is a mixture of application programming interfaces from Hewlett-Packard Co's OpenODB object-oriented database and UniSQL Inc's UniSQL/X unified relational to object-oriented database management system. It enables users to access their databases or exchange files using standard SQL syntax, but can find and display different, but related business data items. With a relational database, on the other hand, users need to know the relationship between each individual file and where they are in order to access them - so, "instead of cranking up the engine, you just turn the key". POSC says that Oracle Corp, Sybase Inc and Ingres Corp already offer the data access interface in their databases. The third element of SIP is Epigram, which specifies an exchange file format. This is derived from the American Petroleum Institute's RP66 encoding mechanism for large volumes of data. It is a layer built on top of the above to map business items from the data model on to RP66-based physical structures so as to encapsulate them. POSC says that both HP and UniSQL are now delivering commercial product based on the above three specifications - HP is shipping Compass and UniSQL, its EMP Data Access Layer. The final element is the user interface style guide, which deals with the external behaviour of applications. It is essentially an extension to the Open Software Foundation's Motif style guide, and handles the manipulation of graphical objects. Motif currently only offers ways of dealing with text, but POSC has licensed its work back to OSF and IBM, both of which intend to incorporate it in their next generation of products - in IBM's case, this is CUA, the style guide for OS/2.

Applications developers

The organisation says it has interested about 16 developers in building applications based on SIP so far, including Landmark Graphics Corp and Simon Petroleum Technology, which are jointly developing a well log analysis package. But its biggest success to date is the Industry Pilot Project, which was set in motion about two weeks ago. The Pilot was jointly conceived by POSC and British Petroleum, and its aim is to build a reference dataset based on SIP, by asking participants to evaluate how well the system fits their needs. Interested parties can join in by contacting POSC at helpat-POSC.org - they can also submit any queries, comments or bug reports via this channel and download bug fixes online. The Pilot will be governed by an advisory board with representatives from ARCO, BP, Elf Aquitaine, Mobil, Oryx Energy, REPSOL Spain, and the Shell Oil Co, but is open to anyone - other participants so far include Applied Terravision Systems and Everest Technologies. Cap Gemini Sogeti SA's US arm will provide consultancy as will POSC itself. The reference dataset will ultimately be used for benchmarking purposes, and, POSC hopes, as the basis for a certification process. It is currently evaluating the cost of using X/Open's fast-track process, but if it can't provide the organisation with a suitable business case and sponsorship, will consider taking other routes, such as going in with the Object Management Group - of which it is already a member. The second phase of the Pilot Project, due to begin in March, consists of inviting software developers to port their applications to SIP and providing them with the necessary funds to do so. POSC reckons that in about a year's time, it should have enough data to seal any holes in its current specifications, and so will be able to release version 2.0 of its Base Computing Model. It believes new requirements will come primarily from the field of system and data management and administration, when firms start using the Distributed Computing Environment to a greater extent.

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The **Open Software Foundation** reports that OSF/Motif has been formally approved by a unanimous vote of the balloting group of the **Institute of Electrical & Electronics Engineers Computer Society Standards Board** as the graphical user interface standard number P1295 - the Modular Toolkit Environment.

For blind Unix users, the **X Consortium's** Disability Access Committee for X is designing screen reader hooks that will be built into X Window, and is striving to get them finished in time for release 6 of the X.11 standard, currently doing the rounds in alpha release. From there, it would make its way into the next release of the Motif graphical user interface. Originally, it was hoped that the interfaces would be two-way, enabling screen reader utilities to control applications directly, but the idea was dropped for fear of breaking older applications, so now the group's work will simply enable the readers to interrogate programs. In the meantime, employers can find a set of guidelines for introducing graphical user interfaces to blind users in the GUIB report, which is published by the Royal National Institute for the Blind in the UK.

Uniform, which is trying to recover from the damage it did to itself last year, said last week there are 10,000 people pre-registered so far. The Beach Boys will be at the Uniform party, Wednesday night March 23, fronted by the soon-to-be-famous Talking Propeller Heads group from Data General Corp. Meanwhile, Uniform also figures it's got the first application of the National Data Superhighway.

Autodesk Inc has named James D'Arezzo vice president of marketing, handling vertical and product marketing, pricing, positioning, launches and corporate image as well as strategic marketing directions. He hops over from **Banyan Systems Inc**, where his latest job was VP, corporate business development. In the 1980s, D'Arezzo had variously been at Compaq Computer Corp as VP marketing, VP corporate marketing and VP corporate communications. He was originally a member of the IBM Corp team that launched the PC.

Membership of the **Fibre Channel Association** has doubled since the organisation was launched last August, and now stands at 40. New members include **Amdahl, IBM Microelectronics, Motorola ASIC Division, Samsung Electronics Co, Sequent** and **Unisys**.

Bombay, India-based **Tata Unisys Ltd** has brought out a new Intel 48DX2-based U6000 DT2 system, which supports UnixWare. The DT2 is manufactured at TUL's facility in Goa, and costs between \$12,000 and \$16,000. It comes with up to 128Mb of RAM, has onboard Adaptec EISA-compatible SCSI, and sports a VGA controller.

ViewStar Corp's ViewStar document management and workflow systems is now available on Hewlett-Packard Co HP 9000 database servers, running under Sybase Inc's SQL server. HP and ViewStar have agreed to jointly develop and market the products for two years. +1 510 652 7827.

IBM Corp is already showing a PowerPC notebook off to the US Defense Industry: the ThinkPad-size unit currently runs a PowerPC 601, until the low-power versions arrive, Unix, MS-DOS and OS/2, with 32Mb RAM, 320Mb disk and a floppy drive.

IBM also reports it is designing a new PowerPC family, the 4xx Embedded Controller for the set-top decoders that it will supply for Bell Atlantic Corp's video-on-demand trial. The low power-consumption parts are also aimed at games machines and communicators.

And, as **IBM** apparently divides itself up into a client/server organisational arrangement, it has moved its low-end PowerPC 601-based Model 250 RS/6000 workstation into the Power Personal Systems Division on the client side of the company, where it will concentrate its RISC-based PC efforts. Other PowerPC models, including parallel machines in the RS/6000 line, stay in the RISC System/6000 division, now part of a wider structure that encompasses AS/400s and mainframe businesses too.

SunSoft Southern Europe will soon announce that it has beaten the US to the first volume contract for Solaris x86, says managing director Bernard Moitel. Under the contract, Barcelona-based bank Sabadell will install Solaris as the server in all 350 of its branches throughout Spain. The servers will connect the bank's DPS 9000 mainframe in Barcelona via an X25 network to MS-DOS, Solaris and Windows applications on the bank's community of personal computers, Moitel said, but he was not prepared to value the contract.

Austin, Texas-based **Haystack Labs Inc** is offering a Unix security system for SunOS users called Stalker, which it says identifies who did what, when, and how. Prices start at \$15,500. +1 512 343 2552

Fujitsu Europe has started shipping a new software toolkit, which it claims enables Sun software developers to include interfaces for two SCSI image scanners - the M3096G and the M3097G - into their applications software. By adding an optional IPC board, developers also have access to such facilities as data compression and dynamic thresholding. The toolkit is available under Sun Microsystems Inc's Solaris 2.1.1 operating system, no prices given.

Unisys Corp and **Unikix Technologies**, the newly spun-out **Bull HN Information Systems Inc** unit, will jointly market Unikix's CICS-on-Unix transaction manager and associated software tools on Unisys' U6000 series of Unix boxes.

Digital Equipment Corp plans to release Alpha 21066-based notebooks by the end of 1994, and says its next generation EV5 Alpha chip has now gone into beta (UX No 459).

Bell Atlantic Corp's Business Systems Services subsidiary now provides field support and on-site services for Hyundai Electronics Industry Co's Axil Workstation's Sun Sparc-compatible workstations in the U.S.

Metaphor Inc, an **IBM** subsidiary, has appointed Chris Grejtak as its senior VP of products, as president and chief executive, replacing Cathie Selleck. The company is also cutting its staff by 20% as part of a corporate restructuring.

Don Taylor, former UK director of marketing at **Sun**, only lasted nine days in his new position at **Sybase Inc**, where he was (briefly) vice president of marketing, channel development, Northern Europe (UX No 464).

Burlington, Massachusetts-based **Easel Corp**, which launched its Enfin GUI development tool last July, is cutting 62 jobs as part of a restructuring to bring company costs in line with revenues, and is taking a fourth quarter restructuring charge of \$4.8m.

Object World UK will take place at Olympia II in London on June 21-23.

Digital Equipment Corp says it has realigned its US, Canada and Latin America-and-Caribbean sales territories to form a new Americas Area.

Dynatech Corp's Parallax Graphics unit is porting its VideoStream desktop video hardware to **Hewlett-Packard Co's** HP 9000 Series 700 workstations, and VideoStream-based XVideo, PowerVideo, and MultiVideo software will be compatible with HP's MPower multimedia environment. GDE Systems also intends to port its digital image processing applications for such areas as remote medical consultation, and surgical planning to the environment. +1 408 727 2228

Wokingham, Berkshire **Open Systems Marketing Ltd** has published its first edition of **OSMOSIS**, a quarterly newsletter aimed at the Unix systems management community that comes free of charge.

Beta versions of **IDB Inc's** - formerly known as **Intellitic International SA's** - object-oriented Matisse database management system, or Multimedia Advance Technology for Information Systems Semantic Engineering, have started shipping on Kendall Square Research Inc's KSR1 family of highly parallel systems.

Transarc Corp is trumpeting a \$3.9m contract DARPA contract it has won to find ways of locating information on the US nation's much-vaunted Information Superhighway. Transarc used its Andrew File System to create a previous National File System for sharing information across Internet.

The **US Federal Internetworking Requirements Panel** has apparently issued a report calling for an end to the Government Open Systems Interconnection Profile, or GOSIP. The report says the GOSIP programme, begun in 1990 to solve interoperability issues between different government departments, has failed in its mission.

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OSF HAS HOPES FOR IBM ENDORSEMENT OF OSF RELEASE 1.3

Initial copies of the Open Software Foundation's microkernel-based OSF/1 Release 1.3 operating system are due out in the second quarter of this year, OSF officials said last week, with the third snapshot due out in March. Release 1.3 upgrades the OSF microkernel base from Carnegie-Mellon's Mach 2.5 to Mach 3.0, enhanced with OSF code to make it "industrial strength". Most significantly, R1.3 has progressed from the integrated kernel architecture of R1.2 to the decomposition of the core kernel and Unix services. R1.2 Unix semantics and R1.2 conformance, internationalisation and user environment are all retained, along with data capture interface and common data link interface standards for device drivers. In fact, OSF/1 Release 1.3 hosts the OSF/1 operating system as a "personality" in very much the same way that IBM is planning to do in its forthcoming Workplace OS system (UX No 438). There, IBM will include both OS/2 and OSF/1 - rather than AIX - personalities, giving the Foundation a much needed endorsement for its operating system technology, currently only taken up as a complete system by DEC (see page 5). OSF/1 says it has added "lots of code" to Carnegie Mellon's Mach 3, and has now fully separated out the server code from the microkernel, a process that it began with OSF 1.2. And OSF clearly has hopes that IBM's use of the Mach 3.0 kernel within its future Taligent object-oriented operating system effort will give it a further endorsement - although Hewlett-Packard's Bernard Guidon said that HP regarded Taligent's object frameworks and application development tools as more crucial - and independent from - the microkernel issue. OSF/1.3 (UX No 457) - which in the dim and distant past used to be called OSF/2 - includes additional 64-bit support, and conforms to ANSIC, FIPS 151-1, POSIX 1003.1 and 2, X/Open XPG4 and SPEC 1170 standards. Support for massively parallel systems and clusters is part of the on-going OSF/1-AD project. OSF is also somewhat nervously beginning to talk about OSF 1.4, which might include object-oriented frameworks and greater support for threads programming, but everything depends on what its members want it to do - something which is currently under discussion.

...AS HP SNEAKS AHEAD OF OSF WITH KEY DISTRIBUTED MANAGEMENT TECHNOLOGIES...

Hoping to grab some of the limelight ahead of an Open Software Foundation announcement scheduled for late May, Hewlett-Packard Co last week revealed details of its own implementation of network management option technologies that are to feature in a forthcoming release of new OSF Distributed Management Environment (DME) components. HP is effectively re-architecting the communications structure of its OpenView Distributed Management Platform (DM) on HP-UX and SunOS to use Compagnie des Machines Bull SA's XMP management protocol (now the X/Open Management Protocol API), and the XOM OSI abstract data manipulation language API. These technologies, plus Siemens Nixdorf Informationssysteme AG's X.500 directory services and other IBM Corp work, integrated and packaged by HP and OSF, form the basis of the next DME technology release, NMO, network management option, which is expected to ship in June. HP has been responsible for much of the NMO integration work, and by dint of a separate arrangement with Bull, has been able to jump the gun in announcing products based upon NMO technology. However it's understood that HP's agreement with Bull calls for the provision for an older implementation of XOM - NMO will be offered with the latest 7.0 release. HP now offers SNMP and OSI/CMIP-based OpenView platforms and is targeting Distributed Management Platform 4.0 at telecommunications companies. It includes services for event-handling, access to Guidelines for the Definition of Managed Objects, GDMO standards, an object registration service and development tools. To provide CMIP access, OSI stacks are required - HP OSI Transport Services/9000 under HP-UX and SunLink OSI 8.0 for the SunOS implementation, although CMIP for SunOS won't be supported in 4.0 but will feature in a follow-on release. HP says future versions of DM will also use Object Management Group Corba technologies. HP OpenView DM Platform 4.0 is out in May for HP-UX and SunOS-based systems, priced at \$10,000. The DM communications infrastructure is \$5,000, a DM developers kit is priced at \$24,150. HP says version 4.0 supports all 3.x APIs. OSF's NMO is designed to be used in conjunction with other DME services announced last November. (More details page 3)

...OFFERS SECURE NFS-DFS GATEWAY, DCE ADMIN TOOLS TO OSF

It was a busy week for distributed technologies over at Hewlett-Packard Co. The company has also firmed-up its Distributed Computing Environment and Encina-based OLTP offerings with important new technologies. It has a secure gateway which finally allows DCE users secure access to Network File System environments, a much-needed common management tool for administering DCE-based services, and a peer-to-peer mechanism for integrating IBM mainframe and HP-UX transactions including two-phase commit. HP has offered the first two up to OSF for inclusion in future DCE releases. (Details page 5).

DEC HAS OBJECT OVERLAY FOR OSF/1, OpenVMS, NT

Digital Equipment Corp will, among lots of other things (UX No 471), outline its object strategy at its major product bonanza on February 8. The firm has developed an object layer that will sit above OSF/1, OpenVMS and Microsoft Corp's Windows NT, providing users with tools to develop object applications that run across all three environments. DEC is also expected to release a new version - 4.4 - of its existing Ultrix Unix implementation, which will support Motif 1.2 and X11 release 5, but does not intend to add any object capabilities to the operating system.

ICL ADDS NEW DRS/6000s

ICL Plc has expanded its DRS/6000 Series 300 range by adding two new models based on 50MHz SuperSparcs. The servers, the Level 380 and Level 382 will support around 50 users. The uniprocessor 380 comes with 32Mb of memory, 1.2Gb of disk and starts at £17,000. The dual processor 382 has 64Mb of memory, 1.2Gb disk, and starts at £27,000. ICL claims an 85% performance increase over the 40MHz Level 370. Both machines are available now and run DRS/NX version 7 - upgrades from other 300 models are £10,000 and £20,000 respectively.

SNI PREPARES FOR CEBIT

Siemens Nixdorf Informationssysteme AG will this week preview a raft of new hardware and software products, spanning from PCs to midrange systems to mainframes, which it intends to launch at this year's CeBit show in the middle of March. It will also outline its development and marketing strategy.

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EX-INFORMIXERS SIPPL AND PADINA TEAM TO CREATE VISIGENICS EUROPE

Roger Sippl, former founder and chairman of Informix, has teamed with ex-Informix UK managing director, Malcolm Padina, to launch Visigenics Europe. The start up specialises in developing graphical application tools for the relational database market (UX No 426). ~~The official announcement takes place on 3rd February - Thursday -~~ where it will introduce its new product line, distribution and reseller strategies and its plans for Europe. Padina has been appointed vice president Europe. Since leaving Informix, Sippl has helped start up at least two other software houses including Vantive Corp and Montage Inc (UX Nos 460 and 465).

TOP LOG INTERNATIONAL DOES WELL FROM SANTA CRUZ, INFORMIX BUSINESS

French Unix software distributor Top Log International SA last week reported 1993 revenues and net profit up significantly from its previous reporting period of nine months in 1992, along with "very encouraging" trends for 1994. The company, whose leading products come from Santa Cruz Operation Inc and Informix Software Inc, said its sales for the year to September 30 came to the equivalent of \$49.8m, with pre-tax profits of \$2.8m, and net profit of \$1.4m. Top Log ended its previous fiscal in June 1992, when its management bought it out from financially troubled distributor Metrologie International SA. In 1993, France represented 53.6% of revenues, followed by 15.7% from Top Log UK, 12.6% from Top Log Iberica, 11.1% from Top Log GmbH and 7% from Top Log Benelux. Objectives for this year include strengthening its position in France, Germany and the UK, penetrating complementary market sectors and extending its European presence, said founder and chief executive Serge van Gorkum. It is already "in discussion" with potential partners in Italy, and has a new subsidiary in Morocco, which opened in December.

SYBASE ACQUIRES MICRO DECISIONWARE ON A STOCK-SWAP BASIS

Sybase Inc, Emeryville, California has signed an intent to acquire Boulder, Colorado-based Micro Decisionware Inc, a provider of software for linking disparate databases. Sybase's aim is to further expand into the growing market for interoperability software, sales of which generated about 24% of Sybase's annual licence revenues in 1993. Sybase has 300,000 Open Client application programming interface installations, 5,000 Open Server installations and over 400 mainframe gateway installations. Micro Decisionware is currently majority-owned by Safeguard Scientifics, Wayne, Pennsylvania, which took a stake in the firm when it faced financial difficulties in the late 1980s. Micro Decisionware's 1993 revenues were \$17m, which amounted to a 70% increase on the previous year. It has 300 customers worldwide and sells through a network of distributors. Admiral Software, its UK distributor, will continue to sell and support its products and work with local Sybase sales organisations. Under the terms of the agreement, Sybase will acquire the outstanding capital stock of Micro Decisionware in exchange for a share of Sybase stock valued at around \$25m. Sybase does not plan to merely take on the assets of the firm, but also to exploit its existing engineering capabilities - the two will undertake joint development. Micro Decisionware will operate as an independent Sybase business unit still offering Sybase connectivity products, although its credibility as both an independent and Sybase-owned business unit has yet to be ascertained. Existing Micro Decisionware products, which include Access Server, Infohub and Infopump, and Sybase products will be integrated into a single product set supported by both Sybase and Micro Decisionware. The acquisition is still subject to regulatory approval by Micro Decisionware stockholders.

WANG CREATES NEW IMAGING DIVISION

Wang Labs Inc is hiring staff for a newly created Imaging/Workflow business within the company which will be responsible for all aspects of its imaging, workflow, and document management products and services. Wang aims to have the largest sales and support force in the industry dedicated to imaging and workflow - the unit will be headed by senior vice president and general manager Bruce Ryan who moves over from Wang's Federal Systems Division. Wang vice presidents Dan Cerutti and Andre Boisvert will also join the unit. Meanwhile, David Goulden becomes vice president of Wang's business development and strategy - a new position - and Jim Hogan takes up the reins of the Federal Division.

WALL STREET IS UNIMPRESSED WITH IBM'S FOURTH QUARTER NUMBERS

IBM Corp came in with fourth quarter figures pretty much on the button with earnings per share of \$0.62, where the mean of 19 analysts' forecasts came to 64 cents. But because the figures were no ~~better than expected, Wall Street marked shares down a couple of~~ bucks on the day at \$56.625%. IBM's overall hardware revenues were \$10,400m in the fourth quarter, a decline of 5.4% against a period that hardly provided a tough comparison. Services revenue was up 31.9% at \$3,200m, but this business - taking in other people's washing - does not appear to be making money. And the drop in AS/400 sales led to a decline of 3.8% on software revenues at \$3,069m. Maintenance, rentals and financing revenue also fell. Chairman Louis Gerstner notes that the company was profitable in the fourth quarter despite tough environments in Europe and Japan, "and the results of the work we are doing on our strategic priorities will become clearer to our customers in 1994." On a geographic basis, IBM's US revenues grew by 9% in the fourth quarter compared with the same period of 1992, continuing the quarterly improvement trend.

Unix machines not growing

Revenue from Europe and Asia after currency adjustments, declined in the fourth quarter by 1% and 4% respectively. Personal computer revenues rose strongly - but is IBM making any money here? - and RS/6000 revenue increased, but the Unix machines are clearly not growing anything like fast enough to meet IBM's aim of overtaking Hewlett-Packard Co and Sun Microsystems Inc to become market leader. AS/400 revenue fell "primarily as a result of sluggish European demand". Mainframe and high-end disk drive revenue also declined year-on-year. Despite all the devastating cuts, IBM's overall gross margin was still down about one point in the fourth quarter compared with the 1992 period. Margins jumped around all over the place, with gross margins on hardware at 36.9%, up from 33.9%, on software at 57.2%, down from 62.1%, on services a dreadful 11.5%, down from 14.9% - which implies a big loss after selling, general and administrative expenses. Maintenance margins also fell, to 49.8% from 52.7%, but rentals margins were up just over a point at 57.3%. Hardware sales margins improved in the fourth quarter, but software, maintenance and services margins declined. Total expenses, including net interest expenses but excluding restructuring charges, declined 9% in the fourth quarter compared with the same period of 1992. For full-year 1993, before taxes and restructuring charges, IBM earned a derisory \$148m from operations, and after-tax results were essentially break-even. After preferred stock dividends, the company had a loss, before restructuring charges, of \$.07 per common share in 1993. Including restructuring charges of \$8,900m, IBM reported a 1993 net, after-tax loss of \$8,000m, up from a net loss of \$6,900m in 1992. Worldwide turnover for the year slipped 2.8% to \$62,700m; revenue from non-US operations, included in the 1993 results, slumped 7.2% at \$37,000m. The workforce fell 45,000 to 256,000 in the year, and another 10,000 will go when the Federal Systems Co is sold this quarter. At year-end IBM had some \$7,100m in cash and marketable securities, up by \$1,500m. The dividend is 25 cents. IBM UK has already done much more blood-letting than its continental siblings. Restructuring charges came to £55m, to create a pre-tax loss of £174m, down from a loss last time of £767m. Turnover for the year managed to rise 8% to £4,060m.

VXM'S PAX RIVAL TO GENERAL MAGIC

Boston, Massachusetts-based VXM Technologies Inc is positioning its Network Shell agent system - now called Pax - against General Magic Inc's recently unveiled Telescript network agent programming system. VXM says all systems under Pax are logically identical, so an agent developed on an Intel Corp-based personal computer can run unmodified on a variety of machines and system software. Pax agent development kits for MS-DOS, SunOS, HP-UX, SGI and VAX/VMS systems cost from \$10,000 - personal digital assistant support will follow. Version 2.0 of the Pax fault-tolerant parallel cluster software costs from \$20,000 for a 300-node system. +1 617 267 2286

SILICON GRAPHICS CHAIRMAN AND FOUNDER CLARK RESIGNS

Silicon Graphics Inc founder and chairman of the board James H Clark will resign at the end of February to pursue, it is understood, long standing interests in the fields of digital media and telecomputing. Clark was a physics professor at Stanford University when he founded Silicon Graphics with six of his students in 1982, and designed the original Geometry Engine, the ASIC chip technology behind SGI's graphics offerings. This emerged out of his attempts to display data for NASA. Clark has held the non-executive, roving role of chairman for some time, leaving the company in the hands of president and CEO Ed McCracken, who joined the firm in 1986. SGI shares, which had risen 15% earlier in the week when the company announced second quarter net profits up 64.4% at \$36.3m on turnover that rose 37.1% at \$370.4m, dropped 75 cents on the news.

SUNSOFT OFFERS INTEGRATED TELEPHONY SERVICES FOR SOLARIS

Sun Microsystems Inc is the latest Unix vendor to bring integrated voice mail, fax, e-mail and video support to its systems. The Mountain View, California company's SunSoft Inc unit will make available a set of telephony services and APIs for creating applications using these technologies for the next release of its Solaris operating system on Sparc and Intel architectures. XTL Teleservices, as they are called, will feature in Live!, SunSoft's multimedia set for Solaris. SunSoft expects the services to enable ISVs to create telephone-based applications and telecommunications hardware for the computer telephony integration market, which Sun estimates to be worth some \$6.9bn currently. SunSoft says it'll offer-up the APIs to unspecified emerging telephony standards groups for use. Included with the XTL Teleservices development environment will be the DOE Distributed Objects Everywhere middleware to ensure that applications will be supported under Sun's future NextStep-based object environment. Developer kits are out now.

NETWORK COMPUTING DEVICES INTO ELECTRONIC MAIL WITH Z-CODE BUY

Network Computing Devices Inc, Mountain View, California, is making its first major diversification from its core X Window terminal business, by buying one of the backers of its system for including audio on its X terminal systems. The company is Z-Code Software Corp, based in Novato, California, developer of the Z-Mail graphics-oriented electronic mail system. Network Computing will pay an initial \$3.2m in cash and 1.7m new shares - \$14.7m all told - for the company, and the pact calls for contingency payments of an additional \$3.2m and 1.3m shares if financial objectives are met - for a total valuation of up to \$26.4m.

NCR CORP GETS NEW NAME

NCR is no more. It has changed its name to AT&T Global Information Solutions being fully aware that people are just going to shorten it to AT&T. The old cash register company is trying for a new lease on life. The surveys it's done indicate that non-NCR accounts just don't associate it with computers. The association with AT&T, its parent company, is meant to clearly underscore an increasing integration between NCR's computers and AT&T's communication skills which it says has been going on since last year though it is yet to offer much indication of that. NCR has been going through a structural reorganisation for months and says it is ready to start conveying its new less-low-profile persona to the world-at-large. The hurdle it's trying to master is attracting new accounts. The firm says it really wants to be known as the "Get It, Move It, Use It" company but can't exactly answer the phone that way. It especially wants to be thought of for OLTP, networking and parallel processing. The NCR brand name will be retained on selected retail, financial and business forms and supplies product where it has superior recognition. The name change results from a market research study that involved focus groups of customers and prospects, personal interviews with customers, prospects, alliance partners, systems integrators and research consultants in 11 countries and 2,100 telephone surveys in 10 countries. They thought incorporating AT&T in the name best reflected the company's future strategy.

HP ADDS DCE ADMIN SYSTEM, SECURE NFS-DFS AND CICS GATEWAYS

As well as enhancing distributed management options available under OpenView - see front page - Hewlett-Packard Co has announced several key enhancements for its on-line transaction processing software, Encina/9000, and the DCE/9000 distributed computing environment, including gateways that provide secure access to DCE from Network File System environments, transaction-sharing between HP and IBM Corp mainframe OLTP solutions, plus an integrated administration manager. Encina/9000 is the HP implementation of Transarc Corp's OLTP monitor - DCE/9000 is HP's own implementation of the Open Software Foundation's distributed computing environment technologies. Although Encina must run on top of DCE, as currently sourced from any supplier, the two come with separate and incompatible command line interfaces. HP has moved to reconcile this and other anomalies with a new graphical-based interface that provides a consistent terminology set for developers across both environments.

Single point DCE configuration

The administration system also allows developers to implement tools and methodologies consistently across the two environments, provides integrated HP-UX and DCE logins, an Encina configuration mechanism, and come with - the jewel from HP's point of view - DCE Configurator, allowing a single point of configuration for all DCE cells at core and DFS levels with OSF `dee_config` compatibility. HP is offering-up DCE Configurator to OSF for inclusion in future releases. HP has added three components to DCE/9000 - now at release 1.2 and due this month - its implementation of OSF DCE 1.0.3. The Distributed File System allows users to share file systems remotely and the Global Directory Service enables disparate DCE cells to hook-up. Most interesting is an HP-developed secure gateway for DFS interaction with Network File System-based environments. The NFS-DFS gateway, anticipated a few weeks ago (UX No 468), allows NFS clients to access DFS files without compromising security. Formerly, the whole DFS file system had to be exported. Now, one or more NFS gateways can be installed in a single DCE cell without providing access to the whole file system. Although it may not end the remote procedure call wars, the mechanism certainly offers an interoperability solution as far as file systems go. HP says it'll license this gateway to OSF for inclusion in future DCE releases. HP's DCE Programmers Toolset now comes with a debugger that supports threaded applications. HP says a DCE application environment based upon its Distributed Object Management Facility (DOMF) will be generally available by mid-year - beta ships are already underway. HP DCE/9000 is \$1,800, GDS starts at \$3,100, NFS-DFS Secure Gateway costs from \$2,000. To its Encina/9000 OLTP system debuted in June last year, HP has added the PPC Gateway. It supports peer-to-peer transactions across TCP/IP and IBM SNA networks and allows mainframe CICS systems to coordinate or be coordinated by HP/9000 Encina, with two-phase commit (sync level 2) for data integrity. With this comes the Encina/9000 recoverable queuing system which retains integrity across systems when tasks are queued or de-queued. The new Encina/9000 ships in April. HP claims to have live Encina user sites amongst the collection of pilot systems now in operation, but declined to be more specific. HP Encina/9000 RQS costs from \$3,000, the PPC Gateway (for servers only) is priced at \$4,000. All tags are for workstation and entry-level server implementations - basic DCE/9000 and Encina/9000 services required are extra.

FUJITSU TO LEND AMDAHL \$100m ON EASY TERMS, SELL WORKSTATIONS OEM

Fujitsu Ltd is standing by its 44%-owned US affiliate Amdahl Corp in its hour of need, and after those enormous losses for 1993, it is to provide the Sunnyvale mainframer with \$100m in low-interest loans, the *Nippon Keizai Shimbun* reported. Terms of the deal would be worked out by the end of the month. Fujitsu will also reportedly supply Amdahl with high-speed Unix workstations on an OEM basis. The workstation that Fujitsu Ltd will supply to Amdahl Corp is apparently a new one, which is being developed by both companies: the 32-bit Sparc-based station is to be supplemented by a 64-bit family in 1995, the companies say.

SUN AND TI COLLABORATE ON ATM

Turns out the unidentified chip supplier referred to by Sun Microsystems Inc (UX No 471), is Texas Instruments Inc - Sun and Texas are to collaborate on implementing ATM on the desktop. First fruit of the partnership is a fibre optic adaptor card, due to ship ~~in May for \$1,295. This will allow users with Category 5 wired networks in place to immediately upgrade to 155Mbps speeds, say the companies.~~ The package, initially targeted at LANs, consists of a two-chip set, said to be an industry first. It will incorporate a Texas-developed single-chip physical layer line interface device, and a compatible single-chip segmentation and reassembly device originally developed by Sun. Texas will sell the chip set to other developers though. Sun is its only partner now. Further down the line, the Texas/Sun agreement will involve joint ATM development and licensing of ATM technologies including bandwidth-intensive applications, such as videoconferencing, interactive services and global concurrent engineering.

SUNRISE SOFTWARE UNVEILS NEW VERSIONS OF ITS ezX MOTIF GUI-BUILDER

Sunrise Software International Inc may have kept its ezX Motif graphical user interface builder very quiet up till now, but the Middletown, Rhode Island-based firm has not been resting on its laurels. ezX is a tool that enables developers to create Motif front-ends for their C, C++ and Ada applications - C and C++ versions cost \$3,500, Ada versions \$5,500. It is written in C, and runs under all major Unix operating systems, including IBM's AIX, Santa Cruz Operation Inc's OpenDesktop, and Hewlett-Packard Co's HP/UX. Digital Equipment Corp's Alpha AXP machines running OSF/1 will also be added to the list this week because Sunrise says, "they made us an offer we couldn't refuse". The product will support Fortran and Cobol, as will a new version of ezX for other Unix environments scheduled for release in March. The company has worked with DEC since about 1990 when it first released ezX - VMS was one of the first supported environments and still generates between 20% and 25% of total group revenues - the rest comes from Unix. But says Sunrise, this relationship will deepen around April, when the two will come out with an "industry-shocker" of an announcement. The next major product in the pipeline, however, is ezXOOP, which is in beta now and should be available by March. Sunrise jointly developed ezXOOP with Rochester, New Hampshire-based Cabletron Systems Inc - the two integrated Cabletron's Spectrum enterprise network management system with ezX, using the Python object-oriented control scripting language as the glue, to create a tool for Spectrum customers wanting to build custom applications for monitoring SNMP networks. Python was developed by Guido van Rossum at the Stichting Mathematische Centrum in Amsterdam, the Netherlands. It is an English-like language, similar to C++, that enables users to define data types on the fly and also build heterogeneous data types. Although a good prototyping language because of its low overhead, Sunrise says Python can be used for only a limited number of applications due to its limited data integrity features - however, the firm claims, it is easy to recompile Python-based applications into C++ if more data protection is needed. ezXOOP will cost between \$5,000 and \$10,000, and will be sold by both companies, although Sunrise also intends to provide consultancy, training, installation and support services. The firm was actually set up in 1983 to offer consultancy services to the defence industry, primarily in the fields of submarine weapon and combat control. ezX grew out of the need to develop applications for a Unix-based sub-tracking system hooked up to X-terminals - and as Sunrise couldn't find any suitable tools on the market, it decided to develop its own. Existing customers include CityCorp, the UpJohn pharmaceutical company and DEC. + 1 401 847 7868.

SAP AG DEVELOPS OBJECT AND WINDOWS NT VERSIONS OF R/3

SAP AG, Walldorf, Germany, is hard at work on its R/3 financial and accounting package - it has an object-oriented release scheduled for the end of March and is also developing a Microsoft Corp Windows NT version. The latter is being developed on a Sequent Computer Systems Inc WinServer box, which will also be used for benchmark testing, quality assurance and demonstrations. R/3 for Windows NT should be available by the second quarter.

POWERPC SUPPORT CHIPS ARE BEGINNING TO BE SAMPLED

Support chips for PowerPC processors are starting to trickle out and IBM Microelectronics and NCR Microelectronics have separately announced PCI - Peripheral Component Interconnect - local bus silicon. ~~The IBM chip set combines a CPU Bridge with an ISA Bridge.~~ The former integrates the CPU controller and the memory controller with the PCI bus, while the ISA Bridge connects the PCI bus to the AT bus and provides the basic input-output functions. The CPU Bridge, dubbed the IBM27-82650 is packaged in either a 160-pin or 304-pin quad flat pack. The chip is sampling now with production availability planned for April at \$53 for 50,000-up. No details of pricing and availability of the PCI-ISA Bridge chip, the IBM27-82374. NCR's contribution is to make a commitment to supply PowerPC versions of its existing chip sets for bridging Peripheral Component Interconnect and SCSI buses. Once again, no dates on when the new versions of the NCR53C810 and 53C820 PCI/SCSI input-output will appear.

SNI UK SETS UP MIDRANGE SYSTEMS UNIT, STARTS SHIPPING NEW RM MACHINES

Siemens Nixdorf Informationssysteme AG's UK subsidiary has set up a separate business unit to concentrate on mid-range systems, reflecting a similar move made by its German parent company last year. The firm hopes the new division's focussed approach will lead to a sales increase of between 30% and 35%, compared to the personal computer unit's 50% growth rate when that was split off in June. The Mid Range division will deal with both proprietary machines, such as the Quattro, and the Unix-based RM family, which together generate about 15% of total UK turnover - about 80% of this comes from Unix, the rest from upgrades to proprietary systems. SNI UK's biggest market in volume terms is central government, followed by retail and financial services, but it also intends to recruit small value-added resellers to help it break into other vertical sectors such as health care and housing associations. Meanwhile, it says its new Mips Technology Inc R4400-based RM400 and RM600 servers (UX No 459) are now shipping. The uniprocessor RM400s are intended as workgroup or departmental machines for between 5 and 100 users, and range from £8,000 to £60,000 for an entry-level system, up to £250,000 for a top-end box. The multiprocessor RM600s are designed as large departmental or enterprise-wide servers supporting between 100 and 1,000 users. Entry-level systems range from £40,000 to £120,000, while the top-end comes in at £400,000. This family will be enhanced at the high-end by the middle of the year to include a 24-way machine with 1,024Gb of disk and 4,096Mb of memory. The new model will include double CPU boards still based on the R4400, which are likewise claimed to double its performance.

NEW FIRM BTRIEVE TECHNOLOGIES BORN FROM NOVELL'S DATABASE INTERESTS

Novell Inc has its hands so full these days that it is looking hard at many of its less dominant activities and wondering whether it really needs them, and the latest to go - following the remnants of its hardware business - is its database activities. Employees have formed Btrieve Technologies Inc in Austin, Texas to take over Btrieve, NetWare SQL, Xtrieve, and XQL to Btrieve Technologies. The agreement is at the memo of understanding stage, but Novell intends to retain a 15% interest in the business. Btrieve will remain a key part of NetWare but will now be offered for other systems.

APPLIX ADDS REAL-TIME SPREADSHEET

Applix Inc, Westborough, Massachusetts, has added a real-time version of its spreadsheet to the Applixware suite of office automation software. Applix Real Time is built upon the Applixware Extension Language Facility and is targeted at the financial services market. It includes an interface to Reuters' Triarch 2000 data distribution package, with others to follow, and is working on a Real Time Toolkit for this quarter that will allow users to develop interfaces between the spreadsheet and their in-house data feeds. Applix Real Time integrates with the existing Applix spreadsheet and comes as Real Time Add-on, Real Time engine and Triarch 2000 interface priced at from \$1,300. The Applix spreadsheet can import and export data to a variety of other spreadsheets.

...SO JUST WHO IS USING OSF/1?

Aiming to refute the widespread impression that OSF/1 has been somewhat halfheartedly supported by its sponsor companies, the Open Software Foundation says it now has 100 source licencees for OSF/1, and that 250,000 binaries have been shipped. The operating system, it says, now contributes "significant" revenues to its bottom line, and tops revenues taken in from the Motif graphical user interface or DCE distributed computing environment toolset. Source licencees include 12 OEMs: IBM, DEC and HP are the big three, with Bull subscribing through IBM and Olivetti through DEC, while supercomputer vendors such as Convex, Intel, Tandem and Kendall Square Research. Hitachi, Sumitomo and Omrom make up the Japanese contingent - although Hitachi is the only one currently shipping product on its mainframes. While only DEC offers a full implementation of OSF Release 1.2 (confusingly renamed OSF/1 2.0 - UX No 471), all the others pay full royalties to the Foundation on each copy they ship - they would apparently do so even if they used "a single semi-colon of OSF/1 code", according to Joseph Maloney, OSF/1 Business Area Manager. IBM takes the commands and libraries (which it in any case originated) on AIX 3.2 and higher, while HP takes streams and networking for HP/UX. The rest of the 100 source takers are end-users with specialist, complex applications such as TRW Inc, GTE Corp, CAE Electronics, and Tele Finland. There are now around 3,000 OSF/1 applications out there, although these are spread amongst the various architectures - a catalogue is apparently on its way. Maloney said OSF/1 was now "within two interfaces" of conformance with the COSE Spec 1170 interface, a process he expected to be complete by this week. The Foundation now has over 400 members, having seen a 20% increase in membership over the last three months.

AXIS OFFERS PRINT SERVER USING ITS OWN 32-BIT RISC

Axis Communications Inc has launched what it claims is the first multiprotocol print server to be powered by a 32-bit RISC processor. According to the Danvers, Massachusetts company, the NPS 650 can be used simultaneously with TCP/IP, NetWare, LAN Manager and LAN Server networks, and uses the company's ETRAX chip, a custom-developed 32-bit, 16 MIPS RISC CPU said to be the only single chip to incorporate both Token Ring and Ethernet logic. The company says that it can handle throughput in excess of 2Mbps. The product comes with two parallel ports and one serial port as standard. Within TCP/IP environments, the 650 is said to support LPD, File Transfer Protocol, Reverse Telnet, and PROS, while within LAN Manager and LAN Server it uses the NetBEUI protocol. Simple Network Management Protocol-compliant, the product is to cost \$1,000, while a version without TCP/IP support is due for launch in March, and that one will cost \$800, Axis says.

SUN HAS "KARAOKE SHAKESPEARE" VIRTUAL REALITY SYSTEM

Andy McRae of Sun Microsystems Inc has developed "Karaoke Shakespeare", a virtual reality system that enables people to act in their favourite Shakespeare play without ever leaving their seats. They simply put on a helmet and three-dimensional computer graphics produce a view of the Globe theatre as it was in Elizabethan times, while computerised characters move and speak using the voices of real actors - their faces can also be pasted in. Once the actors have spoken, the users own lines are projected through a head-up display similar to that used by RAF pilots, and the view changes with each movement of their head or joystick. English actor Robert Powell will demonstrate the device next month to trustees of the Shakespeare Globe Theatre Project - a replica Globe is due to open next year in Southwark, London. McRae's next project will be to animate Mercutio and Tybalt's duel for a presentation of Romeo and Juliet.

OBJECTVIEW TO INTEROPERATE WITH CICS

Atlanta, Georgia-based KnowledgeWare Inc will offer beta versions of its ObjectView 3.0 application development environment this month from \$2,900. 3.0 includes a new library of portable objects which can be used in conjunction with a variety of Unix and Windows-based databases. Personal/SQL is a tool that allows developers to bypass SQL coding when accessing SQL databases or specifying queries. 3.0 comes with Microsoft Corp ODBC drivers if required. Meanwhile, ObjectView will be extended with Netwise Inc's PC-based TransAccess middleware, which generates code that enables ObjectView to interact with CICS or IMS TM transactions on IBM mainframes. +1 404 231 3510

ICL SCRAPS BUS DEAL AND GOES THE WHOLE HOG TO OEM PYRAMID SERVERS

ICL Plc has scrapped the idea of building its own symmetric multiprocessing systems based around Pyramid Technology Corp's R bus technology (UX No 419) and decided to sell the San Jose, California-based firm's Nile server family on an OEM basis instead. ICL says this way it will be able to get machines to market quicker than developing them itself, while Pyramid says its traditional policy has been to work with OEM partners in Europe that understand the local market. The two firms have worked together on an informal basis for the past year, primarily in the UK, with Pyramid supplying its high-end boxes as and when they were needed by ICL customers. But, Pyramid says, the stage has now been reached where it makes sense to formalise the arrangement. The deal starts immediately and will initially stand for slightly longer than a year, although it is renewable. It is also valid worldwide, apart from the US - the only direct sales force ICL has here is a retail operation, for which Nile servers would "not be appropriate". Elsewhere, the two tend to sell into different markets. ICL specialises in the public sector, utilities and financial services - as well as retail - while Pyramid focusses on the commercial market. ICL's initial aim is to rebadge and sell the machines as a downsizing alternative to its mainframes - its mainframe revenues have declined this year by about 10% - although long-term, it does envisage the general purpose Nile machine being implemented as a client to its massively parallel database server, Goldrush (UX No 452). The firm says it has no plans to take Pyramid's Meshine (UX No 463) however, and business development manager of corporate systems, Peter Slavid, does not consider the product as a rival offering to Goldrush. "Symmetrical multiprocessing and massively parallel processing are not competitive. Long-term, there is a very good case for SMP and MPP co-existing...95% of the time, it will be obvious when an SMP or MPP machine is the most appropriate avenue". This view was also backed up by Pyramid. But the two companies don't intend to end their agreement here. Both are keen to learn from each other's technology - ICL is interested in exploiting Pyramid's knowledge of Unix symmetric multiprocessing, while Pyramid stands to gain from tapping into ICL's mainframe expertise. So, they intend to work together on a development level, taking bits and bobs from each other software and hardware in such areas as database archiving, file storage and systems management. Announcements to this end should be forthcoming by the end of the first quarter.

SNI/GPT WILL USE HP OPENVIEW DM 4.0 IN PTT MANAGEMENT SYSTEM...

Hewlett-Packard Co has already won an understanding from Siemens Nixdorf Informationssysteme AG's public communication networks group to use HP OpenView DM 4.0 Management 4.0 technology in its Telecommunication Management System Optimised Network Management System, ONMS (see front page). ONMS is designed to manage public telecoms networks and was developed by SNI and GEC and Plessey Telecommunications. It covers the use of wireless, wireline and transmission network products and is claimed to provide scaled management for everything from node elements themselves to service and business operations. Existing ONMS customers will be migrated up to HP OpenView.

...SETS NEW OPENVIEW RESELLER CHANNEL IN US

In the US, HP will put this newest OpenView technology through a new channel of 21 distributors it has lined up to carry the stuff. It has also signed a raft of new OEMs that will include OpenView in their products. Boole & Babbage Inc, San Jose, California, will add an enhanced OpenView interface to its Sun Microsystems Inc workstation-based Command/Post management and automation software, which is also being ported to IBM Corp's RS/6000 series. SynOptic Communications Inc has come out with a new version of its Optivity network management system built on OpenView: Optivity 4.0 enables the firm's Lattis System 5000 hub customers to create and manage virtual networks. The company will also enhance versions its RouterMan, PathMan and LattisWare applications to work with OpenView. Optivity 4.0 is \$6,000 or \$21,800 bundled with OpenView.

APPLE CANADA INDICATES UPGRADE PRICING TO POWERPC MACs...

The first official pronouncements on the price of PowerPC upgrades for Apple Computer Inc's Macintoshes have come from Apple Canada. Purchasers of Quadra 610, 650 and 950 Macs can slap down the equivalent to an extra \$112, in return for which they will be sent a PowerPC processor upgrade board once it is released. Apple says that outside of the special offer, the standard price for the boards will be around \$560. Macintosh upgrades come in two versions - those for machines with Processor Direct Slots can take the cheaper processor boards. The Quadra 840AV, 660AV, Centris 660AV, and the Macintosh IIfx and IIfx need the more complex logic-board replacements, expected to cost between \$1,125 and \$2,175.

...AS DETAILS APPEAR ON SECOND-GENERATION POWERPC MACs

Meantime, *MacWeek* hears that Apple Computer Inc is working on a new audiovisual architecture based on the PowerPC 601, for launch in about a year's time. In addition to multimedia technology, the new Macs are expected to provide considerable performance improvements over Apple's initial PowerPC Macs, scheduled to be announced on March 14. Two machines code-named TNT were reportedly outlined to developers in private briefings at MacWorld: Apple is said to have demonstrated how TNT would not extend the video and graphics capabilities currently standard on the Mac. They will have a new independent video subsystem that can drive the Macintosh's monitor and an interlaced NTSC video monitor simultaneously, and offer convolution for 32-bit video - current AV Macs can do so only for eight-bit images. A new QuickDraw accelerator is expected to offer dramatic speed increases to all Mac graphics, and a QuickTime accelerator will do the same for digital movies. The TNTs will also be the first Macs with Peripheral Component Interconnect bus - apparently in place of NuBus. An additional proprietary bus will give the CPU rapid access to RAM and TNT's Level 2 cache. The bus, combined with a new RAM controller, will give a big leap in performance. Although the PowerPC RISC will take over work done by the signal processor in current audiovisual Macs, "most" software packages written for AV Macs are said to work on the new machines. These are expected to come in two models, one full function and the other an economy version.

INTERNATIONAL ROUNDUP

Data General Corp has chosen Sydney, Australia as its new Asia-Pacific regional base and plans to invest \$16.7m over five years to develop the operation. It cited competitive Australian wages, an open and highly competitive Australian communications market and a federal government waiver on the wholesale sales tax for equipment already owned by Data General and transferred to Australia as reasons for choosing Sydney. The new base is expected to begin operations by the middle of the year.

Tadpole Technology Plc, Cambridge, has taken delivery of the first 64M-bit memory chip shipped by **NEC Corp** in the UK, which wants to evaluate 128Mb memory options on the Sparcbook: the Cambridge company also signed **OpenWare Egypt Ltd** of Cairo to market the Sparcbook in that country.

Compagnie des Machines Bull SA, **Learmonth & Burchett Management Systems Plc**, **Oracle Corp** and **Software One Ltd** are working together to provide a CDIF Computer-Aided Software Engineering Data Interchange Format-compliant bridge between Bull's Integrated System Development Repository, Learmonth's Systems Engineer and Oracle*CASE Dictionary. The project will use the Exchange technology from Marlow, Buckinghamshire-based Software One to deliver the interface, the companies said. Exchange has been used to develop interfaces for IEW/ADW, IEF, Excelerator, Systems Engineer, Oracle CASE*Dictionary and ICL Plc Data Dictionary System. Bull's Integrated System Development product has been based largely on Europe's PCTE Portable Common Tools Environment standard.

Santa Cruz Operation Inc wants everyone to know that it has been busy ramping up its Latin America operation over 1993, adding new distributors in Mexico City, Bogota and Buenos Aires and now has some 250 resellers engaged to sell into that marketplace.

Digital Equipment Corp has sold the High Energy Physics Institute in Moscow an Alpha AXP 3000/500 workstation for modelling subatomic reactions: negotiations are underway with several other Russian organisations on obtaining the same equipment; no value given.

Siemens Nixdorf Informationssysteme AG is developing a computer-assisted translation system in Spain. The project is based at its Software Development Centre in Barcelona and Siemens hopes to market the system this year. The team in Catalonia is being supported by Siemens Nixdorf in Germany and by a grant from the Ministry of Industry as part of PEIN III - the Third National Electronic Information Plan. The system will include translation from English and German into Spanish and vice-versa, as well as Castilian (Spanish) into Catalan.

WordPerfect Corp has joined the Brussels-based **Open Document Architecture Consortium** and said it would soon release an open-document architecture converter for WordPerfect 6.0 documents; the European Interest Grouping was formed by **Compagnie des Machines Bull SA**, **Digital Equipment Corp**, **IBM Corp**, **ICL Plc**, **Siemens Nixdorf Informationssysteme AG** and **Unisys Corp** in 1991.

Unix programming tools specialist **Lucid Inc** has signed an exclusive distribution deal with **INS Engineering Corp**, a subsidiary of **Nippon Telegraph & Telephone Corp**. Under the terms of the agreement, the two companies will collaborate on making Lucid's Sun Microsystems Inc-based products more suitable for the international market, and will convert them to Hewlett-Packard Co HP 9000s and IBM Corp PowerPC-based RS/6000s. INS is an engineering services company, which also resells Sun and other Unix workstations to Nippon Telegraph & Telephone and other customers.

Cisco Systems Inc has announced a new European network management support strategy, based around an alliance with London-based **Micromuse Ltd**: Micromuse is to work with Cisco's sales channels to provide a range of network management services, including installation and customisation of network management applications, software training classes and network management consulting.

Siemens AG has tapped Gerhard Schulmeyer, currently head of **ABB Asea Brown Boveri AG's ABB Inc**, to join the management board of **Siemens Nixdorf Informationssysteme AG**.

A contract with **Sony Corp** is part of the reason why there are more programmers at the subsidiary of **Pick Systems Inc** in Moscow nowadays; Pick has 43 programmers in Moscow, to rise to about 100 in 1994 with eventual complete transfer of all programming work from the US to Russia: the project is an iAPX-86-based multimedia notebook computer with built in CD-ROM.

Computervision Corp, Bedford, Massachusetts has formed **ItalCAD SpA** in Genoa, Italy as a joint venture with **Finmeccanica SpA**: ItalCAD will buy the software rights, customer base and maintenance agreement of **Alenia SpA's Italcad Technologie e Sistemi SpA**, and will promote and distribute Computervision's full line of design automation products.

Intel Corp is one of the winners in Japan's spending spree on supercomputers: the National Aerospace Laboratory will buy a **Paragon XP/S** supercomputer with 336 processors and it will be the largest and fastest Paragon XP/S system in Japan.

Sharp Corp says it will offer an optional liquid crystal touch-screen display for input on Sparc servers from Sun Microsystems Inc that it is to sell in Japan, and will equip them with Sharp peripherals; the will be sold by its Sharp System Products Co.

San Diego, California-based **Acucobol Inc** has a client/server file system for Acucobol-85 applications running over TCP/IP on Unix systems due next quarter. Support for MS-DOS clients is also planned. The company has additionally opened an operation in Tokyo, Japan, run by **Bill Sullivan** and **Ken Okazaki**. US +1 619 689 7220. Japan: +81 3 3237 2163.

UK, Solihull-based **Firefox Group** has a new strategy for providing OSI-based mail and messaging solutions and says its forthcoming X.400 Message Transfer Agent (MTA) will run on both NetWare (as NetWare Loadable Modules) and UnixWare, as well as supporting native X.400 User Agents running on PC LANs. Firefox says its X.400 solutions will offer Global MHS integration from UnixWare. Other facilities to be provided on both NetWare and UnixWare include address translation and directory synchronisation between Firefox's X.400 solutions and proprietary PC Mail systems such as Microsoft Mail and Lotus CC:Mail.

Don Taylor took on board our suggestion (UX No 463) to move to **Oracle Corp**, where he has now emerged as UK marketing director.

LATIN AMERICA POISED FOR GROWTH IN MULTI-USER SYSTEMS

Latin America is on the doorstep of the United States but is politically a very long way away from most of Europe apart from Spain and Portugal, so those that have not yet seriously considered Latin America as a market may be interested in a new report (not received for review) from International Data Corp. The study, called *Latin America Computer Systems Market Review and Forecast, 1992-1997*, indicates that conditions still vary greatly from country to country, but liberalisation and relaxation of state control is rapidly improving the investment and trade landscape across the continent - but according to International Data Corp, the current trends in the global computer market have yet to make much impact. It says that despite declining growth rates for minicomputer and mainframe sales in the US and Europe, and nearly flat growth in the Asia Pacific region, the value of multi-user sales in Latin America is expected to continue to expand at a compound annual rate of 5% between 1992 and 1997.

Outdated equipment

The research house claims to have done months of in-country research and on-site interviews and says they indicate that replacements of outdated equipment and new purchases within industries facing increased foreign competition will help shore up demand for multi-user computers over the next five years. The major markets covered in the report are Argentina, Brazil, Chile, Colombia, Mexico and Venezuela, but IDC reckons these represent over 90% of unit shipments and value regionally. It guesstimates that total multi-user systems shipped to Latin America in 1992 reached nearly 14,000 units, up 22% from 1991 levels, and unit shipments are expected to increase at an average compound rate of 18% between 1992 and 1997, so that the prospects for multilingual software vendors look rather brighter than for those of hardware vendors. "The continued high growth rates for multi-user systems in Latin America relative to other regions stems from the current wave of information systems restructuring. Trade liberalisation is forcing changes in many formerly protected industries, and the flood of new investment coming into the regions is in many cases being funnelled into centralised and distributed information systems in order to enhance competitiveness," according to Paul Pastrone, director of Latin America Research at IDC. Mexico dominated the region with over 4,700 units shipped in 1992, making up 34% of the regional total, and growing at 52% over 1991 levels - but this was accounted for by particularly strong demand for low-end Unix systems - and IDC does believe the trend towards client-server systems and away from mainframes and monolithic minis is beginning to take hold in Latin America. The Brazilian economy, much larger than that of Mexico, took just 22% of shipments to the region, with growth up just 7% over 1991. Argentina was the only country of the six in the study to show a decline in unit shipments in 1992, which the Framingham, Massachusetts research house calculated at just under 6%. Country-by-country studies highlight local and external factors affecting growth, and the report lists major suppliers in each market. It is being handled by IDC's Mountain View office. No price was given.

LUCENTE GETS NEW BUSINESS UNIT IN DEC RE-ORG

Under the reorganisation at Digital Equipment Corp (UX No 471), the company is creating a new business unit under worldwide sales and marketing chief Ed Lucente, to "help strengthen the link between product development and our sales territories." Five top executives now head groups focused on particular vertical markets, but under the reorganisation, Lucente will head a sixth business group and retain overall responsibility for all the industry-focused units - under the system started in December 1992 by CEO Robert Palmer, sales were divided into five customer business units, each targeting a market and each responsible for showing a profit - defence and manufacturing; professional and public services; consumer and process industries; education, communications and media; and health care. Under the restructuring, the health care unit will be dismantled, and the other four units will become less influential. The new strategic business units include consulting; personal computers; data storage; components and peripherals; and multivendor customer services. It will not necessarily increase job cuts.

APPLE DIVESTS DATA ACCESS LANGUAGE, SNAPS, TAKES BEDROCK

Apple Computer Inc is clearing the decks for the PowerPC launch and offloading a bit of surplus baggage: it is handing responsibility for its Data Access Language, DAL, over to Independence Technologies Inc and its SNAPS product for linking Macs to IBM Corp SNA mainframes to Wall Data Inc. In the deal with Fremont, California-based Independence, Apple is licensing its SQL-based Data Access Language to the company, and taking a minority stake in return. The Data Access Language consists of a client for Mac or Windows, and a DAL Server that runs on most widely-used proprietary and Unix hosts. Independence will market the language under its own name, and provide all support to existing customers. The Apple Programmers and Developers Association will continue reselling DAL worldwide, except in Europe where Apple will sell it directly until Independence can negotiate country-by-country agreements with resellers and systems integrators to provide a comprehensive network for European customers. It will deliver the Data Access Language upgrades and extensions previously announced by Apple, notably DAL 2.0, which will appear later this year, and will include enhanced application development between DAL and Open Database Connectivity. In the Wall Data pact, Apple will license its SNAPS product line and technology to the Redmond, Washington company, and Wall Data will assume primary development, sales, marketing and support for Apple SNA software with the SNAPS family supported by both Apple and Wall Data. The companies will exchange royalties on SNAPS sales. But going the other way, Apple has terminated its joint development agreement with Symantec Corp on the Bedrock cross-system application technology and has bought the rights to it. It says it plans to enhance Bedrock to provide developers with a framework to build parts for the OpenDoc compound document architecture it has developed.

MICRO FOCUS UNVEILS MUCH ENHANCED CICS OPTION VERSION 3

Micro Focus Plc has come out with a greatly enhanced version of its CICS Option development environment, which is designed for developing CICS transaction processing applications to run on IBM Corp mainframes or client-server systems: CICS OS/2, CICS/6000 and the Micro Focus Transaction System. CICS Option v3.0 is a multi-user, multi-tasking environment that runs under OS/2, MS-DOS, Windows and Unix. Programming support is extended to include the CICS/ESA 3.3 command-level application programming interface and a large subset of the system programming interface. The integrated tool set includes a new screen painter, new resource definition facilities, an enhanced command processor and full CICS emulation, and communicates with other copies of CICS Option and with IBM's mainframe and network-based CICS. Under their alliance, IBM and Micro Focus are working on a common integrated application development environment for CICS which will include Micro Focus development tools and IBM CICS production technology, to be the basis of the next release of CICS Option. CICS Option has been constructed so that most CICS applications can be downsized without modification - most programs should need no more than moving the application source code to the CICS Option, re-translating, compiling and then running the transaction. The new BMS Advanced Screen Painter provides a full-screen facility for defining and positioning fields, labels and attributes as they would be for 3270 displays. CICS Option also now provides concurrent support for both ASCII and EBCDIC data within the same system. Out now, it's \$1,250.

MASSACRE OF THE INNOCENTS: 1,025 GO AT WORDPERFECT

WordPerfect Corp is triggering a bloodbath ahead of its still unconfirmed flotation, axing 1,025 employees or 17% of its workforce in a restructuring that sees the company reducing core in-house manufacturing services; transferring the localisation of some international language versions to outside contractors; and outsourcing many other functions that were previously done in-house. Employees at the company's Orem, Utah State headquarters who receive lay-off notification will continue to receive full salary and benefits for 60 days, and will also have access to career counselling, placement services and a full service career resource centre, the company said. It acknowledged that the cuts are partly to improve profits in order to brighten chances for a future initial public stock offering. Wordperfect says 1993 sales were over \$700m, up about 20%, but that profits, which were not given, lagged its turnover growth.

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X/Open Co Ltd will let us know this week the outcome of its vote on the **Tivoli Systems Inc** systems management proposal (UX No 465): folks involved are under pain of death not to spill the beans. X/Open is preparing a missive that'll describe the course of action it proposes to take on the difficult systems management issue.

Meanwhile, **InfoCorp** attributes mixed messages coming out of **Novell Inc** to friction between NetWare and UnixWare camps over future direction. UnixWare, Novell's Unix SVR4 implementation, is being pressed into service both as an application server adjunct to NetWare and a de facto Unix server standard. As such, the platform gets the thumbs down from users *Computerworld* polled recently. They told the paper UnixWare does not fulfill either role yet, and does not include enough built-in NetWare integration to make it any more attractive than other Unix implementations. Novell is readying new NetWare features for UnixWare, but risks alienating Unix users and vendors if it ties UnixWare too tightly to NetWare.

Sun Microsystems Inc CEO Scott McNealy is soon to celebrate his 10th anniversary in that exalted position, causing him to reflect that, of the class of CEOs he started out with, only he and Jim Treybig over at **Tandem Computers Inc** still remain. Sic transit gloria mundi.

DEC's abysmal second-quarter showing (UX No 471) makes it fair game for another approach by Scott McNealy and Ed Zander, who are trying to persuade Maynard to jettison OSF/1 for Solaris-on-Alpha. If doing Unix its way has cost more than can be reasonably defended, maybe its about time the Maynard started listening to the chorus.

Arun Taneja, once the marketing VP at **Novell Inc's** now-defunct **Univel Inc** operation, has turned up in a similar role at **Progress Software Corp.**

Microsoft Corp can relax. After nine months in business the only thing the **Sun Microsystems Inc**-inspired Public Windows Initiative has managed to come up with is a list of one-line descriptions of a thousand Windows calls. Not exactly something one could implement. It's looking for help.

It looks like **Sun Microsystems Inc** is more worried about **Hewlett-Packard Co** than it lets on. About four months ago or so, it set up a tracking system to figure out why it was losing commercial accounts to Hewlett-Packard. If one were to ask HP why, it would have no hesitation answering: it's the service. Which may be why Sun spun out that service planet. HP reckons Sun is only getting 10%-15% of the new commercial accounts. Explains why Sun has recently been shouting loud about its latest slew of retail partners.

UK pricing on **Hewlett-Packard Co's** new low-end desktop workstations, servers and X terminals (UX No 471) is as follows: the desktop Gecko 712/60 costs £3,490, the 712/80i £7,800. E25 servers start at £4,501, while the E35 and E45 machines go up to £10,651. X terminals range from £775 for a 14" monochrome model and £1,496 for a colour version to £2,300 for a 17" colour and £2,000 for a 19" monochrome display.

Tandem Computers Inc's **Ungermann-Bass** has re-organised into three separate divisions: Network Products, Network Applications and Network Services. They're headed by Norm Goldberg, Marius Abel and Tyrone Pike respectively.

The voracious **Interface Group** has acquired the ten-year-old Pacific Rim Computer & Communications Show held in Vancouver. It will now be renamed Comdex/PacRim. Interface already has a Comdex/Canada-West in Vancouver that runs September 12-14.

Tektronix Inc, Wilsonville, Oregon reports that it shipped 30,247 X Window terminals in 1993, a 67% increase over shipments in 1992, adding that **Bell Atlantic Corp** has just bought 4,300 TekXpress XP350 Series terminals, and that an unnamed California Bank has agreed to buy 6,600 TekXpress XP100 units; Tektronix says that the X Business Group puts it third in 1993 shipments.

Informix Inc's OnLine Dynamic Server 6.0 will be available on **Data General Corp's** AViiON family of servers in the first quarter of 1994. The two companies are also working together to enhance the OnLine Dynamic Server's performance on Data General's symmetric multiprocessing kit.

Edison, New Jersey-based **Four Seasons Software Inc** has started shipping version 3.1 of its SuperNova relational database and fourth generation language application development environment. A new version of its 4S-Report report writer for end-users and applications developers is now also available under Solaris 2, ranging from \$900 to \$37,000.

US reports say **Oracle Corp** will add a gateway from its Oracle Office software to **IBM Corp's** Professional Office System later this year enabling users of the two systems to share messaging, directory and scheduling information. Meanwhile, version 2.1 of Oracle Office, also due later in the year will support remotely connected clients. Oracle Office is sold as a standalone product or as a part of the NetWare-based OracleWare system the company jointly markets with Novell Inc.

Mitsubishi Electric Corp has now begun marketing its Melcom ME RISC, entry-level workstation based on HP 7100LC.

NCR Corp has extended its OEM agreement for **Tandem Computers Inc's** R-series RISC-based Integrity FT fault-tolerant Unix systems for three more years: Tandem says NCR has taken over 500 Integritys since sealing the contract in March 1990 - when it was billed as an OEM pact with AT&T Co rather than NCR.

Happy Birthday C++. Developed by Bjarne Stroustrup of **AT&T Bell Labs**, the C++ object-oriented language is 10 years old. *Information Week* reports there are some 100 books devoted to C++ written in English and at least half a dozen more in other tongues.

Novell Inc plans a microkernel version of UnixWare that could run on servers alongside a native implementation of NetWare, for 1996.

Apart from the ones it already has on board, the **Open Software Foundation** has at least three other major suppliers signed up for source rights to the DME Services bundle introduced last November.

Sentinel Systems Inc president Richard Sergio is to head a new IEEE committee, which will define standards, guidelines and measurement criteria for fault-tolerant systems and components. Its first meeting is the week of February 28th in Santa Clara, California. +1 215 957 1900.

Former VP Open Products Development at **Amdahl Corp** is taking the helm at **The Ask Group Inc's** Ingres database unit.

Unconfirmed reports in US paper *Open Systems Today* say **Microsoft Corp** might hold a key to the transfer of the Unix trademark from **Novell Inc** to **X/Open Co**. Apparently enhancements in Microsoft's Xenix version of Unix incorporated back into AT&T Unix SVR3.2 mean later versions of Unix for Intel platforms incur a royalty to Microsoft. Novell inherited that arrangement from AT&T. X/Open intends to license the trademark to any vendor proving conformance to the Spec 1170 interface whether it has a Unix licence or not, violating the Microsoft trademark contract. If this is so, the question is whether Microsoft will waive its rights.

Randall Battat, one of the longest-serving executives at **Apple Computer Inc** and the man in charge of the division producing Apple's PowerPC computers, has resigned to join **Motorola Inc** as vice-president and general manager of its wireless data group sometime next month.

Computer Associates International Inc, Islandia, New York has promoted Sanjay Kumar, executive vice-president of operations, to president and chief operating officer.

Overheard - *Question*: What's the difference between Jurassic Park and **IBM Corp**? *Answer*: One is a theme park filled with dinosaurs that scare customers; the other is a movie.

We were happy to hear that one of our analyst friends confirmed our recent **SunSoft Inc-Novell Inc** scoop (UX No 470) to his own satisfaction. Even more interestingly, his source seemed to indicate that Novell might be negotiating with more people than Sun and Hewlett-Packard Co about them buying out their Unix royalty stream. The allegation suggests that Novell may be closing out the conventional Unix licensing business or at least drifting that way. So maybe Sun, the only one interested in resale rights, may not be making its move a moment too soon.

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SANTA CRUZ OPERATION PLANS SERVER SPREE, HOPEFULLY AT NOVELL INC'S EXPENSE

Keen to distance itself from the gamut of rival Unix-on-Intel pretenders - and its own recent troubles too - the Santa Cruz Operation Inc, which still has by far the majority of Unix operating system installations on Intel Corp iAPX-86 computers, has set out its stall for a new generation of packaged system software products which it hopes will fulfil specific distributed information requirements rather than general open systems goals. It envisages, for example, giving businesses access to the so-called information superhighway now enthusiastically promoted by the US Clinton administration, supplying data collection servers for mobile computing users and developing integrated systems tailored for downsizers that want to run particular database applications. For example, SCO believes that whilst many large organisations, government and education providers are already experienced users of the Internet- and Unix-based information superhighway, there will be a growing demand for "ramps" on to the system from conventional businesses that want to exploit it. Moreover, recognising what it now believes is the dominant desktop system in the general business community, SCO says it'll make these - and in fact all of its system software products - "Windows-friendly" offerings, grafting a philosophy and technologies developed by its IXI Ltd interface subsidiary. With one eye looking at a future role for itself in the increasingly competitive Unix-on-Intel market, and another eye on Novell Inc product plans, SCO intends to market this integrated system software at users who would be natural customers for NetWare. Indeed, the Santa Cruz, California-based firm sees NetWare, not UnixWare, Solaris x86 or NT as the main threat to its business. It believes that with a combination of general purpose Unix, LAN Manager for Unix networking and other integrated components like a replication server, tightly-integrated licence management, e-mail and more it can deliver in a single solution, functionality which would require several NetWare servers assigned to different tasks. Although it says it already has many of the technologies and skills it needs to address its anticipated markets, SCO says it has never before integrated, packaged and marketed them as it now intends to do. It will buy or make additional technology where required. How these new offerings will be marketed hasn't yet been decided, according to company officials who tested plans at a Wall Street technology investors conference last week. They may ship as a new tier of products or as an expansion of the current range. SCO will continue to offer a basic range of general purpose Unix servers which it now sells as the Open Server series - albeit with new Windows-friendly packaging - and although it is not writing off its desktop strategy, or indeed the Common Desktop Environment Unix front-end it is co-developing with its COSE partners, it will nevertheless concentrate efforts on the server side of its business, now some 80% and a rising share of revenues.

A Unix company (NOT)

The measure of SCO's intent is perhaps evident in its declaration that it should not be regarded as "a Unix company" but as a "server company," and that it now views open systems as a means to an end rather than an end in itself. The company is readying a new release of its Open Server and Open Desktop products - now on a third revision internally - and says it will pick up an object-based application environment, but only "when a winner becomes clear." In addition, the company wants more Windows integration with Unix technologies and is looking at developing or buying things like ODBC and OLE layers, possibly through IXI. SCO, which gets its Unix via the licence arrangement that 14.2% shareholder Microsoft Corp has with Novell Inc, says it won't be re-negotiating or upgrading those licence terms. And, although it says the SCO Unix code now includes less than an estimated 2% of Novell source, it says the probable litigation cost of terminating the licence even if that figure were to reach anything like 0%, make that option a non-starter. And, given the royalty payments it is making, it says at this point there would also be no financial gain for negotiating a buyout of the licence from Novell aka SunSoft Inc (UX No470).

IBM WORKING ON POWERPC 601 "PEGASUS" SERVERS

We hear IBM Corp is feeling at a loss for some servers and so it constructing a couple of symmetric multiprocessors around the PowerPC 601 chip. The units, one a desktop in a 80386 form factor, the other a deskside that we've heard the name Pegasus applied to, would expand up to four-ways. Although these machines could run any of the handful of operating systems IBM intends having on PowerPC, they look right now to be heavily AIX-based, with Wabi as an add-on.

X/OPEN ENDORSES MUCH OF TIVOLI SUBMISSION

X/Open Co Ltd's Systems Management Working Group has agreed to adopt parts of Tivoli Systems Inc's distributed systems management submission, and will use them as an initial working draft for management services that it is to develop. This will operate within an Object Management Group Corba environment. Services adopted from the submission - the subject of much discussion over recent weeks (UX Nos 472-465) - include policy management, policy-driven base management, scheduling management, instance management and collection management. These cover a Corba 1.1-compliant object request broker, a set of OMG Object Services-compliant object services, a set of management services and a systems management application development environment. The group says additional services, including customisation and management events, will be added during the development process - the parts of the Tivoli submission the group voted to leave out. Tivoli expects X/Open to pick-up an alternative Hewlett-Packard Co proposal for customisation management over the next few months, preferred, it believes, because its architecture allows for easier integration into a variety of object request broker implementations. Tivoli has also been named as the editor of the specifications document which describes the draft standard - it will be modified and extended over the coming months to define additional services and to incorporate feedback from the X/Open SysMan group. Tivoli says it will modify its products, which utilise OSF's DCE - already endorsed by X/Open - to incorporate any change.

Distributed Management Environment

The Tivoli submission uses OMG standards where they exist, but has extended some that aren't regarded as complete enough for use in systems management, and added others that aren't yet fully defined. The draft spec is based upon the Tivoli Management Framework - now claimed to be fully Corba-compliant - and was to have provided the framework for OSF's full-blown Distributed Management Environment. The draft specs for management services, with additions and modifications, will go forward to become an X/Open preliminary spec in around 12 months. This should encourage validation of the spec via vendor implementations and prototyping - long hand for hoping that trial-use will lead to general adoption. The preliminary spec may, because of its nature, change before being published as a fully-fledged X/Open Common Application Environment specification. The process of moving from a fully-defined preliminary spec to a CAE specification usually takes around 12 months, putting a ratified systems management specification at best around the beginning of 1996 - if there are no hiccups en route.

Inside: Mainframe house buys Patrol Software: page 2. Pentium and PowerPC news: page 3. OLE 2.0 and NCR's LAN Manager for Unix: page 4. Open Software Foundation and Object Management Group news: page 5. Siemens-Nixdorf repositions mainframes, Software piracy in the Eastern Block: page 6. Borland launches Interbase 4.0: page 7. COSE's UniForum dilemma: page 8.

FORCE OFFERS SPARC WORKSTATION MOTHERBOARDS TO EMBEDDED USERS

Force Computers, which operates out of San Jose, California and Munich, Germany, has expanded its Sparc-based embedded systems offerings with a new range of workstation motherboards with SBus I/O expansion. Force, which made its name in the Motorola/VME-bus embedded systems market, began offering its first Sparc-based products back in 1990 (UX No 311). Although two-thirds of its shipments are still Motorola/VME, only one third of new design wins now ask for Motorola-based technology. And Force now says that there is a growing demand for SBus systems that don't require the added overhead of a VME bus. While VME is still useful for customers wanting I/O flexibility, CPU interchange, flexible multiprocessing and Unix-real-time combinations, the new ESP Embedded Sparc Platform range of motherboards offers SBus and MBus flexibility (four SBus slots), faster access to new technology and lower board and systems costs. There are four products: the microSparc-based ESP3, the Weitek Sparc Power-based ESP2, the 80MHz SuperSparc-based ESP10 Model 40 and the 50MHz ESP10 Model 51. Force claims to offer OEMs and industrial integrators a consistency of product line that Sun itself does not: the ESP2 is SparcStation-2 compatible, an option no longer available from Sun and can come with Solaris 1.x or 2.x, while the board form factor, which changes size with every new Sun product line, remains the same in Force products, especially important for embedded systems customers. Force sells its product lines at three levels: boards alone; boards with system software (Unix, Solaris and real-time operating systems like VXWorks and OS/9); and integrated systems, including the chassis. It even sells complete systems to industrial users, and has just announced a multi-million DM agreement with AEG Automation for over 300 industrial workstations. Force has had its greatest success in the telecoms, industrial control, medical and prepress industry. The company, which has just opened new subsidiaries in Japan and Sweden, closed its 1993 fiscal year at the end of the calendar year with \$75m sales, an 18% increase over the previous year. It is keeping its eye on new technologies such as the PowerPC, and plans MicroSparc 2 and FutureBus+ products during the second quarter.

HEURIKON DEBUTS VME64 CPU BOARD BASED ON INTEL'S 80960 RISC CHIP

Heurikon Corp has launched a 30MHz VME64 RISC CPU board based on Intel's 32-bit 80960. The CFHK80/V960D has 4Kb of instruction cache, 1Kb of data cache, up to 16 Mb of DRAM with parity, 4 Mbytes of flash memory, and a socket for up to 512Kb of ROM. It also includes a 54Mb per second VME64 system bus interface based on Cypress Semiconductor Inc's VIC64 VME Interface Chip, a 200Mb per second Corebus local bus and mezzanine card interface, on-card Ethernet, four serial ports, and a real-time clock with 512 bytes of battery-backed non-volatile RAM. The V960D is targeted at graphics applications such as printing, image processing, and simulation, and offers 60Mb per second memory-to-memory transfer speeds. An HK80/V960D with 8Mb of DRAM costs \$4,500 and is available now. +1 608 831 0900.

MOTOROLA ADDS SVR4 REAL-TIME

Motorola Computer Group, Tempe, Arizona, has a new version of its real-time development system which now supports Unix SVR4 on 88000 family RISC-based host systems, which means VMEexec 3.0 can be used to develop embedded applications on the company's MVME197 88110-based boards. VMEexec comes with the Motorola host system, operating system for 68000 or 88000 architecture, VMEexec start-up kit and a Motorola target board which hosts the run-time environment. 3.0 also supports 68040-based target nodes and the SVR4 capability brings 88000 host systems a C++ compiler and Motorola's DeltaPro Cross Toolbox for host debugging of VMEexec real-time target tasks on 68000 or 88000-based boards. The start-up kit includes one run-time license for the appropriate kernel (pSOS+), SVIDlib and portable streams environment. Each target node in a real-time network requires a run-time licence. The VMEexec 3.0 development environment is priced at \$5,700 for 68000 or 88000 host systems and \$7,500 for both 68000 and 88000 target environments. +1 602 438 3287.

MAINFRAME SOFTWARE HOUSE BMC BUYS INTO PATROL SOFTWARE

Mainframe systems administration software house BMC Software Inc has taken its first step into the world of client/server by acquiring Patrol Software for \$33.7m in cash. Patrol Software is primarily based in Australia, but also has operations in California, and the firm's flagship product is its Patrol systems management software. This has a distributed event manager based on intelligent agents that monitor and control heterogeneous computing environments from a single point on the network. The two firms originally got together to discuss a technology exchange, but then decided they could gain more by merging, which they have now done. Patrol Software Inc staff have been moved into BMC headquarters in Houston, Texas, but the Patrol name will be retained for that company's existing offerings, which are available from BMC and existing Patrol distributors now. While Patrol Software wanted to broaden its product set and was interested in BMC's knowledge of the DB2 arena, BMC had been developing a client-server infrastructure to manage high-end servers for some time. BMC now intends to take Patrol Software's framework and lay its own tools over the top. It also plans to integrate some of its existing tools with Patrol's in such areas as change management for relational databases. Patrol Software, on the other hand, will take the repository and communications infrastructure that BMC developed to expand its own framework at the high-end, so it can cope with hundreds of Unix servers. Elements of this will be incorporated into Patrol version 2.0, scheduled for release in April, but will be further rolled out in later versions throughout 1994.

SAP AG ATTRIBUTES GROWTH TO STRONG SALES OF R/3

SAP AG attributes its growth in turnover for fiscal 1993 primarily to strong sales of its Unix-based R/3 accounting and financial applications, and says it has already recouped the \$300m in research and development it spent on building the product. The Walldorf, Germany-based software house saw 1993 revenues increase by 32.3% to £443m, while profits rose 15% to £57.1m. The number of R/3 customers grew to 1,102 during the year, while the UK operation doubled its customers from 24 to 55 - although SAP previously only had R/2 - the mainframe equivalent of R/3 - users in the region, it says each new customer in 1993 except for one purchased an R/3 licence. UK turnover rose 46.4% to £10.1m. Outside of Germany, the US is still SAP's largest market, however - revenues here increased by 150% to \$140m. But the company is still working on developing R/3 further. It plans to support both Sun Microsystems Inc's Solaris and Microsoft Corp's Windows NT on Sequent Computer Systems Inc machines by the second quarter, although other NT ports will follow. And for customers that want to use both R/2 and R/3, it says R/3 is now 80% binary compatible with R/2 - it should be 100% compatible by the end of the year.

SPRY AND NETWISE OFFER WINDOWS-TO-UNIX INTEGRATION

Seattle firm Spry Inc and Boulder, Colorado-based Netwise Inc claim that a combination of their respective SunSoft Inc ONC remote procedure call tools will allow developers to more easily integrate Windows-based client applications with Solaris, UnixWare and Netware servers. The tools leverage Microsoft Corp's Windows Open System Architecture (WOSA) specification called WinSock, which is designed to allow the Windows operating system and applications to be integrated into heterogeneous client/server set-ups. Spry has ported its transport-independent TI-RPC library to comply with WinSock, enabling TCP/IP ISVs supporting WinSock to access Unix host applications using the TI-RPC library from Windows. The Netwise ONC+/RPC tool is an RPC compiler that generates the communication code required to develop distributed applications. The Spry technology ships with its Air series which goes from \$150 to \$400. Netwise RPC tools are \$500 for Windows, \$1,000 for Solaris, NetWare and UnixWare. There are no application royalties.

TIVOLI ADDS SUPPORT FOR NETWARE SERVERS, MICROSOFT CLIENTS

With its technology now given a new kind of legitimacy by virtue of the X/Open Co Ltd decision to adopt at least part of the Tivoli Management Environment (TME) in its proposed standard for the management of distributed systems - see front page - Austin, Texas-based Tivoli Systems Inc hopes to win new enterprise-wide customers by extending the scope of its TME to support NetWare servers and MS-DOS, Windows and Windows NT desktop systems as clients. The firm is also adding storage management and scheduling applications to those already available for TME, courtesy of Epoch Systems Inc and AutoSystems Corp. TME Agent will, the company says, allow personal computers of all sizes and configurations to be managed as part of mixed Unix and PC environments from TME. Furthermore, by making a new release of its Tivoli/Courier software distribution package available for use with TME Agents, the firm says applications can be distributed to PC LANs and desktops. TME Agent for Novell Inc NetWare servers requires 100Kb memory and will ship next month at from \$2,600 for a server that supports up to 50 clients. Tivoli/Courier 1.8 using TME Agent for NetWare, will also be available from March. DOS, Windows and Windows NT versions will follow in the third quarter - the DOS TME Agent will require 6Kb memory. In its alliance with Epoch and AutoSystems, Tivoli has effectively got the two firms to put their storage management software up under TME, meaning file systems, relational databases and other data stored and managed using either of the two firms' technologies can now also be managed directly from TME. Tivoli will sell and support both applications. Tivoli/EpochBackup is an implementation of Epoch's Enterprise Backup, allowing users to backup and restore data on different storage devices across a variety of network types. Tivoli/Workload, is a version of AutoSystems' AutoSys distributed job-scheduling and workload management application. Workload, due this quarter, will cost from \$9,500 for the master server and \$500 to \$9,500 for job execution machines. EpochBackup will be priced at from \$1,000 for a single node to \$150 per node in 50-node networks from the third quarter. Tivoli's Corba 1.1 TMF 2.0 framework will be up on Solaris, HP-UX, Unix SVR4, AIX and on Windows NT and NetWare servers from March. In related news, Tivoli has named a former Amdahl Corp and Arthur D Little Inc staffer Stephen Wright as director of a new consulting group, Tivoli Professional Services, which will offer analysis, migration planing, customisation and training to customers and potential clients.

KEEN PRICING REPORTED FOR APPLE'S POWERPC MACS

Pricing for the new PowerPC Macs will be crucial to their success in the market, and *PC Week* reckons it has a handle on them. It says Apple Computer Inc plans to price the first three machines, due on March 14, at \$2,100 for the 60MHz PowerMac 6100/60 with 160Mb disk; the 66MHz PowerMac 7100/66 with a 250Mb disk will be \$3,000; the 80MHz PowerMac 8100/80, with 250Mb disk will be \$4,500; prices include 8Mb memory, the monitor and keyboard.

APPLE "WILL LICENSE 68000 TRANSLATOR ROMS;" IBM DECLINES

Apple Computer Inc has apparently had a change of heart and will license Macintosh System for the PowerPC to other manufacturers, despite what it was saying last summer, by offering the ROMs for the PowerPC Macs, including the 68LC040 emulator, Stephen Howard, senior news editor at *MacWeek* tells us. He says Apple has already licensed it to DayStar Digital Inc, which makes PowerPC upgrade boards for current Macs. He notes that while Apple's emulator is "extremely good" and "pretty amazingly fast," it is relatively slow compared with native RISC code. The PowerPC ROMs also include a mixed mode manager that enables programs to have both 68000 and PowerPC code in them, and routes each instruction to the appropriate destination - emulator or main CPU. IBM Corp has apparently decided against making its PowerPC machines - the so-called PowerDesks - Maccompatible, although it said it was still considering offering Macintosh software as an option to customers buying PowerDesks if Apple "complies with industry standards".

IBM DROPS RIGHT TO MAKE PENTIUM TO GO NAP ON POWERPC

IBM Corp is so confident that the PowerPC will be a runaway success as a personal computer processor that it has decided to pass up the right to fabricate Pentiums and successor chips for its own use - but in return for giving up the rights, it has persuaded Intel Corp to pay it an undisclosed cash sum - "not a large amount," says Intel - and "other considerations", and to grant it the right to make 80486 variants in larger numbers than was previously permitted. That last right could prove extremely valuable since presumably IBM is entitled to develop ever more powerful and functional variants provided that they do not infringe on anything that is specific to Pentium - and the need for the complexity of Pentium for the average user is still far from proven. IBM says that because it does not presently use the processes required to fabricate Pentium, it would have cost it a lot of money to put them in place, and this way it will have more resources to devote to PowerPC. "We've made a commitment to PowerPC," James Cannavino, now described as IBM's top strategist, told the Wall Street Journal: "We just didn't think it was productive for us to make Pentiums." IBM now has the right to make as many 80486-type parts as it buys from Intel - previously it was restricted to making 20% of its own requirement. And the versions that it makes do not have to match those made by Intel in terms of variables such as clock speed. Intel says it will be able to make the transition to Pentium chip production more quickly now that IBM has agreed to make more 80486 chips, thus decreasing the production demand on Intel - IBM remains its biggest single customer. Cannavino said it would have cost IBM several hundred million dollars to put in lines from scratch to make the Pentium. The two also extended their patent cross licence pact.

INTEL SEES \$2,000 PENTIUM BY YEAR-END, 300 MIPS P6 IN 1995

Gordon Casey, Intel Corp's director of investor relations, told the conference that prices for computers using the Pentium chip should drop by about \$1,000 by the end of the year from the present level of around \$3,000. "We see 1994 as the year of the Pentium processor," Casey said, adding that Intel expects it to account for about 15% of the personal computer market in 1994 - and it has also started production of a 0.6 micron version of the Pentium. Although it is still early in the new year, Intel sees signs that demand will continue to be strong for personal computers. He said the 80486 remains Intel's "bread and butter" chip and the company will introduce new versions this year, notably the clock-tripled 80486 DX4. Intel expects strong demand for its Flash memory chips this year, and reckons that its Flash business could easily be double the \$300m it recorded last year. Meanwhile, Intel will demonstrate its next-generation P6 microprocessor within a year and begin selling it later in 1995, chief executive Andrew Grove told financial analysts in New York. The chip will operate at 300 MIPS, about three times faster than the current Pentium, and will integrate almost 6m transistors, about twice as many as Pentium. "A 1,000-MIPS system will be straightforward with P6 technology" using four CPUs, he says.

DATABASE MAJORS TO AGREE MANAGEMENT INFORMATION BASE

The top relational database vendors are collaborating to define a standard Management Information Base for managing heterogeneous relational databases using the Simple Network Management Protocol. The open specification will enable users to identify and characterise databases from any vendor using any third-party SNMP-based management tool such as SunNet Manager, HP OpenView, NetView/6000 or NetLabs/DIMONS. The 12 involved are ASK Group, Borland International Inc, Digital Equipment Corp, Gupta Corp, IBM Corp, Independence Technologies Inc, Informix Inc, Oracle Corp, Progress Software Corp, Red Brick Systems Inc, Sybase Inc and Tandem Computers Inc. When queried via SNMP, a database will return information identifying itself, the database vendor, and some fundamental parameters that characterise database status and its activity level.

EXPERTSOFT ADDS DISTRIBUTED FUNCTIONALITY TO C++ XSHELL

Four-year-old San Diego-based Expertsoft Corporation, an up-and-comer in the object arena, has redesigned its C++-based XShell object management environment, consisting of its XShell ORB and a suite of integrated tools and services that's used for application development, with a new distributed daemon architecture, reports our sister publication, *ClienT Server News*. The latest version, 3.0 - which currently supports Windows and NT as clients - features new services and tools for namespace management, administration, security and transaction management. Expertsoft believes XShell blurs the distinction between Unix and NT. By April, Expertsoft expects to support NT fully as a peer-to-peer both as far as messaging goes as well as control, something it may have over competitor Iona Technologies, now a teammate of Sun Microsystems. Expertsoft could bring a level of functionality to OLE such as inheritance, a key ingredient in object-oriented programming.

OMG submission

Although XShell's initial development predates the Object Management Group's first specification of its Common Object Request Broker Architecture, this new version supports CORBA's static client interface and the company will add full support of CORBA's dynamic client interface and server-side interface over this next year. Expertsoft claims the XShell DOME contains the industry's only distributed ORB with transparent object distribution, asynchronous messaging, encapsulation of legacy code, integrated services and platform independence. Expertsoft further claims that it delivers the interoperability that's been missing to date from this kind of stuff. It is expected to submit its technology to OMG to answer its CORBA 2 interoperability RFP. So did 12 other companies. OMG is already famous for the alliances its standards efforts create and the company most closely attuned to Expertsoft is NCR with its Cooperative Frameworks. Expertsoft creates the illusion of locality by making objects appear as if they were in a local program when they actually exist transparently on remote machines as surrogates. This way XShell can define objects that are both clients and servers and facilitate peer-to-peer computing. The other key element in XShell's core technology is asynchronous messaging which improve speed and data transfer rates. It also allows the entire network to be treated as a parallel supercomputer for large computational problems. After considerable study, XShell has been selected by Andersen Consulting Eagle Technology Team, an advanced development group, as the basis for a new distributed object architecture supporting custom vertical applications. Eagle reportedly compared it to CORBA products and found it superior in speed and functionality, particularly its transparency in migrating objects, its optimisation in managing large objects and its ability to support additional concurrent users by distributing ORB functions around the environment. XShell currently supports Sparc, HP, RS/6000, SCO Unix and Silicon Graphics machines. Its Distributed ORB and bundled services including Object Naming Service, Class Processor and Administration Tools are priced at \$9,600; its XShell Security, XShell IDL Compiler (available in the third quarter) and XShell TP Manager at \$3,000 each and its XShell Rules and XShell Fuzzy at \$4,800 each. All are priced per developer seat. Run-times are \$500 per product per user.

NCR DISTRIBUTES OEM VERSION OF PEGASUS LAN MANAGER FOR UNIX

NCR's Software Products Division is distributing Alpha versions of Pegasus source code, its next generation of LAN Manager for Unix, to a narrow band of OEMs. Pegasus will let LAN Manager for Unix sites, which represent roughly 50,000 servers or 10% of the network operating systems population worldwide, interoperate with Windows NT Advanced Server and co-exist with it seamlessly on a peer-to-peer basis. Pegasus essentially puts Advanced Server's networking components and some of its key attributes such as security and inter-domain trust relationships, onto Unix, allowing Unix users to experiment with NT and possibly providing them a migration path. NCR, which has had sole responsibility for LAN Manager for Unix since Microsoft ceased supporting it last year, expects to release the Pegasus code to a wider OEM base early next quarter, with end user implementations due later in the year. Pegasus will initially be available for SVR4 environments but NCR also plans to put out a binary product, its first such endeavour, for Novell's UnixWare this quarter.

MICROSOFT TO RELEASE OLE 2.0 DEVELOPMENT TOOLS IN MARCH

Microsoft Corp will attempt to give its Object Linking and Embedding 2.0 compound document specification a leg-up over rival technologies by releasing tools in late March that are said to speed application development by two or three times. Computerworld reports that OLE Controls, or OCX, will be a major enhancement over its predecessor, Visual Basic Controls. The software will enable developers to build objects that encapsulate OLE 2.0 functions - the objects then appear on a tool palette within a visual programming environment. Developers can take a given OCX object, such as a spreadsheet, from the tool palette and drop it into the code being developed. This provides it with full OLE 2.0 capabilities. Computerworld also indicates that Microsoft is working on an OCX development kit and a new version - 2.0 - of Visual C++, "which will work hand in glove". Although Visual C++ 2.0 and its class libraries will be able to generate most of the code needed to implement OLE 2.0, developers will need to use Visual C++ with the development kit to create an OCX. Finished OLE controls can be used in other languages however, such as Visual Basic. Both products will go into beta in late March or early April. OCX controls - small stand-alone control applications that communicate via OLE 2.0 - won't be around in any numbers until later in the year. OCX controls should allow, for example, a spreadsheet icon on a toolbar within Microsoft Access to be dragged into a work area and linked to a database.

VISIGENICS EUROPE LAUNCHED IN UK

As expected (UX No 472), Roger Sippl, former founder and chairman of Informix, launched Visigenics Europe in the UK last week. The company, which is supported by \$5.5m venture capital and private funding, plans to provide object-oriented graphical application tools for existing programming languages such as Microsoft Corp's Visual Basic, Informix 4GL, Micro Focus Cobol, C and C++. Visigenic's first product is V/Forms, a graphical application development tool for on-line transaction processing database environments. It comprises two key components: a View Painter, which enables a developer to choose which database fields are needed for the form; and the Form Painter, which creates, modifies and repositions all the visual objects on the form itself. The Form Painter also includes a code generator producing source code that implements the database transaction operations (such as insert, query, next, previous, update) and inter-table relationships, including coordinating searches and notification across master-detail relationships. Other V/Forms features include a set of widgets, palettes, graphical control box and on-line help desk. V/Forms will initially be available for Informix 4GL, with versions for Micro Focus Cobol, C and C++ to follow later in the year. It is scheduled for release this quarter. Future product releases will include design tools for report writing and data visualisation objects, the company says. The European operation, which is based in London, will be headed up by Malcolm Padina, Visigenics vice president Europe. Padina is currently setting up reseller and ISV channels.

BANYAN NETWORK SERVICES UP ON HP-UX

Following their agreement in April of last year, Banyan Systems Inc's Enterprise Network Services (ENS) is now up on Hewlett-Packard Co Unix servers running over HP-UX. Although the firms had originally planned to put both ENS, and Vines, Banyan's Unix-based network operating system, up on HP-UX, in the months since April 1993 Banyan has differentiated the products in such a way that ENS now includes all of its network functionality - Vines is ENS implemented upon the plus the company's own Unix derivation. ENS comprises messaging, directory, security and management services including file and print sharing capabilities. HP will market ENS for HP-US in Europe - Banyan will put the software through its own channels in the US. ENS on HP-UX means PC LANs, Vines networks and other clients, including workstations, can co-exist on enterprise-wide networks hosted by HP Unix servers and share networked resources. ENS for HP-UX supports MS-DOS, OS/2, Windows and Unix clients. Banyan is revising the pricing structure for ENS and Vines to a user-based fee from April 1st so that a 20-user licence for ENS HP-UX is priced at \$5,500 - \$55,000 for 1,000 users. Vines will list at \$3,000 for 10 users to \$15,000 for a 250 user licence. A discounted upgrade plan for existing users is also in effect. Already available for SCO Unix and Novell Inc NetWare, ENS will appear in for Solaris and AIX incarnations later this year. +1 508 898 1000

OSF ADDS DME SERVICES TO DCE 1.1 - SEES OBJECT-READINESS

Most of the changes to Open Software Foundation's Distributed Computing Environment release 1.1 are being supplied by primary contractor Hewlett-Packard Co, including work on the security core. It will, as expected (UX No 472), feature additional configuration and administration tools derived from HP's submission when it ships later this year, though whether HP's secure NFS-DFS gateway is also included remains to be decided. OSF director of interoperable technologies, David Lounsbury, says the Foundation is still negotiating with its technology suppliers about the final make-up of DCE 1.1 and believes it would not be a problem if technology like HP's gateway were to remain a value-added product. The goal of getting administrative and other enhancements like automatic start-up of DCE servers into DCE 1.1 is partly, however, to ensure that vendors can't use, at a basic level, these kind of additions as product differentiators. Services spawned by the now severely curtailed Distributed Management Environment 1.0 programme for which DCE is a pre-requisite - like software distribution and licensing - will be offered as "vertical applications" for DCE. Other DME 1.0 components, including programming services - such as event services which can define, monitor and report on system conditions - will be included in the core DCE bundle. Lounsbury says the version of event services available in DCE will be a greatly enhanced version of those made available as DME 1.0 services. DCE 1.1 is due around September, around the same time as OSF's network management option, which will be announced late next quarter (UX No 472). Based upon the X/Open XMP application programming interface, it will be offered as a separate component and is viewed as a building block for vendors' own network management systems rather than an end-user tool, which DCE is certainly intended to be. OSF expects to begin work on defining DCE 2.0 over the next couple of months, which will be the vehicle for any future distributed services development.

Hard task

In between, Lounsbury expects most DCE work to be focused on getting different DCE vendor implementations working together so that OEMs will have a consistent set of APIs and methodologies for implementing anticipated Object Management Group Corba 2.0-compliant object request brokers on top. It might seem ironic that OSF regards itself as the workshop for the job of harmonising DCE implementations in readiness for a distributed object framework that it was to have supplied under the original DME programme. But Lounsbury clearly believes the task of delivering object-readiness will itself spawn the need for a host of DCE improvements that will keep it busy. And "DCE and Corba map well," he says optimistically. He's less optimistic about the chances of being able to offer the DME services on Corba object request brokers, but has a couple of engineers still looking at it. The problem is that Corba 1.1 applications aren't portable and implementations aren't compatible. Indeed, "the problem of developing and implementing management services for distributed environments is a factor of the problems associated with object-oriented programming," he believes. Whether OMG can reconcile differences between first generation object technologies in Corba 2.0 "is a large, hard task," says Lounsbury who's been peeking at technologies around the corner.

SAMSUNG DEVELOPS MULTIMEDIA FOR PUBLIC RELATIONS

A spokesman for Samsung Moscow says the main motivation for the company's recent initiative to develop multimedia products using Russian programmers was public relations. The South Korean electronics firm announced the opening of a programming laboratory in Moscow in December with just \$15,000 invested in the project. Software companies Okrus and Transcom say they have had negotiations with Samsung to develop a set of optical recognition software products for Russian and English-language texts. But Samsung says the firm is negotiating with many companies.

PERSISTENCE WILL BE ADDED TO OMG COSS SPECIFICATION...

Although HyperDesk Corp hasn't trumpeted the fact, an interface it has developed between C++ and the Object management Group's Interface Definition Language has been adopted for use by OMG as part of the Common Object Services Submission (COSS), which is also made up of Sun Microsystems Inc and IBM Corp development work (UX No 466). COSS specifications define relationships between objects, networks and applications and covers conventions like naming, persistent object storage, events, execution and addressing. It is described as similar to, but at a different level of abstraction, from Microsoft Corp's Object Linking & Embedding. Although COSS components have already been agreed by the last object services committee meeting at OMG, HyperDesk's persistence technology must pass two more votes, at the technical committee and board level, before it can be published as an OMG specification in Corba 1.2 - a "rationalised" version of the Corba 1.1 standard established at the very end of last year. OMG therefore plans to publish COSS specifications without persistence and add it later as an addenda.

...TRANSACTION SERVICES STANDARD TO BE SPEEDED...

Topics under discussion at the OMG meet in Salt Lake City, Utah, last week, included among other things, transaction services and relationship services, and OMG's common facilities taskforce (UX No 466) held its first meeting there to discuss distributed compound documents. Relationship services examine ways of expressing how objects relate to each other in a database - for example, if a user looks at an employee object, the idea is that the object can be linked seamlessly to another object to provide other relevant information like employer details, previous experience etc. Meanwhile, OMG's work on developing a transaction processing specification is gathering steam. The major participants in this effort are IBM, Tandem, Transarc, Novell, Iona, and SunSoft - ICL and Tivoli will also join in. They are all expected to support a single proposal, although each will develop its own implementation. Their aim is to speed up the ratification process - an important factor given that many of the database vendors are threatening to incorporate transaction processing capabilities into their databases. Final submissions for CORBA 2.0 are due next month and will be discussed at the next OMG meeting in Berlin in March.

...BUT WHAT ABOUT OBJECT STORMS ?

Is all or any of this object stuff actually working? That's one question which if it wasn't, then certainly should have been addressed at last week's OMG meeting in Salt Lake City. With every vendor, ISV and their dog claiming OMG and Corba-compliance - or at the very least to having object versions of their technology (but hang on, wasn't that open systems, sorry, client/server?), the situation is getting very confused. Part of the problem is that "real" OMG-based object implementations are little more than development systems, good for techies but not much use for anyone else. Meanwhile, the "object" applications that are around don't appear to be any more portable than their predecessors and first-generation object request broker implementations are incompatible. Indeed, where object-based systems, such as distributed computing and management services, have been tested at customer sites, a new crop of problems are already emerging, say integrators. In particular where, for example, a new object-based systems management environment has been implemented alongside some existing management tools a user wants to keep, the result is often described as an "object storm". This where requests from the different tools do battle with each other across a network to trying to reach and return from their targets. The only way around it, the frustrated integrator admitted, is to implement the new system, and only the new system, from scratch. The fact that these problems are said to be associated with certain technology implementations may be due more to the fact that as yet there just aren't that many products around, rather than a specific vendor's techniques. Nevertheless, with a slew of object paradigms around the corner, it's a problem vendors could do well to address now. Part of the problem may lie in the need for a single set of object services for applications and tools or ORB so that all applications see the same interface. Indeed, object storms may just be the younger brothers and sisters of so-called "network storms" the subject of discussion in other circles - and exactly the reason there are now multiple efforts to provide integrated network and distributed computing services users are more likely to buy.

NEW RUSSIAN LAW PUTS HEAVY FINES ON PIRATE SOFTWARE, IF IT IS EVER IMPOSED

From this month anyone illegally using a computer program or database in Russia is liable to pay up to 50,000 times the statutory minimum monthly salary in damages to its owner. Until this month an exemption allowing the use of copied software for educational purposes had applied. The law gives computer programs and databases the full protection of Russian copyright legislation and now gives a court the power to impose heavy compensation settlements and to confiscate illegal copies and duplication equipment. After over a year of delay, the law on the Legal Protection of Computer Programs and Databases finally received President Yeltsin's signature as part of package of four laws on intellectual property last August. It has been praised by international anti-piracy organisations such as the FAST Federation Against Software Theft.

Blatant disregard

The problem is that so far it has not been tested in the courts, and blatant disregard for it is so widespread. Probably a greater proportion of popular personal computer packaged software products in use are pirate copies in Russia than anywhere else in the world. Jurgen Stranghoner, general manager, Eastern Europe at Microsoft Corp estimates 98% of Microsoft products in use there are pirated. A big problem is the cost of a legal copy relative to the productivity of the average user. Software is bought to increase efficiency. The majority of Russian users are in organisations that have very limited funds and lots of people. All but the most enlightened managers will make the decision that one member of staff is very unlikely to create an extra \$100 in value if he or she is bought a legal version of a package that's already being used illegally. A connected problem is that communications in Russia are so poor. A major reason one buys software rather than stealing it is the access to a telephone help-line. Setting up help-lines in Russia is extraordinarily difficult because the telephone system is so awful. Only in the last month has Microsoft announced that its Moscow help line is fully up and running. So far Western software companies have adjusted to the situation as best they can. Most have been keen not to alienate the majority of their individual users who usually cannot afford to buy the legal product. Instead of penalising them, they are trying to win them over, betting that once they have sufficient income they will buy a copy. For large corporate users, software companies are trying to make the legalisation of many copies easier and cheaper. At the end of last year both Borland International Inc and Microsoft introduced multiple licences that cut the cost of buying several installations of the same product. The other major factor in organised piracy is that up until now if you stole software there appeared to be no chance you would be caught and fined. It is in the area of mass copying for commercial benefit that someone may choose to be the first to test the law. Likely targets are computer assemblers. Several large Russian assembly operations openly supply personal computers with unlicensed copies of MS-DOS. The new law is a worthy statement of intent. Now it is at last on the statute book it is time see if it has any teeth.

IBM WINS COCOM LICENCE FOR VECTORS

IBM Corp says it has been granted the first CoCom licence for an IBM vector processor supercomputer in Eastern Europe. IBM Russia recently opened the computer centre of the Moscow-based Central Geophysical Expedition Organisation, founded to establish a full function petroleum application and data service for the oil industry. The project involves the support of 30 oil-producing enterprises and the Russian Central government. IBM is the main project partner of the Organisation providing technical and industry support and project management through IBM's European Petroleum Application Centre in Stavanger, Norway. The centre provides a range of technical and commercial petroleum exploration and production services. The computer environment will be an IBM ES/9000 vector processor and a cluster of RS/6000 processors. The software installed at the centre includes Schlumberger GeoQuest and reservoir simulation applications from INTERA Geco-Prakle three-dimensional seismic technologies.

UK'S WAKEBOURNE BUYS SOURCE TWO

Wakebourne Plc, the new name of the reconstructed Maddox Group Plc computer services and support group, has bought the principal assets and goodwill of Source Two Ltd, an authorised Sun Microsystems Inc reseller and UK-wide provider of AutoCAD enhancement products, from the receivers for a nominal sum. Wakebourne, based at Hanworth, Middlesex, near Heathrow Airport, says that Source Two provides a complete range of computer-aided design services, including turnkey installations, comprehensive training services and technical support with a hotline facility for system enquiries. It specialises in mechanical, electrical, petrochemical and civil and architectural markets, and had sales of £3m for the year to December 31, down from £3.7m the previous year. Source Two will now relocate from its current base at Harefield to Wakebourne's Hanworth headquarters.

SNI RE-POSITIONS MAINFRAMES AS "OPEN", WORKS WITH KENDALL SQUARE, PYRAMID

In response to the threat posed by client/server systems, Siemens Nixdorf Informationssysteme AG is trying to position its BS2000/OSD mainframes as "open" systems. At Cebit next month, the company will demonstrate how OSF's Distributed computing Environment can be used with Sinix, SNI's Unix, and personal computer client machines in a BS2000/OSD universal transaction monitor. It also reckons its mainframes will be Posix and XPG compliant by 1995. Furthermore, SNI says it is now developing its last machines based on ECC technology. From the start of 1995, the firm will begin building new systems based on Fujitsu Ltd's CMOS microprocessors, which, it claims, will offer price/performance improvements of 20% to make them more competitive against high-end Unix servers. Such mainframes, it says, will be clustered via fibre-optical, channel-to-channel coupling and global storage, but will have a single system image. SNI will also launch a raft of software at Cebit to support this repositioning including a new version of Drive/Windows, a graphical object-oriented development environment that enables users to build either pure Sinix or BS2000/OSD applications or distributed applications. On the Unix side, the company says, it is developing a massively parallel with Kendall Square Research Inc and collaborating with Pyramid Technology Inc on multiprocessing software. And on the client side, it plans to put Microsoft Corp Windows NT on its personal computers and workgroup servers. Support for Chicago and Cairo will follow, as they become available.

VISUAL EDGE LAUNCHES ACTION TOOLSET

President of graphical user interface tool company Visual Edge Ltd, Quebec, Canada, Michael Foody, was in Tokyo last week to announce over there its newest tool, Visual Action Toolset, which enables developers to take Adobe Systems Inc PostScript files and used them as visual interfaces in the Unix and OSF/Motif environments (UX No 471). Leading Unix software house Astec Ltd will distribute the new product in Japan. Astec already distributes Visual Edge's graphical user interface builder UIM/X and claims that 1994 will be the year in which it really takes off in Japan, at a rate of 50 to 60 units per month. UIM/X has accumulated sales of 20,000 units, including those sold both directly and OEM through vendors such as IBM Corp and Hewlett-Packard Co. Privately-held Visual Edge says its face value annual sales totalled \$40m last year; its actual revenue is probably half that. Visual Action Toolset took \$1m to develop, and Adobe lent assistance with coding; Foody says that Visual Action is the first suite of tools to assist Motif developers in the creation of "Live Document" applications, applications front-ended by high-quality PostScript documents that use pre-built widgets to lay out behaviour on top of the documents. Take-up of the product in Japan may be hampered by the relative obscurity of PostScript and particularly Display PostScript, which does not come bundled with workstations in Japan as it does in the US; however Adobe has promised to bundle Japanese fonts with the product. The price of the Visual Action Toolset in Japan has not yet been decided.

SONY" PREPARES FOR MORITA SUCCESSION"

Sony Corp has announced a restructuring of its business into three group companies and five division companies. The current structure, which dates from 1983, no longer suits the diversified Sony organisation, said President Norio Ohga, but observers see the re-organisation as a move to prepare the company for a new age of leadership of men other than the founders, the most famous of whom, chairman Akio Morita, had major heart surgery late last year. While it now appears that he will recover, there is little thought of his assumption of the major reins of power at Sony. President Ohga has also been in the job for over 12 years. The three group companies, which do not appear to have been named yet, are a consumer audiovisual company, a components company and a recording media and battery company, while the five division companies will act in the fields of broadcasting equipment, systems business, personal information and communication, mobile electronics and semiconductors.

BORLAND UNVEILS INTERBASE 4.0 TO HOOK PCs CLIENT SERVER SYSTEMS

Borland International Inc, Scotts Valley, California has finally announced version 4.0 of its Interbase database server system, with added features to hook personal computers into client/server-based systems. The product uses the IDAPI Integrated Database Application Programming Interface database communications interface, and has been enhanced to respond directly to native desktop commands simultaneously with SQL. The code that enables record-based access to server data is built into the server's query interpreter and optimiser, which according to Borland means that there is no overhead on server performance. The software has also been given the ability to make data seem local on the desktop. This means that users accessing data from the personal computer can scroll through the data in real time; bi-directional pointers between all records mean that personal computers do not need to re-run queries on the server to do this. Similarly, users can commit a transaction and preserve their cursor's position. Borland says that the product also makes it easier to communicate updated records to the user, thanks to a cache update function. The user can express interest in a set of records and then an event alerter tells the user when a change has been made. Other features include explicit locks, where the user can ask for a lock to remain on a record even when an update has been committed. The firm has developed the product to support the ANSI SQL 2 standard at the entry level, and has included some elements of the ANSI SQL 3 standard, which is still in an embryonic form. A journalling manager has been installed to speed up recoveries from system failures, and Borland has made it possible to access data from the database in more than one language simultaneously. The product will be even later than Borland initially said; the company, which has long had a reputation for tardiness, was originally planning to ship in mid-1993 but then promised a release in the first quarter this year. Now it is talking about a "phased rollout" in the second half of the year. One would have thought that chief executive Philippe Kahn would have learned his lesson after the firm shipped its Paradox for Windows relational database management system late. Interbase 4 will be available for Windows NT and OS/2, and as a Novell Inc NetWare Loadable Module, along with the traditional Unix and VMS systems, but pricing has not yet been announced.

ORACLE'S MEDIA SERVER HAS THREE MAIN FEATURES

Oracle Corp's new Oracle's Media Server database management software comprises three elements. The first is an Oracle Video Stream Server multimedia database, which has all the relational capabilities of the firm's existing products, but can also deal with video and audio data streams. Object-oriented capabilities will be added later with the release of Oracle8. The product can store digitally compressed television programmes, films, magazines, books and catalogues, and then transmit them digitally to set-top boxes attached to television sets in the home. The second element is Oracle Media Objects, a development environment for building interactive multimedia applications, such as finders for video-on-demand and home shopping, that run on both desktop computers and set-top boxes. Media Objects is based on Oracle Media Talk, an object-oriented, English-like scripting language that has its "heritage in hypertext," and runs under Microsoft Corp's Windows and on Apple Computer Inc's Macintosh. The third element is Oracle Media Net, a message-based protocol for linking application clients and servers via standard telephone lines.

LOOX OFFERS GUI BUILDER - WITH BELLS AND WHISTLES

Company's offering to add an object-based graphical user interface to Unix applications are coming thick and fast (UX No 472), and the latest is Sunnyvale, California start-up Loox Software Inc. Although the end result of Loox 2.0 is an X Windows-based Motif interface, the company differentiates its system by offering bells and whistles like the ability to create graphical representation of any object or instruction the user has to manipulate or interact with, using the GUI functionality provided by Motif. Loox comes with LooxMaker, a vector-based drawing program used to create objects which can be associated with particular tasks via calls to the Looxlib library which stores some 200 C functions. Loox is up on most Unix workstations and costs \$10,000 for a development versions. +1 415 508 1554.

LEGENT OFFERS UNIX, OS/2 SOFTWARE DISTRIBUTION UNDER XPE

Legent Corp has leveraged the technology of its Corporate Microsystems Inc September 1993 acquisition to extend its software distribution capabilities to Unix and OS/2 systems. Legent has announced DistribuLink-Unix for HP 9000 and IBM RS/6000 servers which automatically distributes software and data from the servers to target systems across asynchronous or TCP/IP links. It generates a full set of reports, and provides audit and logging facilities. DistribuLink-Unix is being offered as a level one component of Legent's XPE systems management environment and is priced at from \$900 to \$45,000 depending on the number of users. Pricing for target platforms ranges from \$30 to \$150 per node for workstations and from \$150 to \$400 per node for mid-range Unix boxes depending on the number of nodes. SunOS, SCO Unix and OS/2 server versions will be available in March, with other ports to follow. Target platforms supported include a range of Unixes, MS-DOS, Windows and NT. Legent's first iteration of distribution software, DistribuLink-MVS, has been around since March. +1 703 708 3118

IBM ADDS INTERMIX FOR MVS+UNIX USERS

Recognising that Unix is invading MVS sites like a plague, IBM Corp has launched Intermix, a graphical user interface for Unix designed to make it easy to submit jobs and to access data on MVS machines or on other Unix workstations in networks using TCP/IP. It supports IBM's own AIX, Sun Microsystems Inc's Solaris and Hewlett-Packard Co's HP-UX, and for example enables users to monitor and control batch submissions to MVS or another workstation, transfer files from MVS, and manage MVS files from their Unix workstation. It has two components, the File Manager for manipulation of MVS data sets, which hides "many of the nuances" associated with MVS, and the Application Monitor, for graphically submitting, manipulating and obtaining status about batch jobs under MVS or Unix. The one-time charge is \$695 for one user falling to \$382 per user for 1250 concurrent users, available now.

LEGATO UNVEILS ORACLE VERSION OF NETWORKER SOFTWARE

Legato Systems Inc, Palo Alto has an Oracle database version of its Networker Motif-based cross-system back-up and recovery software. The Module works in conjunction with the Oracle Corp Parallel Backup and Restore Utility found in Oracle7, and can simultaneously back up multiple data files, file systems, tablespaces, single or multiple tape and optical storage devices. It enables systems administrators to monitor, configure and control back-up from any node on the network, even if the database is a distributed one. The Oracle Database Module can also be configured so that back-ups are always sent to a specific storage device connected to the back-up server. The product will be available under Sun Microsystems Inc's Solaris in April, and under IBM Corp's AIX and Santa Cruz Operation Inc Unix in May. Licences for Solaris and AIX are \$3,000, Santa Cruz versions, \$1,500.

KAMI TO SUPPLY A/O RELCOM WITH SPARC E-MAIL SYSTEM IN \$1.5m CONTRACT

Moscow systems integrator Kami has signed a \$1.5m contract to supply a Sparc-based system to electronic mail company A/O Relcom based at the Kulchartov Institute of Atomic Energy. The deal is phased over two years and the first stage for immediate delivery will be worth \$230,000. The contract is to supply Sparesystems from the Taiwanese company DTK. The project is a complete overhaul of the company's electronic mail infrastructure - installing high power servers both at the main node at the Kulchartov institute and at regional centres across Russia. The first phase is to equip 15 centres, with dozens of other locations being upgraded by 1995. The most interesting aspect of the deal is its financing. Relcom has only its monthly tariff revenues and cannot afford to make a one-off purchase. However the equipment will greatly enhance its line capacity and hence ability to generate income. At present in Russia there is no reliable means of verifying the financial status of a customer, so in a rare arrangement Kami has managed to help structure credit financing through a Russian commercial bank. Moscow based Mezkhombank is supplying a one year loan that Kami is guaranteeing. Relcom is to repay it in monthly installments.

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Iona Technologies Ltd, the Dublin, Ireland company that **SunSoft Inc** now own a chunk of, is setting up a direct sales office in San Francisco, but says it will keep its research, development and marketing activities back in its home town. The integrated version of Iona's Orbix object request broker and SunSoft's Distributed Objects Everywhere OMG Corba implementations (UX No 470), is expected to go into beta in a couple of months, with general release by year-end. In addition, Iona says it has netted a large user contract for its Orbix object request broker which it will make public at the end of this month.

Silicon Graphics Inc last week made president and chief executive Ed McCracken its chairman and CEO, and its executive VP and chief operating officer, Tom Jermoluk, president and COO. McCracken is picking up from SGI founder and chairman James Clark who is leaving at the end of the month to develop software for interactive television elsewhere. Jermoluk remains responsible for engineering, manufacturing, marketing, research and development, finance and administration. Meanwhile, SGI has also named Forest Baskett, senior VP, research and development, as its new chief technology officer, charged with identifying industry trends and pinpointing specific directions SGI ought to go.

X/Open Co Ltd has picked ApTest, the **88open** spin-out, to supply the test suite for Spec 1170. It will be a derivative of some of 88open's system test technology which ApTest was set up last year to peddle. PowerOpen, where ApTest's founder Tom Mace is now president, is also licensing both its system and application test technology, again based on 88open's work, as a basis for tools to test conformance to its spec. ApTest's contract with 88open, under which it does its certification testing for binary interoperability, has been renewed for another year. However, the little company cut some of its apron strings to 88open when it moved into its own facilities in San Jose, California in December under the leadership of president Andy Silverman.

SunSoft Inc is reportedly going to start selling a high-end third-party **Intel Corp**-based X server from newly founded Toronto, Canada-based **X Inside** which acquired its Accelerated X product line from **Snitily Graphics Consulting Service** in Cupertino, California. X Inside rates the stuff at a maximum 260,000 Xstones on a Pentium machine running SCO Unix and using a Matrox board. The software, which retails for \$200, also includes a Dynamic Linker that makes it easier for applications to run across Solaris, BSDI, SCO and UnixWare. X Inside also has bundling deals with ICL, Esix and BSDI.

Novell Inc, which went to the trouble of buying Unix, is unlikely to have much of presence at the annual **Uniforum** Unixfest this year. It'll be too busy with its annual BrainShare developers conference in Salt Lake City which it scheduled for exactly the same time.

Object World San Francisco, scheduled for July 26-29 at the Moscone Center, has pulled together a versatile speakers group: Mac and NeXTstep creator Bud Tribble, now with **Sun**, Sun guru Bill Joy, enfant terrible Steve Jobs, **Taligent** chairman Joe Guglielmi, **Borland** founder Philippe Kahn and **IBM PSP** president Lee Reiswig.

If you're ready to cash out, be advised that the **Corum Group** has a \$300 seminar for software executives called "Selling Up, Selling Out" on how to value, prepare and sell a software company. Sites include Lake Tahoe, Denver, London, Brussels, San Francisco and LA. +1 206 455-8281

Washington-watcher Wendy Goldman Rohm now says it'll probably take the Justice Department past the month of February to give **Microsoft** its ultimatum of either facing an antitrust suit or signing a consent decree.

Mips Technologies Inc's new johnny-on-the-spot, Glenn Henry, has been spending the time since he got there taking inventory and talking to Mips' semiconductor partners and OEMs. He's expected to come up with some recommendations soon. Gossip circulating around suggests items of interest to him might include building x86 emulation into the Mips chip and getting NEC to buy into Orion, something that has made IDT ecstatic.

Everyone wants to get in on the act: now **Compuware Corp**'s customer service and distributed management software unit, the 1993 **EcoSystems** acquisition, has joined **X/Open Co Ltd**'s distributed systems management working group where it says it'll champion the requirements of the Massive Open Systems Environment Standard group - or **MOSES** - formed in 1992 to develop open systems tools for data centres

Aries Research Inc says it now shipping its Marixx ds (deskside) Sparcstation 10-compatible server configuration, which comes with up to four HyperSparc RISCs. The quad processor is rated at 4554 SPECrates_int and 5457 SPECrates_fp, comes with from 32Mb to 512Mb RAM, 2Gb to 16Gb disk, 150Mb tape, tow Mbus and four Sbus slots, Ethernet, ISDN, SCSI 2, two serial and one parallel prots and Solaris 1.x or 2.x. Prices start at \$26,650. +1 510 659 1544.

The Norwegian police force is using a **Neuron Data Inc**-based object system developed by **Computas Expert Systems AS** to plan and schedule staffing requirements for the Winter Olympics in Lillehammer: following the Olympics the Norwegian Police Data Center will network the application to law enforcement offices throughout the country.

DB/Expo, immensely popular last year on the West Coast and subsequently acquired by **Blenheim**, organiser's of Unix Expo, will be held in New York at the Javits Convention Center December 5-9, 1994.

The Times Mirror group has tapped **Sun Microsystems Inc** architecture chief Thanos Triant as VP for information systems: Times Mirror recently brought a former **Apple Computer Inc** scientist in as its chief technologist.

Edinburgh University's Edinburgh Parallel Computing Centre is to be equipped with a 256-node model of **Cray Research Inc**'s T3D Alpha RISC-based massively parallel processor, the UK government's **Science & Engineering Research Council** said last week, claiming that it will be the biggest such machine in Europe. The computer will be at the heart of the £8m science and engineering computer project.

Borland International Inc is now shipping versions of dBase IV for the Solaris 2.x, SunOS 4.1.386/ix 3.0 and **Novell Inc** UnixWare and System V.4.2 variants of Unix: it costs \$800 for a single-user licence, with extra licences available for \$500 each while a five-user license is offered for \$1,000.

Gossip has **Compaq Computer Corp** being among the first compaq computer manufacturers to adopt the PowerPC RISC for a line of machines - so is Compaq the company that **Apple Computer Inc** says is close to signing to license the Macintosh operating system.

The AS/400 MAPICS manufacturing suite that **IBM Corp** sold to **Marcam Corp** last year has already come back to bite it now that Marcam has a version for Hewlett-Packard Co's HP-UX Unix.

Former **Chrysler Corp** executive Jerome York, now chief financial officer at **IBM Corp**, has an outside mission to cut costs at the still-extravagant company, and the *Wall Street Journal* has been following him around. On opening an oversized brown envelope marked "IBM Confidential", reports the paper, he pulled out a memo that hardly seemed worth any secrecy and demanded to know how many of the things IBM used - "If they buy any more, I'm not going to pay for them." Eight weeks later, his secretary is still mired in bids and discussions over envelopes, having learned that IBM uses five security levels - Unclassified, Internal, Confidential, Confidential-Restricted and Registered - and must still decide whether they can all be consolidated into one reusable envelope, whether it would cost less to use envelopes that can be resealed several times before they are thrown away; or whether IBM needs any confidential envelopes - not to mention the issue of size - she still hasn't obtained the large-versus-small breakdown she needs. She does now know that IBM buys 3m of the most commonly used Confidential envelopes, at a cost of \$75,000 a year; the rest combined add up to even less.

Around about now the COSE folks, some of them fretful about the antitrust implications of some of their activities, must be planning some kind of festivity for **Uniforum**. Their problem of course is that a year after COSE was announced there's very little to write home about. COSE also still looks like a Big Three initiative. It doesn't even get financial support from SCO, one of its titular founders, or DEC.

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JUNE LAUNCH SET FOR PEGASUS MULTIPROCESSORS...

IBM Corp and Compagnie des Machines Bull SA will launch their jointly developed Pegasus symmetric multiprocessing machines in late May or early June (UX Nos 453, 473), running SMP AIX 4.1 - the first version of the IBM Unix operating system conforming to the PowerOpen specification. The three new machines are based on 75MHz PowerPC 601 chips, include IBM Micro Channel Architecture slots, and are being positioned as medium to high-end Unix servers. The entry level box comes with one processor, but can be upgraded to four by slotting extra boards in. The dual-processor midrange system can accommodate up to six PowerPCs and is claimed to perform up to 450 transactions per second. The high-end quad processor can also be expanded to six CPUs and will do an estimated 650 tps. But, customers don't have to stick with the 601 should they prefer the 604, due to be announced in mid-March as 604 and 601 boards are claimed to be interchangeable. Machines based on the 604 are scheduled for launch at the end of the third quarter or start of the fourth, and users will be able to cluster these using High-Availability Clustering Multi-Processing software, which resides on top of AIX and was jointly developed by the firms as part of their OEM and technology deal.

...AS IBM POWERPC NOTEBOOK AWAITS 603

Sources say that IBM Corp's PowerPC notebook - the initial version of which will be based on the 601 until the 603 chip for portables is out of the gate (UX No 469) - is called either Wadsworth or Wordsworth, and includes a 640 x 480 colour thin-film display, 8Mb to 64Mb RAM, two PCMCIA slots, 250Mb to 400Mb drive, SCSI, Ethernet and Apple Talk Support.

BSD 4.4 LITE RISES FROM ASHES OF USL SUIT

Novell Inc's Unix System Labs and the University of California, Berkeley, as anticipated (UX No 469), have agreed to settle their cross-lawsuits. The settlement reportedly clears the way for the University to release a new unencumbered version of the Berkeley 4.4 BSD operating system to be known as 4.4 BSD-Lite that will not require a USL license or royalty payment. It is believed that with this chapter of the 18-month-old legal rumpus closed USL will also move soon to settle its accounts with University spin-out Berkeley Software Design Inc which it has charged with copyright infringement, trade secret violations, inducing breach of contract and unfair competition. Those charges stem from BSDI's attempts to commercialise a BSD/386 system which is based on Net2. The BSD-Lite code will apparently retain virtually all of the functionality found in Net2, the code that produced the USL lawsuit against the school, charging that Net2 contained restricted material. BSD-Lite will also reportedly include a number of recent enhancements by the University. The settlement restricts further use and distribution of certain Net2 files and requires that certain BSD-Lite files bear a USL copyright notice. The school said BSD-Lite will replace most of the restricted files. It "strongly recommended" that 4.4 BSD-Lite be substituted for Net2. USL has also agreed to affix the University's copyright notice on certain files distributed with future Unix releases and credit the school for material derived from the BSD releases that are included in Unix. Berkeley will try for wide distribution of the BSD-Lite code which it says it be available at a nominal cost. For source code, information on BSD-Lite and the restrictions on Net2 call either Berkeley's Computer Systems Research Group at +1 510 642-7780 or USL at 800 828-UNIX.

SIEMENS EYES OBJECT PARTNERSHIP, LIFTS VEIL ON NEW UNIX BOXES

Siemens Nixdorf Informationssysteme AG has been spilling the beans on some of the development work it is doing behind the scenes. In the object world, the firm is currently in discussions with one of the major object vendors about taking their CORBA-compliant object environment, and is looking for a partner to help it develop a bridge between CORBA-based products and Microsoft Corp's Cairo. It has also developed Unix-based videoconferencing software, and is about to take Hewlett-Packard Co's OpenView network management offering. And on the hardware side, the firm has a new Mips Technology Inc Orion-based client machine that it intends to release at CeBit. *Details page 2.*

Inside: Siemens Nixdorf news: *page 2*. CDE specification delayed until mid-1995: *page 3*. DEC unveils new client-server products: *page 4*. Hewlett-Packard wages war on the VAX market: *page 5*. Intel's response to PowerPC threat: *page 6*. Sparc news: *page 7*.

OSF WILL WIELD THE KNIFE TO SAVE ITSELF

As indicated (UX No 473), there is a momentum in some quarters to settle outstanding organisational differences in the industry, but whilst a head of steam is building in anticipation of next month's UniForum fest in San Francisco, there is little of substance to mention at this time. What is clear, however, is that the Open Software Foundation, in need of a future, is hoping to pull a something out of the hat in time for the show, though whether that'll amount to anything more than a restructuring it tabled last week remains to be seen. At best, it hopes it can move enough ground - and that the formation of the Novell Inc-sponsored UnixWare Technology Group this week will pose enough of a threat - to attract Sun Microsystems Inc and others into a reconstituted organisation which embraces the rump of the COSE camp. OSF hopes to save as much of its current technology as it can - and the jobs of its staff - and become what would effectively be a technology integration shop for interoperability and middleware projects on a scale far smaller than anything its undertaken thus far. With final approval still sought, OSF has "up to a certain level" agreed two new tiers of membership it'll offer to "target" firms, including Sun: a new executive ticket with full voting rights plus a non-voting card that'll come in at a quarter of the price, probably in the hundreds of thousands of dollars. A name change has always been a further option. OSF concedes there are a host of emotional issues that remain unresolved - financial too. With a new "executive" member enjoying the same voting rights as sponsors who have provided tens of millions of dollars to OSF, the likes of HP, IBM and DEC will have to be recompensed. OSF envisages payback mechanisms that will straddle perhaps the signing over of technology licences and binary licence royalty credits to the value of sums contributed. OSF plans to have the package of measures approved within a month, leaving it, ideally, with UniForum as a platform to show off a new slimline look, new friends and a new job. Whether or not OSF wins new support before now and then, "there will still be an OSF announcement at UniForum," insiders say. At best, OSF could become a quick turnaround project management shop, overseeing subcontracted work on technology requests for interoperability and middleware technologies. It already reckons it could pursue as many as three technology areas. Whatever form reorganisation takes, if it doesn't work out, the organisation could simply fade away with the fate of its technologies unknown. With DEC and Santa Cruz Operation known to be unwilling to provide cash for a joint UniForum event, and IBM thought to be against rushing agreement along in time for the show - it thinks there are too many issues unresolved - the stakes for OSF are high.

SIEMENS-NIXDORF OUTLINES OBJECT STRATEGY

Although Siemens Nixdorf Informationssysteme AG has kept its object-oriented strategy pretty much under its hat until now, it is currently negotiating with one of the major object suppliers - likely candidates include Hewlett-Packard Co and Iona Technology Ltd - to take their CORBA-compliant Object Request Broker (ORB), object services and tools, as the basis of its object environment. The ORB will sit on top of operating systems ranging from Microsoft Corp's Windows on personal computers to Sinix and other flavours of Unix on workstations and servers to BS2000 on mainframes. These systems will be linked using the Open Software Foundation's Distributed Computing Environment. SNI has also committed to taking Microsoft's Cairo object-oriented version of Windows NT when that appears in 1995. SNI, which supports the Public Windows Initiative and is trying to persuade Microsoft to put its application programming interfaces in the public domain, reckons that if it did, OLE 2.0 could be used as the link between CORBA-based environments and Cairo. In case Microsoft doesn't, SNI is looking for partners to help it develop a gateway that will convert Cairo and OLE protocols to CORBA ones, and is defining exactly what its requirements are at the moment. Meanwhile, at the application development level, SNI is building graphics-based object-oriented versions of its Grapes software modelling and simulation tools, which it will launch at CeBit next month - Grape OO Designer will, among other things, enable users to model network relationships. The firm will use Motif as a front-end and also plans to licence the Object Management Group's Interface Definition Language. Furthermore, it says it will publish a statement of direction in the next couple of months, when its first object products will also be announced.

...LOW-END MIPS ORION UNIX BOXES FOR CeBit...

Siemens Nixdorf will expand its entry-level Unix machines at the low-end, by introducing a new RW client machine at next month's CeBit Hanover Fair based on Mips Technologies Inc's Orion R4600 chip. The firm's existing range of high-end RW clients are OEMed from Silicon Graphics Inc, although it developed the RM server family itself. The RW200 is essentially a personal computer with a Mips motherboard slotted in, and will cost about £3,800 or 10,000DM. It is reported to be the first member of a new family that includes boxes based on the R4460, and a R4400-based multiprocessor box, which is expected to follow later this year. An unnamed machine, which incorporates four R4400s linked by a simple silicon bus, is under development at the moment. Although these machines will initially run SNI's implementation of SVR4 - Sinix - the company is said to be investigating the possibility of selling Microsoft Corp's Windows NT on the RW200 via indirect channels in Europe, positioning it initially as a client product. SNI also says it will debut its 24-way RM600 (UX No 459) at CeBit in March, which it claims has a TPC/B benchmark rating of 1,600. And at the high-end, the firm declares it will start offering the massively parallel Unix systems it is developing with Pyramid Technology Inc (UX No 459) by 1995. These, like the company's mainframes (UX No 473), will comprise clustered arrays of tightly coupled multiprocessor nodes, and be able to undertake about 1,500 transactions per second.

CeBit Software Roundup

SNMP Proxy Agent will enable users to manage personal computers that do not support SNMP in an SNMP-based network. The product runs under Sinix or Windows NT and provides network managers with objects and data from the personal computer via the Desktop Management Interface (DMI).

Version 3.1 of Database Access Services (DBA) will enable Sinix or personal computer clients to access BS2000/OSD databases. The product supports Microsoft's Open Database Connectivity interface.

Case Tool IEF will enable users to develop software under Sinix for use in other environments. The development process, from planning to implementation, is claimed to be mostly automated. Tools are also available for developing Oracle and Informix database applications.

The Information Capture Environment (ICE) product family, which undertakes automated forms capture, will be expanded to run not just on personal computers, but also under Sinix.

SNI TO OFFER OPENVIEW WITH TRANSVIEW

SNI intends to offer Hewlett-Packard Co's OpenView network management system as a complementary offering to its own Transview Control Center. Transview Control Center is based on NetLabs Inc's first generation Netlabs/Manager network management software and provides the product with an SNMP-based structure, to which SNI has also added support for OSI CMIP agents and its own proprietary NMPC protocols. This framework, otherwise known as Transview-SNP, provides basic services, but tools for network, system and application management are layered on top and given a Motif or Windows front-end. The product resides on a Sinix server and monitors and administers the system via agents on each node.

SIETEC UNIT OFFERS VIDEOCONFERENCING

Sietec Systemtechnik, a wholly-owned subsidiary of Siemens Nixdorf, has started shipping EMV, a videoconferencing product it developed for Deutsche Telekom Berkom. EMV is based on Sietec's jointX workgroup computing software, which supports document sharing and editing as well as audio, but the new offering also has videoconferencing capabilities built in. It runs on Sun Microsystems Inc SparcStations, Silicon Graphics Inc Iris Indigos and SNI's RWs running under SunOS 4.1X or Irix 4.0x. These machines can be hooked up to X terminals with a Motif front-end via TCP/IP local area networks or broadband and ISDN wide area networks. Videoconferencing capabilities are also available for jointX as an add-on if customers want it, but Sietec says the system runs too slowly over today's digital networks to justify the extra expense - and there aren't enough firms with access to broadband networks or ISDN to create a mass market for it. As a result, at CeBit the company intends to announce new technology it has developed with a major chip vendor that will enable jointX to perform more satisfactorily over digital networks. This is a special chip on a card that users simply slot into their workstations to boost performance. Both products are available now in Germany, and will start shipping elsewhere when suitable distributors are found. JointX costs 7,000DM, the equivalent of £2,680, but no pricing was available for EMV.

IONA AND SUNSOFT TO SUBMIT THEIR ORB PROTOCOL CONVERTER TO OMG

Iona Technology Ltd and SunSoft are developing a translator or protocol converter that will enable their respective Orbix and Distributed Objects Everywhere (DOE) object request brokers (ORB) to communicate with each other (UX No 470). While the DOE ORB only supports Solaris, Orbix has been ported to a range of environments including Microsoft Corp's Windows NT. The two companies intend to submit their translator to the Object Management Group at its meeting next month in Berlin, where members will discuss the interoperability issues surrounding CORBA 2.0. Iona, for one, maintains that the translator option is more flexible than a "flat world view", as "you can't make everyone speak English". Furthermore, the firm says it does not perceive Digital Equipment Corp and Microsoft Corp's Common Object Model as a threat (UX No 465). COM, it declares, is based on the Open Software Foundation's Distributed Computing Environment - Microsoft took about 10% of DCE code and integrated it into COM - but, in its opinion, the industry doesn't believe DCE is the right technology for building distributed applications and is backing object-oriented technology instead. Moreover, Iona claims, Orbix is a cleaner system that is simpler for developers to use. And, although COM could potentially link Unix and the desktop world if Cairo was around, the company says it is in the advantageous position of having a product that is on the market now. It not only has a powerful backer in the shape of SunSoft, but is also actively going after OEM agreements to increase its hold on the market, although it does not envisage letting anyone else take a stake. While it adds that European vendors are more reluctant to take Orbix than their US counterparts because they are waiting to see which technology is accepted as a standard, ICL Plc is making a technical evaluation of the product at the moment. But, Iona says work on Orbix is still going on, and the next step will be to integrate it with the Tuxedo transaction processing monitor to make it more robust.

COMMON DESKTOP SPEC NOT EXPECTED UNTIL MID-95

It looks like COSE's Common Desktop Environment specification is a little more "hobbled" than the industry has been lead to believe (UX No 470). Remember last year's UniForum when Hewlett-Packard Co, IBM Corp, Santa Cruz Operation Inc, SunSoft Inc, Univel Inc and Unix System Labs, announced that a specification for a common Motif-based Unix interface would be delivered to X/Open Co Ltd by the end of the year; that products, based on a fast-tracked standard would be around by middle of this year; and that CDE really would happen because it uses technology, which is for the most part already built and shipping? First there were problems getting a joint CDE development agreement signed to start the work that needed to be done. Now, sources say the promised CDE specification - a complete version still hasn't been delivered to X/Open - is unlikely to appear until the middle of next year. Meanwhile, HP, IBM, SunSoft and others are likely to begin shipping non-standard implementations derived from the same source tree.

ASK GROUP SEEN TO BE IN PLAY AS PIER CARLO FALOTTI RESIGNS

Ask Group Inc does not look too long for this world in its present form following the announcement that Pier Carlo Falotti, former European chief of Digital Equipment Corp and hired 18 months ago to steer Ask in the next phase of its development, has resigned. It is not clear whether he went voluntarily or was pushed by the board - a number of possibilities are being put forward - but the most recent quarter's figures, published last month, tell the story - a \$14m loss on sales down 11% at \$100m and 200 jobs cut. The Manman/X Unix manufacturing package has started to pick up sales, but the Ingres Corp acquisition has been little short of a disaster, and industry gossip has tagged the company as a takeover target for months, with Computer Associates International Inc the name most often in the frame - there is some commonality between the Ingres and CA/Universe code bases. Any acquisition would be complicated by the fact that Electronic Data Systems Corp owns 20% of Ask - and must be pretty unhappy with its investment. Hewlett-Packard Co holds 10%. Of the the four major Unix relational databases, Oracle, Informix, Sybase and Ingres, the Ask unit had enjoyed a period of perceived technical superiority over the rest, a lead all but eroded with the release of Oracle7 and Sybase System 10 - Informix is still figuring out its way forward. Moreover, all the Unix database companies except Ingres appear to be making money, and although bets are on CA to add Ingres to its deductibles, wags observe that a rival like Sybase, currently with some liquidity, could just as easily step into the breach. Part of Falotti's remit had been to improve marketing and increase visibility of Ingres in its home market, something that doesn't seem to have happened. Although the database still commands a strong following in Europe - the likes of ICL Plc and large users such as the National Westminster Bank and News International are advocates of the architecture - whether they would follow Ingres to a new master would prove crucial to any interested party. For its part, Ask, of Santa Clara, California, said the resignation was for "personal reasons." Leslie Wright, executive vice-president and chief financial officer, will become acting operating officer. Insiders say that Falotti was paid \$800,000 last year, but took a 20% pay cut when the company announced last month that it was laying off 200 employees.

iXOS TO OPEN CALIFORNIA OFFICE

Munich-based Unix software house iXOS Software GmbH is going to take the plunge and set up an American operation in Foster City, California, not far from the US offices of SAP, the German company that owns a 10% share in it. iXOS co-founder Hans Strack-Zimmerman will go to the US for six months to shepherd the new unit into existence. It will leverage off SAP, which uses iXOS image-enabling technology, and set up its own sales channels there. In Germany it sells direct. In the US, it now offers version 3.0 of its iXBUILD C++ toolset for building Motif graphical user interfaces via distributors UniPress Software and Qualix Group. The product was demo'd at last year's UniForum and has been available in Germany since last November. It won't ship in America until after April 1, costing from \$4,500 on most Unix workstations with X Windows R4 and Motif 1.2 and above. +49 894 460050.

APPLE, BULL TO HOST POWEROPEN OFFICES

The PowerOpen Association will set up an office on the US West Coast on February 18, and follow this up by opening its European headquarters in early March. Compagnie des Machines Bull SA's senior Unix sales and marketing man Jean-Pierre Glachant, who has an IBM background, is rumoured to have been appointed to the top job in Paris, and offices here will probably be located at Bull headquarters. The West Coast site will initially be centred at Apple Computer Inc's headquarters in Cupertino, California, but will move elsewhere once a more independent location is found. Meanwhile, the Association says it should be ready to announce the PowerOpen application binary interface at the UniForum show in March (UX No 473), and will set an independent software vendor programme in motion by the late summer. It is also in discussions with X/Open about becoming a test centre for XPG4-conformancy. The Association expects to close a deal with Aptest Applied Testing & Technology to license its test suite this week (UX No 473), and says it would use the technology for both XPG4 and PowerOpen branding - any XPG4-conformant product would be 90%-compliant with PowerOpen anyway, it declared, because the PowerOpen application programming interface already conforms to XPG4. The test suite should be available for use by the late summer or early autumn.

POWERPC MACs "OFFER DEVASTATING PERFORMANCE"

The first PowerPC-based Macintoshes, expected to be launched by Apple Computer Inc on March 14, will offer better price-performance than any other major low-end RISC workstation, and beat Pentium machines as well, *Open Systems Today* believes. The US trade paper, citing internal Apple documents and industry sources, reckons that one of the new machines tops all competing machines in SPECint92 price-performance, in SPECfp92 floating-point price-performance, and in SPECfp92 straight performance - and also has the lowest list price: it also beat everything in straight SPECint92 benchmarks except for a Digital Equipment Corp Alpha workstation, which was slightly faster, the paper says. The base model's price-performance of \$33 per SPECint92 and \$25 per SPECfp92 compares with \$68.90 and \$50.60 for the best Hewlett-Packard Co machine (although Hewlett cut some key models just after the news item appeared), \$84.00 and \$70.60 for DEC, \$151.30 and \$190.20 for Sun Microsystems Inc, and \$245.10 and \$149.60 for IBM Corp. And the paper reckons that the boxes also walk all over the cheapest Pentium machines, citing a 60MHz Ambra DP60/PCI at \$2,670, which works out at a price per SPECint of \$44.48 and price per SPECfp of \$45.24. Starting at \$2,000 for a Power Macintosh 6100/60 - it seems the PowerMac name has given way to Power Macintosh - the new desktops are built around the PowerPC 601 microprocessor, which is rated at 60 SPECint92 and 80 SPECfp92. As reported, the 66MHz Model 7100 is expected to start at \$3,000 and the 80MHz Model 8100 at \$4,500. They are to come with 8Mb, expandable to 72Mb, 136Mb and 264Mb respectively. The low-end model has a 160Mb disk, the others 250Mb. The low-end model has one slot and one SCSI interface, the others models have three slots and dual SCSI channels. All three have Ethernet.

COMPAQ CONSIDERS USING POWERPC FOR FUTURE SERVERS

Compaq Computer Corp last week confirmed that it is considering PowerPC as a complementary architecture to iAPX-86. It is not yet committed to doing PowerPC products and believes they will only be appropriate as servers, Gary Stimac, senior vice-president and general manager of systems said. He believes that the volumes that can be achieved mean that only two microprocessor architectures, iAPX-86 and PowerPC will survive, with the R-series perhaps continuing as a "boutique" product, and Compaq's decision on using PowerPC will depend on users; the company would likely run NT and Unix on it - he did not mention Macintosh System, despite talk that Apple Computer Inc has been wooing Compaq.

DIGITAL EQUIPMENT CORP BONANZA

by Danny Bradbury and William Fellows

Digital Equipment Corp last week unveiled another set of client/server products and services, and rearranged the way it markets those products according to a series of frameworks which address specific requirements. Now customers can cherry-pick from Production Integration, Data Integration, Management Integration, Network integration and Enterprise Objects. Most important amongst the new software offerings is a version 2.5 of its Objectbroker request broker which includes a preliminary implementation of the promised gateway to Microsoft Corp's Object Linking & Embedding 2.0. The full link will feature in version 3.0. The new release also features a call service based on Microsoft-compatible object extensions to the Distributed Computing Environment remote procedure call mechanism. Also announced was an object-oriented development environment, Cohesionworx, which is claimed to allow users to transparently access tools residing on a variety of different Unix systems; the anticipated OSF/1 2.0 release; an implementation of Transarc Corp's Encina transaction processing system with a choice of DEC ACMSxp, Transarc Encina, or IBM CICS TP monitors; PolyCenter Manager on NetView V2.1; a deal which will see DEC distribute Forte Software Inc's application development environment, which allows users to develop applications in segments to run on different hardware and software environments; plus two new Alpha AXP workstation upgrades.

DEC takes Encina - offers a choice of monitors

As part of its broad set of products and alliance unveiled last week, DEC has signed for Transarc Corp's Encina on-line transaction processing system, which will go up under OSF/1 on Alpha AXP RISC systems in three separate guises, and marketed alongside the Novell Inc Tuxedo and VISystems' CICS-compatible VIS/TP transaction TP monitors that DEC already offers. Specifically, DEC has licensed Transarc's port of the Encina Core services - at least the toolkits and structured file server - and the resulting production binaries. Transarc has been working on the OSF/1-Alpha port of its Open Software Foundation's Distributed Computing environment for sometime (UX No 441). DEC will use the Transarc code to develop a version of its ACMSxp TP monitor that'll sit on top of core Encina services - it will also offer the Transarc-based IBM AIX CICS/6000 monitor via an agreement with Big Blue. In parallel, Transarc will sell a version of its existing Encina TP Monitor for OSF/1 on Alpha systems. All will be available during the second half of the year. Encina Monitor includes the full Encina set - toolkits, structured file server, recoverable queuing service and peer-to-peer communications. ACMSxp will include only the first two - though support for the rest may follow - CICS/6000 comes without the recoverable queuing service. Under the deal DEC has rights to offer ports of its Transarc-based ACMSxp on other platforms and says it'll deliver a Windows NT developers kit for Alpha customers by the end of the year which will allow users to test the TP environment under NT. Transarc plans to offer a full-blown version of Encina for NT thereafter which will allow ISVs to port TP applications under Encina implementations to the Microsoft Corp environment. DEC says it'll continue to market Tuxedo on its OSF/1 and Ultrix operating systems, though Transarc is confident that installations based upon Encina - ACMSxp, CICS and the Encina monitor - will soon predominate. When all three support a compliant version of the TX-RPC transaction processing interface contained in DCE - expected next year - then applications will be able to move between the different implementations, across distributed environments. Transarc plans a slew of new components for Encina, including administration tools, in an upcoming partners programme it is putting together.

DEC has Forte's eponymous client/server tool set

DEC has signed up with Oakland, California-based Forte Software Inc to sell the latter's proprietary language for client-server application development, Forte. The tool, which enables users to re-align the client-server model of an application after they have written it, also supports features such as partition failover, the ability to replicate a service and switch to the secondary source if the primary one becomes unavailable. The product is designed to ascertain the best performance strategy for particular database management systems and adjusts to suit. Forte, which has been integrated into DEC's ObjectBroker, Pathworks and DECdb Integrator products, will ship from the firm in June worldwide and start at \$75,000 for five development clients, one development server, 10 concurrent run-time clients and a run-time server. DEC's existing application development product, DECadmire, will ship in May with the ability to produce applications for Windows clients. It already produces code for DEC's ACMS Transaction Processing monitor, Oracle software, DEC Rdb and a variety of third generation languages. It costs from \$9,500.

Cohesionworx enhanced to support DCE

Version 2.0 of Cohesionworx has been enhanced to include support for the OSF's Distributed Computing Environment. It can now also develop software in DEC's Ada language and under HP's HP-UX operating system. The software is designed to develop applications for multi-vendor environments, and uses a mixture of DEC's ObjectBroker software, DCE services and the multi-cast message server. Using it, developers can probe around transparently on a network to access development tools from different sources, which DEC says will help standardise on tools. It is shipping now for SunOS and DEC OSF/1, and the HP-UX version will be on the shelves in March. Throughout June, the package will be offered at \$1,548 per user.

In its attack on the client/server development market, DEC has turned its eyes towards Cobol developers, introducing the Distributed Application Program Management. The product handles communications between developer's personal computers and the mainframe, uploading and downloading data and library files between the two. Working within the Micro Focus Plc Cobol Workbench, the system transfers IBM mainframe Cobol code to developer workstations automatically. The firm prices a typical system at \$180,000.

DEC's RTR product, originally released for OpenVMS VAX systems in 1990, now runs under the firm's OSF/1 operating system. It is designed to counter network, system, application or site failures by re-routing and recovering data, apparently transparently. It ships in June and will set you back \$300 for clients, \$8,000 for servers.

DEC's Rdb relational database has finally made it to the OSF/1 environment. The program, which like its predecessor handles images and other large objects, ships for a base price of \$650 per concurrent user in June.

DEC has unveiled two more workstations based around its Alpha AXP RISC architecture. The DEC 3000 Model 300LX machine comes in at the \$5,300, while the 300X is an enhanced version for \$8,000. The 300LX is a replacement for the 300L, and has high resolution graphics - 1,280 by 1,024 along with a 125MHz Alpha AXP daughter board, 525Mb of storage and 32Mb RAM. Its bigger brother replaces the 150MHz model 300. It now houses a 175MHz chip.

Under plans to migrate its customers to a new network management system - which eventually will see IBM's NetView/6000 network management system up on systems - DEC's Polycenter Manager is now running on NetView V2.1.

5,000 TO 6,000 TO GO ACROSS IN EUROPE

DEC's head of European operations, Vincenzo Damiani, told Reuters last week that it expects 5,000 to 6,000 job cuts in Europe this year as part of its continuing efforts to restore its loss-making business. The precise numbers will be announced at the end of February or early March. It currently employs around 29,000 people in Europe and the cuts would be made over the 12- to 18-month period from January 1 1994. When Damiani took up his post on January 1, job reductions of 3,000 had already been mooted, but he was seen as a determined cost-cutter, and has already identified further cuts that need to be made.

HEWLETT MOBILISES ACCEL8 TO WAGE WAR ON VAX BASE...

The disconcertingly slow take-up of Alpha AXP machines by Digital Equipment Corp's VAX users makes the base look ripe for plundering, and Hewlett-Packard Co is declaring war in the US. The company has enhanced its Open Migration Programme, which was ~~created in 1990 to help its Apollo Domain users to move to its HP-UX Unix systems to embrace VAX/VMS workstation users.~~ It reckons that since the programme started, some 45 companies, which it characterises as the "main share" of the Apollo base - have decided to make the move to HP 9000. To woo VAX/VMS users, the company has gone to Accel8 Technology Inc of Denver, Colorado for its Open Software Solutions suite of migration tools, which is designed specifically to move VAX/VMS users to Unix. Open Software Solutions includes language translators and Unix-based libraries designed for converting VAX/VMS workstation applications. It also includes interoperability products for sharing of binary data between VMS and Unix systems on a network. The rest of the deal includes an improved trade-in programme; a new leasing programme; and HP Channel Partner participation. Under the trade-in programme, which runs for this year, users can trade in older systems for the new HP 9000 Model 712 workstations, which already start at \$4,000, cutting the price even further. Users can also trade in servers and mainframes from 13 companies towards the purchase of HP 9000 Series 800 G, H, I and T class servers; systems eligible for trading in now include Pentium-based systems. Users can also trade in 3270 terminals for Hewlett's new Entria X stations. Customers with a leased system from Hewlett-Packard or from other vendors can return the system to the lease-holder, lease an HP 9000 Series 700 workstation and get it free for the first two months.

...ENHANCES COMPILERS, CUTS TAGS

Hewlett-Packard Co has added new C, C++ and Fortran compilers for the HP 9000 Series 700 workstation family under HP-UX 9.03 and up. Although the practice of tweaking compilers specifically for SPEC performance gains has been widely exposed, the company claims the new compilers increase the SPEC ratings of the entire line by over 35% for integer performance, up to 12% for floating-point performance. It also cut prices up to 20% on Model 735 workstations. The new compilers are free from this month to existing Series 700 customers. They were enhanced by improving high-level optimisation techniques during compile time, and by tuning floating-point libraries for optimal performance on Precision Architecture RISC technology. A new technique, profile-based optimisation, which enables the compilers to gather data about the run-time behaviour of an application and make custom changes to meet its dynamic requirements, has also been enhanced. The C should be available this month, Fortran and C++ in April. A fully configured Model 735 CRX with 19" colour monitor, 32Mb CPU and 525Mb disk is cut 19.8% to \$30,000. Model 755s are reduced by up to 16%.

OPENVISION ADVANCING ITS DISTRIBUTED MANAGEMENT VISION STEP BY STEP

Although on paper it appears to have lost some ground to rival Tivoli Systems Inc now that much of the Tivoli distributed systems management submission has been taken up by X/Open Co Ltd (UX No 473), OpenVision Inc, the fast expanding Pleasanton, California, firm - thought now to be building bridges to Tivoli - seems undaunted, and is pressing ahead with measures to further its own campaign. Last week it announced that version 1.0 its generic security services application programming interface (GSS-API) is being distributed with the public domain beta release of Massachusetts Institute of Technology's Kerberos V5 3.0 authentication and security protocol. An implementation of Kerberos is a component of the Open Software Foundation's Distributed Computing Environment. The company describes GSS-API as an application programming interface which enables developers to build network authentication, message confidentiality and integrity into general-use applications, and utilise a range of authentication protocols, such as Kerberos, from a single interface. GSS-API 1.0 is included in OpenVision's OpenV*Secure - a component of its systems management solution - which is based upon Kerberos V5, and has already been proposed as an Internet standard and is an X/Open Co Ltd preliminary specification, the company says. OpenV*Secure provides a range of security services for system administrators.

IXI OFFERS WINTIF DEVELOPERS KIT, END-USER SYSTEM DUE MID-YEAR

IXI Ltd will begin shipments of a Wintif 1.0 Developers Pack at the end of this month, the Cambridge, UK-based Santa Cruz Operation Inc subsidiary says. Wintif provides a Windows appearance to Motif-based applications. The system is already in use London graphical interface house Imperial Software Technology, Wind/U Windows API-on-Unix house Bristol Technology Inc and UK Cobol house Micro Focus Plc. The developer's pack comes free of charge with the next upgrade of IXI's Premier Motif package this month on SunOS and in March for SCO Open Desktop, which is priced at £555. IXI says Wintif 2.0, due by the middle of the year, will be a deployable end-user system and will include promised Windows behaviour such as Object Linking & Embedding and other interchange formats so that users can cut and paste between applications. Unix application communications are being mapped into OLE, the firm says.

APPLE TO BUNDLE SOFTWINDOWS FOR MAC

Apple Computer Inc last week said it will bundle Insignia Solutions Inc's new Windows-on-Mac version of SoftWindows on some of its PowerPC-based machines. The stuff will be bundled only with boxes that have at least 16Mb of internal memory or more, which will probably translate into less than 20% of what Apple ships. Insignia, which will try to line up distributors for the software, will try to capture customers upgrading from 8Mb on its own, probably priced at \$500. The software will let the new Macs, set to debut next month - see page 3 - run both Windows and MS-DOS programs in standard mode. Insignia compares performance to entry-level 80386 and 80486 machines. It also has built-in PC network support for Novell NetWare, LAN Manager, Banyan VINES, NT Advanced Server and TCP/IP. It took Insignia seven months to get the deal and although the terms were not disclosed it indicated it expected to make money on it unlike other Apple bundles. Meanwhile, Insignia this week is expected to announce a port of SoftWindows to SunOS.

INTERACTIVE VIDEO SYSTEM "IS NOT A TECHNOLOGY TEST"

Expanding on their collaboration on interactive video, Pacific Telesis Group Inc and Hewlett-Packard Co stress that the movies-on-demand system will not be a technology test or a market experiment, but "the actual introduction of interactive video services for the California mass market." Cupertino-based Hewlett-Packard will provide big Unix video servers to support up to 100,000 subscribers, and will include a new video transfer engine, which the company says is more efficient than competing systems. The technology moves video data streams between storage, retrieval and transmission like a superhighway moves traffic, Hewlett-Packard says. Pacific Bell's California First project will provide the video network for the services - initially in San Diego, Orange County, Los Angeles and Silicon Valley and starting late this year or early in 1995.

KUBOTA WINS \$11m ALPHA OEM DEAL FOR USE IN VIRTUAL REALITY GAME CENTRES

Alpha AXP RISC shop Kubota Pacific Computer Inc, Santa Clara, California, has won an \$11m OEM deal with Orange County, California virtual reality machine supplier Visions of Reality Corp, which is using Kubota's Alpha 3300 3D workstations to drive virtual reality games it will install at shopping malls across the US and at centres in London and Paris. Players sit in a 7ft by 8ft "pod" wearing a headset to play games like Cybergate - each centre will have between six and 36 pods Ethernetworked, allowing multiple players to join in the game.

NETWORK APPLIANCES UPGRADES ITS FILE SERVER SOFTWARE

Mountain View, California-based Network Appliance Corp has introduced version 1.2 of its Fasware software, which it says now provides uninterrupted file service to the network following a file server disk failure. 1.2 also includes support for SNMP MIB-II and can connect up to four Ethernet networks. A Faspare option reserves one disk in the Faserver RAID system for use as an automatic spare in the event of disk failure. - Faspare is \$800. +1 415 428 5100

INTEL ACCELERATES PRODUCT PLANS TO MAINTAIN LEAD

Intel Corp is responding to accelerating competition from clonemakers and the PowerPC RISC by speeding up its own programme of microprocessor introductions and price reductions, *PC Week* reports. First up is a 3.3V P54C Pentium set for April, which will deviate from the clock-doubling and tripling trend by clock one-and-a-halfing. The P54C is expected to come in versions with 90MHz and 75MHz clocks, with buses running at 60MHz and 75MHz respectively. Prices on these parts are now expected to fall by about 30% by the fourth quarter, say internal Intel documents seen by *PC Week*, where the company had been planning to ease the price down only 8% this year. Samples of the 90MHz/60MHz P54C Pentium list for \$1,170, and will now go to \$860 by October, where Intel had planned to drop the price only to \$1,090. Prices of the existing 60MHz and 66MHz Pentium chips, the forthcoming 100MHz/33MHz P24C 80486DX4, and the existing 66MHz/33MHz 80466 will also fall 30% by the fourth quarter. Late in the second quarter, the paper hears, Intel will come out with the P24D, a 66MHz/33MHz 80486DX2 variant with a write-back internal cache, rather than the present write-through cache, a switch that should improve performance 15%. With a write-through cache, data from memory is passed to the cache and the cache passes it on to the processor. With a write-back cache, however, the data goes straight to the processor and is then written into the cache. Also for later this year is said to be the P22S, the first highly integrated 80486 for handheld devices, which is being developed with Intel's partner on such things, VLSI Technology Inc. And early next year, Intel plans to offer Pentiums for notebooks with the P51, a 3.3V 75MHz/50MHz Pentium optimised for portables. And the end-1995 date we have reported for launch of the next generation P6 is one year earlier than originally planned. It should deliver three times the performance of a 60MHz Pentium, but integrates a daunting 6m transistors. On the OverDrive front, *PC Week* has identified three processors: the P24T, clocked at an odd 83MHz, but with a 33MHz bus, should improve performance 70% when plugged into the OverDrive socket of a 66MHz 80486DX2 box; for 80486DX4 users, there will be a 100MHz/33MHz P24CT, based on the P54C Pentium, which should up performance by 50%. And some systems using the P54C Pentium will be able to accept a plug-in part code-named P54CM into the OverDrive socket and convert the machine to a dual processor capable of about 200 MIPS.

100MHz Pentium "in the near future"

The 0.6 micron Pentiums will be followed in "the near future" by a 100MHz Pentium, says Vinod Dham, vice-president of the Microprocessor Products Group: by the end of the year there will be five Intel plants making 0.6 micron chips - the D2 fab in Santa Clara and Fab 10 in Dublin will be joined by two in Albuquerque and one in Portland. The 0.6 micron Pentiums are about half the size of their older brethren, this, combined with the new large 8" wafer means that Intel can theoretically get four times as many microprocessors off one piece of silicon. A quick count of a sample shown at a press briefing indicates about 140 Pentia per wafer. How many chips the company gets, of course, depends on the yield. Although it would not reveal this, it said that yields were improving faster than they did with the 80486 parts.

INTERNATIONAL IN BRIEF

Tandem Computers Inc has won a \$15m order from **Nippon Telegraph & Telephone Corp** for its new massively parallel NonStop Himalaya K10000 servers and its fault-tolerant Integrity CM1450 Unix systems, and expects more sales to the Japanese phone company over the next two to three years: Nippon Telegraph and Tandem have been conducting joint research on a gateway since April.

Alex Technologies Ltd, London, says it is still working on getting the packaging right and now promises its TimeBase multiuser diary manager at the beginning of March: as yet it has got no VARs signed to integrate the thing. The firm says it is working on new groupware products including a workflow management application.

Software AG is now shipping Unix and OS/2 versions of its Entire Transaction Propagator data replication mechanism, allowing transactions on a master database to be applied to replicated databases stored elsewhere. ETP is already available for use in conjunction with the firm's Adabas Star two-phase commit protocol on mainframes and is also up on OpenVMS. ETP for Unix is out now, the OS/2 version ships by the end of the quarter. Prices go from \$200 per seat.

Campbell, California-based **Specialix Inc** has signed **Sime Darby** to distribute its intelligent input-output cards in Malaysia. + 603 293 8322.

Bangkok-based **Premier Software Industry Co Ltd** is to market the **Empress Software Inc** database and 4GL in Thailand.

INTERNATIONAL IN BRIEF

Landmark Systems Corp, has appointed UK Coventry-based **Systems Resources Ltd** to distribute its new Probe/X and Probe/Net Unix performance management software. Probe/X manages the performance of distributed AIX, HP/UX, SunOS and Solaris environments + 44 203 220246.

Groupe Bull is to port **Epoch Systems Inc's** storage management software to AIX for use with RS/6000-based servers, including those re-badged as its own DPX/20 Unix systems.

Beta versions of **IDB Inc's** object-oriented Matisse database, or Multimedia Advance Technology for Information Systems Semantic Engineering, are shipping on **Kendall Square Research Inc's** KSR1 parallel systems. IDB was formerly Intellitic International SA.

In Australia, **Wang Labs Inc** has won a five-year, \$10m deal with **BHP-IT** to provide maintenance to the Department of Social Security: BHP-IT is the prime contractor on a large network replacement project for the DSS which includes HP, Com Tech, Synoptics and Cisco Systems equipment. Wang has also become a Compaq reseller throughout Australia.

Telecom Australia has chosen Menlo Park, California-based **Versant Object Technology Inc's** object database for use in developing its next generation of network services.

Ito-Yokado Co Ltd and **Seven-Eleven Japan Co Ltd's** Dallas, Texas-based **Southland Corp** will be putting an NCR Corp 3350 server in every one of the 5,600 7-Eleven stores in the US and Canada licensed to it by the Japanese firms to run back-office retail applications.

Object World UK is at Olympia II in London between June 21-23.

Tata Unisys Ltd has brought out a new Intel 48DX2-based U6000 DT2 system, which supports UnixWare. The DT2 is manufactured at TUL's facility in Goa, and costs between \$12,000 and \$16,000.

The World Cup Organising Committee has lost its VP marketing, Frederick Tremblay - a former strategy director at IBM Japan - to **Sapiens International Corp NV** where he will head-up Sapiens' North American Operations in Cary, North Carolina. Sapiens' US president David Bursiek becomes CEO of Sapiens International.

SOFTWARE IN BRIEF

XVT Software Inc is offering version 2.0 of its XVT-Power++ development environment for developing applications that run under a variety of interfaces - bundled with the XVT Portability Toolkit it costs \$1,950 on Intel boxes, \$6,300 on workstations. +1 303 545 3152

Long Island, New York-based **MOR Systems Inc** claims its new set of Prophet tools allows users to convert software designed for proprietary systems into a 4GL or programming language of their choice on Unix, MS-DOS, Windows NT or OS/2 platforms. +1 516 326 6760.

Innsoft International Inc, San Francisco, California is readying an OSF/1-compatible version of its PMDF X.400-based e-mail system: +1 909 624 7909.

Ridgefield, Connecticut-based **Bristol Technology Inc** has a new version 2.2 of its Xprinter X Window printing library. Xprinter enables PostScript and Printer Control Language through the X Windows Xlib application programming interface: prices start at \$1,900. +1 203 438 6969.

Austin, Texas-based **Tower Technology Corp** has released TowerEiffel System 1.2 which allows developers to incorporate Eiffel language constructs into their C++ environments. With the system, C++ objects can be invoked from Eiffel and vice versa. +1 512 452 9455

WORK PROGRESSING IN THE SPARC COMMUNITY, BUT SUNSOFT ENDORSEMENT OF HYPERSPARC STILL REQUIRED

AFTER MAKING-UP, AXIL AND SUN TEAM ON SPARC DEVELOPMENT

~~As expected (UX No 470), Hyundai Electronic America Inc's San~~ Jose, California-based Axil Workstations division will be spun out as an independent unit with its own stock options and board of directors around the May/June timeframe with a view to going public and will be known as Axil Systems Corp or something similar. The unit is headed by Dr CS Park who came over from the Korean parent last summer - former MasPar Computer Corp VP and one-time Pyramid Technology Corp president Bill Shelloe is VP marketing. The company lost some momentum last year as the result of a lawsuit brought by Sun Microsystems Inc alleging Axil had copied some of its board designs. However, the suit was settled out of court and the two now appear closer because of it. Although it did not provide specific details, Axil says it is doing joint development work with Sun's Sparc Technology Business in a number of areas, and expects STB to pick up its custom ASICs which are claimed increase the performance of Sparcstation 10 architectures. Axil's 235 product uses a mechanism which allows Sparcstation 2 users to upgrade, via a board-swap, to a SuperSparc Sparcstation 10. The 235 is a remodelled version of one of the two systems which figured in the lawsuit.

Limbo

Although Axil announced a series of workstation and servers based upon the Ross Technology Inc HyperSparc RISC back in September last year - the former Cypress Semiconductor Corp unit now owned by Fujitsu Ltd - none will ship until SunSoft Inc officially endorses and pledges future support for a version of Solaris geared for the Ross architecture, it says. Ross kernel code is already included in Solaris 2.3, however an expected announcement of support from SunSoft at last September's Unix Expo show never materialised and left a slew of Sparc-compatible builders with planned HyperSparc machines in limbo. Observers have attributed SunSoft's reluctance to a desire not to be bested by a crop of HyperSparcs upstaging its own products. Nevertheless, Axil expects a SunSoft announcement "imminently."

Weeding

Meanwhile, with Sun weeding out its own reseller channel, Axil has picked up a slew of new distributors in the US which it claims have already signed for Axil Sparc compatibles worth some \$50m. In total it has some 60 VARs in the US and 25 elsewhere. Recent US wins include Acropolis Systems, Andataco, Avcom, Can Am, Hardware Canada Computing, Technology Distributors Inc, and a Bell Atlantic Corp service and support division. The aim is to boost Axil sales in the US, which in 1992 and 1993 respectively accounted for just 15% and 20% of revenue on total unit shipments of 1,760 and 4,565 in those periods. Axil hopes to sell 13,000 units this year, half of them in the US. European business is especially good, says Axil, because firms there are less brand-conscious than in the US. IDC estimates compatible builders will ship 15%, or 60,000 of the total number of Sparc systems delivered this year: its forecast says Sun will clear 328,000 units over the period. Axil reckons its 13,000 would account for some 22% of that compatible market. Axil, now up to some 160 employees, offers the 210 Sparcstation 2 compatible, the 220 - a SparcClassic/LX clone - the 235 board (see above), the 311 Sparcstation 10-alike (the redesigned 310) with a quad-processor HyperSparc-based server and a range of other Ross options planned for when SunSoft endorses Solaris on the architecture. Meantime, Shelloe is wrestling with Axil technologies and the current product line and hopes to formulate a new strategy that will kickstart the independent business, differentiate the line from Sun offerings and give the firm a leg-up over US and Taiwanese Sparc-compatible competition.

ARIES SHIPS QUAD-PROCESSOR HYPERSPARC BOX

Meanwhile, Axil competitor, Aries Research Inc, says it now shipping its ~~Marixx ds (deskside) Sparcstation 10-compatible server,~~ which comes with up to four HyperSparc RISCs on the Fujitsu Ltd Ross subsidiary's multichip module. Aries' other offerings have used the SuperSparc. The quad processor is rated at 4554 SPECrate_int and 5457 SPECrate_fp, comes with from 32Mb to 512Mb RAM, 2Gb to 16Gb disk, 150Mb tape, two Mbus and four Sbus slots, Ethernet, ISDN, SCSI 2, two serial and one parallel port and Solaris 1.x or 2.x. Prices start at \$26,650. The Fremont, California-based firm's latest graphics accelerator boards, the 2Mb TGX200 and 4Mb TGX400, based upon Sun's Turbo GXPlus are \$3,100 and \$3,400. +1 415 967 2387.

GENERAL MICRO OFFERS SUPERSPARC BOARD

Apparently new on the Sparc tip, Rancho Cucamonga, California-based General Micro Systems is now offering a VME board in Eurocard form, which can, for example, run Solaris and Wind River Systems Inc's VxWorks side by side for real-time application development. GMS says the V64-SS is a double Eurocard VME board split into two separate processor board sections with an accelerator section for data handling plus a main processing section, effectively separating pre-processing and processing. When configured with two SuperSparcs and one Intel i860XP RISCs, GMS rates the thing at 240 MIPS and 140 MFLOPS. The card uses Mbus level II with cache coherency as the local CPU bus. The two processor connectors in the main section and one in the accelerator allow SuperSparc, Sparc, HyperSparc, i860XP and 68040 CPUs to be attached currently, support for PowerPC and Pentium will follow. With Cypress Semiconductor Corp's Sparc module design the V64-SS can be configured with the equivalent of six processors on board, the company says. GMS has implemented a 64-bit Inter-Process Communication bus on the device to handle claimed sustained I/O speeds of up to 160Mbps. The board comes with up to 128Mb RAM split between the two sections, with 1Mb flash memory on each side. There are six on-board serial ports, up to two Sbus modules can be attached. The unit runs Solaris and will boot a Ross Technology Inc (HyperSparc) variant too. The card uses a single slot in basic form, a second with an additional Sbus module. Prices go from \$7,500. +1 909 980 4863.

TATUNG AND INTEGRIX OFFER IMPROVED GRAPHICS OPTIONS

CompStation and CompServer builder, Tatung Science & Technology Inc, Milpitas, California, has some new graphics options for Sparc system users which it says Sun currently does not supply. It has Turbo GX and Turbo GX+ accelerators with 2Mb or 4Mb VRAM which are claimed to perform 440,000 3D and one million 2D vectors per second. Sun offers only a 4Mb TurboGX+ option. 2Mb and 4Mb versions of Tatung's TurboGX+ are \$2,300 and \$2,800 respectively. TurboGX is from \$2,000. Memory module upgrades are available to move from 2Mb to 4Mb. Meanwhile, Newbury Park, California-based Integrix Inc claims its new TGX100 and TGX120 Sbus graphics accelerator boards offer up to three times the performance of Sun Microsystems Inc's standard GX card. They cost \$1,600 (with 1Mb RAM) and \$2,100 (2Mb RAM) respectively, against Sun's GX list price of \$2,200. Integrix +1 805 375 1055. Tatung +1 408 383 0988.

EOS ADDS DUAL CPU MACHINE

EOS Technologies Inc, San Jose, California, is now offering a version of its Sparcstation 10 compatible with dual 40MHz SuperSparcs. The EOStation 10402 - also available as the EOS 402 upgrade board - comes with 16Mb to 512Mb RAM, 1Gb to 4Gb disk, two Mbus slots, four Sbus slots, two serial, one parallel and 16-bit audio with a choice of monitors between 15" and 20". The machine lists at \$16,650. +1 408 526 2300

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When **SunSoft Inc** acquired Interactive Systems Corp a few years back, it wasn't interested in Norton Utilities for Unix (UX No 391), but a little start-up calling itself **AlmondSeed Software Inc** founded by David Mandelkorn has picked up rights to the stuff from **Symantec Corp** which reckons the market is too small for it to play in. AlmondSeed has renamed the code Almond Utilities and is currently delivering it on SCO Unix, intending to port to Sun in the second quarter and maybe Hewlett-Packard Co if the volumes continue to look good. Almond Utilities is available from the company, located in Mountain View, California, and from SCO Vars. Mandelkorn will also try to get it picked up by distribution.

Donal O'Shea, once the number-two guy at the **Open Software Foundation**, is now consulting with companies like **Sun Microsystems Inc** on how to get into the enterprise. He can be reached at **Erif Corporation**: +1 415 948-4814.

Dan Turner, president and chief executive of the **Petrotechnical Open Software Corporation** (POSC), has resigned to pursue other interests.

Compaq Computer Corp president and chief executive Eckhard Pfeiffer reckons that **IBM Corp** plans to make only 1m PowerPC 601 chips this year - and there has been talk of **Apple** taking 2m of them. IBM is currently the sole source of the 9W 601, but **Motorola Inc** and IBM will both make the low voltage - 3W - smaller, cheaper PowerPC 603. Confirming talk of IBM's notebook, many see the 601 as a stop-gap and the 603 as the first mass-market chip.

The PowerPC 620 chip will be announced in the fourth quarter of this year and have clock speeds of 200MHz.

Newspaper reports over the weekend about the vast number of **Internet** passwords potentially cracked, have painted the mechanism as a big mystery - but the advisory published on the net by the Computer Emergency Response Team at **Carnegie Mellon University** on February 3 makes it clear that the miscreants have taken advantage of a specific network interface /dev/nit, using its 'promiscuous mode' where it captures all network packets: the intruders first have to break in through any one of Unix's holes and gain root access, they then install a Trojan Horse, which captures the first 128 keystrokes of all newly opened FTP telnet and rlogin sessions - keystrokes that typically contain host, account and password information. Current speculation on the net indicates that these kinds of tools have been around for ages, but have only recently become widely distributed; the watchdog reports that the common trojans are /usr/etc/in.telnetd and /bin/login; at the same time, the hackers tamper with bin/ps, a utility that could be used for detection since it lists processes running on a Unix box - unfortunately, the amended version fails to report the rogue process. Short-term action, the Response Team suggests, includes disabling the \dev/nit device, but it admits that the only absolute cure answer is to stop sending reusable, unencrypted passwords...

Seizing the moment, Mountain View, California firm **Cygnus Support** claims its Cygnus Security Network, an implementation of MIT's Kerberos security mechanism, can avert these kinds of break ins and is offering its stuff free of charge in the US and Canada over Internet. Commercial support starts at \$5,000. +1 415 903 1401

Motorola Inc says there are hardware companies in Europe and the Far East interested in Solaris-on-PowerPC.

Encapsulated versions of **Object Design Inc's** ObjectStore utilities are now up under **Hewlett-Packard Co's** SoftBench CASE environment

Informix Software Inc has opened a Moscow office supporting its value added resellers and help develop the firm's distribution, and offer a user support function: Informix faces competition from **Oracle Corp**, which has been active in Russia for over two years, and has a strong local distributor in **LVS Systems**.

Eastman Kodak Co has adopted **Apple Computer Inc's** ColorSync Device Profile Format as a standard for colour management products: the Format is a machine-independent, device-independent description of any colour peripheral that enables the peripheral's colour capabilities to be accessed by Macintosh, Unix and Windows-based colour management systems; Apple and Kodak have also formed a ColorSync Profile steering committee of major operating systems vendors and colour matching module suppliers.

Unisys Corp's Government Systems Group is celebrating a multi-year requirements contract worth up to \$120m to provide the **US Navy** with its next-generation tactical workstation, the Advanced Display System. The contract is worth \$60m in the first year, with options extending the value to \$120m. Unisys is prime contractor, and its team includes **Hewlett-Packard Co** and **Diagnostic/Retrieval Systems Inc** for production of the integrated workstation network for shipboard systems.

French graphic application language vendor **Apic Systemes SA** will announce at the end of March a name for its language, which is currently called Apic, as well as an architecture and strategies for how the product can be integrated into existing systems, says Apic marketing manager Jean-Pierre Rogala: Apic is also trying to put together a joint sales effort with **Hewlett-Packard Europe** in northern Europe, he said.

Novell Inc, expected to maintain a low-profile at next month's **UniForum** show (UX No 473), is reportedly evaluating the development of a common kernel technology which could host both NetWare and UnixWare.

Sybase Inc has transferred development, marketing, service and support activities for its the SQR 4GL report writer and developer workbench products it took on with the acquisition of **SQ Software** to Long Beach, California-based **MITI**: Sybase's SQR developers will operate under the MITI name. +1 310 424 4399

NetManage Inc, Cupertino, California, is shipping what it claims is the first TCP/IP application suite for Windows NT that includes support for NFS client and server. Chameleon32NFS is written to the Windows Sockets API and runs on native NT TCP/IP stacks, providing a access through a Windows front-end. Chameleon 32NFS costs from \$700 - the Chameleon32 for Windows NT set is from \$500 on Intel, Mips and Alpha platforms. +1 408 973 7171.

Adding another string to its anticipated campaign bow (UX No 473), **Santa Cruz Operation Inc** has established up a new "SCO OK" branding scheme for compatible products of which it reckons there are now 420 systems, 8,000 applications and 1,160 peripherals.

In the US, *Communications Week* hears from a user who suggests **Microsoft Corp** may have rigged version 5.0 of its Excel spreadsheet so that it won't run under **SunSelect's** Wabi. Apparently Excel 5.0 fails if the DOS Share command, which Wabi uses, is turned on.

Transarc Corp is hosting the Distributed Computing Environment fest, Decorum '94, in Orlando, Florida, between March 2-4.

Legent Corp has tapped **Computer Associates Inc** VP corporate marketing, Mark Wasilko, to head its worldwide marketing strategies and programmes as VP: US reports say Wasilko was miffed over CA's promotion of Sanjay Kumar to promotion to president and COO.

Computerworld reports that **IBM Corp** will delay its beta release of Workplace OS/2 until late into the second quarter of this year because it intends to incorporate **Taligent Inc's** object-oriented device driver model into the product. The firm is also working on advanced compiler technology that converts OS/2 applications on Intel hardware to applications that can take full advantage of Workplace OS/2 on the PowerPC.

Pyramid Technology Corp has appointed David Koch, formerly of **Granada Computer Services**, as VP and general manager of Northern Europe.

In the wake of Cary, North Carolina-based **Sapiens International Corp's** acquisition of **Smartsystems Ltd**, Oxford, Smartsystems has moved to Sapiens headquarters in Hayes, Middlesex. + 44 81 476 4760.

Chorus Systemes SA will this week expand its North American operation, opening an office in Los Gatos, California, and hiring David Robinson from Kaplana as executive VP sales and Cathy Gorimer as business development manager.

Santa Cruz Operation Inc is apparently not at all impressed with Microsoft Corp's latest revision of LAN Manager.

The rumour mill says former **Unix International** chief Peter Cunningham could land a new job in the next few weeks but any offers would be for Europe.

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IBM'S WORDSWORTH NOTEBOOK TO COST \$12,000...

Wordsworth (UX No 474), the 6.9lb PowerPC 601 machine IBM Corp is creating a new "notebook workstation" category for, could be out as early as next month, priced at around \$12,000. AIX will be bundled and an external 4-hour battery-pack will be available. Otherwise it only runs 45 minutes on the internal battery. The thing will have 16Mb to 64Mb internal, at least 250Mb external, 640 x 480 colour TFT display, 1280 x 1024 high-resolution image-handling, integrated fax/modem (14.4kbps to 56kbps using compression), ISDN, Ethernet, 2 PCMCIA slots, Appletalk and SCSI-2. Meanwhile, IBM's got the PowerPC 604 chip booted with Unix, we hear.

...AS IT PROMISES POWERPC CHIP WITH iAPX-86 EMULATOR

IBM Corp does plan a proprietary version of the PowerPC chip that will include an on-chip iAPX-86 emulator, *PC Week* reports. The part is planned for next year and is dubbed the PowerPC 615, the paper says. It is said to include logic that interprets iAPX-86 instructions several times faster than software emulation: word is that the part will appear about 15 months from now and will deliver performance of a 66MHz Pentium in emulation mode - making another reason for IBM to have knocked back the option to make Pentiums for its own use. IBM declined to comment. The chip is being developed by IBM Microelectronics, in Burlington, Vermont, outside its PowerPC partnership with Motorola Inc, the paper hears, and will apparently not be marketed to customers for the other versions of the PowerPC, providing IBM with a means to give its own machines an edge over clones. If 615-based machines sell well, IBM is expected to produce other versions of the PowerPC with the emulation capability. The downside of IBM's approach is that it may well put other personal computer manufacturers off the idea of adopting the PowerPC.

...AND EIGHT-WAY SMP, POWERPARALLELS, SCALABLE AIX

Meanwhile, observers fault our rendition of IBM Corp's Pegasus multiprocessors (UX No 474), said to be poised against DEC's Sable machines due out in April, for describing them as topping out at six PowerPC processors. The way they understand them they'll be one-to-four CPUs initially, going to eight. IBM is also working on a rack-mounted SMP machine, apparently more powerful and expandable than Pegasus, that's due in the second half. Before this, at next month's CeBit Hannover fair and then again the following week at UniForum, the firm is expected to unveil new configurations of its SP1 PowerParallel systems, possibly the performance-doubling Power2 models promised for announcement this half last September (UX No 455). More details on the new Scalable AIX for symmetric multiprocessing, as it is being dubbed, include support for up to eight processors and new packaging which breaks out an entry client system, a personal productivity client - including Wabi Plus - network server, graphics server and large scale configurations. Meanwhile, IBM's mainframe operating system with an open face, MVS Open Edition - or OpenMVS as it's dubbed - which will come with a Posix interface (Unix-style commands and utilities), is going to feature OSF Distributed Computing Environment and carry an X/Open Co Ltd XPG4 brand in a new release slated for next quarter.

... "WOOS RIVALS' UNIXES FOR WORKPLACE OS"

IBM Corp is wooing leading operating system developers, including SunSoft Inc, Novell Inc, and Hewlett-Packard Co to implement their environments to run on top of IBM's Workplace OS microkernel. IBM sources acknowledged to *PC Week*. IBM is pushing adoption of the Workplace OS kernel - based on Mach - as a quicker way for vendors to implement their operating systems to the PowerPC chip, enabling vendors to use the kernel as an intermediate layer between their operating systems and the hardware, and avoid the need to convert for hardware-specific features of PowerPC - or whatever other processor may run Workplace OS in the future. The work would be limited to the fairly straightforward task of linking their operating systems to the Workplace OS application programming interfaces. IBM is beta testing an OSF/1 Unix Workplace OS personality (UX No 472) and beta versions of Workplace OS/2 for PowerPC will begin in the second quarter. IBM has also committed to doing Workplace OS personalities for OS/400, Taligent, PC-DOS and Windows. IBM's Personal Software Products division in Austin, Texas is also working on a stripped-down Workplace OS-based operating system that will run on PowerPC-based Personal Digital Assistants, Cliff Reeves, manager of object technology at Austin, told the paper. This will supplement IBM's current, non-microkernel-based Personal Digital Assistant operating systems, PenDOS and Pen for OS/2, Reeves said.

DEC, HP, IBM DEMAND CENTRE STAGE AT UNIFORM FOR ORG 94 ROLLOUT

The rumour mill says that the people who really mapped out the Open Software Foundation's fate and the plans to turn into what is being called Org 94 are IBM Corp's Bill Filip, Hewlett-Packard Co's Gary Eichhorn and DEC's John O'Keefe. This trio of OSF founders reportedly want the Org 94 announcement at Uniform (UX No 474) to take centre stage, so they tried strong arming Sun Microsystems Inc and Novell Inc to defocus from any COSE event they might want to stage and participate in the Org 94 thing instead. Near as we can figure out they may have succeeded, at least in part. There was never much meat on the COSE bone anyway (i.e. nothing much to announce) and from what we hear any COSE event will be folded into an X/Open-hosted get-together at Uniform that's essentially a broad year-in-review recap of open systems (*see page 3*). There's also another rumour *du jour* about OSF that says that once the latest revision of the technology is finished, the engineering teams will be dismantled. OSF's board was meeting as we went to press. We know folks over there have been looking for jobs.

IBM CUTS OFF AUSPEX WITHOUT A PENNY

Yet another IBM Corp partner has been left in the lurch by the company: Santa Clara-based Auspex Systems Inc, which has been producing a RIOS version of its Spare-based network servers for IBM, says IBM's Storage Systems Division has told it that it will cease to fund the implementation by Auspex of new features for the RS7051 file server. IBM will continue to sell and support the RS7051, but has not told Auspex for how long. Auspex says it was not counting on the IBM royalties anyway, but at the time, hopes for the deal ran high (UX No 369). IBM retains rights to use patented Auspex technology, paying royalties.

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SEQUENT TO UPDATE SYSTEMS NEXT QUARTER, LOOKS FOR HIGH-END UNIX DIRECTION

Sequent Computer Systems Inc intends to revamp its full line of Unix and Windows NT Intel Corp 80486 and Pentium-based symmetric multiprocessors by the middle of the year. The launch was originally planned for April, although the effects of reorganisation may push it back till June. After a bruising fourth quarter which saw profits wiped out by restructuring charges (UX No 470), and with all the noise being generated by rivals like ICL Plc, Pyramid Technology Corp, Unisys Corp and AT&T, about massively parallel commercial architectures, Sequent will use the overhaul as a means to re-assert its belief that its current architecture offerings, servers ranging from one to 30 CPUs, plus a range of fibre optic clustering options, is quite enough to serve any customer's need at the moment. Although it could be a smokescreen for its own efforts in that area (UX No 468), the company argues that commercial-quality massively parallel processing is a misnomer right now because it is "not a today technology." Such talk is hardly a surprise, given the millions of dollars and years of development the Beaverton, Oregon firm has put into developing its SMP techniques. Indeed it argues competing firms have only recently begun to achieve the same degree of SMP functionality that it has had for some time. Sequent cites its SMP Unix operating system implementation, Dynix/OS as an example. Other firms, it contends, designed their original Unix system software for use on uniprocessor boxes and have had to add fixtures and fittings for SMP, whereas Sequent began with multiprocessors in mind. Although its pedigree may give it a leg-up, the irony is that having spent years developing SMP features for Unix as a key partner in Unix System Labs Inc's Unix System V.4 ES/MP project. USL owner Novell Inc's plan for the evolution of Unix doesn't seem to square with what Sequent wants from its supplier. Sequent reckons it has between a year and eighteen months of room to develop its current USL-derived code before it will need to purchase a further high-end Unix implementation enhanced for commercial SMP. Nothing currently indicates that Novell will be able to meet that requirement - indeed locating a source for future high-end Unix operating system implementations is a quandary other large-scale Unix system vendors are facing too. Ideally, Sequent would like to partner a firm or group of companies with aggressive plans to productise commercial Unix requirements, says enterprise and marketing vice president, Mark Miller. It is perhaps not surprising that following the company's exposure to Microsoft Corp, Miller feels a Unix vendor or group needs to do the same for Unix as Microsoft has done for NT. It has to lay out a set of plans, he says, which show clearly "this is where we are going, this is what we'll do to get there and these are the APIs we'll use." Novell's apparent focus on the low-end of the market and the NetWaring of Unix doesn't excite Sequent, whilst SunSoft Inc, which is determinedly peddling its own Solaris Unix, suffers, Sequent believes, from "a lack of trust in the market" due to its parentage. Now divided into platform and enterprise marketing units (UX No 470), Sequent is turning itself into an enterprise solution provider, says Miller, citing Sequent's 70% research and development spend on software and middleware. The platform unit provides the basic hardware and software to OEMs, VARs and to its own enterprise marketing division. That unit, which includes the entire sales force and is responsible for administering and establishing partnerships, oversees the addition of whatever technology is required for specific solutions.

OPENVISION TO SUBMIT DISTRIBUTED SYSTEMS MANAGEMENT APP TO X/OPEN

OpenVision Inc declares it is quite happy with X/Open's decision to take rival Tivoli Systems Inc submission for distributed management services (UX No 474) because, it says, at least the organisation can now make a start on building a standard set of application services. Even so, the Pleasanton, California-based firm does observe that the submission has only been accepted for evaluation purposes, and has a long way to go before it becomes a standard. Still, it is believed to have begun building bridges with Tivoli. OpenVision had originally planned to submit a distributed services proposal of its own, but decided to devote its time to other application-oriented technologies instead. According to director of product marketing, Darrell Trimble, OpenVision is currently working on a submission in this area with Hewlett-Packard Co and Gradient Technologies Inc. This is likely to re-open the debate on standards for distributed software licence management, which erupted briefly last Autumn when suppliers began loudly pursuing the anticipated COSE endorsements that never happened (UX Nos 451, 452). Gradient currently markets the HP-developed NetLS licence management system. OpenVision, however, delivers its systems management products over DEC's CORBA-compliant ObjectBroker services, but says it is willing and able to swap these out for others if they become a standard - the company realises the dynamic nature of the systems management process, it says. Meanwhile, if OSF, or a successor, decides to rescue a distributed management development effort, OpenVision says it would be willing to take over or subcontract the work.

EASTMAN KODAK VP TAKES CHARGE OF SUN'S HARDWARE ARM...

J Phillip Samper, the retired vice chairman of Eastman Kodak, is now president of Sun Microsystems Computer Corp, Sun Microsystems Inc's vaunted hardware arm, a job CEO Scott McNealy gave up last year after the twin roles proved both too demanding personally and not constructive for the company. Since then it's been a long fruitless search, at times resembling a knight's quest for the Holy Grail, to find a replacement. McNealy obviously needed a guy he could bond with, whose character was above reproach, whose skill set brought something to the equation and whose appointment would immediately win the imagination of the Sun rank-and-file. After more than a year rifling through names, putting out feelers and getting turned down, he found his man practically under his nose, on his own board. Samper, now 59, was educated at Berkeley and MIT and spent most of his career at Kodak, retiring in 1989 and functioning as a private inventor since then. McNealy, who was giddy with delight last Wednesday after Samper's confirmation, described him as a sales and marketing type and a "Fortune 30-caliber CEO" with experience in management, international business and investment. One of McNealy's problems filling the job was the fact that he himself, still only 38, stood in the way of the president eventually becoming CEO. Last week he said playfully that he could imagine worse things happening than Samper nosing him out of his present slot, besides he's been working for the guy for years.

...AS SCHMIDT GETS TOP TECHNOLOGY JOB, SILVESTRI PROMOTED TO RUN STB

There were a few other reorganisational matters that Sun Microsystems Inc had to straighten out last week. It has taken the restless head of Sun Technology Enterprises (STE), Eric Schmidt, and given him the newly created position of chief technology officer responsible for the company's core and emerging technologies. It has taken STE and all its middleware business and put it under SunSoft Inc president Ed Zander so that Sun's software interests are now in the same reporting structure. Last but not least, it straightened out that brewing mess over at its chip arm, the Spare Technology Business (STB), which was on its second acting president, naming up-and-coming Chet Silvestri, its marketing chief, to run it on a permanent basis. STB was also given planetary status. Silvestri, Schmidt and Zander all report to McNealy. The moves come not a moment too soon for Sun, which was starting to look like it was practicing management by inertia.

DG OUTLINES AVIIION SERVER PLANS

Data General Corp will start shipping its first low-end desktop AV4500 servers at the start of March. The uniprocessor machines, targeted at the commercial market, will be based on the Motorola Inc 88110 chip and cost \$10,000. The company will follow this up at CeBit with a range of other machines, including 12- and 16-way servers, which are scheduled for release in the early summer. At the same time, it will announce it has signed a host of European distributors and software vendors and demonstrate how Oracle Corp's Parallel Server can be used as an AViiOn clustering solution. This product is in beta testing at the moment and should be available in the next couple of months. Data General also says it is still interested on porting DG/UX to other architectures, particularly the PowerPC and Intel Corp's x86, and is currently in discussions with other vendors about putting the operating system up on their hardware.

X/OPEN AND COSE PLAN CDE PROGRESS REPORT AT UNIFORM

In response to our story about the fate of the Common Desktop Environment specification (UX No 474), X/Open Co Ltd says base CDE libraries were delivered to it at the end of last month and it expects the "bulk" of the revised specification to be delivered by the end of next month. This will be merged with XPG4 set 1, and once complete will go through the fast-track process. The specification will be reviewed over the summer, and is scheduled for delivery in the third quarter of this year. First products are expected at the end of 1994 or the start of 1995. X/Open and the COSE firms will update their progress to date at Uniform to mark CDE's first birthday. However, nothing we hear from the development community suggests that certified products will be any less than a year behind the original schedule - mid-1995. Until then, if vendors use test suites that are - or become - available, and abide by the conditions of the style guide, they should be able to deliver implementations they can claim are x% or y% CDE compliant.

USL AND BSDI SETTLEMENT HERALDS 4.4 BSDI-LITE, SCO EMULATION, SPARC PORT

Within days of Unix System Labs and the University of California at Berkeley settling their cross-lawsuits (UX No 474), USL also settled its 18-month-old legal dispute with Berkeley Software Design Inc, withdrawing its charges of copyright infringement, trade secret violations, inducing breach of contract and unfair competition against the little University spin-out. The USL-BSDI clash represented something of a cultural crisis for the industry and was seen by some to pit the techie against Big Business. The terms of the settlement require BSDI to substitute a port of the new 4.4 BSD-Lite code that the University is supposed to create as a result of its settlement with USL, for the BSD/386 software it has been selling. Most importantly, this new 4.4 BSD-Lite will not require a USL licence or royalty payment, yet it will reportedly retain virtually all the functionality of the University's old Net2 code that kicked off the original rumpus. Net2 files that supposedly infringe on USL's copyright will be dropped from 4.4 BSD-Lite and rewritten and the school will add a number of new enhancements. BSD-Lite could reportedly be available within a month. Meanwhile, according to the BSDI settlement, the little Colorado Springs, Colorado company can continue to distribute its original BSD/386 code for a "limited period of time" although certain portions of it can only be sold as binary. All other terms of the BSDI settlement have been labelled "confidential," suggesting that the spin-out did not walk away from its run-in with USL scott-free. Rob Kolstad, recently appointed president of BSDI, said last week he was feeling like David after his bout with Goliath, explained the anticipated changes in BSDI code as merely upgrading 16 source files out of "thousands." BSDI now intends to try to do some serious business and has mounted a search for a VP of marketing, something it has never had. Last week it also said it would immediately begin distributing BSD/386 1.1, an update that includes new drivers, new video drivers, enhanced networking and the ability to access MS-DOS files with Unix commands. BSD/386 source, for 80386, 80486 and Pentium architectures, currently sells for \$1,045 and binary for \$545 for the first licence, with added ones running \$200 apiece. BSDI is currently working on a Santa Cruz Operation Inc Unix binary emulation mode for the current version of its software and has a Sparc port in hand. +1 719 593 9445.

IBM CUTS POWERPC 601 PRICES 15%; ONLY 250,000 SHIPPED SO FAR

Looking to upstage Intel Corp with its DX4 and Pentium announcements, IBM Corp has cut prices on the PowerPC 601 chips by nearly 15%. The 80MHz version is now \$417, the 66MHz one is \$298 and the 50MHz is \$232 - but that's when you order 25,000 of the things, something only Apple Computer Inc is likely to do at this stage. IBM says it has shipped more than 250,000 601s in the first four months - but again, that is only about enough to meet Apple's requirement; IBM is the sole source, although IBM-made parts are also available from Motorola Inc.

BRIXTON SYSTEMS ACQUIRED BY COMPUTER NETWORK TECHNOLOGY

Mainframe to Unix connectivity specialists Brixton Systems, Cambridge, Massachusetts, has been acquired by Computer Network Technology Corp of Maple Grove, Minnesota, a \$55m turnover company specialising in high-speed mainframe channel networking systems. Brixton, which made under \$5m in revenues last year, is expected to remain as a separate business unit, complementing CNT's current business. Brixton has recently extended its suite of SNA/TCP/IP connectivity tools, originally on SunOS, to include Solaris 2.x and x86, HP/UX, AIX, SCO, UnixWare and Windows/Windows NT. Its software is also available on Cray's Sparc-based SuperServer 6400. Brixton has won OEM deals from the likes of Sequent, Cabletron and Banyan, and its products are bundled in with Network Computing Devices Inc X-terminals. And it has some high profile customers, including General Electric, Ford, Federal Express, and the brand new Chemical Bank trading floor in New York, where a network of Sun workstations handle up to 1,000 concurrent 3270 and 5250 sessions, each having three windows open to access programmes running on IBM AS/400s and mainframes. Brixton's software-only solution can offer both SNA-to-Unix and Unix-to-SNA connectivity, enabling SNA/3270 terminals to talk to Unix and Windows servers, something the firm claims is only rivaled by using proprietary front-end processors from the likes of NCR Corp and Unisys (the CAP processor, UX No 396,406). Its BrxPU5 "virtual mainframe" technology actually emulates an IBM mainframe, so that an IBM terminal user can access data or an application running on a Unix computer that looks and feels exactly like the mainframe application. It can also handle the block mode workings of CICS applications, originating from Unix versions of CICS from VI, Integrus and IBM itself. The deal should be closed by the end of the month.

HEWLETT-PACKARD FILLS IN PRECISION RISC DETAILS

Hewlett-Packard Co has lifted the veil a little further on its plans for the Precision Architecture RISC family at the HP/Apollo Workstation Expo company show in San Jose. According to *Electronic News*, the company said it will introduce a low-cost 7200 symmetric multiprocessing processor at the end of this month, and will next quarter add a 7150 board upgrade to ensure that the HP 9000 Series 700 workstations remain competitive with Pentium and PowerPC-based machines. The 7200 is described as having a new cache design that the company intends to patent, as well as dual integer pipeline and bi-endian data support so that it can run Windows NT if users demand it. It will also offer higher bandwidth and lower latency and should appear in new HP 9000s and 8000s within eight to 12 months. The 125MHz PA 7150 is rated at 135 SPECint92 and 200 SPECfp92, and will be offered as a board upgrade for existing 700s. Further out, the company is working on a new generation PA 8000 family designed to issue four instructions per clock cycle - with clock rates of 200MHz and up. It will also feature a higher-bandwidth memory inter connect. And then there is the PA 9000, designed for use with those Very Long Instruction Word Trace compilers, set for the end of the decade. Hewlett-Packard calls the new architecture, which will retain binary compatibility, "super-parallel". It should offer 1,000 SPECint92 performance, and will greatly simplify and reduce the transistor count of the basic chip design by leaving it to the compilers to check for resource contention when multiple instructions are issued simultaneously, instead of implementing the contention checking technology in hardware.

INTEL DEMONSTRATES ULTRA-FAST 150MHZ PENTIUM CHIP

Intel Corp was last week conducting a technology demonstration and disclosing technical details of an ultra-fast Pentium processor family at the IEEE Solid State Circuits Conference in San Francisco. The new processor is clocked at 150MHz, and the technology demonstration previews Intel's 0.6 micron process. One Pentium paper describes a processor that comprises 3.3m transistors, runs at 3.3V and dissipates only 4W of power at 100MHz. The 150MHz low-power part will use four-layer metal technology which contributes to processor performance by reducing die area, clock skew and voltage. It is a BiCMOS superscalar design doing 250 MIPS.

HP AND FUJITSU TO BUILD INTELLIGENT NETWORK SYSTEMS FOR TELCOS

Hewlett-Packard Co and Fujitsu Ltd have joined forces to develop and provide intelligent network (IN) systems for telecom operators worldwide. The alliance will bring together Fujitsu's technical and marketing expertise in central-office switching FETEX-150 systems with HP's Unix and open systems knowledge. Under the terms of the co-development the two companies will integrate their existing IN elements and develop others to provide a single IN architecture. Fujitsu will provide its service-switching point (SSP) and service-management system from FETEX-150, a digitised switching system. HP will contribute its service-control point and service-creation environment from its Unix-based telecommunications software. The two firms plan to penetrate the FETEX-150 market first, which handles more than 18 million lines worldwide, Fujitsu says. First products are expected to be delivered by the end of the year.

DELTA SOFTWARE TAKES PARENT IBSI'S NAME FOR LAUNCH OF INTEGRATED TOOLS

Software engineering tools developer Delta Software International, which was acquired by Lyon, France-based Groupe IBSI SA about 18 months ago, has relaunched itself as IBSI (UK) Ltd to herald the introduction of a new integrated product set in March. Despite being taken over, the Uxbridge, Middlesex-based firm has, up till now, been left to run virtually unchanged because IBSI was previously more keen to exploit its sales and support channels in the UK than interfere directly. Delta has traditionally generated approximately 70% of its turnover from the ICL Plc VME market via its Delta/ADS application development environment, which executes and runs under a range of environments from personal computers to mainframes. IBSI, conversely, is a software and systems integration house, with its own Conceptor development environment for Unix, which runs under MS-DOS - it is 40%-owned by France Telecom, employs 1,500 staff and generates revenues of approximately £100m. But on March 2, the two firms will launch an integrated set of development tools that run and execute across heterogeneous environments. Although elements of both tools mentioned above are incorporated into the new architecture, the new offering is said to be a complete rewrite. It uses an IRDS repository, and comprises different engines that generate different dialects of Cobol. This code can then be compiled to run on the developer's target environment. The new product also takes an object-oriented approach to procedural techniques, which means users also have the option of developing either traditional or object applications. More object features will be added in future releases as this market matures, and a C version will also follow if demand warrants it. In the UK alone, IBSI expects to generate £2m from the product by year-end. + 44 895 814 815.

IMI SHEDS LOSS-MAKING BROOK STREET: 75% TO SANDERSON, 25% TO MANAGEMENT

Birmingham-based IMI PLC's International Engineering Group has sold 75% of its loss-making subsidiary Brook Street Computers to Sanderson Electronics Ltd of Sheffield for a consideration of £600,000 in Sanderson shares and cash. The other 25% goes to the current management of Guildford, Surrey-based Brook Street, best known for its Unity range of distribution software and the Uniworks manufacturing package. Brook Street was acquired by IMI in 1990, but began posting losses following the late delivery of its Corporate Unity software range, eventually launched at the end of 1992. Corporate Unity, aimed at £20 to £60m-sized companies, "was not as robust as it should have been during 1993" said an IMI spokesman. IMI's business is primarily aimed at large corporates, a market area at which IMI's Uniplex subsidiary is now also aiming with its OnGo office software range. Sanderson has been doing well of late: at the end of last year it reported pre-tax profits up 19% to 3.3m, and has been gradually decreasing its stake in struggling US affiliate General Automation, from 27% last August down to just below 20% currently. Sanderson concentrated on the Pick marketplace until three years ago, but now majors on Unix and open systems solutions for niche markets such as hotels, solicitors, debt recovery, mail order, printing and insurance. It now has nine subsidiary operations and 12 offices around the UK. Sanderson Chairman Paul Thomson said Brook Street was now running profitably, and would retain its own operations and identity. Thomson said Sanderson was on the look out for further acquisitions.

OPEN MICROPROCESSOR SYSTEMS INITIATIVE GOES FULL STEAM AHEAD...

The European Open Microprocessor Systems Initiative (OMI) has embarked on the second phase of its campaign to increase membership and double its case-load of projects. OMI's aim is to reduce Europe's dependence on imported semiconductors, which represent about 90% of the European market, and participants have pledged to cut this figure to 60% within five years. Home-grown MPUs are considered critical for the European economy to remain internationally competitive, but the market is currently dominated by US suppliers, particularly Intel Corp with its x86 family. OMI does not intend to build chips from scratch, however, its goal being to build on existing RISC architectures so they can interoperate with each other. Membership is open to any organisation undertaking research and development in Europe, and more than 100 companies and universities are currently engaged in more than 40 projects - a recent new member is IBM Germany, which will work on projects related to the PowerPC. Since OMI was set up in April 1992, it has received \$234m in funding, about half coming from the European Union.

...AS EUROPEAN COURT OF AUDITORS CRITICISES ESPRIT FOR LACK OF RESULTS

The European Court of Auditors has criticised the European Union's Esprit research programme for poor administration and lack of marketable results, after receiving heavy funding over the past decade. The Court has published a 123-page report stating ESPRIT has failed in its aim of developing technology that would make the European electronics industry competitive. There is still "insufficient coverage of European needs by local production", the report says - for example, although Europe represents 34% of the world market for integrated circuits, it supplies only 9% itself. Moreover, the report suggests that part of the problem lies in ESPRIT's choice of projects - "a good many projects were conceived and carried out with little concern for marketing potential", it declared.

...AND BULL IS CHOSEN TO LEAD ESPRIT MICROPACKAGING PROJECT

Ironically, at the same time the European Community has said it will not allow the French government to recapitalise Compagnie des Machines Bull SA, the French computer firm announced that the Commission has chosen it to lead an international consortium for a micropackaging Esprit project called Chippack. The 30-month programme, to include IBM France SA, IBM Deutschland GmbH, GEC-Marconi Ltd, SGS-Thomson Microelectronics BV and Telefonica J&D SA, aims to design and produce an operational model to demonstrate the function of the electronic micro-elements in Single Chip Package and Multi Chip Module assemblies. Bull has also been nominated, along with SGS-Thomson, to manage a sub-program in JESSI for micropackaging. The two-year project is 50% funded by the commission and 50% by the French ministry of industry. Karel Kurzweil, Bull's advanced packaging manager, says the JESSI sub-program aims to produce an ASIC for Unix environments, using Ball Grade Array packaging, by the end of 1994.

LYNWOOD SCIENTIFIC LAUNCHES ITS ULTRA-COMPACT 80486 MICRO

Lynwood Scientific Developments Ltd has unveiled its videocassette-sized 80486-based personal computer, (UX No 471), setting its sights on space-conscious and ergonomically-minded vertical market customers. The firm, which spent roughly £1m developing the unit, has bundled a 33MHz low-power 80486 into the unit, together with local bus graphics and a rugged 260Mb hard disk from Areal Technology Inc, the San Jose company that uses glass platters in its 2.5" Winchester. It is also thinking about producing a PowerPC version of the machine. The Farnham Surrey-based firm has engineered the single-board computer to run at 5V and says it is undergoing verification for compliance with the US Energy Star standard. Initially aiming at financial markets, the company will fan out its marketing effort to attack other vertical applications, including point of sale and remote data gathering, and will work with systems integrators to customise the unit and write turnkey applications for customers. The machine also includes up to 40Mb RAM and a floppy drive. It is available in a double-height version incorporating half-card expansion facilities. Running Unix, MS-DOS or Windows, it costs from £1,750. Lynwood is now owned by Hauppauge, New York-based NAI Technologies Inc, the former North Atlantic Industries Inc.

DEC TOPS DESKTOP/SIDE SPEC PERFORMANCE TABLE, SGI MIPS BOXES TAKE MP HONOURS

The Systems Performance Evaluation Cooperative has moved to eliminate some of the more arcane compiler optimisations vendors have been using to achieve peak SPEC benchmark results by adopting parts of a Hewlett-Packard Co proposal. It means that after this year all peak performance results will have to be reported in conjunction with "baseline" results which adhere to a number of optimisation restrictions so that a vendor might report a peak SPECint92 or SPECrate_int92 figures but must also show SPECint92 base and SPECrate_int92 base results.

Andrew Allison's *BenchPress Quarterly* reports the latest crop of SPEC results, showing DEC's Alpha 3000/600 to be top of the desktop pile in both SPECint and SPECfp. DEC is followed, in descending order of SPECint results (SPECfp performance differs more widely between systems of similar integer rates) by the SGI Indy R4400SC, SGI Indigo2 SC, HP9000-712/80i, HP9000/735 (with the second highest SPECfp mark), DEC 3000/400, IBM RS/6000-370/375, SNI PC-5S, DEC 3000/300, Sparcstation 10/51 and Compaq Systempro/XL, with 28 other desktops measured outperforming a basic 486DX2/50 architecture. The top SGI and HP machines are at around 75% of the performance of DEC's 3000/600 - Siemens Nixdorf Informationssysteme AG's SNI PCE-5S is the newcomer, a 66MHz Pentium box that outperforms most workstations, including Sun Microsystems Inc's top-of-the-line Sparcstation 10 box. Allison observes that most action is currently occurring around the 60 SPECint92 area.

Performance battleground

Although he expects IBM Corp's 80MHz PowerPC 601 to hit the mid-70s integer performance, Intel Corp's second generation P54C is also likely to come in around that mark. This should move the performance battleground on to around the 75-90 SPECint92 range by mid-year, Allison believes. Deskside server systems generally come with more raw performance. DEC dominates here again, holding half of the top ten places in this category, including the top three places with the 7000/610, 3000/800 and 4000/710 - there are three Mips-based SNI boxes and two RS/6000s also. Thereafter comes a peppering of HP, IBM and other DEC systems. In the multiprocessor arena the 150MHz Mips R4400 SGI systems dominate (with the 200MHz TFP due). DEC's weakness is attributed to a maximum of 6 CPUs and only one result running OSF/1 to date. Again, a number of SNI Mips and Intel boxes show - the Dansk Data A/S Supermax and Solbourne Computer Series 6 also figure - whilst there is no figure for a 20-way Sparcenter 2000 even though the machine was announced for shipment back in December (UX No 470). In descending integer order, the 20 CPU SGI Challenge XL leads the field, a 16 CPU version follows, with a 12 processor HP9000 T500 next, then a 16-way Sparcenter 2000 (which clocks a higher SPECrate_fp92 than any other system), 12 CPU Challenge XL, eight-way HP9000 T500, 12 CPU Sparcenter 2000, 8 CPU Challenge XL, six-way DEC 10000/660 and 7000/660.

ORACLE PREPARES ORACLE DOCUMENTS CHALLENGE TO LOTUS NOTES...

Lotus Development Corp's success with its Notes groupware package is attracting the opposition, and last week Oracle Corp's chief executive Larry Ellison described his forthcoming Oracle Documents software as "a true Notes competitor". He told US magazine *Network World* that the software, due in the second half of the year will handle audio, video and SQL-based data in addition to documents. It doesn't sound cheap though, since it will need a Unix server running Oracle7, where Notes, in its low-end incarnation, can get by on a Windows machine. Documents is apparently designed to be an improvement of Oracle Office, adding the ability to replicate databases across a network. Ellison said that Documents would be launched with an allied product line dubbed Oracle TextServer, designed to bring unstructured documents into their databases - among other things TextServer will provide automatic text-summarising facilities previously demonstrated as part of media server. The other potential threat to Notes's dominance is Microsoft Corp's Enterprise Messaging Server, a bulletin-board and messaging server that will run under Windows NT and which has just gone into beta test. Microsoft says to expect 'launch activity' in the second quarter, and the actual product is likely to begin shipping in the following quarter. The Microsoft strategy is rather different from Lotus's and Oracle's: instead of a monolithic workgroup application it promulgates the idea of workgroup-enabling and linking existing applications to provide Notes-like capabilities. The messaging server is the keystone to the architecture - the piece on which the other software will rely for robust communication.

FIRST PERSON SEEKS SET-TOP TICKET

Sun Microsystems Inc's secretive FirstPerson unit, unable to refrain from adding its twopenneth' to all the clamour about the information superhighway, interactive TV and other kinds of gizmology, has recently shed a little more light on its operation. The space FirstPerson is seeking to inhabit is the devices that will control access to and from digital networks, and ultimately, what the consumer experiences. It is developing what is reportedly an architecture-neutral object-oriented operating system to be used, for example, in the television set-top boxes that will link a new crop of fibre network-based services to homes and offices. With so much being staked on what's touted as the brave new interactive world round the corner, it is not surprising that FirstPerson, headed by Wayne Rosing, has been so tight-lipped. A large number of computer firms are building different kinds of (mostly incompatible) delivery systems for the networks, and are also competing to provide hardware and software for the set-top boxes that the network operators will give or rent to customers. And the battle to control the set-top will be bloody, Rosing claims in a recent *Economist* discussion, "because everyone sees the set-top as a way of controlling what the viewer experiences." The content providers (of films, programming etc) are wary however, that network service providers will use proprietary standards to limit their access to viewers so that set-top boxes become a toll-booth (rather than a gateway) through which they can pass only by making a deal to put their content on the network provider's brand of server. FirstPerson is not alone in its aims - it has the likes of General Magic, Kalieda Labs and Microsoft Corp as running mates.

APPLE TIES SET-TOP BOX TO ORACLE SERVER

The battle to corner the market in interactive television set-top boxes hasn't really started yet, but already the field is getting crowded, with Hewlett-Packard Co, Silicon Graphics Inc, Microsoft Corp and IBM Corp among the heavyweight computer companies jockeying for position. Now another name can be added to the list, Apple Computer Inc. Apple has signed an agreement with Oracle Systems Corp to work to make Oracle's Media Server compatible with an unannounced set-top unit based on the Macintosh. The two say they intend to deliver test versions of the product by June this year, and the Macintosh-based technology will be demonstrated at Oracle's interactive multimedia products launch in Los Angeles next Tuesday. Apple's aim for the trial is to provide a remote control-operated "complete, easy-to-use, low cost solution" that could be used to deliver video-on-demand, home shopping, interactive learning and other multimedia applications. The first implementation is being designed to work with Oracle's Media Server information management products.

LEGENT BUYS SOFTWARE CLEARING HOUSE

Herndon, Virginia-based Legent Corp has invested about \$2m in a new company, Software Clearing House Inc, based in Cincinnati, Ohio. The company picks up software products for distributed systems management, tape management, network management, communications and integrated office automation from all over the world, and integrates and markets them. It claims to represent over 100 products from 40 development teams worldwide and over half its business comes from its Unix product lines, which it says are installed with over 3,500 customers worldwide, and grew at 75% over two years.

IBM EUROPE GIVES UP ON AMBRA PCs

IBM Corp announced last week that it will withdraw its "mass market" Ambra line of budget personal computers from the European market on March 31 and the Individual Computer Products International Ltd company that ran the Ambra business becomes dormant again. The move does not affect the operations of Ambra Computer Corp in the US where the models are totally different. IBM says that with recent price cuts, the Ambra is no longer competitive. Ambra is estimated to have taken about 1% of the low-end clone segment of the European market.

MARKET ROUNDUP

London-based **Perfect Recall Ltd** is offering a benchmarking and consultancy service to users of **Ingres Corp** application development systems, so they can test the software on a range of hardware before deciding what to purchase. + 44 71 333 1414.

Cincom Systems Inc is introducing usage-based pricing on its SupraServer relational database. There is a basic initiation fee of between \$1,800 (Unix) and \$100,000 (MVS) - up to 70% lower than the old pricing model, the company claims - then a usage fee depending on how often the database is accessed. Usage fees start at \$400 for the first 10 hits before rates of between \$500 and \$800 per key kick in, depending on volume. Pricing for add-on options like distribution or multimedia modules is unchanged.

Object database firm **Montage Software Inc**, Emeryville, California, has picked up Stephen Maysonave as senior VP sales and Susan Dickerson as VP strategic relations.

Users of Cambridge, Massachusetts-based **CenterLine Software Inc's** ViewCenter Motif graphical user interface builder can access and use Toronto, Canada firm **KL Group's** XRT/graph widget editor as if it were a native Motif object: ViewCenter is based upon the **Visual Edge Software Inc** UIM/X 2.5 GUI builder. ViewCenter for Motif is \$2,500, XRT/graph is \$2,000, - the integration software is free from either firm. CenterLine +1 617 498 3287 KL Group +1 416 594 1026.

D&B's SmartStream 2.0 accounting package is now up on **SunSoft Inc** Solaris 2.2 - it was beta'd at **Amoco Canada Petroleum Co Ltd** in Calgary: prices start at \$100,000. +1 404 239 3658.

Mountain View firm **Network Appliance Corp** has a new version of its Fasware software, which it says provides uninterrupted file service to networks after a file server disk failure. 1.2 also includes support for SNMP MIB-II and can connect up to four Ethernet networks. A Faspare option reserves one disk in the Faserver RAID system for use as an automatic spare Faspare 1.2 is \$800. +1 415 428 5100.

Computer Associates Inc is shipping ODBC compliant interfaces for its IDMS and Datacom databases, which are now up under HP-UX, with IBM versions in beta and a DG/UX implementation to follow. The firm is also offering CA-Visual Express for the two databases, a tool for accessing any ODBC compliant data source, IMS, VSAM and SQL files. +1 516 342 5224

In Canada, **Andersen Consulting** and **Next Computer Inc** are teaming up to provide an object environment for healthcare and financial organisations.

Unix-to-mainframe connectivity house, New York-based **Systems Strategies Inc**, is readying new Unix-to-MVS Express Data Transfer Services that will enable a range of Unices to exchange files and share resources with MVS mainframes. In addition, Solaris 2.2 and 2.3 users can communicate with IBM mainframes and AS/400s over token ring networks with a solution that pairs Express with **Aurora Technologies Inc's** SBus token ring adapter. Express costs from \$1,000 to \$12,000, Aurora's adapter is \$1,100. Systems Strategies +1 212 279 8400. Aurora +1 617 290 4800.

Version 2.3 of **Elan Computer Group's** license manager is up on **SunSoft Inc** Solaris x86 and includes the ability to also report on the use of **Globetrotter Software Inc's** FLEXIm license manager - it is priced at from \$7,500. +1 415 964 2200.

San Diego, California-based **Andataco Inc** is unbundling its SCSI Bus Management Tool software from its storage subsystems and will licence the package to Sun workstation users from \$300: SMT for Solaris 1.x is out now, a Motif version will be available from March. +1 619 453 9191.

San Diego, California-based **Acucobol Inc** is offering a client/server file system for Acucobol-85 applications running in TCP/IP networks: a version for Unix clients and servers will ship this quarter, an MS-DOS client implementation will follow. The company says AcuServer requires no changes to existing application code providing the data file pathnames are not hardcoded. +1 619 689 7220.

Sequent Computer Systems Inc is to market Edison, New Jersey-based **Information Management Co's** Tuxedo implementation on its Symmetry 2000 series as ptx/transaction:Tuxedo.

Stratus Computer Inc will add functionality to an implementation of **OSF's** Distributed Computing Environment by integrating DCE with the database messaging system it picked up from its acquisition of **Isis Distributed Systems Inc** last December (UX No 466). Integrated with DCE, the software - developed at **Cornell University** and marketed by Ithaca, New York-based Isis since 1991 - will allow DCE clients to call multiple servers, rather than just one, at the same time, with the vanilla DCE remote procedure call. Isis protocols sit on top of TCP/IP and allow servers to be grouped so that databases can be spread across machines for reliability and parallel execution.

Corvallis, Oregon-based **Rogue Wave Software Inc** has added a new version of its Tools.h C++ Class library for use with the **Object Design Inc** ObjectStore database, which it says will allow developers to put Rogue Wave classes into ObjectStore's persistent memory. Tools.h for ObjectStore work with the range of C++ compilers that include the Tools.h API and costs from \$800. +1 503 754 3010.

NetCon Corp, Miami, Florida, has a new Unix-to-Novell connectivity package that allows Unix systems to double as NetWare systems - providing users with access to Novell files and printers - and gives NetWare users access to Unix files and printers. NetCon costs from \$1,000.

Version 2.0 of **AT&T Global Information Solution's** (NCR) StarSentry Software Manager now allows administrators to distribute software from a Unix system to networked PCs running NetWare or to NFS clients that are not attached. It already supports distribution to other Unix systems over TCP/IP, over LAN Manager, SNA or OSI. The console is priced at from \$15,000, network server and client licence are from \$300 and \$60 respectively.

Scientific and Engineering Software Inc has a new version of its SES Client/Server Composer package which now allows users to create diagrams which simulate systems behaviour. Version 1.1 comes with a pre-built client/server design model, with various network, storage, database and application configuration objects into which specifications are entered from a spreadsheet. Client/Server Composer is part of the SES/workbench systems design and analysis system and costs from \$19,500 - SES/workbench starts at \$39,000.

Mahwah, New Jersey-based **Novadigm Inc** has added support for NetWare and OS/2 servers, AIX clients and administrators and TCP/IP comms in version 2.0 of its Enterprise Desktop Manager distributed applications management software. EDM uses an IBM MVS-based repository of application information (from \$20,000), comes with an AIX, OS/2 or Windows-based administrator (from \$1,000) and a range of clients (from \$100 apiece). +1 604 684 1474.

Integrated Computer Solutions Inc, Cambridge, Massachusetts has added three new Motif tools to its Widget Databook: **ICL Plc's** Graphicspower Builder, **Aracor's** C++ Class library and **Bristol Technology's** Xprinter. +1 617 621 0060.

San Diego, California-based **Age Logic Inc** says the **X Consortium** is adopting its X Image Extension, Sample Implementation for the imaging extension to X Windows, which will allow document and images to be integrated under Motif-based X Windows applications. XIE supports fax, TIFF, JPEG, colour, greyscale and mono image formats.

Hoping to capitalise on **Lotus Development Corp's** plan to focus its future Unix software efforts around the Notes product, rather than 1-2-3, Westborough, Massachusetts-based office automation supplier **Applix Inc** is offering to upgrade Lotus 1-2-3 for Unix users up to version 3.3 of its spreadsheet for \$400, a \$100 saving over a regular licence, it says. Meanwhile, the Applixware office software package is up on **NCR Corp's** System 3000 series.

UniForum and **Pencom Systems Inc** are conducting a salary survey amongst open systems professionals. The survey covers 150,000 people, details of which will be published in time for the UniForum show next month. +1 512 343 6666

Littleton, Colorado-based **Tantara Technologies Inc** has a \$500 systems administration package called KnockKnock, which allows Unix managers to monitor a range of Unix and non-Unix machines on the network, as well as troubleshoot FDDI networks and real-time systems. + 1 303 347 2957. In the UK, it's available from Cambridge-based User Interface Technologies +1 44 223 302 041.

SUN SPARCSTATIONS PUT TO WORK IN RUSSIA, KAZAKHSTAN

The Academy of Sciences of Kazakhstan has bought a Sun Microsystems Inc Sparcserver 1000 and Sparcstation 10s to run a remote sensing application. The Alma Ata-based Academy of Sciences intends to develop a comprehensive map of the ecological make-up of the Asian republic using satellite data. Sun is also partnering the Russian state committee for higher education in creating an academic communication network linking several former Soviet Republics. It will be used for joint development of software and information exchange between higher education institutions; the aim is to make it easier to establish connections from the Russian academic electronic mail network to Internet-based networks in the US and in Europe. Meanwhile, Sun is also supplying two oil industry organisations with Sun Sparcstation 2000s to run locally developed applications which will aid interpretations of oil field exploration data. The customer is the Production Association, Tatneftgeophysical. The application is being developed by programmers from the State Committee on Geophysics and the Ministry of Fuel and Energy. Sun says this is the first sale to the oil industry in which the customer is running his own software.

INGRES DISTRIBUTOR TO SUPPLY CURRENCY SYSTEM TO RUSSIAN STOCK EXCHANGE

Russia's only distributor of Ingres has won a contract to supply the Russian Hard Currency and Stock Exchange with an Ingres-based currency trading system. Moscow-based Jet Infosystems has sold a system based around a Sun Microsystems Inc Sparcserver 1000 which has now been installed and is close to being up and running. "Our big advantage in this contract was that two programmers without database experience could write this application in two months," says Jet president Eugene Shablygin. The Russian Currency and Stock Exchange is partly owned by Moscow City Government and competes with the larger Moscow Inter bank Currency Exchange, whose daily trading sessions are used by the Central Bank of Russia to set its daily rouble-dollar base rate. The Ingres implementation is an upgrade of a system that was previously personal computer-based. Mr Shablygin says Ingres has now developed a solid plan for the Russian market and plans a series of Moscow seminars to promote the Open Road development tools in March.

LIANT HAS OPEN PL/I FOR THE LEADING UNIX SYSTEMS

Compiler specialist Liant Software Corp, Framingham, Massachusetts reckons that the open systems industry has missed a trick in not going after all those PL/I applications running on mainframes, and has introduced Open PL/I, claiming it to be the only PL/I development system available for Unix systems. Open PL/I has proven successful for offloading PL/I applications from IBM Corp mainframes and from Digital Equipment Corp VAX, Data General Corp, Wang Laboratories Inc and Prime Computer Inc systems to Unix, Liant claims, and cites "experts" that say up to 30% of the code running on the 65,000 IBM mainframes worldwide is written in PL/I. Open PL/I includes a PL/I compiler, a macro preprocessor, and CodeWatch debugger. It is available for Hewlett-Packard Co HP 9000 Series 700 workstations, Sun Microsystems Inc Sun-4 and Sparcstation servers under SunOS 4.X and Solaris 2.X, IBM RS/6000, and Unix System V.3 and V.4 on iAPX-86 systems. It is described as an enhanced superset of the American National Standards Institute PL/I X3.741981 General Purpose Subset, the enhancements including the addition of IBM PL/I extensions such as controlled storage, initialisation of automatics and array cross-sections incorporating "the most popular features" of IBM's full PL/I language. The Open PL/I macro preprocessor enables users to manipulate PL/I source code before compilation for including code from external files, replacing text, and for conditional compilation. Open PL/I is available now with pricing starting at an eight-user licence fee of \$20,000. Liant says it also offers a range of monthly, quarterly and annual options for licensing.

SYBASE AIMS FOR ONE THIRD OF RDBMS MARKET BY END-1995

A strong set of figures from Emeryville, California-based Sybase Inc for 1993 saw revenues up 61% at \$427m and net profits improve by a lousy 86% to \$44m. While North America posted healthy 50% gains, the revenue growth was mainly attributed to international expansion. European sales grew 84% to \$95m, with the rest of the world contributing \$26m - up 182%. The improved sales translated nicely into improved profits thanks to a 2% improvement in operating margins, which produced an extra \$70m - margins now stand at 16% of turnover. The balance sheet also strengthened, with cash balances up by \$63m compared with last year to \$138m. About 58% of revenues came from the SQL Server line, 24% from communications products and 18% from application development tools. In 1993 it spent \$66m on research and development, \$24m of which came in the last quarter. The company estimates that it now has 18% to 20% of the relational database market, and aims to get that up to one third during 1995. A more immediate aim is to become the number two player in all its geographical markets by the end of this year. Worldwide it reckons that it has achieved this already, but Ingres Corp, for example is still clinging to the number two spot in the UK. Europe may have done well for Sybase, but it accounts for only about 20% of sales, whereas the theoretical contribution should be closer to 40%. Sybase describes 1994 as "a new product year": it aims to ship its Momentum application development tools in the second half and expects the share of business coming from SQL Server to drop to around 40% in the medium term.

SYBASE SHIPS SECURE SQL SERVER ON SUNS

The latest incarnation of Sybase System 10 is Secure SQL Server 10, a B1-class multi-level secure implementation designed for the creation of applications that can control and track access to classified information. Now generally available, the software has been in testing with integrators such as TRW and Rapid Systems Solutions Inc since last May. Secure SQL Server supports conventional unclassified entries alongside trusted information - so-called trusted triggers allow operators fine-grain control over an application's ability to reclassify data or perform actions across a range of security levels. A Certified Objects mechanism prevents unauthorised modification of any application elements. The release is up on the Sun Microsystems Inc compartmented mode workstation 1.1 and is priced at from \$5,625 to \$139,000. An HP-UX version is planned for next quarter, with DEC and IBM ports under evaluation.

FORD CHOOSES RACAL & HP FOR CAD/CAM

The Ford Motor Company is to spend \$1 million over the next 12 months on CAD/CAM tools from Racal Redac - and maybe a lot more in the future. The CAD Expert suite will be used by Ford's Electronics division worldwide, running on workstations from Hewlett-Packard. Initial implementations will be at Ford's Engineering Centre in Dearborn, Michigan, and it is expected that around nine international locations will follow suit over the next few years. Ford isn't saying, but it's understood that the software is being put in place to design the printed circuit boards for the launch of a new generation of cars in 1995, in which PCBs will control everything from engine management to lighting the dashboard. One of the criteria for choosing the software was that it worked with tools from ViewLogic Systems Inc, Marlborough, Massachusetts, to which loss-making Racal-Redac sold its US-based computer-aided engineering operations to last October. The UK company is part of the £1 billion turnover Racal Electronics Group.

WANG UNVEILS OPEN WORKFLOW TOOLS

Wang Labs last week debuted Open/workflow, a suite of software modules designed to manage work processes at various stages of development. The firm says Open/workflow allows operators to build a workflow system from a choice of components such as procedure templates, reporting systems and metrics analysis tools using a graphical toolset and integration toolkit. The package supports data from a range of source applications, including those running on IBM ES9000 and AS/400s, DCE VAX, Unix, Windows and Wang VS systems, and includes Microsoft ODBC drivers. Open/workflow will run on HP-UX and AIX servers - including Wang's re-badged RS/6000s - and supports Windows clients. The IBM version ships this month, HP-UX versions in March. Server prices start at \$7,500 for an eight user licence, clients are \$500 per user. +1 508 967 2081

uni gram X

The weekly information newsletter for the UNIX™ community worldwide

Novell Inc's Unix System Group has appointed a new VP marketing in San Jose, California to replace Bob Davis, who was kicked upstairs in the latest reorganisation (UX No 469). It is Novell's own Rich Bodanovich, who cut his teeth at both the NetWare Systems Group and Unix Connectivity Group.

Digital News & Review says the batteries on that **IBM Corp** PowerPC 601-based notebook (see last week and front page) only last for 45 minutes (UX No 474).

User groups representing **Sun, HP, DEC, Sequent** and **SCO** are planning on having educational seminars and technical sessions at Uniform. There'll also be a virtual human brain on tour at the show. Wonder whose they're using?

SunSoft Inc is starting to get the wheels turning for its 1994 Solaris Developer Conference which is set for April 5-7 at the Moscone Center in San Francisco.

NEC Corp described a 500MHz 32-bit CMOS RISC chip prototype it's developed at the International Solid State Circuit Conference last week, claiming it's the world's fastest RISC chip. They said it consumes only one-thirtieth of the power of existing RISCs, figuring it'd be great for parallel processing.

DEC has shipped its OSF/1-based AXP 3000/300L workstation to China to the Ministry of Electrical Power which is supposed to port its software to it. The resulting system is to be sold to utilities throughout China and to world markets for monitoring and controlling power production and distribution.

DEC has reportedly started work on Turbo Laser Plus, described as 12-way upgrades for the 7000 and 10000. Apparently the EV5 technology it is using would put two CPUs apiece on board modules.

Intel Corp has launched a 40MHz version of its 80960 CF 32-bit superscalar embedded RISC microprocessor. It is fabricated in 0.8 micron CMOS. According to *Electronic News*, the company is working on P100 20 MIPS and P110 45 MIPS versions of the chip.

There was more behind Pier Carlo Falotti's departure from **Ask Group Inc** than frustration that he had failed to turn the company around: last week it was announced that he is to become president and chief executive of **AT&T Co's** operations in Europe, the Middle East and Africa, which are headquartered in Brussels. AT&T says Falotti will also be a member of its Global Operations Team, responsible for implementing the company's strategies and for AT&T's operations around the world.

Apple Computer Inc's next generation Newton, code-named Lindy, is being dressed up for launch in March. *MacWeek* reports, it will use the same **Advanced RISC Machines Ltd** processor, although Apple is said to be planning to use the PowerPC RISC in some up-market Newtons in the future. Low-end ones will retain the ARM CPU, because of its exceptional power economy.

IBM Corp has new NetView/6000 applications on the way including management of IBM 611 routers.

CommTouch Software Inc, San Mateo, California, claims its new Pronto for Windows software allows mobile PC devices to remotely access Unix host networks without affecting the Unix system setup. +1 415 578 6850

Computer Associates Inc's CA-Masterpiece financial management software is now up on **Sequent Computer Systems Inc's** Symmetry 2000 series.

Texas Instruments Inc's IEF Information Engineering Facility is now up on **SunSoft Inc's** Solaris operating system.

VisionWare Ltd's Menlo Park, California unit has signed Beaverton, Oregon-based **Phase X Systems** (a division of **Samsung Electronics Co**) to market its XVision 5 PC X server.

Lucid Inc has introduced version 2.5 of its Energize C++ development system which now includes support for automatic precompiled header files - which allows developers to make small changes to files more quickly - and enhanced compilers. The system is \$4,250 per single user or \$2,900 each for 10. The Menlo Park, California firm also has its C and C++ compilers and Common Lisp implementation up on SunSoft Inc Solaris 2.x: prices are \$1,100, \$500 and \$5,000 respectively. +1 415 329 8400.

Network Security Systems Inc, San Diego, California, has debuted version 2.0 of its LanSafe II uninterruptible power supply management software for Unix (UnixWare is now supported) and a range of other operating systems: prices go from \$150. +1 619 587 7950.

Net/WrkVMS and Net/WrkHP are Palatine, Illinois-based **KnowledgeNet Inc's** latest command language packages that provide bi-directional file transfer and remote program execution facilities between VMS and HP-UX systems, as well as IBM machines running other Net/Wrk software - no prices: +1 708 705 0400.

From April, **Network Computing Devices Inc** X terminal users will be able to get **Adobe Systems Inc** Display PostScript level 2-based applications up on their screens with a new Adobe Display PostScript extension that'll ship for \$200.

ICL Plc will announce a "revamped" range of Intel and Sparc-based servers on March 3 that apparently fill any gaps in its existing product line. The new boxes were co-developed with **Fujitsu Ltd**, and the bets are now on as to whether they will sport a joint ICL-Fujitsu badge or not.

1993 start-up, Newark, California-based **Paradigm System Corp** is readying a network job scheduling and workload management system, OnSchedule 1.0, which will ship from April, hosted on Solaris 1.0-based systems. +1 510 440 8551.

US reports say **Digital Equipment Corp** plans to introduce a four processor Alpha AXP superserver, running Windows NT in the Spring. It also intends to ship optional add-on clustering software for NT in the second half of this year. The software supports load balancing, failover between NT servers and can manage applications that are distributed across multiple servers. It will run on any multiprocessor NT server, including Alpha and Intel-based ones.

DEC now claims that more than 2,500 applications have been ported to OSF/1, and says version 2.0, which includes the Habitat SVR4 personality layer, will start shipping at the end of this month. Version 2.0 is currently said to be 99%-conformant with the Common Unix API specification.

According to the UK's *Computing* weekly, **Oracle UK** is cutting its 1,600 strong workforce by 5% across the board due to a poor financial performance over the past three months. The paper claims some 80 staff will go by the end of the month because the firm exceeded its allotted budget and has been placed under spending constraints by its US parent. Oracle denies the claims, however, saying between 20 and 30 staff have been made redundant because their skills were no longer relevant and their performance wasn't up to scratch.

Lotus Development Corp shares surged \$5.00 to \$64.50 on a report in *Infoworld* that it is in talks with **AT&T Co** about the phone company building public servers for Lotus Notes applications: the agreement could be concluded within a month.

Underlining just how depressed is the economy in the Massachusetts hinterland, **Wang Laboratories Inc's** former headquarters complex in Lowell, which cost \$80m to build, was sold at auction for just \$525,000.

The folks who are putting the new **Unix Technology Group** together, the poor man's successor shall we say to **Unix International**, (see story, front page) are looking for someone to head it.

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COMMERCIAL DEAL FOR PLAN 9 IN THE OFFING

AT&T's Bell Laboratories is working to seal its first commercial deal for the experimental Plan 9 distributed operating system it has been working on over the last few years. Plan 9, masterminded by Unix creators such as Dennis Ritchie, Ken Thompson, Brian Kernighan and Rob Pike, takes Unix as its starting point, but is a fully distributed environment that allows for remote operation using low-powered hardware configurations. It has now been licensed by 150 Universities. Although it does not retain full Unix compatibility and has largely avoided many of the usual industry buzzwords - X, DCE, C++, and client/server for instance - Plan 9 is now moving away from its original reliance on specialised hardware, and has added X-Windows and Posix compatibility. It is now up and running on Motorola, Mips, Sparc, Intel and AT&T's own Hobbit RISC. Dennis Ritchie, who is due to talk about Plan 9 at the UniForum trade show in San Francisco later this month, told *Unigram.X* that Bell Labs is currently negotiating with an unidentified company to bring the system up on a new machine "in a new area where they don't have to worry about compatibility". Ritchie hinted that suitable applications for Plan 9 included remote portable communications systems and television set-top boxes - fuelling speculation that the mystery company might be a Hobbit user such as AT&T's own Eo Inc subsidiary. (UX No 459) Full story, page 4.

START-UP OFFERS COPERNICUS DATA MIGRATION FOR ALL PLATFORMS

New York-based start-up New Paradigm Software Corp, a spin-off from another small software company, Management Technologies Inc, last week introduced a relatively novel piece of middleware called Copernicus, a message translation facility. New Paradigm claims the software, which is immediately available but only implemented at a few pilot sites, will automatically move data from any platform to any platform without a custom interface or changes to the systems involved. If it works as described, it will prove to be a much-needed piece of code, in these days of downsizing, upsizing and rightsizing, for salvaging data stored in legacy systems and moving it to modern environments. Copernicus itself currently runs on Windows 3.1 and HP-UX boxes and the start-up intends to have it on Sun, DG, DEC, RS/6000, VMS, OS/2 and Windows NT platforms as well perhaps as mainframes via CICS. It says the exact source and target machines are irrelevant. One industry analyst compared the product to InfoPump, bought last year by Trinsic, but said Copernicus was more modular, flexible sophisticated and elegant though it's bound to have trouble with some data stream somewhere. The analysts we contacted had been briefed on the software but none had seen it in action. MIT however is apparently interested in incorporating the technology in a Context Mediator prototype it is developing. Copernicus, which supports TCP/IP, Token Ring, DECNet, Async, LU 6.2, Ethernet, SDLC, X.25 3270 SNA, Novell and other protocols, is aimed at software companies and systems integrators priced from \$25,000 to \$100,000.

FULL RANGE SEEN IN ICL's '94 COLLECTION

Our US sources learn that ICL Plc plans to repeat its 1993 Spring collection rollout with the launch of a range of new server products spanning Intel Corp iAPX-86 and Sparc architectures this month. The 1994 Spring collection is expected to feature as many as 20 new configurations as the firm takes the opportunity to re-group its Intel-based DRS3000 Intel and DRS6000 Sparc machines into TeamServer and SuperServer lines, topped by the massively parallel Goldrush MegaServer. Uniprocessor TeamServers will be offered with a choice of system software - according to its availability for the CPU - including UnixWare, SCO Unix, Banyan Vines, NetWare, LAN Manager, Workgroup for Windows, the Unix SVR4-based DRS/NX 7 and an environment ICL only last September said it thought would take two or three years to become established, Windows NT. TeamServer customers may also get the choice of booting SCO, UnixWare or NT from disks pre-installed with all three operating systems. Multiprocessor TeamServers, and mid- and high-end SMP SuperServers come with SCO MPX in Intel configurations and SVR4.2 MP on Sparcs by the summer.

IBM HAS 4-WAY FIREBALL, 32- WAY RACK-MOUNT PEGASI

Well, now we're told we were right when we originally said IBM Corp's symmetric multiprocessing PowerPC 601 Pegasus machines will be six-way (UX No 474) and then again when we said they would be eight-way (UX No 475). How's that, you may ask. One of our tipsters volunteered that IBM wants them to be eight-ways, it's just that it's not sure how efficiently the software will scale. We also have another IBM code name for you to flash about. Try Fireball for a four-way SMP desktop. IBM also expects to aggressively cluster rack-mounted Pegasi (note the Latin flourish), possibly linking four 8-ways together with room left over for extra storage.

SANTA CRUZ - LOOKING BEYOND INTEL TO POWERPC?

We hear the Santa Cruz Operation is evaluating its dependence on Intel and considering porting to its first RISC chip, namely the PowerPC. Meanwhile, SCO's Open Systems software 3.0 line has won X/Open XPG4 base branding, and the firm has signed a memorandum of understanding with Tomen Corp, one of Japan's Big 10 traders, to create a joint venture company to promote its "open systems vision and products" in Japan. Details will be given next month.

SILICON GRAPHICS PLANS SMP DESKTOPS

Silicon Graphics Inc plans to move its Indy, Indigo and the Indigo 2 into the SMP realm over the next year or two, using next-generation implementations of its Mips Technologies Inc subsidiary's R4600. It is also developing a low-cost, multimedia version of the R4200 with Toshiba America Electronic Components Inc, which will be targeted at the consumer electronics market, and which it will include in the arcade games and games consoles it is developing for Nintendo Co. In addition, Toshiba America is working on a new 50MHz 32-bit R3000 part for the multimedia market, running at 40 MIPS. SGI claims 2,000 Challenge servers have been installed since they began shipping last summer - Power Challenge systems are due this summer.

DEC TEAMS WITH BROOKTREE ON GRAPHICS CHIP FAMILY...

Using technology supplied by Brooktree Corp, San Diego, Digital Equipment Corp has announced the DECchip 21030, a Peripheral Components Interconnect graphics accelerator chip claimed to provide workstation class graphics performance at commodity personal computer prices. The DECchip 21030 is claimed to improve performance of Pentium and Alpha-based personal computers in three dimensional computer-aided design, visualisation, graphic arts and other applications that require workstation class graphics. The DECchip 21030 accelerator is the first of a planned family of graphics chips, and will be marketed by both DEC and Brooktree under their own names. They will also both fabricate it independently. In addition to the graphics accelerator chip, the two companies are working together to supply all associated software drivers, evaluation boards and design databases, and other support elements. DEC already supports Intel Corp's PCI Peripheral Component Interconnect on its RISCs and offers an Ethernet controller and a PCI to PCI bridge chip. The chip implements a highly pipelined architecture that delivers maximum graphics throughput over a 64bit video memory port, the partners say, to deliver "lightning fast" line drawing capabilities, "new levels" of three dimensional acceleration with support of OpenGL, and enhanced picture quality with patent pending image processing techniques. It supports up to 1,600 by 1,280 pixel graphics in 16.7m colours and costs \$59.80 in 5,000 up quantities with samples now, and volume shipments scheduled for next quarter. The deal is aimed at combining DEC's strengths in Window-based graphics subsystems and accelerators with Brooktree's expertise in mixed signal chip technology. In addition to all digital parts such as the DECchip 21030, the two have also defined and are currently developing products to exploit Brooktree's mixed signal integration skills. Such functions as video support will be added, and there are plans to support applications ranging from higher performance graphics to videoconferencing and cheap accelerated video playback.

...DISTRIBUTES PRISM WAREHOUSE MANAGER WITH ACCESSWORKS

Digital Equipment Corp has added another building block to its burgeoning client-server strategy by consolidating its data management technology. The firm has signed up Prism Solutions Inc to distribute its Prism Warehouse Manager product with its own Accessworks database access servers. Prism will act as a central hub for data, pulling it from disparate data sources into a central database management system of user choice, which can then be used for data modelling and verifying. DEC's Group Marketing Manager for Business Critical Client Server Computing Steven Keonig sees the tool primarily as a means of creating Executive or Enterprise Information Systems. The Prism system currently runs under DEC's OpenVMS operating system, but the two firm have not as yet discussed converting it to OSF/1. As part of the client-server system, Prism will help lend a market presence to the Alpha processor, hinted Keonig - "It demonstrates the value of the scalability of the Alpha platform". Prism Warehouse Manager costs \$95,000 with DEC RMS source files and Sybase as the target data warehouse system on DEC Accessworks servers. Additional source modules cost \$20,000 each.

WHITE CROSS PARALLEL SERVERS BEGIN TO MAKE THEIR MARK IN SOUTH AFRICA

White Cross Systems Ltd of Bracknell, Berkshire has sold a parallel machine to South African Airways within two months of signing its South African distributor. The distributor, Corporate Management Services Ltd of Sandton, South Africa, sold the WX 9010 deskside parallel server as part of an integrated system worth roughly \$700,200. The 12 processor machine will hook into an IBM Corp 3090 mainframe running DB2 and Adabas to interrogate data as part of a marketing decision support system. It will help SAA to make decisions about its frequent flyer programme. Corporate Management is also signing one month pilot tests with three other companies - an oil company, a retailer and a major South African bank. And it took another machine from White Cross - the WX 9010 - for its own use in a deal worth £150,000.

QUALITY SOFTWARE PRODUCTS PLUNGES INTO US IN DEAL WITH GLOBAL SOFTWARE

Accountancy software firm Quality Software Products Plc, Gateshead, Tyne & Wear, has signed a cheap joint venture with Global Software Inc, to reverse its profit decline by tapping the US market. Quality Software, which reported profits down 37% last half after high research and development costs, has taken a 5% stake in Global for no financial outlay. Raleigh, North Carolina-based accountancy software firm Global gets the right to market Quality Software's Universal OLAS accountancy products in the US to its 1,000-strong customer base. The firms will operate a revenue-sharing scheme, where income from maintenance is split evenly between the two, and income from licensing is split 45%-55% in Global's favour. Quality Software, which turned over £6.6m last half and reports again next month, has the right to buy a further 5% of Global equity in the next three and a half years at current prices. Under the deal, its Universal OLAS product will be renamed Global/QSP Financials for the US market. The product will complement Global's own products which, like Universal OLAS, are sold in modular form. Global's software sells on the AS/400, IBM Corp mainframes and Unix systems. Global, which turned over \$25m last fiscal year, signed the deal just days after its senior management bought the firm out from its parent company, Hathaway Corp, an electrical utility firm. Global's senior management complained that Hathaway had been "upstreaming" profits, leaving it without the funds to develop client-server version of its software. From the Quality Software perspective, the deal provides it with a quick, cheap way to plug its turnover into a market, which it places at 15 times its own size. The firm is now eyeing similar opportunities in Singapore and France, which are likely to occur in that order. For now, it is selling directly into Europe, and has just won a contract with Commercial Union Europe in countries including Poland. A Quality Software source said this could play a key part in its future European strategy. Until now, Quality Software has suffered criticism at the hands of the financial press following its flotation in March last year. Its heavy investment in developing Universal OLAS and the underlying Multiple Cross Platform Engineering technology drained \$22m from its coffers, and caused it to adopt the policy of capitalising its research and development costs.

CRAY'S SUPERSERVER RATES

Cray Research Inc reports 41,967 SPECrate_int92 and 55,734 SPECrate_fp92 performance for a 24 processor SuperSparc-based Superserver 6400 and 54,186 SPECrate_int92, 72,177 SPECrate_fp92 for a 32 CPU model. Announced last October, Cray's SuperServers are now shipping with up to 32 CPUs - 48 and 64 processor machines will follow later this year. Apogee Software Inc's C and Fortran compilers, which include KAP parallelising pre-processors from Kuck and Associates and were used in the SPEC benchmarking will be available on the machines.

PROTOSOFT HAS NEW O-O ENGINEERING TOOL FOR UNIX AND PCs

Protosoft Inc, based in Houston, Texas, has come out with Paradigm Plus 2.0, a new release of the firm's object-oriented software engineering tool for personal computer and Unix environments. New enhancements to the product include support for different object methodologies such as Rumbaugh, Shlaer Mellor, Booch and HP Fusion; project management and requirements tracking functions; and support for third party tools such as Hewlett-Packard Co's Soft-Bench and Microsoft Corp's Object Linking & Embedding 2.0 specification.

HP SHOWS MULTIMEDIA ON SYBASE

Sybase Inc, Emeryville, California says it has been chosen by Hewlett-Packard Co to support promotion of multimedia business applications on the newest HP 9000 Series 700 workstations. To show off the technology, Hewlett-Packard will install a suite of interactive multimedia prototype applications built with Sybase's Gain Momentum application development tool on the boxes at its sales offices worldwide.

UNIXWARE TECHNOLOGY GROUP DEBUTS

The formation of the UnixWare Technology Group (UX No 475) was finally announced last week with the remit of advancing, promoting and guiding the evolution of UnixWare and related technologies. It won't develop a product roadmap like Unix International - Novell will instead - but will focus on providing feedback to Novell Inc's Unix Systems Group. Founding members are Novell, AT&T Global Information Systems (formerly NCR), Fujitsu Ltd, ICL Plc, NEC Corp, Ing C Olivetti SpA, Sony Corp, Unisoft Ltd, and Unisys Corp, and two interim chief executives have been appointed until someone permanent is found - Unisys' Helene Mathern, and AT&T's Luke King. The non-profit making organisation sees itself as a channel of communication between suppliers and Novell, and says its aim is to "help drive the definition and evolution of UnixWare [in a structured manner] to ensure it meets end-user requirements". OEMs, hardware vendors, systems integrators, and independent software vendors will submit product recommendations to UTG - Novell will respond with its own plans for the product. UTG will also undertake a range of technical and marketing programmes as well as providing members with early access to binary and source level code, and certification and branding schemes. Sponsor membership costs \$35,000 per annum, and associate membership \$5,000.

UNIPALM PLANS MARCH FLOTATION TO FINANCE INTERNET SERVICE EXPANSION

Personal computer-to-Unix communications developer Unipalm Ltd plans to go public in late March or early April, and will use the £6m it hopes to raise to expand the Internet service provided by subsidiary, The Public IP Exchange Ltd (PIPEX). The placing will be underwritten by Henry Cooke Corporate Finance Ltd, and the Cambridge-based company estimated capitalisation is between £15m and £18m. PIPEX was set up in January 1992 to provide UK users with a connection service to the Internet, and already claims to have 70% of this market, the equivalent of 200 customers. In 1992, its first year of trading, the unit generated turnover of £381,000, on losses of £308,000, and for the first half of the 1993 fiscal year ending October 31, generated £592,000 in sales and a pro rata loss of £313,000. It reckons it is growing at between 5% and 10% per month, but requires further capital to increase its sales and engineering staff and set up more transmission stations. In the first half of fiscal 1993, Unipalm turned over approximately £4.4m, on pre-tax profits of £461,000 - not including PIPEX's figures.

IBM TAKES PRINTER TECHNOLOGY IN CANON POWERPC DEAL

In what looks like a worrying development for Lexmark International Inc - the typewriter and low-end printer company orphaned by IBM Corp - Canon Inc has agreed to endorse the PowerPC RISC for low-end computing devices such as subnotebook computers and personal digital assistants. But the firm will not take the chip for embedded applications such as laser printer, copier and facsimile machine controllers - it currently uses MIPS Technologies Inc's processor for this - which represent Canon's principal chip requirement. In return, IBM will adopt Canon printer technologies, notably its colour bubblejet technology for low-end printers. The fact that Canon was a major investor in NeXT Computer Inc, and retains rights to the NeXTstep object-oriented environment in some markets suggests it may also build NeXTstep workstations around the PowerPC, but the firm says it is still much too early to say which operating systems it will support. NeXT had been working on products that would use PowerPC before it abandoned the hardware business. Richard Guarino, general manager for IBM's Power Personal Systems division, said IBM is actively seeking other Far East partners. As part of the agreement, Canon will invest in the development of PowerPC and promote it as a "strategic direction" for its computer and office products. Canon has also agreed to join IBM and Motorola as they plan future directions for the PowerPC chip, such as extending its use to consumer-oriented products. Guarino said IBM and Canon together will develop a low-end desktop personal computer that will sell for less than \$4,000 and could be available by the end of this year, though sources said this part of the agreement was by no means certain.

HUMMINGBIRD SETS UP ON VISIONWARE'S HOME TURF

Putting the cat right amongst the pigeons, leading PC X server outlet, Hummingbird Communications Ltd, Markham, Ontario, is setting up shop in the home town of number two in the market, UK firm VisionWare Ltd, Leeds. There's no love lost in the competitive X server marketplace, and although it initially denied any link between the location of the new office and its proximity to VisionWare, Hummingbird admitted the move is part of an aggressive plan to take on VisionWare on its own turf. It has installed Julian Stone to run the office, which will gradually assume more responsibility for handling Hummingbird's UK resellers and customers, currently administered from Markham. The UK venture is part of a wider European campaign, which will also see the expansion of Hummingbird's Geneva office to cater for an expected increase in business. Of the \$54.7m of PC X servers sold last year, 23% went to European customers, X Business Group estimates. Hummingbird is planning a big splash at UniForum later this month when it will announce upgraded versions of its Exceed PC X product line, which will include enhanced performance, an extended interface set, greater copy and paste functionality and more. Hummingbird UK +44 532 467 253.

FEDS NAB RALPH KIRKLEY FOR TAX EVASION

A Pencom Software Inc competitor, the 500-person Austin, Texas-based Ralph Kirkley Associates, which supplied lots of temporary programmers, technical support people and consultants to open systems companies like IBM Corp, especially for its AIX work, is in big trouble. It has pleaded guilty to evading \$7.3m in federal taxes including Social Security, Medicare and income taxes. Actually the amount is closer to \$10m but sums prior to 1991 were not included in the government's case. Founder Ralph Kirkley, famous for low contract costs, faces five years in gaol and a \$250,000 fine on each of six counts of tax evasion. The company, which reported paying less in wages and hence less in taxes than it actually did, continues to function. The ramifications for Kirkley customers are still unclear.

TADPOLE DEBUTS SPARC-BOOK 3 NOTEBOOKS

From its US base in Austin, Texas, Cambridge headquartered Tadpole Technology Plc last week launched its new SparcBook 3 family of notebook computers, based on Texas Instruments Inc 50MHz TMS390S10 microSparcs. The line has two models so far. The SparcBook 3 has a colour TFT screen, 2Mb of VRAM, 16-bit audio, and on-board ISDN support for remote networking, telephony and teleconferencing applications. It weighs 6.5lb, costs £7,650 or \$10,950, and is targeted at such engineering and commercial markets as financial services, mechanical computer-aided design, and telecommunications. The SparcBook 3LC has a monochrome passive display, 1Mb VRAM, 8-bit audio and weighs in at 6lb. It costs £5,350 or \$7,500, and is aimed at users who want a cheaper version of the above, or want to use their machine with an external colour display. Both machines also have PCMCIA support, 16Mb of replaceable SIMM-based DRAM that is upgradeable to 64Mb, on-board Weitek Corp P9000 graphics accelerators, removable 340Mb or 520Mb hard disk drives, and internal 12V nickel metal hydride battery packs that last for an hour. External 12V nickel cadmium battery packs that last between four and five hours can also be purchased separately, although no prices will be available until the SparcBook 3s start shipping in March. The machines run Solaris 1 and 2 as well as version 2.0 of Tadpole's own NCE/OS Lite - version 2.0 includes such new features as file synchronisation, which enables users to update files and databases held locally with those stored on a remote server; and menu-driven interfaces to such devices as input-output and PCMCIA slots. SunSoft's Wabi and Insignia Solution Ltd's SoftWindows are also available as options. The SparcBook 3s will be sold direct in the US, UK, and France, and via resellers and distributors in the rest of Europe and Asia.

PLAN 9 MOVES FROM AT&T RESEARCH LABS TOWARDS THE REAL WORLD

By John Abbott

Now that AT&T Bell Labs has been doubly removed from its original position at the centre of core Unix development - first Unix System Labs was spun off as a separate entity, and then Novell bought it - it is free to pursue other technology paths without fear of conflict. Dennis Ritchie and some of the other original Unix development team at Bell Labs have been talking for some years now about Plan 9 (named after the cheapy 1950s sci-fi epic *Plan 9 From Outer Space*), a research project taking some of the design goals of Unix a stage or two further, while not getting too bogged down in the usual compatibility issues. News about Plan 9 first began to break back in 1990 (UX No 291), but since then little new information has emerged. Now Dennis Ritchie has been booked as a keynoter at the UniForum trade show in San Francisco next month, and plans to give the industry and update on progress so far.

Plan 9

While Ritchie insists that Plan 9 is still a research effort and "it's not being developed in any event with the plan of turning it into a product", there are increasing signs that the technology is being groomed for release into the real world. Some internal integration projects have been progressed, 150 university licenses are already out there and Ritchie talks intriguingly about negotiations for the first commercial license (see separate story). And some concessions appear to have been made to commercial realities since the initial disclosures. As originally described, Plan 9 was a distributed system divided into CPU server and file server components, along with a terminal server portion running on specialised terminals - these were basically diskless workstations based on the Motorola 68020 - equivalents of the Sun 3. The prime advantage was that terminal users could retain a complete view of the Plan 9 system from any terminal. It ran on MIPS-based Silicon Graphics hardware, and eschewed X-Windows for its own windowing system. Now, however, says Ritchie, access to X-Windows and non-specialised hardware has been added. Plan 9 now runs on five architectures: the original Motorola, Sparc, MIPS, Intel and the Hobbit RISC, with "a couple more possibilities" on the cards. The notion of CPU servers means that you can add computational power centrally rather than expensively and wastefully configuring individual desktops. The efficiency of the Plan 9 code means that it will run well on low-powered hardware - Ritchie said the kernel on his Motorola-based desktop was 152Kb. Even so, the specialised "Gnot" terminal has also been updated, using a MIPS R4400 chip and with a larger amount of memory. This will allow more things to be done on the terminal, and will allow direct fibre connection rather than Ethernet.

Dynamically attached

The configuration within Bell Labs has been designed in such a way that the precise location of things, and where actions take place, is quite flexible - as the application changes you can do things in different ways. "The terminal I have at home has a local disk split up into a cache block for the remote file system and a small local file system," says Ritchie. "and you can do things in various places". The advantage is the control factor - things such as compilation can use the remote file system via ISDN, while local work can remain unique to the user, so that sensitive information need never appear on the public file system. One of the main technical differences between Plan 9 and Unix is that the file system space and name space is configured per process. A program running on a Unix machine sees the same file system as any other. In Plan 9 the things that are visible are dynamically attached to the program, and you see the environment of that program wherever you are on the system. The choices to make as where to run a program depend on how close it is to the files and the display.

X is now available for importing programs, and there is a library that makes a complete Posix 3.1 environment available. Programs that conform to Posix and ANSI C are supported. Plan 9 uses a C compiler written especially by Ken Thompson, mainly because they do not want to be tied to a manufacturer's compiler for licensing reasons. In fact a lot of the new developments are being carried out in a new language - ALEF - which is a C-based language that does not attempt to be fully compatible with the original. It includes interprocess communications, treating the semantics of both processes and tasks identically. Ritchie says the intention is to get this technology out onto the market at some stage. It is ALEF, rather than C++, that is the focus for the newest developments.

RPC - implicit or explicit

How does all this relate to what everybody else is talking about - the Distributed Computing Environment? According to Ritchie, DCE is a grab bag of technologies, including all the things that people have thought of. But although Plan 9 takes "a fundamentally different approach", there is some convergence here as well, and Ritchie admits that "both could probably learn from each other". DCE and similar approaches are concerned with explicit remote procedure calls, stubs and the like, meaning that there is a request/response paradigm just beneath the surface. Plan 9 - following on from Unix, but taking it much further - treats everything as a file, with operations on things carried out by reading and writing files. The distributed capabilities of Plan 9 come about because of the pervasive use of remote file systems where the applications understand the file system protocol. In effect this pushes the remote procedure call mechanism down a layer, with the operating system itself carrying out RPCs in order to do file system operations. RPCs are implicit rather than explicit. But the work with the ALEF language is making the communications somewhat more explicit again.

Commercial possibilities

Last we heard (UX No 442) Novell Inc were still showing some interest in retaining rights to Plan 9, but it's hard to see how it fits in with their future strategy, currently somewhat unclear anyway. Meanwhile, Ritchie himself is involved in setting up what may be the first commercial contract for Plan 9. He won't say who the company is, but hints that the potential deal is "in a new area where they don't have to worry about compatibility". Plan 9, he says, inhabits "a different world than Unix, and if it spreads it will be in areas in some senses specialised, where its virtues are more important than its differences". One such area, he suggests, may be in the growing area of small-sized remote portable systems and television set-top boxes.

ECHO LOGIC FOLDED BACK INTO AT&T

After struggling as a standalone venture, three-year-old Echo Logic Inc has disappeared back into AT&T Bell Labs from whence it came. The unit is now simply known by the name FlashPort, the designation of its binary software translation technology which Apple Computer Inc has been using to move existing 68000-based Mac applications to the PowerPC. Funded by AT&T Venture Corp, Echo Logic was created back in 1991 to commercialise the technology designed by Bell Labs engineers, a development that started back in the spring of 1987. Subsequently Bell Labs licensed back the technology for internal AT&T work such as creating a migration path for users of the now-defunct line of AT&T 3B2 Unix machines as well as users of IBM 360/370 and Amdahl mainframes wanting to move to other platforms. Echo Logic's Apple activities have now been coupled together with the AT&T Bell Labs work for economy's sake at Echo's off-site premises in New Jersey in hopes of accelerating FlashPort availability. FlashPort will continue what it has been doing and also provide its services to Apple ISVs. Without recourse to source code, FlashPort can translate object code-to-object code natively moving legacy 68000 and IBM systems to HP, Sun, Mips, Intel, RS/6000 and PowerPC machines, both Apple and IBM versions. Brad Burnham who ran the Echo Logic venture has now moved over to AT&T Ventures. John Goetelmann, who managed the original FlashPort research team, is now heading up the endeavour. +1 908 946-1111

SCO OFFERS INTEGRATED SERVER AND POINT OF SALE SOFTWARE FOR RETAILERS

The Santa Cruz Operation Inc has expanded its product range in the retail market to include not just back-end server software, but also a cut-down client version of SCO Unix that runs on point-of-sale (POS) systems. The company also intends to launch a worldwide retail developer programme on April 1, and for £8,000 OEMs, value-added resellers and systems integrators will receive support services, SCO Open Server Enterprise, an Open Server Development System, and a configuration toolkit that enables them to integrate the SCO Open Server systems and POS clients in a variety of configurations. The toolkit also includes five client licences free-of-charge. While Open Server needs too much memory - between 4Mb and 8Mb - to run on Intel Corp 80386 or 80486-based POS systems, the new client software has been stripped of certain features, such as custom installation tools and access rights, so it requires only 1.2Mb of memory - it still supports TCP/IP, diskless operation and network administration, however. But the firm does emphasise it is not a pre-packaged ready-to-deploy operating system that offers customers a cheaper way of buying a two-user SCO Unix licence. The product will be sold solely to the retail market and needs to be customised to suit individual requirements, whether that be a newsagents with one POS system or an international company with branches and systems all over the world. SCO's aim is to leverage its current position in the back-end server market, of which market research firm Inteco reckons it has a 33% share - the firm claims it has sold 100,000 servers or 1m licences since it entered the market in late 1989, and reckons many retailers that bought POS systems in the early 1980s to automate their businesses are now wanting to upgrade ageing kit. It is keen to tap into a market that is estimated to require 200,000 servers in Europe alone. It also hopes to provide retailers with a successor to current offerings, such as MS-DOS, which doesn't have multi-tasking capabilities, to Digital Research Inc's FlexOS, for which there are no applications, and to proprietary embedded operating systems that are notoriously difficult to integrate with back-end servers. Its new system is described as a multitasking, integrated environment, on which customers can develop applications with standard SCO tools - they only need add retail peripherals to their server. SCO says it currently generates approximately 13% of its total revenues from the retail market, and customers include Eckerd Corp, Dixons Plc, and Petrofina.

CORBA 2.0 PROPOSALS DOWN TO SEVEN

The 13 Corba 2.0 submitters have apparently become seven, a figure that may be trimmed further by the time of the March 7th deadline, when interoperability proposals need to have reached the Object Management Group. The aim of Corba 2.0 is to provide a mechanism - one of the missing links - that will enable applications under one Corba 1.1 object request broker to access services provided by any other implementations. In effect, this will allow ISVs and users to bypass the incompatibilities between different brokers, but there are several ways in which this could be achieved. Some, like SunSoft Inc and Iona Technology Ltd, and ExperSoft Corp have already outlined their plans (UX Nos 469, 473). Now DEC, Hewlett-Packard Co, HyperDesk Corp, Open Software Foundation and NEC are expected to submit a joint proposal, based around OSF's Distributed Computing Environment, for a multi-protocol gateway. Of the other contenders, Bell Northern Research Europe proposes an alternative gateway solution. Symbiotics is proposing an architecture neutral exchange system, IBM Corp is using its distributed object manager system and ICL Plc will utilise its Dais object framework technology.

SALIX TARGETS DOCUMENT MANAGEMENT

There's a month-old start-up out of Schiller Park, Illinois called Salix Systems, a wholly owned subsidiary of Western Printing Machinery, that's going after the Unix-based networked document management and archiving business, starting mainly with Sun platforms. It has DocStor for document management, AMS for account/vendor contact management for filepro users under Sparc and Intel, and SalixAr for archiving files on magnetic and optical subsystems. Pricing won't be available until April, when the software makes its official debut. Meanwhile, the firm is currently on a London-Paris-Rome tour sponsored by US Commerce Department, hunting out European end users and distributors and looking for joint venture opportunities. +1 708 678-5600.

SUN TO BUNDLE THE NEW NOTES FOR UNIX FREE UNTIL SEPTEMBER

Lotus Development Corp has announced Lotus Notes 3.1 for Sun Microsystems Inc's Solaris 1.1 Unix - and Sun plans to bundle it with all servers shipped before June 30. The Cambridge, Massachusetts company also announced the Notes SMTP Simple Mail Transfer Protocol gateway, to provide seamless interoperability between Notes mail and Unix mail users. This gateway offers MIME Multipurpose Internet Mail Extension support for handling file attachments between disparate electronic mail systems. It will ship within 60 days. Sun's free Notes deal consists of a coupon for Notes server software plus six Notes client licences, worth almost \$3,000, to be bundled with all Sparcserver systems shipped in the US, the UK, Canada and Germany between March 9 and June 30. Customers can redeem these coupons for Lotus Notes at no charge until December 31. Notes 3.1 under Solaris 1.1 operates as a native Unix application with full support for the Motif interface and TCP/IP network protocol, and is designed to interoperate seamlessly with Notes 3 under all supported Notes environments, including Windows, OS/2 and Macintosh System. Notes for Solaris will also work seamlessly with "a number" of X terminals. Notes for Unix supports Lotus Link, Embed and Launch-to-Edit, developed with Software Pundits Inc, and provides an object linking and embedding capability claimed to be equivalent to and compatible with Object Linking & Embedding 1.0 in Microsoft Corp Windows 3.1.

MAINFRAME-COMPATIBLE VERSION OF SAP'S R/3 IS DUE IN EARLY 1995

Version 3.0 of SAP AG's R/3 client/server financial and accounting software, which is scheduled for release in early 1995, should be object-oriented and fully compatible with the mainframe version, R/2. The various modules that make up every application are already claimed to be 80% of the way there, as R/3 was apparently written with object technology in mind - the repository, middleware, and performance tools, collectively known as the Basis system, are all object-oriented too, as is the SAP Development Environment. And SAP is currently evaluating which vendors' object request broker it should go for. Meanwhile, although the current version of R/3 - 2.1 - supports a range of Unix environments, such as IBM's AIX and Sun's Solaris, SAP believes the range of hardware it runs on will be greatly increased via the Windows NT port, which should be available first of all on Sequent machines by the second quarter of this year. For example, the company says, IBM has committed to put NT on the RS/6000 as has Digital Equipment Corp on its Alpha AXP's. Moreover, trials of a shrink-wrapped version of R/3 running under NT on a PowerPC laptop are currently underway in Germany. The NT version of R/3 will initially support Oracle Corp databases, but support for Sybase, Informix, Software AG's Entire SQL and IBM's DB2/6000 is likely to follow over the course of the year. A port to Chicago should materialise by about mid-1994, and R/3 customers will be able to use an Apple Computer Inc Macintosh front-end from the end of the second quarter, although they already are doing so in Germany. Furthermore, SAP will start reselling iXOS Software GmbH's document management and imaging processing software as an R/3 module in the second or third quarter. And the company says it has now removed the product's former 200-user ceiling. While it boasts that up to 2,000 concurrent users can now exploit the system, it expects this figure to double by the end of the year by virtue of faster CPUs and clustering options. SAP currently has 1,200 R/3 customers worldwide compared with 2,000 for R/2, but is close to signing two big R/3 deals in the UK with an unnamed merchant bank and insurance company.

INTELLICORP OBJECT WORKBENCH DUE

Mountain View, California firm IntelliCorp will this week unveil its object-oriented Object Management Workbench set of analysis and design tools, the result of a two-year collaboration between James Martin & Co, James Odell and Intellicorp. OMW can be used in conjunction with IntelliCorp's Kappa programming environment, and applications work with Oracle, Ingres, Informix and Sybase. DB2 can be accessed through CICS using the firm's Kappa Comm-Manager. Hosted on workstations, client systems supported are Unix and Windows. Licences start at \$11,000. +1 415 965 5500

THE X WINDOWS MARKET MAY HAVE GROWN 51% IN 1993, BUT THE PRESSURE IS ON

By Cath Everett

Although the value of the worldwide X Windows market increased 51% in 1993 to \$1,200m, The X Business Group Inc reckons that to maintain such growth levels, X will need to convince the industry it has a viable part to play in the world of client/server, not just for Unix, but for other complementary operating systems too.

The State of Play in 1993

Nonetheless, 1993 was a successful year for X Windows in the distributed Unix environment, with the installed base of "X-capable" seats topping 3.5m by the end of the year and the market approaching saturation point in graphical-based Unix sites. As the market research and consultancy firm's president Stephen Auditore points out, "X has become accepted as the *de facto* standard for distributed windowing in technical organisations and is now being adopted by those running commercial Unix" in the US in such industries as telecommunications, defense/aerospace, manufacturing and development. "X adoption and use in Europe and Asia was still confined mostly to technical applications and organisations", however, although the industry did make its first sales into Eastern Europe, particularly in the Czech Republic and Hungary.

X terminals

X terminals continued in their role as most popular X product, accounting for 51% of the total market, although this was down on the 1992 figure of 62%. While worldwide unit shipments increased 35% to 265,712, the market grew only 23% to \$615.4m in value terms due to competitive price pressures, which forced many vendors to introduce discount schemes. Improved performance and features from personal computer-based X servers also led some traditional X terminal customers to choose PC X servers instead. Despite this, the X Business Group's vice president Greg Blatnik claims "the worldwide X terminal market grew at a faster rate than nearly any other peripheral market" due to its rapid expansion into commercial sites and applications - commercial shipments grew 37% compared with 31% in 1992. Furthermore, X terminals "provide overall cost-of-ownership benefits, not just acquisition savings", he says. However, Blatnik does acknowledge that the technical market for X terminals in the US is all but saturated, and says future growth will come from commercial customers and applications such as banking, customer and financial services, and from organisations wanting to replace their ageing 3270 terminals as they downsize from mainframes. He expects unit shipments to increase by 30% in 1994 and the market to be worth more than \$1,000m by 1997. On the awards front, the prize for X terminal leader in shipment terms for the fifth year in succession went to Network Computing Devices Inc, which sold 68,000 units and boasted a 26% market share. Hewlett-Packard Co came in second with 25%, but won in revenue terms for the third consecutive year, generating approximately \$143.8m due to "exceptional demand for its colour products". In fact, colour terminals made up some 73% of all units shipped or 81% of the market in revenue terms because, according to Blatnik, not only do "they enhance the graphical user environment and amplify information interpretation", but "prices for colour X terminals were much more affordable in 1993".

PC X servers

According to XBG industry analyst Christopher Amaru, "the PC X server market was expanding at twice the rate of the \$1,100m X Window system industry in 1993". Although he expects this to slow in 1994, he believes, "As PC X servers move towards offering the same performance as X terminals as well as total a PC-Unix connectivity solution, the market should continue to show healthy growth". Worldwide PC X server factory revenues in 1993 increased more than 100% to \$54.7m, which, Amaru reckons, was driven by continued growth in the installed base of personal computers, running Microsoft Corp's Windows. This area generated \$41.2m or 75% of the total PC X server market. The leading supplier for the third year in a row was Hummingbird Communications Ltd, which claimed more than 32% of the market, based on revenues of \$17.1m. Network Computing Devices Inc came in second with 17%, generating turnover of \$9.3m - helped by its announcement last year of PC-Xware.

Market growth stunted by interface wars

Despite the continued dominance of X terminals in the X world, the X Business Group now believes the industry is predominantly a software one, and divides the fast-growing interface development technology sector into four main areas: interface development tools; user interface management systems; cross-platform development systems; and dynamic data visualisation tools. In 1993, the total market grew 64% to \$133m in factory revenue terms. But the organisation reckons the industry could have generated another \$12m or so in revenues had certain events in the Unix industry not occurred. These include Sun Microsystems Inc dropping Open Look, DEC dropping VUIT, and the industry backing the Common Unix application programming interface, which led to fewer than expected sales of Open Look and cross-platform development systems. As a result, it was the dynamic data visualisation sector that dominated the interface development industry in 1993, although growth was slower than expected. This area claimed a 33% share of the total market, generating more than \$44m in sales from 1,995 licences, including both development and run-time ones. VI Corp emerged as leader with a 38% market share, followed by SL Corp - its 20% share was garnered from development licenses.

Development and management systems

Cross-platform development systems came next with 32% of the market, and sales of \$43m from 4,360 licenses, again including development and run-time ones. The leading supplier in this area was XVT Corp with a 52% market share, followed by Visix Software Inc, taking a 23% share with its Galaxy development environment - though Visix would argue that it covers a somewhat wider set of requirements than the XVT tools. Interface development tools were third, claiming 19% of the total market. Some 31,555 licenses were sold to the value of \$25.5m, and Integrated Computer Solutions was top of the pile. It sold 18,365 and boasted a 59% market share, while SunSoft trailed behind in second place with only 11%. Lastly came user interface management systems, generating \$20.2m in factory revenue from the sale of 14,600 development licences. Visual Edge Technology Inc took the lion's share of this with 74%. However, because the company only sells via OEMs, the total end-user market is actually estimated to be worth between \$50m and \$60m.

1994 and into the future

Looking to the future, however, Auditore believes X needs to position itself correctly if the market is to continue to grow. "It must be usable and viewed as a basic enabling technology of interoperability, not just a distributed windowing system for Unix", he says. As a result, to prevent it from becoming a niche product, vendors must "sell potential X users on X being a cost-effective, industry standard solution to linking the desktop to the organisational computer...X can be the glue that binds the desktop to the server, regardless of operating system". Auditore feels X needs to be positioned "as a technology that is complementary to other client/server models [than just the Unix one], not competitive". And one way of doing this could be via Microsoft Corp's Windows NT. The X Business Group considers the work being done by various vendors, such as Digital Equipment Corp and Ontario, Canada-based Hummingbird Communications Ltd, on building multi-user client and server versions of NT that support X as "significant". Even so, it reckons there will be no real breakthrough here until customers can use X to distribute NT applications over the network. Still, Auditore feels "1994 will be a watershed year" and that "continued customer uncertainty regarding client/server model selection and the turbulent economic times in Europe will place considerable pressure on the X industry to articulate a clear, meaningful position for X in the future".

APPLE AIMS TO UNDERCUT PENTIUM PC PRICING

Apple Computer Inc intends to price its PowerPC Macintoshes at "more than \$200" less than personal computers powered by Pentium chips. Ian Diery, executive vice-president, told Dow Jones & Co, adding that since PowerPC chips are as little as a quarter as expensive as Pentium to make, Apple has ample room to drop prices as well. Apple aims to convert 40% of its Macintosh shipments to PowerPC by year-end, with complete changeover occurring within three to four years, Diery said. In three to five years, Apple intends to boost its worldwide market share by "more than 5%." He wouldn't comment on reports by some software developers that Apple has between 100,000 and 125,000 PowerPC Macintoshes stockpiled for the launch, except to say the company will hit the market with "a three to four weeks supply." He reckons up to 75 native PowerPC applications will be available on the market within a month of the product's introduction and that by year-end, the number will rise to between 300 and 1,000.

ORACLE "READY WITH DESKTOP, LOW-END SERVER DATABASE SYSTEMS"

Oracle Corp is preparing a pair of new low-end database products to compete with rival desktop databases at the departmental local network level, *PC Week* hears. One product is a database server code-named EasyLAN, based on Oracle7 but designed to be easy to install and use. A desktop database development environment, code-named Project X, and targeted at Borland International Inc's dBase and Paradox as well as Microsoft Corp's Access and FoxPro is also in the works for spring launch, it says. "EasyLAN is a low-end server aimed at small departments running up to 100 clients," according to Larry Ellison, president and chief executive of the Redwood Shores, California company. Elements stripped out of Oracle7 to create EasyLAN include the stored procedures feature and parallel query technology. It will run under OS/2, Windows NT, and Novell Inc's NetWare. Project X runs under Windows, Mac System 7, and Unix and will be integrated with EasyLAN.

ASK RIPENING FAST FOR TAKEOVER

With Ask Group Inc shares at around \$8, down from a 12-month high of \$28 and change, and the whole company valued at only \$160m or so, although it makes over \$400m of annual sales, the manufacturing software and relational database company looks like the bargain of the year - yet no-one seems to be buying. There is very little to protect incumbent management, with employees worried about their jobs even without an acquisition, and with little prospect of making any money on their share options at these low, low prices. Electronic Data Systems Corp and Hewlett-Packard Co sat on their hands when the company passed round the hat for share options for new officers and invited the major shareholders to top up their holdings to maintain their positions, and instead allowed themselves to be diluted to 18% and 9% respectively. They bought their shares at about \$10.70, so a bid of only \$13 to \$14 a share would be enough to enable them to wash their faces on the very indifferent investment.

DIVISION LAUNCHES SUPER-FAST VR

The Chapel Hill, North Carolina-based Division Inc arm of UK outfit Division Group Plc, Bristol has now formally launched the Pixel-Planes system it previewed at the end of last year - a low-cost, massively parallel graphics accelerator board for its ProVision 100 virtual reality system. The new ProVision 100 VPX system is based on Pixel-Planes 5, a graphics architecture developed at the University of North Carolina, Chapel Hill. Division has negotiated a worldwide joint exclusive license for the new technology and will offer it as an OEM graphics subsystem or as part of fully integrated virtual reality systems. Division says the system gets over the problem that, for all but the most expensive systems, virtual reality is limited by the poor quality of the graphics images created, and claims that the ProVision 100 VPX gives users a dramatic leap in the detail which they can display at real-time frame rates. It uses massive parallelism with a custom processor - fabricated by VLSI Technology Inc - dedicated to each pixel in the image. It can display 160m fully photo-textured, Z-buffered, specular-lit pixels per second, at up to 300,000 polygons per second. The system starts at \$50,000, and boards at \$15,000.

FUJITSU TEAMS WITH HP ON INTELLIGENT NETWORK

Rather than use its own Sparc-based machines, Fujitsu Ltd has agreed to use Hewlett-Packard Co Unix machines in an Intelligent Network system it plans to offer to telephone operators around the world (UX No 475). Fujitsu and Hewlett-Packard have signed a long-term co-operative agreement under which they will combine technology from Fujitsu's Fetex-150 main telephone exchanges and Hewlett's Unix-based Intelligent Network systems and software. The value and terms of the non exclusive agreement were not disclosed. The Intelligent Networks architecture to be developed by the two is intended to enable operators to upgrade present networks, and to offer competitive and advanced telecommunications services. Fujitsu is to provide the service-switching point, based on a service-management system running on Hewlett-Packard computers. HP will contribute the service-control point and the service-creation environment on its high-availability computers - but it is not clear whether that means the fault-tolerant HP 9000 Series 1200 machines it buys OEM from Sequoia Systems Inc. The firm already has Common Channel Signalling System No 7 service control point software. The service control point will be connected to the network via the Fetex-150. The two will concurrently develop elements for the service management system using Hewlett-Packard's service-creation environment, to be supplied ready-made by Fujitsu or developed directly by the operators themselves. The research and development work will be done at the partners' respective facilities in Kawasaki, Japan, and in Grenoble, France. The first offerings are set for delivery at the end of 1994, and targets include multimedia over different networks, including broadband Integrated Services Digital Networks and Personal Communications Networks. Fujitsu says it now has 18m lines of Fetex-150 installed and that the base is growing at 29% a year - the Asia-Pacific region by far the company's strongest base.

BULL WANTS TO PRIVATISE VIA SALE OF STAKES TO INDUSTRIAL PARTNERS

French state control of Compagnie des Machines Bull SA could end this year if talks with potential industrial investors are successful, chairman Jean-Marie Descarpentries said. Bull is in discussions with several possible industrial partners about their taking a 15% to 20% stake in the group. This, coupled with employees buying a 10% stake - would cut the French state's current 77% (which excludes state-owned France Telecom's 17% holding) to under 50%. Descarpentries said that when privatisation was complete he hoped industrial partners would own a further 15% to 20%, the public 20%, with the balance held by financial institutions. If a single partner will not take 15% to 20%, Bull will look for firms willing to buy at least 5% to 6% holdings. The business plan to justify France injecting \$1,200m of new capital will be delivered to the European Commission at the beginning of next month, Descarpentries added.

BULL UK CHALLENGES HOSKYNS WITH ATHEA FM DIVISION

Bull UK has formed a new division to handle what it says is a demand from its customers for facilities management services. Athesa UK, based in Hemel Hempstead will outsource computing services for both Bull and non-Bull users, and joins existing systems integration and customer service divisions. The outsourcing of Bull legacy systems will provide a core of early business, but Athesa wants to be strictly vendor neutral, and also has its eye on desktop and network management, applications management, disaster recovery and outsourcing of business operations. It already handles desktop management worldwide for Glaxo. The division currently employs some 60 staff. Brian Gunn, Athesa UK director, says he hopes to have cornered some 10% of the market within three years, to rival current 20% market holder Hoskyns. In France, Groupe Bull has already set up Athena International in conjunction with computer services company CISI SA (UX No 465), and subsidiaries are expected to be set up in Germany and Italy soon.

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The weekly information newsletter for the UNIX™ community worldwide

The *Wall Street Journal* picked up on our story about **Sun Microsystems Inc** et al buying out rights to source code from **Novell Inc** (UX No 470) although it missed the point about Sun reselling the stuff to other OEMs. It did get both companies to admit the deal was going down and quotes Novell CEO Ray Noorda, who concedes the arrangement might further fragment Unix, as saying the first of the deal could close "within two months." Hewlett-Packard Co, which we also said was buying out its HP-UX binaries, also confirmed that it was in negotiations. Although mentioned in the same piece as another potential source buyer, we understand any IBM Corp plans are far less advanced.

Writing in the March issue of *Unix World's* Open Computing, **Seybold Group** industry watcher Michael Goulde comments that the industry overreacted to Windows NT and mistakenly opted for a tactical approach (i.e., COSE and CDE) when it should have defended itself strategically by putting "all its resources and energy behind accelerating efforts at CORBA 2, object request broker interoperability, and tools for distributed object-oriented applications development. That approach would have put Unix way ahead of Microsoft before Cairo ever rolled out." Now he claims it's likely Unix-oriented object architectures will never be able to do more than play catch-up with the Microsoft-DEC Common Object Model.

There's talk in the air of a **Sun Microsystems Inc** Sparc PC planet.

Unidata Inc has named David Brunel, its chief operating officer, president with James Dresher remaining chairman and CEO.

Insignia Solutions Ltd told our sister publication *Client Server News* that it's itching to cut a deal with **Intel Corp** to provide iAPX-86 emulation in the planned P7 chip which is expected to break compatibility with some parts of the 808x6 line.

X World is slated for the Marriott Marquis, April 25-28 in New York City.

Our sister publication *Client Server News* has taken us to task for not reading their stuff more closely and we suggest you start doing the same before they get you on the carpet too. They have been following the ins and outs of DEC's peekaboo Alpha server, code named Sable, for months now and say that when it's announced in April it'll be in three versions: Sable, SuperSable and DemiSable. Sable's a maximum 4-way SMP machine, based on the 21064 chip with a PCI bus, that DEC previewed at Comdex in a two-way configuration. Demi's a cost-optimised two-CPU configuration and Super is a more robust rack-mounted version of the original.

The **Object Management Group** currently plans to make **Microsoft Corp's** OLE a subset of OpenDoc for its compound document specification due next year. It is working on a licensing scheme for this year.

Oops! We made a mistake in the phone number we printed for Munich's **iXOS Software GmbH**. It's actually +49 89 460050.

Electronic News, which seems to have survived its bout with Death, says availability of the **Fujitsu**-made MicroSparc IIs, not yet in full production but due in new **Sun** systems in March, have been pretty skimpy, sampling in "infinitesimal amounts." Fujitsu got up to 85MHz samples last month. Originally it was 70MHz.

Any port in a storm: **DEC** with its OSF/1, NT and VMS interests will now be supporting **Novell Inc's** UnixWare, NetWare and AppWare customers worldwide.

UK Financial and accounting software supplier, **Pegasus Software Ltd**, Kettering, Northamptonshire, has introduced the latest incarnation of its Unix-based accounting system, Pegasus Nine version 3.5. New enhancements include a report manager, EC statistics, BACS and improved database interrogation via Informix's On-Line relational database. Pegasus Nine is available now and an average package is priced at £7,000. +44 536 41004.

Intel Corp's worldwide share of the microprocessor market rose to 74% in 1993 from 69% in 1992 according to market researcher **Dataquest Inc**: **Motorola Inc** moved back into second place over **Advanced Micro Devices Inc** as a result of **Apple Computer Inc** cutting Mac prices and greatly increasing volumes; it took an 8% share of the market; Advanced Micro took 6%, **Texas Instruments Inc** had 2%, and **Cyrix Corp**, **IBM Corp**, **NEC Corp**, **Hitachi Ltd** and **Toshiba Corp** completed the top 10, with 1% each.

Taligent Inc says that the plan for **Hewlett-Packard Co** to take a 15% stake in return for new shares has now received regulatory clearance, and that the companies are moving forward to integrate Taligent's object technology into the HP-UX operating system and HP's key distribution technology - DCE/9000, Distributed Object Management Facility and OpenODB - into Taligent's products. HP also gets a seat on the board.

Digital Equipment Corp may need an equity infusion of \$500m to \$1,000m and more restructuring may be necessary, analysts told the *Wall Street Journal*. The perception being put around is that at 64 bits, the Alpha design will be ahead of its time for two or three years. Chief executive Robert Palmer is furious that the PowerPC is getting all the publicity, saying "The slowest Alpha chip is faster than the fastest PowerPC you can buy today," but DEC "doesn't market itself as well as its competitors."

AT&T Co is to use XA/R Continuous Processing Systems from Marlborough, Massachusetts-based **Stratus Computer Inc** to provide the next generation of its toll-free 800 services.

US reports say that with just four months to go before Ray Noorda's self-imposed deadline for naming a successor, the search has hit a few snags.

As indicated (UX No 475), **Lotus Development Corp** is running down its 1-2-3 for Unix line, and will henceforth provide only maintenance releases of the spreadsheet on SCO Unix, AIX and Solaris.

Early access versions of Solaris on PowerPC, NeXTStep for Sparc plus developers kits and object libraries for OpenStep and DOE will all be available by the end of the year, according to **SunSoft Inc**. The OpenStep interface specification comprises the user interface, database kit and middleware of NeXTStep 3.2, and will come with objects for managing user resources and define how objects should interact with desktop applications.

SunSoft Inc and **Iona Technology Ltd** are investigating ways of developing bi-directional OLE proxies that will enable Windows apps to make calls to Interface Definition Language interfaces. DOE objects, defined in IDL, are currently only linked to Windows applications via Orbix and OLE 1 and OLE 2.

Following chief executive Pier Carlo Falotti's departure from the **Ask Group Inc** (UX No 474), chief financial and admin officer Leslie Wright has also resigned, but will apparently help the stricken firm search for a successor. Eric Carlson has landed the difficult job of CEO, Paul C Ely Junior will be chairman and Robert Waterman, vice chairman.

It's reported that **IBM Corp's** Advanced Workstation and Systems group plans to use **Kaleida Labs Inc's** Malibu graphics and memory controller chip (UX No 466) in a low-end PowerPC graphics workstation.

Transarc Corp's Encina OLTP monitor is now being ported to **AT&T's** System 3000 series (the former **NCR Corp** Intel-based line) - beta implementations are available from Transarc now, with a general release slated for the third quarter. The monitor runs on AT&T's StarPro DCE implementation.

Seems **SunSoft's** Wabi 1.0 is back in its box for the next 60 to 90 days until a less buggy version 1.1 can be got out. Apparently bugs in 1.0 created floating-point errors in Windows applications like Lotus Ami Pro and Borland Quattro Pro preventing them running properly and SunSelect halted shipments when they became too much to bear. Wabi orders since January 1 - available as a free upgrade component for Solaris - will be filled with the enhanced 1.1 when it arrives - Wabi 2.0 due in Spring is expected to remedy many current problems with Wabi and support a greater number of applications.

Meanwhile, the **Public Windows Initiative** has a get together at Gleneagles in Scotland, on March 2 to discuss its future. **Microsoft Corp** is scheduled to address a closed session during the conference at 4pm. It'll be talking about the future of its desktop in general and no specific announcements have been heard of at this time. (Watch out for the bunker near hole 17 though!!)

We hear that the folks at **Nippon NCR Corp** are not at all happy about being ordered by **AT&T Co** to change the firm's name to **GIS, Global Information Solutions** - our Tokyo correspondent notes that the transliteration comes out as gisugisu shita - which in Japanese means to be stiff or frigid.

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ICL SWAPS OUT DRS LINES FOR NEW RANGE, UNIXWARE 2.0, NT ON BI-ENDIAN HYPERSPARC, 64-BIT HAL SPARC TO COME

As expected, ICL Plc is to replace its ageing Intel Corp DRS3000 and Sparc-based DRS6000 server lines with new TeamServer and SuperServer systems that use similar CPU technologies, but the firm will continue upgrading the old systems until the end of September (UX No 476). ICL intends to maintain its commitment to the SVR4 brand of Unix - now owned by Novell Inc - that it ported to Sparc as DRX/NX, but will offer both Intel and Sparc versions of Unix SVR4.2 MP - UnixWare 2.0 - on the new systems as they become available. UnixWare 2.0 for iAPX-86 CPUs is due in the summer, and includes support for symmetrical multiprocessing and an integrated NetWare client. However, ICL is once again required to do its own port to Sparc as Novell isn't interested doing non-volume implementations itself - that work is being carried out in conjunction with ICL's parent Fujitsu, and is expected to be ready by the end of the year. ICL says UnixWare 2.0 will deliver better performance than DRX/NX, which in turn performs 30% better than Solaris. However, apparently softening its position to the Sun unit, ICL no longer rules out the possibility of adopting the SunSoft Inc operating system - when its performance and robustness improve. The new TeamServer and SuperServer systems will carry a Fujitsu-ICL logo reflecting the parent company's input, though ICL says it'll retain intellectual property rights to the work. The company estimates the jointly-branded systems will generate 90% of sales, although Fujitsu will put them out under its name alone in Japan.

Choice of processor

The Sparc-based TeamServers and SuperServers will initially only use Texas Instruments Inc SuperSparc chips, although ICL has plans to add other machines based on a bi-endian version of Fujitsu Ltd's Ross Technology sibling's HyperSparc, which is expected in the second half of this year. HyperSparc systems are scheduled to appear at the start of 1995, and will run both UnixWare 2.0 or a port of Microsoft Corp Windows NT, which ICL is preparing. The company also expects to move up to another Fujitsu-owned Sparc, HaL Computer Ltd's long-awaited 64-bit part, in systems it reckons won't surface until the end of next year - see below. Current DRS/6000 systems use both SuperSparc and HyperSparc chips. ICL has maintained, ever since it had the choice, that it will offer Sparcs from which ever semiconductor house offers the better price/performance - it will probably use bi-endian SuperSparcs too. In the new line-up, there are 13 uni-and dual-processor TeamServer configurations, which support up to 50 users. The 40MHz and 50MHz SuperSparc systems run DRX/NX (until UnixWare 2.0 arrives). The 80486 and 60MHz and 66MHz Pentium systems come with a choice of Windows NT, NetWare, SCO Unix and OS/2, and ICL boasts it will also be first to market with a system that uses the recently announced Intel's 90MHz F54C Pentium iteration. The dozen high-end SuperServers come with from one to four CPUs and support up to 250 users. They sport 50MHz or 60MHz SuperSparcs running DRX/NX (again until UnixWare 2.0 is available), or 66MHz Pentiums running the Unix SVR4 DRX/NX for Intel, SCO Unix or Windows NT. TeamServers are available now, SuperServers in May. ICL says it hopes to ship up to 20,000 of the new systems by the end of the year, although pricing has not been firmed up yet.

..AS HAL GETS FIRST 64-BIT SPARC SILICON BACK FROM FUJITSU

HaL Computer Systems has reportedly got first silicon back on its multi-chip 64-bit Sparc chip which owner Fujitsu Ltd made. Although Fujitsu, now sole owner of the firm, said back at the end of last year that it expected a box out of HaL by the end of 1994 (UX No 467), observers suggest that with a multi-chip approach they're probably more like a year away from full production, with vendors like ICL Plc seeing system implementations around the back-end of 1995 (see above). Originally seen as supplying its technology directly, OEMed HaL hardware and software is now thought part of the agenda too. Other pointers from inside the firm say it would be unwise the ship anything that would be incapable of running Windows NT at some point. Some hitherto unstated HaL activity is expected to be unveiled at UniForum.

APPLE'S SOFTMAC DUE ON 15th, SUN WANTS IT BY MONTH END

Apple Computer Inc's Mac-on-Unix Cat-in-the-Hat, alias SoftMac emulation project - code names Apple would like to bury - is going to materialise on March 15th as the Macintosh Application Environment. It will let 68000-based Mac programs run on Sparc and HP/UX machines. SoftMac is distinct from the PowerOpen stuff, the Macintosh Application Services, which lets native applications and emulated 68000 applications run on the PowerPC. SunSoft Inc has already been touting the thing and hopes it'll have a deal that'll allow it to bundle SoftMac running on Solaris from the end of this month.

WHAT LOOKS TO SOME LIKE OSF II IS SHAPING-UP

Digital Equipment Corp, which shied away from the COSE folks last year and wasn't included in the UniForum roll out, now appears keenest of the bunch to get agreement on the form of a Unix organisation hammered out in time for this year's event. And no wonder. DEC's Unix eggs are squarely in the Open Software Foundation basket, and what's being seen for UniForum at present is little more than a re-vamped OSF. All the talk about the dissolution of OSF and its technologies over the last few months cannot have helped DEC's embattled market position - it's sitting there trying to shift boxes that run OSF/1. The sooner a new structure is found to hang OSF technologies on, the better for DEC. And it seems to have friends. In what appears to be a hardening of attitudes, apparently Hewlett-Packard Co, IBM Corp and DEC have all recently pledged new funding for OSF. Bringing the former Unix International acolytes on-board is obviously more problematic, as many take a dim view of OSF's business model, technology development mechanisms and management, including Sun Microsystems Inc, ICL Plc and other former UI firms. Initially there were attempts to get UI into a new venture alongside OSF, but - "after getting sick of waiting," in the words of one insider - that effort, centred around "NewOrg" came to naught and UI turned out its lights. Subsequent names attached to the body give some idea of the direction the thing appears to be going - NewOrg, Org94, OSF94, NewOSF - although OSF chief David Tory says the Foundation "may well change its name altogether as we're really concerned with distributed computing."

Pick and choose

OSF's planned metamorphosis to a new body form has been well-documented (UX Nos 472-475), but the latest take envisages an *a la carte* structure - with places for OSF, COSE and other technologies - where members can pick and choose (and pay separately for) each project in which they wish to be involved in. A board seat will cost \$1m. The Distributed Computing Environment is guaranteed an entry on the menu, OSF is apparently insisting that Motif development feature alongside CDE in the make-up too. OSF/1 must figure somewhere, we suspect, if DEC is reaching for the ink. Although not everything's firmed up, insiders say all technology request and development programmes will be rigged so there's no possibility that the meanderings through the Distributed Management Environment process could be repeated. Some who have been in since the start remain unconvinced about a new organisation. "What's it going to achieve anyway," they say, anticipating little difference from the OSF business practices of old. OSF has booked the first hour at UniForum on Wednesday 22nd to present its case.

SYBASE SHIPS SQL SERVER ON SUN COMPARTMENTED MODE WORKSTATION

The latest incarnation of Sybase System 10 is Secure SQL Server 10, a B1-class multi-level secure implementation designed for the creation of applications that can control and track access to classified information. Now generally available, the software has been in testing with integrators such as TRW Inc and Rapid Systems Solutions Inc since last May. Secure SQL Server supports conventional unclassified entries alongside trusted information - so-called trusted triggers give operators fine-grain control over an application's ability to reclassify data or perform actions across a range of security levels. A Certified Objects mechanism prevents unauthorised modification of any application elements. The release is up on the Sun Microsystems Inc Compartmented Mode Workstation 1.1 at from \$5,625 to \$139,000. An HP-UX version is planned for next quarter, with Digital Equipment Corp and IBM Corp versions under evaluation.

THINKING MACHINES HAS ENHANCED SPARC-BASED CM-5E

Cambridge, Massachusetts-based Thinking Machines Corp has switched to a 40MHz SuperSparc chip to create the fifth generation of its Connection Machine parallel processing system, the CM-5E. It claims the CM-5E outperforms comparable computer configurations - 32 node, 64-node and 128-node configurations - running the NAS parallel benchmarks developed for highly parallel computing systems at the National Aeronautics & Space Administration Ames Research Center. Other participants in the benchmarks were IBM Corp's SP1 system, the Cray Research Inc T3D, Kendall Square Research Inc's KSR1, and Intel Corp's Paragon. The CM-5E is an enhanced implementation of the company's existing CM-5, and adds faster vector units and improved network interface. Existing customers can add CM-5E nodes to their current systems. The machines can handle parallel input-output as well as parallel time-sharing, which the company claims is unique. Performance is said to be enhanced 25% to 100% by virtue of the faster Sparc and an increase in peak performance of the vector processor to 160 MFLOPS, from 128 MFLOPS.

BULL "CAN'T AFFORD PEOPLE TO ANSWER QUERIES" ON CORPORATE NEWS

As part of Compagnie des Machines Bull SA's cost-cutting effort, it has seen fit to eliminate the function of a central corporate spokesman to whom questions about financial results, strategy or Brussels issues can be directed. "When you have money, you can provide these kinds of services, but when you don't, you can't," said Jean Segond, who looks after company strategy, but does not make public statements. "We prefer that you call us with questions about our products, our services or our clients." Segond said his staff is too overloaded with work to be bombarded with questions about financial or European Commission-related problems. He expressed disbelief that other computer and software companies in France provide a press relations function for corporate issues. "There are plenty of IT companies without a corporate spokesman, and who are doing quite well, I might add," he said, implying that with this decision Bull expects to improve its performance in the market. The reorganisation in Bull's communications division began shortly after the arrival of Jean-Marie Descarpentries, when the company spokesman for the international press was sent back to the US, along with another spokesman for general product queries. Inquiries, as long as they concern products and not the company itself, must now be directed to one of half a dozen press relations agencies, which each handle different issues. Tough luck on journalists (particularly technical, non-French journalists) who need a statement relating to corporate policy. "You just don't call us. We don't handle this any more," Segond said - all of which suggests that commentators starved of facts will be left to resort to pursuing unions, "sources close to the company" and printing speculation, which given Bull's parlous state, is unlikely to be encouraging.

INSIGNIA'S SOFTWINDOWS IS UP ON SUNOS

As expected (UX No 474), Insignia Solutions Inc has put SoftWindows, its Microsoft Corp-blessed Windows-on-Unix emulation software up on SunOS. A licence is \$550, licence extensions are \$430 whilst a maintenance and upgrade programme is \$250 a year. The company says its not planning any specific campaign to cash-in on the withdrawal of SunSoft Inc's Wabi from the market until more bugs in it are ironed out. However SoftWindows implementations for other Wabi OEMs, including IBM Corp, DEC and Silicon Graphics Inc's are due for shipment in April.

LOTUS REALTIME SOLD TO MARKET ARTS

Lotus Development Corp hasn't had much fun with its various initiatives to come up with products aimed specifically at the securities-trading businesses, and after abandoning its ideas for a pager-type system to deliver share price quotations to investors on the move, it has now thrown in the towel on Lotus Realtime, the graphical real-time variant of the Unix version of the 1-2-3 spreadsheet. This is aimed specifically at securities traders, portfolio managers and analysts wanting to enter and analyse real-time data (UX No 475). The company is selling the product and companion technologies to Market Arts Software Inc, New York City on undisclosed terms, saying that it wants to focus on workgroup and desktop computing, where its hottest property is the Notes groupware. Market Arts specialises in developing software products for financial institutions involved in trading, lending and investing.

DEC FINDS MORE SUCCESS WITH ITS ALPHAS IN VIDEO SERVER MARKET

Digital Equipment Corp is starting to look like the dark horse of video server suppliers, having just landed two more Baby Bells, Nynex Corp, and Ameritech Corp, for its Alpha AXP servers, according to the *Wall Street Journal*. It also has an earlier deal with US West Inc. Nynex is shortly expected to announce new plans for a test of video-on-demand services in New York, Portland, Maine, and eastern Massachusetts using the DEC server. In the Ameritech deal, the company is thought to have bested IBM Corp, which was the favourite. And its success in landing the Baby Bells may not mean too much in hard dollar terms, but should win Alpha some very much needed publicity. DEC also told *Newsbytes* that four further trials were pending, including one with US Video Inc, and added it will soon announce a media production centre, located in the US northeastern region. This will transform content into digital format for transmission over a broadband network. According to vice president of DEC's Business Storage Unit, Charlie Christ, the firm also aims to work with content providers - "We're now expanding beyond just supplying the hardware and getting into offering services as a content integrator". DEC's system is considered attractive because it has a tiered storage architecture that enables the most popular films to be held in instantly accessible memory, while less interesting ones are stored on hard disk arrays, backed up by a larger collection of golden oldies in a tape library.

ASNA INC TO DEMO VISUAL RPG FOR WINDOWS NT

AS/400 systems software house ASNA Inc is set to demonstrate a beta version of its RPG Visual Compiler for Windows 3.1 and Windows NT at the Common Conference in Anaheim, California later this month. Visual RPG supports existing RPG/400 code as is, but also brings RPG programming into the world of Windows for the first time. It has three main components: an icon tool box, window control editor for positioning the tools in the window, and a properties window for size, caption and colour specification. A run-time version allows RPG programs to run on a Windows-based front-end, communicating via direct data access to an AS/400 server. The server can also be NT-based. Visual RPG runs with ASNA's DataGate and Acceler8 data management and data processing system software, which provide AS/400-like facilities for NT and IBM AIX platforms (as used by AS/400-to-Unix migration specialists Unibol). A Unix version is on the cards, but not until next year and Unix desktop versions (including X-terminals) will only be done "if the market is big enough". Next year, Visual Cobol will also appear. Visual RPG costs \$495, when it emerges as a complete product, probably in September.

CRAY ADDS BOTTOM-END CRAY EL94 DESKSIDE SERVER

Cray Research Inc last week introduced the Cray EL94 deskside simulation server, the smallest, lowest priced system in its super-computer line. It comes with two to four CPUs and costs from \$150,000. It is also claimed to provide peak performance of more than 500MFLOPS, twice that of the existing model at about the same price and size.

NOVELL TO "RED-BOX" TUXEDO FOR \$400

Novell Inc will this week shrink-wrap the Tuxedo on-line transaction processing monitor - they call it red boxing - and put it on the market priced at \$400 per user in groups of five or ten users. The shrink-wrapped package will only contain Tuxedo ports that are not supplied by OEMs. On the server side that means UnixWare, AIX, Solaris, HP/UX and the old NCR, which will all be on a single disk. On the client side, it supports Windows, DOS, Unix and OS/2. The Tuxedo version being packaged is 4.2.2, an update that includes new features and enhancements like 64-bit support, IPX/SPX client support, Windows Sockets support and 32-bit on-the-fly data translation. Novell will continue to sell Tuxedo source to customers such as DEC, Tandem and Unisys. And Novell will also announce the strategic decision to bundle Tuxedo features into NetWare in the future, beginning with stuff like routing capabilities a year from now, allowing a client to access a server via NetWare. It also says it will integrate Tuxedo with Visual Applications Builder, the visual programming environment and cross platform tools which it acquired when it bought Serius Corp and Software Transformation Inc last year (UX No 438, 433).

SUN BRINGS PWI TO EUROPE, JAPAN - X/OPEN SETS OUT TOUGH CONDITIONS

The Sun Microsystems Inc-driven Public Windows Initiative formally unveiled itself in Europe last week at an industry get-together in Gleneagles, Scotland. PWI, which wants Microsoft Corp to put Windows application programming interfaces into the public domain said its own specification, which mirrors Windows, will be ready by the end of next quarter, when it will be submitted to X/Open Co Ltd. Microsoft Corp turned out to re-state its position that Windows is already open by dint of the number of users and applications it commands. Although it declared it was keen to keep dialogue with PWI going, we suspect its motive in attending was rather to keep tabs on the proceedings. Meanwhile, X/Open, which late last year unsuccessfully approached Microsoft to ask it to publish Windows API specifications as part of its XPG standards suite, laid out conditions for accepting PWI's alternative set. Chief technical officer Mike Lambert said there must be clarification as to who owns the copyright to the PWI APIs. There must be legal freedom for everyone to implement and use them, and the specifications must be self-contained and complete, with no dependence on any proprietary or undisclosed APIs. The specification, he added, must be good enough to develop conformance tests upon and there must be a reference implementation. Lambert also intimated that PWI ought to address Microsoft's Object Linking & Embedding mechanism. Undaunted, PWI says it intends to submit its spec to the European Computer Manufacturers Association and then to OSI, once X/Open has adopted it. Meantime, the PWI roadshow moves to Japan, where it has won Fujitsu Ltd's support. Japan, with a PC industry fragmented between NEC and Microsoft is seen as ripe for a public spec like PWI.

EXPERISOFT SEEKS OBJECT MANAGEMENT GROUP ENDORSEMENT FOR "MEGAORB"

On the quiet, reportedly unbeknown to the hardware hierarchy, whose purposes are not truly served by interoperability, ExperSoft Corp, with the connivance of the Object Management Group is working on what might be called a "MegaORB." The pair have in mind to create a standard for interoperability amongst ORBs so that anything written to any ORB would communicate with any other ORB. ExperSoft will submit "MegaORB" as its answer to the OMG's CORBA 2.0 interoperability RFP, due Monday March 7 (UX No 476). The "MegaORB" protocol could conceivably neutralise some of the political issues surrounding objects. "MegaORB" takes a universal lowest common denominator approach but will also embrace ORBs that have been optimised in some proprietary way to communicate with each other. The ExperSoft proposal is thought to differ sharply from other CORBA 2 submissions. "MegaORB"'s natural allies are systems integrators whose advantage is not served by fragmentation. Their support will be sought to get the "MegaORB" adopted. ExperSoft will claim the proposal is viable because the technology to implement it has been part of its XShell product since it was commercialised in late 1991.

CANON FORMS ADVANCED TECHNOLOGY UNIT FOR NEXT, POWERHOUSE BOXES...

In what looks like a bid to redeem some of that \$170m it sank into NeXT Inc over the last few years, Canon Inc's US marketing arm, Canon Computer Systems Inc (CCSI), has set up a separate business unit called the Advanced Technologies Operation (ATO) in Hillsborough, Oregon. The new division will handle the NeXT machines and other high-end PC solutions, notably the anticipated PowerPC gear Canon is designing with Menlo Park, California start-up PowerHouse Systems Inc, a NeXT spin-out in which Canon Japan has majority ownership (see story below). ATO expects to have alpha, possibly beta boxes of what it will brand the Canon NeXTstation deliverable by April, with production units available late in the second quarter. 80486 and Pentium versions will follow towards the end of the year. It believes they'll probably run DOS/Windows programs native as well as NeXTStep and legacy applications running under NeXTStep, complements of Insignia Solutions' SoftPC. ATO claims the hardware will be optimised for NeXTStep with Canon-patented technologies such as video subsystems. Ex-Epson people Al Thomason and Bret Gutzka are now respectively executive director and director of sales of Canon ATO - Epson were at one stage working on NeXTstep. ATO will essentially focus on client/server and mission-critical markets while the rest of CCSI handles its existing home and small office products. As a result, CCSI, which completed its first year in operation in 1993, is now saying it intends to be a billion dollar company by 1997, and says it is almost half way there already. CCSI president and CEO Yasuhiro Tsubota expects the ATO interests to contribute 10%-15% of the increase. CCSI's 190,000-square-foot facility in Memphis, Tennessee, will be the distribution, assembly and testing center. ATO said last week it didn't have its pricing schedule solidified yet but promised that it would be competitive with whatever the high-end Pentium PC market is doing at the time. It aims to distribute the boxes largely through integrators, it appears.

...POWERHOUSE TO DO SYMMETRICAL MULTIPROCESSING POWERPC DESKTOPS

A new Menlo Park, California company called PowerHouse Systems Inc, a spin-out from NeXT Computer Inc, intends to be a design partner and OEM supplier of PowerPC systems to computer vendors. It will leave manufacturing to Canon Inc, its majority owner. PowerHouse starts life with some 45 staff, many refugees from Steve Jobs' venture, including chief operating officer, John Rubinstein, who had completed the design of a PowerPC-based machine at NeXT before NeXT abandoned its hardware business. Chief executive is Canon director Hideyo Kondo, and the company has tapped Charlie Barbour, former vice-president of engineering at Solbourne Computer Inc as vice-president of software engineering. The start-up has attracted at least 10 employees away from Apple Computer Inc's PowerBook division with others apparently on-board from Sun Microsystems Inc. The firm hopes to be up to 70 staff by the end of the year and expects to raise further venture capital and then do a public offering. First PowerHouse products will be a family of desktop systems priced from \$3,000 to \$6,000 and offering performance of 80 to 280 SPECmarks, and they are to be ready in early 1995. PowerHouse plans most to be multiprocessors, seen as a differentiator on the desktop, except that Silicon Graphics Inc has already had the same idea. They are being designed to the PowerPC Reference Platform, which means they should be able to run Microsoft Corp's Windows NT, IBM Corp's Workplace OS and AIX, SunSoft Inc's Solaris and Taligent, once the PowerPC implementations of all those are ready. NT is seen as the system software primary platform.

COGNOS INC THROWS IN THE TOWEL ON THE POWERHOUSE NAME

If you thought the name PowerHouse wouldn't go down too well with Cognos Inc, which has for many years marketed an application development environment of the same name, then you'd be right. But, there isn't a thing Cognos can do about it because it never bothered to trademark the PowerHouse name. Indeed, the reason Cognos will dump the PowerHouse moniker with its next generation product due in September, dubbed Axiant, is precisely because it has had enough of explaining that in fact PowerHouse has nothing to do with PowerSoft or Power this that or the other.

PARSYTEC DEMONSTRATES ITS POWERPC PARALLELS

German parallel computer manufacturer Parsytec, has launched its PowerPC based parallel machines. Last November it was reported that Parsytec, hitherto a devotee of the Inmos/SGS-Thomson Transputer, was forced to look for a different CPU though Inmos' inability to deliver the new T9000 Transputer on time. In the event, the company has produced hybrid processor boards, combining the processing power of 80MHz MPC601 PowerPC chips with T805 transputers' communications facilities. The conceptual architecture that Parsytec has employed presents the system to the software as a 'virtual Transputer' - the PowerPC chip acts rather like a co-processor, though it is actually supplying most of the MFLOPS. On the scientific processing front, the company launched two families of machines. The low-end, \$20,000, desktop PowerXplorer has four computing nodes on two boards. Each node comprises an MPC601 and a T805 with 32kbyte internal cache, linked by a shared bus to the 8 or 32Mbytes of main memory. The Transputer contributes 30MIPS of processing power and its 8.8Mbyte/s communications bandwidth. Up to 16 of the boxes can be clustered together and Parsytec reckons one of these 64 node configurations will deliver up to 5 GFLOPS. First customers are the Joint European Torus project, which is taking a 10 node configuration and British Aerospace, which is keeping "schtum". Parsytec says that over 30 units will have been delivered worldwide by the end of March, growing to more than 100 by May. Future systems in the family will incorporate MPC603, 604, and 620 processors. For computing in the 2.5 to 80 GFLOPS range, Parsytec is scheduled to launch its GC/Powerplus machine this summer. The chunkier chassis of this machine can hold up to 32 nodes, four per slot-in board. Once again, the GC/Powerplus can be clustered - ad infinitum, say some in the company - although the official line is that only configurations of up to 1,024 nodes are supported.

T9000 lives on

Parsytec has not jettisoned the T9000 all together, however Inmos now says that the troubled chip has reached pre-production status at its 8" wafer facility in Crolles, France. It begins sampling to "major customers" this month, clocked at 25MHz. Production will be ramped in the second quarter and in the third quarter the company expects to start selling 30MHz parts. The supercomputer builder intends to make some T9000-based boards, if requested by major customers, on the grounds that Transputers and PowerPCs have slightly different competencies. For parallel tasks where computational power is the bottleneck, the PowerPC wins hands down. However, some tasks are bounded by the complexity of the communications between processors - in this case a transputer is more appropriate. Parsytec says that its Parix software development environment can cope with a mixture of node types, so that particular tasks can be assigned to either type of processor. Only about three fifths of Parsytec's \$16.9m revenue comes from supercomputing, the rest is down to embedded applications, mainly in the image processing area. It is, for example, working with Daimler Benz on self-steering cars. Consequently it has launched the TPM-MPC symbolic image processing and the TIP-IPP, dedicated image pre-processing cards. As with the supercomputers, Parsytec is using a combination of PowerPC and Transputers. Though, it is the smaller slice of cake at the moment, Falk Kubler, MD and major shareholder of Parsytec GmbH foresees a time in the not too distant future when it will be the majority of the business. The Parsytec design win is obviously a boon for the PowerPC community, but it was achieved through special circumstances - how many computer manufacturers suddenly find that the processor they were expecting fails to materialise? Parsytec UK MD Richard Horton admits candidly that, had the T9000 been available two years ago, it is unlikely that his company would have PowerPCs in its machines today. Still, Kubler predicts that his company will be the first of many to adopt the PowerPC chip to build parallel supercomputers: "if there aren't others it means that we have made the wrong decision" he says, smiling.

HP LAUNCHES ITS 7200 PA-RISC, PROMISES LOW-COST SMP DESKTOPS

Hewlett-Packard Co has duly announced its PA-7200 RISC chip (UX No 475), an enhancement of its current PA-7100 line. It will begin shipping in HP9000 workstations and HP 3000 servers during the first quarter of 1995. The 14mm x 15mm, 1.3 million transistor chip uses 0.55 micron CMOS (the 7100 uses 0.8 micron), and should operate at speeds beginning at 120MHz. The company is patenting some of the new features of the chip, including a new data bus that increases the speed and bandwidth with which data can be transferred into and out of the processor from system memory, making symmetrical multi-processor systems cheaper to make, and therefore viable for desktop systems as well as servers. It will run at sustained bandwidths of up to 768 Mb/s, says HP. There is also an improved dual integer pipeline, and an on-chip "cache assist" that pre-fetches instructions for the off-chip instruction and data caches. Like the 7100LC, launched last December, the chip incorporates both big and little-endian byte ordering schemes, giving HP the option of running NT should it wish to do so in the future.

LIFEBOAT SOFTWARE HAS HIGH HOPES FOR MKS REVISION CONTROL SYSTEM IN JAPAN

Mortice Kern Systems Ltd of Waterloo, Ontario has announced a tie-up with major Japanese software distributor LifeBoat Software Ltd for distribution of its RCS Revision Control System in Japan. LifeBoat believes that the RCS system has considerable potential for Japan as Japanese companies move into development on personal computer and Unix systems. Mortice Kern RCS keeps a documented history of file changes during project development and features include branching, merging, visual differencing, report generation, encryption, and support for binary and text files. LifeBoat has Japanised the product, translating it and providing double-byte capabilities. LifeBoat sells many other personal computer and Unix compilers and tools in Japan, including Fuzz-C from Canadian company Byte Craft Ltd, C-View from Image Soft Inc, Hi-Cross from Hi-Ware AG, Switzerland, relying heavily on its dealer network. LifeBoat's price for Revision Control System is \$527 in a single-user configuration, while in a local network package for five users, the price is \$1,800. With the announcement of Revision Control System, LifeBoat will stop selling the previous Mortice Kern product, PVCS, Package Version Control System, and will seek to convert those users to RCS. Lifeboat's sales for its last financial year were \$6.6m.

SOLARIS PORTING PROBLEMS FORCE TADPOLE FROM ROSS TO TI

Tadpole Technology Plc's choice of the Texas Instruments Inc MicroSparc for its SparcBook 3 series (UX No 476) is a kick in the teeth for Fujitsu Ltd's Ross Technology unit, whose multi-chip Sparc set was the basis of Tadpole's previous portables. Two-thirds of Tadpole's \$35m 1993 sales were of SparcBook 1s and 2s. Tadpole says difficulties getting SunSoft Inc's Solaris on to the Ross part made it opt for MicroSparc and complete compatibility with Sun's Sparcstation LX. Electronic News hears the problem is the Solaris implementation for Ross CPUs doesn't provide an open boot facility - the mechanism requires the same I/O devices that Sun uses to operate, effectively tying that feature to the Sun architecture. Although Sun announced Fujitsu's MicroSparc II architecture as early as last October, Tadpole says it can't think about using the part for at least six months because it is only shipping in only very small sample quantities. Ross believes its superscalar HyperSparc is still a contender for use in future SparcBooks.

TIME WARNER DELAYS INTERACTIVE TV

Time Warner Inc is delaying the launch of its much-touted Full-Service Network interactive television system in Orlando, Florida to the fourth quarter, instead of April, to allow time for improvements in the project's underlying software and set-top terminal being supplied by Silicon Graphics and Scientific-Atlanta Inc. It says that "certain elements" of the set-top box and operating system need to be refined but adds "Our concern is developing the best possible system and services for our customers - we're less concerned with what other developers do in terms of the timing of roll-outs."

SCO GLOBAL ACCESS DELIVERS RAMP TO THE INTERNET

Making good its aim to get a leg-up over the competition in providing organisations with access to the so-called information superhighway (UX No 473), Santa Cruz Operation Inc will this week unveil SCO Global Access, a packaged server offering geared to deliver easy access to a full range of Internet services. Although the Internet is practically free to use, access to it from Unix boxes has tended to be a fairly techie exercise. With Global Access, effectively an integration exercise, SCO has combined a slew of third-party Internet technologies in such a way that it hopes the often typical trauma of getting started on Internet can be all but avoided. As well as the SCO Open Desktop system, Global Access includes what's claimed to be the first commercial implementation of Mosaic, a graphical on-line help, documentation and information reader hypertext system licensed from and developed by the University of Illinois National Center for Supercomputing Application for this kind of use. There's also a graphical e-mail system, a news group reader for sharing information across the net and documentation for getting started on Internet, some provided by the X Consortium. Access to the Internet itself will be provided by third parties already in that market. SCO will provide coupons in the box with details of access services and leave the choice of mechanism to the user. It'll offer the usual range of content services, including 30 days free access to Dow Jones Financial Services. SCO sees network of Unix desktops, X terminals and Windows systems with a network card and PC-X server all able to access Internet via the server. It'll offer a choice of Motif or Windows-based front-ends to Unix clients via its IXI Ltd unit's Win-tif system - IXI will be porting and offering the packaged services (minus Open Desktop), on a range of other platforms including Sparc, Alpha, PowerPC and HP from mid-year. The Global Access server requires an Intel Corp 80486 system or higher with 6Mb RAM and 100Mb disk minimum - with Open Desktop Lite 3.0, Global Access starts at \$1,000 from next month. SCO envisages many customers will initially take Global Access to organise their own internal e-mail systems.

UNANNOUNCED APPLE SET-TOP BOX IN BRITISH TELECOM TRIAL

British Telecommunications Plc announced last week it has started technical trials of video on demand, saying that a number of UK television companies - the British Broadcasting Corp, Granada Group Plc, EMI Records Ltd, Carlton Communications Plc - are to provide programming. It is also talking with Hollywood studios about movies. Northern Telecom Ltd will supply the Asymmetric Digital Subscriber Loop equipment that enables digital video signals to be sent down copper cables, and nCube Corp, the massively parallel processors running Oracle Media Server, for the trials, in Kesgrave, Suffolk. Oracle Corp's Media Objects will be used to create the television interfaces, and Oracle Media Net will connect users requesting services to the Media Server. Set-top boxes are to come from Apple Computer Inc.

GRADIENT OFFERS DCE APPLICATION BUILDER UNDER WINDOWS

Gradient Technologies Inc says its now shipping Visual-DCE, a set of Visual Basic custom controls (VBX) that allow users to develop OSF Distributed Computing Environment-compliant applications under Windows 3.1. Marlborough, Massachusetts-based Gradient claims users need no knowledge of DCE interfaces or C programming - Visual-DCE translates RPC calls between C and Visual Basic, whilst a dynamic link library isolates the application from DCE APIs. Visual-DCE is available for any VBX development environment, priced at from \$500. Meanwhile, Gradient says it has cut the price of its PC-DCE implementation, which includes a full set of core security functions by 70% to \$700. +1 508 624 9600.

COMPETITION FORCING SUN TO FOCUS DOWNSIZING EFFORT

Analysts up at Summit Strategies Inc in Boston, Massachusetts, believe pressure from Microsoft Corp et al at the low-end and other Unix specialists at the high-end, especially Hewlett-Packard Co, has forced Sun Microsystems Inc into re-focusing its client/server-based downsizing/rightsizing strategy. It thinks Sun is now putting 75% of its commercial systems effort behind its three primary vertical markets - financial services, telecommunications and manufacturing - dividing the rest between secondary markets like retail, utilities, health care and transportation.

CRAYSOFT OFFERS COMMERCIAL SOFTWARE FOR SPARC, HP, DEC

Continuing its foray into the commercial systems sector, Cray Research Inc, Eagan, Minnesota, will be touting the latest commercial enhancements to its system software at UniForum this month. Cray's own Unix implementation, Unicos - source rights to which it bought out from Novell Inc last year - is upgraded to version 8.0 which includes new resource management and parallelism. By the time this is read the firm also hopes to have won B1 security evaluation according to the US government Orange Book requirement. Unicos runs on Cray's parallel vector Y-MP supercomputers - a microkernel version is up on the DEC Alpha AXP RISC-based TD3 massively parallel systems. Cray is also expected to announce the general availability of the Network Queuing Environment, the first product from its CraySoft venture formed last October to develop and market technologies developed from the supercomputer world on a range of systems, from PCs, Macs and up (UX No 459). NQE is up first on Solaris 2.3, which Cray has running on its CS6400, four-to-64 way SuperSparc RISC-based commercial servers. NQE is a client/server mechanism, the company claims, which includes batch management and network load balancing, allowing workloads to be balanced across different systems. HP and DEC implementations will follow. Next up will be its Fortran90 compiler for third party platforms. Cray hasn't won SunSoft Inc to NQE - SunSoft is already committed to embracing Amdahl Corp's high-end commercial Unix enhancements in Solaris - but is hoping the Mountain View company may pay closer attention to its compiler technologies. Cray claims 15 TD3 installations and four CS6400 sites.

DEC HAS NEW ALPHA EMBEDDED SYSTEMS DESIGN COMPONENTS, REAL-TIME OSF/1

Tilting at the likes of Motorola Inc, Hewlett-Packard Co and Force Computers Inc, DEC will this week unveil a range of Alpha AXP hardware and software solutions for the real-time embedded system market. It's offering a choice of real-time operating systems for the new VMEbus boards. First is an OSF/1 implementation enhanced for real-time application. DEC says it has made 10 additions to regular OSF/1, including a pre-emptive kernel, a priority-based scheduler and Posix 1003.1b. It is currently porting the software to its new boards and will charge \$1,250 from the third quarter. It has also ported Wind River Systems Inc's VxWorks 5.1 real-time Unix for Motorola Inc VMEbus systems to the Alpha chip, making a few enhancements along the way, including POSIX 1003.1b, a runtime kernel debugger its borrowed from OSF/1 and a redesigned I/O subsystem for more application portability. Run-time VxWorks for Alpha supports Motorola 68000 and Alpha target processors. An VxWorks for Alpha advanced development kit is \$4,800 per user. Board support packages start at \$600 and runtimes are from \$640. The new hardware includes three new Peripheral Component Interface-based Alpha VMEbus boards. The AXPvme 64 is configured with a 64MHz 21068 Alpha CPU, single slot VME 6U module, Ethernet transceiver interface, two serial ports, 256Kb external cache and on-board SCSI-2 interface. The AXPvme 64LC is a low-cost version without external cache or SCSI-2. The AXPvme160 uses a 160MHz 21066 CPU with the same configuration as the 64. The 21068 is rated at 30 SPECint92, 40 SPECfp92; the 21066 at 70 SPECint92 and 90 SPECfp92. The LC is from \$3,000, the 64 from \$3,500 and the 160 at \$5,000.

CHORUS CLINCHES JAPANESE DEALS, OPENS TOKYO OFFICE

Having expanded its US operation just a couple of weeks ago (UX No 474), Chorus Systemes SA has turned its attention to the East, establishing an office in Tokyo. It has also won its first major deals out there, signing Fuji Electric Corp, Fujifacom Corp and Fujitsu Ltd to use its Chorus/Mix microkernel Unix. Unix System Labs has distributed Chorus technology across Asia/Pacific for the last couple of years. The Tokyo unit will handle marketing, support and localisation projects and is headed by Christian Biegard. Fujitsu has already developed a set of value-added kernel functions using Chorus which it will integrate with the future Unix SVR4 microkernel release it still expects from Novell Inc which also uses the Chorus technology. Chorus Tokyo +81 3 5430 1131.

THE PAINFUL LESSONS TO BE LEARNED FROM BELL ATLANTIC'S FAILED MERGER PLANS

By Tim Palmer

To call the collapse of the merger of Bell Atlantic Corp and Tele-Communications Inc a wreck on the information superhighway is drastically to understate the significance and portent of the setback. Even to liken it to the explosion that destroyed the Space Shuttle with the first civilian aboard shortly after take-off scarcely expresses the enormity, and it will take time for the consequences to sink in, just as the world seemed reassuringly unchanged only weeks after the 1987 Wall Street crash. But just as Meltdown Monday heralded the deepest global recession since World War II, the failure of the Tele-Communications-Bell Atlantic merger is going to alter the whole perception of the convergence of telecommunications, computers and television. In particular, all those that felt uneasy about the unrealistic hopes being hung on the information superhighway will now be emboldened to start doing the sums and come up with awkward numbers like the one that suggests that if someone can rent a video of a movie for \$2.50, they are hardly likely to spend the current cost of a two-hour telephone call over an Integrated Services Digital Network to get the thing on demand.

South Sea Bubble

So what? People are accustomed to paying high prices for phone calls, but do not expect to pay much for access to entertainment or information - the price of the daily newspaper sets a disconcertingly low ceiling on the amount that can be charged for on-line news in a mass market. So you continue to charge high for the phone call, low for the entertainment or information. The trouble with that approach is that within about a week, some bright spark has spotted the potential for arbitrage and comes up with a means of making a long-distance phone call look to the phone-plus-multimedia service company like video-on-demand, and in very short order, the whole economics of the thing fly out of the window. The fact that the multimedia convergence is coming is incontrovertible: what is in question is the speed at which it will become established, and the exact nature of the multimedia future. The feeding frenzy that led up to the failure of the Bell Atlantic-Tele-communications negotiations is far too reminiscent of all the investment hypes of the past from the South Sea Bubble forward. Businesses have been changing hands at ridiculous valuations, none more so than the exit price paid for Paramount Communications Corp, and for those of a nervous disposition, Barrons has pointed out that the last really big American crashes - in the late 1880s and in 1929 - were preceded by furious speculation in communications stocks - railroads late last century, telephone companies in the 1920s. The fragility of major markets today is underlined by the fact that the merest hint of an interest rate rise in the US is enough to unsettle not only Wall Street but continental European markets where the trend of interest rates should, given the depth of recession, be emphatically down for at least another year. Such an uncertain climate is hardly conducive to a continuation of the hectic US deal-making between US cable television and telecommunications companies, if only because any would-be buyer must now factor in the possibility that if the whole market is headed south, any deal it wants to do may be do-able at a much lower price a few months out - although there is the counter worry that if that deal is to be done with equity rather than cash, there may not be much benefit in waiting, since the shares of predator and target are likely to decline in lock step. The US West Inc investment for 25% of the cable arm of Time Warner Inc is now expected to be the model for the future, but the level of uncertainty is vastly increased by the failure of Bell Atlantic to do its deal.

Reuters

The company that was to have been created was to have been the bellwether for the entire new industry: now that it will not happen, would-be players do not know where to look for guidance, and increasingly companies like Reuters (Holdings) Plc and Walt Disney Co will be presented as role models, companies that intend to face the inevitable revolution by bending the new technologies to what they already understand and do best rather than trying to create something completely new. Reuters plans to use the technology to present to its existing customers more and better of the same - instead of simply seeing reports of annual meetings on their screens, subscribers to Reuters financial feeds will be able to attend the annual meeting remotely, and likely even be able to ask their own questions at analysts' meetings that are held not in New York but in the ether. As for Disney, it reckons that it knows a lot about creating entertainment software, and, crucially, about marketing it. It seems absurd that a 1930s movie could be more valuable now than it was when it was first made, but that is the case with Disney's Snow White. By parsimoniously husbanding its resources in the shape of

classic films, it has been able to increase their value over the years, so that ancient feature-length cartoons have been out of circulation for so long that they can be given new cinema releases where they successfully compete with first-run movies, or are made available on video for a desperately short time before being withdrawn. The example of Disney makes it certain that one of the most enticing promises of video-on-demand - that you will be able to watch anything you want when you want it will not be met: you will not be able to watch 101 Dalmations or Mary Poppins on September 13 in the year 2000 just by pressing a few buttons unless Disney has decided that those are the movies from its back catalogue that it will allow you to see that year.

Beavis and Butthead

Sun Microsystems Inc chief executive Scott McNealy has been pouring cold water on what he sees as the myths of the brave new world of the information superhighway, telling the Commonwealth Club of San Francisco: "There seems to be a perception that this magic network will be built allowing people to point and click for any service imaginable, including everything from entertainment to food," he says. "First off, that's not going to happen. Beavis and Butthead on demand is not going to improve the quality of life in America." He believes that the real value in an information network will not be in 500-channel cable television and other entertainment services for the individual consumer, but will be driven by commerce: to help large workgroups automate their organisations, and use fibre optics and other technologies to transmit video, audio and text. He also points out that unless there are universal standards, so that anybody's set-top box works on anybody's system with anybody's server, very little of the dream will become reality. "Any parent who has purchased a Nintendo game knows what it means to be locked into a type of technology. Once you buy the Nintendo machine, you can only buy the proprietary game cartridges from Nintendo." The best that can be said about the sorry wreck on information superhighway is that it has thrown a cold douche of reality over all the fevered hype, and while it will slow progress down substantially, what does come to be built should be more soundly based.

NOVELL DIVERSIFICATION EFFECTS FIRST QUARTER RESULTS

Novell Inc has reported first quarter net profits up 2.7% at \$72.8m on turnover up 19.7% at \$311.4m. Net earnings per share were unchanged at \$0.23. Commenting on less than sparkling fiscal first quarter figures the Provo, Utah-based company says that diversification and growth from new software offerings has meant that even with increases in NetWare product revenue, NetWare operating system products decreased to 66% of total revenue in the period; growth in turnover exceeded growth in net profit primarily because of increases in expenses following Novell's acquisition of four companies in mid-1993 - the acquisitions brought significant increases in product development and marketing expenses that cut the operating margin to 32% from 39% in the first fiscal quarter of 1993; on a geographic basis, US turnover grew 27%, average growth outside the US was 12%, but while growth in Japan and Southern Europe, growth was well over 50%, Central Europe saw declines compared with 1993; the US accounted for 53% of total business, up from 50% a year ago.

NEC MAKES PROGRESS IN PLANS TO BUILD UNIX WORKSTATIONS IN CHINA...

NEC Corp has firmed up its plans to build Unix workstations in China, saying that it is negotiating with Changjiang Jituan Gongsi for the formation of a joint venture that would make the EWS 4800 line of MIPS Technologies Inc R-series-based machines. The venture would be sited near Shanghai and would be established by mid-1994, marking NEC's first computer hardware production venture in China. This is striking in the context that companies moving into Chinese manufacture usually start with personal computers. NEC plans to hold an equity stake of more than 50% in the venture, which it says will likely be capitalised at several hundred thousand dollars. NEC hopes to start assembling the EWS 4800 workstations by the end of this year, using Japanese-made parts and components, making several thousand a year, with output initially all targeted at the Chinese market. The aim is to avoid the high levy now being imposed on imports of assembled computers by the Chinese government, and the company hopes to make personal computers and printers for export at the unit in due course.

...ITS EXPERT SYSTEM TOOL TO BE BUNDLED WITH ORACLE7

Meantime, NEC Corp and Oracle Corp say they will bundle NEC's Caseholon software engineering tool with the Oracle7 relational database. The expert system tool is designed to examine the correctness of a knowledge base automatically, checking rules, and rule duplication and modifying and compressing the result. In Japan, the two companies will be using NEC's distribution network and in the US, they will use Oracle's marketing network. Sales are planned to begin in Japan in April and in the US toward the end of this year. The companies say they expect US sales of 2,000 of the combination bundles during the first year and 15,000 bundles during the second year. In Japan, they expect to achieve first year sales of 300 bundles, rising in the second year to sales of 2,000 bundles. Prices are not yet set. In Japan, NEC has also launched a Caseholon/DT desktop version of the expert system tool to be sold on its EWS 4800 series of Unix workstations. It was launched at the beginning of last month and is priced at \$400, at which level NEC expects to sell 800 copies over the next two years.

...WILL WANT A RETURN FOR INCREASING STAKE IN BULL

Underlining the disasters that civil servants and politicians create when they start believing that they understand the businesses of commercial companies better than the companies themselves, Compagnie des Machines Bull SA, forced by the previous administration to get into bed with IBM Corp, is now being pressured to get much closer to NEC Corp - always the more appropriate partner. IBM has now put itself out into the cold by refusing to subscribe to Bull's capital increase, NEC did its duty, and now the state wants NEC to increase its stake further. NEC clearly needs to get something in return, and almost the only thing that would fit the bill would be for Bull to adopt the NEC EWS 4800 line of Unix and Windows NT workstations - but that would only make sense if Bull dumped the IBM RS/6000s and PowerPC and returned to the MIPS Technologies Inc RISC to which it earlier committed. Meanwhile, France has agreed to freeze the final \$425m of aid to Bull until the European Commission has given its approval, Competition Commissioner Karel Van Miert announced last week.

SUN HELPS LATIN AMERICA DEVELOP ROBOTIC MANUFACTURING SYSTEMS

Sun Microsystems Computer Corp has teamed with the Instituto Tecnológico y Estudios Superiores de Monterrey - Monterrey Institute of Technology & Advanced Studies - in Mexico to set up Latin America's first technology laboratory designed to help industry and education develop flexible robotic manufacturing systems. The Laboratory for Robotic Integrated Manufacturing will integrate systems comprising robotics, computer-aided design, simulation and networking to reduce time in the product design and manufacturing cycle, Sun explained. Sun CEO Scott McNealy has been on his own out-reach program down in Latin America and word from inside Sun says he's been greeted like a rock star.

16MB RAM REQUIRED TO RUN WINDOWS APPS ON POWERPC MACS AT 80286 SPEED

Apple Computer Inc's PowerPC Mac may meet all of the pre-publicity promise, but with the recommended 16Mb of memory to run Windows applications, users may find the feature has a high price tag, *Newsbytes* reports. The newswire hears that in independent testing of Windows applications under the SoftWindows emulator, some were running at speeds similar to or less than that of an 80286 processor. Developer Insignia Solutions Ltd says "It is important to realise that software running software is a very complicated process and unless extended memory is configured with 4Mb of RAM and Delta cache is set at 3Mb to 4Mb, the speed of the application may be in the range of an 80286 processor. We also want consumers to understand that the software is written to emulate an 80286 CPU, but will run at 80386 and 80486 speeds when properly configured with most applications. At this time 85% to 90% of Windows applications tested will run in our 80286 emulation. There are some applications that will not run on PowerPC and we will be doing further testing and providing affordable upgrades to run those programs."

LOGISCOPE OFFERS LOV FOR OO DEVELOPMENT

Verilog SA's Dallas, Texas-based Logiscope Technologies Inc has a new object-oriented toolset called Lov for creating new applications and reverse engineering existing software to support Rumbaugh's Object Modelling Technique. Lov/OMT, Lov/ReverseC++, Lov/ReverseC and Lov/Reuse run under Motif. Lov/ReverseC++ allows developers to reverse engineer C++ applications to OMT and from OMT to C++ - Lov/ReverseC provide C-to-OMT and OMT-to-C services for migrating C applications to C++. Lov can be used in conjunction with Logiscope's Geode real-time design tools and all components run on Sun, HP, IBM and DEC Unix workstations. Lov/OMT is out in June with beta ships in April from \$10,000 per user. Beta versions of Lov/ReverseC++ are set for October, with general availability in January 1995, priced at \$8,000. Lov/ReverseC is due in the first quarter of next year - with early ships this November - and Lov/Reuse by the middle of next year. A Lov/OMT evaluation kit is \$4,000. +1 214 241 6595.

SIEMENS TELECOMS UNIT PICKS OBJECTIVITY DATABASE

Siemens Nixdorf Informationssysteme AG is gradually fleshing out its approach to object-oriented technologies and after choosing HP OpenView to develop a network management system (UX No 472), the company's public communication networks and transmission systems unit has plumped for Objectivity Inc's Objectivity/DB database in a deal worth around \$1.8m to the Menlo Park, California-based outfit. SNI will use Objectivity/DB in new telecoms transmission systems. Objectivity's German distributor, Micram Object Technology is providing Classify/DB, its ODMG-93-compatible object database schema definition language, which provides a bridge between graphical user interface class libraries with object databases for application development. Objectivity +1 415 688 8000.

KUBOTA PACIFIC OPENS MANHATTAN TOY FAIR WITH VIRTUAL REALITY ADVENTURES

Kubota Pacific Computer Inc appeared at the Toy Fair in Manhattan with long lines waiting to see their latest development in virtual reality adventures. Kubota, in collaboration with Visions of Reality Corp produced its "pod" interactive virtual reality games with the use of DEC's Alpha AXP microprocessor (UX No 474). Visions of Reality is planning to open game centres in malls, amusement parks and hotels throughout the US and in London and Paris. Kubota will supply the Kubota 3300 three-dimensional workstations that will deliver scalable three dimensional graphics and the player's interactivity in a distributed computing environment as opposed to a centralised system. The workstations provide more than 30 frames a second of highly detailed graphics creating the realistic motion necessary to make players feel they have entered another world. It says it can produce units for a price of about \$30,000. For around \$8 to \$10, participants in the adventure will get a short briefing, enter the virtual environment where they play, ride, and interact for about 10 minutes. After the ride they gather together to see the results. The entire adventure will last for about 30 or 40 minutes.

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Sun Microsystems Inc's nomadic Sparc workstation-in-a-briefcase, code-named Gypsy for remote computing applications (UX No 461), will apparently emerge as Voyager at the CeBit Hannover Fair. At some 13lbs and with tags between \$10,000 and \$15,000 its not seen as a replacement for Tadpole's SparcBook range, but is thought most suited to the European and Japanese markets.

Whether he knows it or not, Scott McNealy has **IBM Corp** in his corner at the moment. The boys from Blue have been over at Data General Corp, the last of the 88000 stalwarts, nosing out the DEC Alpha chip and pitching PowerPC running Solaris.

Inside reports claim **Acer's** Computer Products Group in Taiwan is building an NT-on-PowerPC box that Acer America expects will be announced in two or three months. Acer America says the box is not intended for OEM channels, presumably because of margins. It will however move through VAR channels. Acer may also put Unix on the thing though not necessarily AIX. An Acer America spokeswoman denied the project's existence.

It's almost three months since we checked with **Taligent** about its NT plans and it says it still doesn't know whether to come out on NT or Chicago. It says it knows doing a 32-bit Microsoft operating system is technically feasible and it's got a idea what the porting effort would involve. It's hesitant about NT because it looks like the mass of ISVs are going to Chicago instead, plus it sees itself initially as a client operating system and NT seems to fail on that count too.

The anti-OLE **OpenDOC** group has committed to delivering its compound document architecture by fall. The stuff is said to support the **Object Management Group's** CORBA spec.

ODBMS start-up **Montage Software Inc** is going to have to change its name and trademarks by July 1 after a run-in with Infinity Financial Technology Inc over who has dibs on the word Montage. Infinity uses the name Montage on its software products. That decided the two have settled their legal dispute.

Pure Software Inc picked up \$4m in mezzanine funding from Merrill, Pickard, Anderson & Eyre and the Mayfield Fund, snaring a new backer along the way, Chancellor Capital Management. It's putting the money in the bank as part of war chest to branch off into Windows 3.1 later this year.

Alameda, California-based **Wind River Systems Inc** says it is working to reduce staff levels in areas less relevant to sales production.

Silicon Graphics Inc says Ford Motor Co's Global Studio bought over 50 Onyx RealityEngine2 graphics supercomputers. No terms.

Yes well you can understand them keeping that one quiet, otherwise every pipsqueak chip would be piping up with the same message: word is that one of the undocumented features of the **Intel Corp** Pentium contained in the controversial Appendix H is a call to which the chip responds with "Genuine Intel".

Sybase Inc's System 10 database is now up on Santa Cruz Operation Inc Unix and includes support for SCO MPX multiprocessing: SQL Server is from \$3,750 to \$92,750, Open Server is 42,250 to \$55,700 and Open Client is \$500 to \$11,600.

Now owned by **Computer Network Technology Corp** of Maple Grove, Minnesota (UX No 475), **Brixton Systems Inc** has added a new range of internetworking software it says turns standard Unix and NT platforms into IP routers for point-to-point, frame relay or X.25 network connection. Prices go from \$500. +1 603 436 6690.

Compagnie des Machines Bull SA will announce version 2.2 of the Integrated System Management network management tool that the Open Software Foundation has adopted as a standard (UX No 466) at CeBit.

The PowerPC 604 chip should be announced at the start of April, while the 603 is expected to ship in volume by the third quarter or possibly even earlier - **Motorola Inc** will join **IBM Corp** in manufacturing this one. But, the firm has also not ruled out the possibility of manufacturing the 601 processor itself if volume requirements warrant it, even though as yet it has no plants with 0.6 micron capabilities.

ICL says its TeamOffice groupware products will be up on OpenVME mainframes from July.

IBM Corp is to lead a team of 15 firms working to develop open software standards for manufacturing industry in the US. The National Industrial Information Infrastructure Protocols project will use a \$70.7m grant from a government defense conversion fund to create standards that will allow manufacturer's computers to interoperate. There are eight information infrastructure projects now underway which have attracted \$190m funding.

Since the announcement of Lotus Notes for **SunSoft Inc** Solaris 1.1 last week (UX No 476), it's understood the groupware will be up on Solaris 2.3, SCO Unix, HP-UX, AIX and NT by summer in client and server versions.

Software AG's is now shipping Entire Access middleware for use with its Natural application development environment. SAG says Entire Access allows software created under Natural to transparently access a variety of SQL and ODBC-compliant databases on a range of platforms. Entire Access for Unix goes from \$400 to \$23,300, an OS/2 version starts at \$200 with LAN prices from \$1,170. +1 703 391 6720.

Seems **Sun Microsystems Inc** has been listening to its reseller council. Reportedly new insurance, leasing, co-op, integration and education programs for its channels aimed at reducing fears of product obsolescence and strategy changes have been welcomed by the firm's VARs and resellers

Although the existing release of UnixWare - 1.1 - runs only on uniprocessor machines and lacks certain drivers, **Novell Inc** pushed it onto the market early to increase its public profile. While the firm's aim is to position the product - like NetWare - as a Unix-on-Intel offering itself to appeal to the volume market, it also intends to use OEMs such as ICL to grab the high end, multiprocessing market.

RDI Computer Corp. San Diego, California, is now shipping its 50MHz microSparc-powered 8.5lb PowerLite portable with Solaris 1.1.1 at from \$10,000 with 340Mb disk - with a higher resolution 1,024 x 768 active matrix screen the thing is \$16,000 - it can be configured with up to 80Mb RAM and 1Gb disk. +1 619 558 6985

Aries Research Inc, Fremont, California, will have a new Marix si HyperSparc server at UniForum this month which will come in just below Sun Microsystems Inc's Sparc-server 1000 and start at around \$40,000.

Taiji Computer Corp. a Chinese hardware developer and systems integrator backed by the North China Institute of Computing Technology, will resell DEC workstations as part of a deal signed under which the firms are also establishing an Alpha technical centre in Beijing.

Gateway 2000 will launch a PowerPC-based personal computer today - Monday.

All of the Sparc manufacturers wanting to support **Microsoft Corp's** Windows NT, including Sun Microsystems Inc and Texas Instruments, are expected to release sample versions of their bi-endian Sparcs in the second half of this year.

Sybase Inc's System 10 SQL Server and OmniSQL gateway products are now up and running on SCO Open Server and SCO Open Desktop operating systems.

AT&T Global Information Solutions has signed a deal with **Shadow Technology** to jointly offer Shadow's Enterprise Management Solution family of data management software on its System 3000 Unix machines.

Informix Software Inc has begun shipping its Standard Engine client/server developers kit for **Microsoft Corp's** Windows NT Advanced Server. It is priced at £985.

If the habit of writing the numerals one to nine as 1 to 9 is irritating and makes stuff harder to read, we have to award **Prodigy Services Co** a small prize for its headline on the Reuters story of AT&T Co's proposed change of official moniker - "AT&T Is Downsizing Its Name".

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IBM SEEKS GOLD IN POWERPC RAINBOWS

IBM Corp is apparently unafraid it will jinx its chances by codenaming a series of entry-level PowerPC machines after DEC's ill-fated Rainbow PC. Defying fate perhaps, it has designated an entry-level RS/6000 the Rainbow 3+, an entry-level technical workstation the Rainbow 4, and an entry-level commercial (server) platform the Rainbow 5. All the machines, developed in Austin, Texas, presumably out of the Personal RISC Systems division, are based on 80MHz 601 PowerPC chips and run both AIX 3.2.5 and 4.1. The Rainbow 3+ is a diskless upgrade to the RS/6000 220, 230 and 250 line, which started with single-chip Rios models and moved up to the first PowerPC implementation in the 250. It will include from 16Mb to 256Mb RAM using PS/2 SIMMS, Ethernet and SCSI-2 ports, two MCA slots, a dedicated 2D graphics slot, a DASD bay and an optional 3.5-inch drive. The desktop Rainbow 4, which also has a Rainbow 4L2 partner with second level cache, is an expandable client machine that measures 17.5" x 4.5" x 18". It is configured similarly to the 3+, but includes entry 2D and 3D and technical 2D graphics options and perhaps an audio port. It also includes two DASD bays and a media bay. The Rainbow 5 and Rainbow 5L2 are commercial servers packaged in a compact mini-tower design measuring 7.5" x 16" x 16". The machine will be upgradeable to the 604 PowerPC chip in future and will also come with a future 1Mb level 2 cache option. It will apparently be available with two 3.5-inch disk bays, two 5.25-inch media bays, a 3.5-inch floppy bay and four MCS slots, one designated for a connection card. All the machines are said to be based on 250 architecture, which used 66MHz 601s, but they are not expected until well into next quarter. Meanwhile, an 80MHz 601 PowerPC box looks ready to creep into the RS/6000 line in April under the Model 370 Rios system as the C10 - a 16Mb-to-1Gb internal machine that includes a CD-ROM and offers 115 tps, with four slots and two bays for disk memory. In April, IBM's RS/6000 division will also reportedly introduce a bunch of RS/6000 uniprocessors based on its more traditional Power2 architecture. Above the 370, the company will slot in a 59MHz Model 380 with 32Mb to 1Gb disk and CD-ROM, which is rated at 195 tps, and the 390, good for 235 tps. Both will come with four slots and two disk bays. The Model 500s will likely be topped with a 71.5MHz Power2 system, performing at up to 330 tps, with eight slots and six disk bays - the same chip will feature in a 16-slot R20 rack-mount that will sit beneath the existing Model 990. Two other rack-mounts are slated, the low-end R10 using a 50MHz Power with 32Mb to 1Gb RAM and eight slots doing 129 tps and a high-end R24 with 16 slots doing 330 tps.

SUN GUNS SPARC BACK ON TO PERFORMANCE TRACK

Sun Microsystems Inc has rechartered its chip business to pull out all the stops and go up against Intel Corp and all of the RISC competitors to ensure that Sparc is one of the survivors after the smoke of the chip wars finally clears in about three years time. Sparc, which hasn't been a performance leader for some time, is preparing to take on the likes of Hewlett-Packard Co's PA-RISC and DEC's Alpha, both currently performance darlings, in a new struggle for leadership, according to Chet Silvestri, the recently anointed head of Sun's Sparc Technology Business (STB), the firm's chip development centre. As a result, Sun, which is now sorting through its engineering projects seeing what can be done to forward the effort, will probably begin emphasising its anticipated 64-bit 167MHz 275 SPECint 92 UltraSparc-I chip, code named Spitfire and due in early silicon in the fourth quarter. It will also attempt to accelerate the pace of development for its follow-on UltraSparc-II, currently due the end of 1995, but not apparently the UltraSparc-III, a 600+SPECint 92 chip, now due the end of 1996, which could actually be the beginnings of the unnamed next-generation Sparc line. Silvestri says he's been told to "put HP, DEC and Mips out of business, beat the PowerPC and put a dent in Intel." He sizes up PowerPC, the current contender, as eminently beatable comparing it to Windows NT because it's "over-hyped, will fail to meet expectations and will get on everyone's @*% list." He is also relatively unafraid of Intel, hoping, he says, that it will go ahead with its promise to drag the baggage of the iAPX-86's legacy into the future with the P6 and P7. Each UltraSparc is estimated to deliver twice the performance of whatever Intel offers at the time. This means UltraSparc-I is being touted as having twice the performance of the P6, which Intel said it will sample in the fourth quarter. Meanwhile, Sun has new boxes, Kodiak (aka the SparcStation 20), a faster version of the Sparcstation 10, and Aurora (alias the Sparcstation 5), the MicroSparc-II edition of the low-end LX and Classic boxes due in April. *Details page 3.*

SUN'S NOMADIC VOYAGER

As expected (UX No 477), Sun Microsystems Inc's nomadic Sparcstation for remote network users will finally make it off the launch pad after four years in the development shop at this week's CeBit Hanover Fair. Without keyboard or mouse Voyager is a 13lb device using the 60MHz microSparc that comes in three snap-together parts for the desktop. It is not designed for use on the road *a la* Tadpole or RDI, but for people who want to use their workstation at different sites. It is thought to be especially suited to the European and Japanese markets. The device is Sun's first home-grown venture into portable technology, flat-panel displays, infrared communications, PCMCIA and battery power, not to mention carrying cases. A colour active matrix system is \$15,000, the black and white system is \$10,000. *For details see page 7.*

X/OPEN WORKS WITH MICROSOFT TO DEFINE GENERAL IT INTERFACE

X/Open Co Ltd will announce at UniForum next week a greatly expanded project to define specifications for a framework that will govern the behaviour of whatever people use to interact with IT. The group has been prompted by the work of its user-driven desktop interface requirements group over the last nine months, which has been examining the relevance of COSE's Common Desktop Environment to the IT industry. It has also had input from vendors, including it's believed, Microsoft Corp. The ambitious plan will seek to define an interface that can integrate all types of information delivery services and be adapted for use across the spectrum of IT devices, from PDAs to PCs, workstations and the set-top boxes that will deliver interactive TV to homes. "Everything changes," said X/Open, speaking from its user interface requirements meet in New Orleans as we went to press - especially true now that Microsoft is expected to climb aboard the effort too. X/Open will establish a full-scale project with a high-level strategic group and lower-level requirements initiatives. The existing workgroup and desktop focus have been dropped. Although it seems to have provided the catalyst for this grandiose scheme, the future of CDE is unclear. X/Open says the CDE effort can continue under the new project - it hasn't received a final submission from the COSE vendors in any case. They're now likely to re-group and work out how CDE, or a son of CDE, can exist within the wider framework.

NOORDA TO DEPART EARLY - NO SUCCESSOR SEEN YET

Well, it looks like it's over now. We understand CEO Ray Noorda has cleared out his desk ready for an early departure from the helm of Novell Inc - where he was expected to remain until June (UX No 462) - with apparently no successor chosen yet. Noorda, who's made no secret of his desire to do other things with his life, has been spending less and less time at the office recently - more and more time at home. However, even at this time Noorda is said to be ruminating about Microsoft Corp, still considering an industry-wide effort against Novell's arch-rival, in addition to the suit that's pending at the US Department of Justice.

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LITTLE CHEER FOR IBM'S EUROPEAN TROOPS FROM THE TOP BRASS

By Tim Palmer

IBM Corp's figures for 1993 were not as bad as they might have been because the American economy, which has been in spluttering recovery for nigh on three years now, was growing at a storming pace: indeed it now appears that in the fourth quarter of last year, it was growing at an unsustainable annualised rate of 7%, which means that the brakes are going to have to go on quite hard this year if inflation is not to become a problem once again. Already interest rates in the US have started to harden, and the next move is likely to be up. All this means that IBM can't count on the US economy enabling it to do any better this year than it did last, and while spending on new computers is not a lead indicator, exposure to heavy capital expenditure at a time when interest rates are heading upwards is not something that most companies willingly embrace. Japan remains flat on its back, and even the ever-optimistic government has been less emphatic in its calling of recovery of late - that could be a good sign were it not for the size of the structural faults in the economy that still have not been adequately addressed. Can IBM then look to Europe to lead the next phase of its recovery?

Decline in RS/6000 business

Not if you listen to what the top IBMers in Europe have been saying. Last year was a quite horrendous one for IBM in Europe, so bad that the company actually saw a decline in RS/6000 business - and Unix and personal computers are the two areas that have been growing through the recession in Europe. The company did win back market share in personal computers, but as we have pointed out so often, personal computers with their wretched margins are never going to plug the mainframe gap. The figures looked bad in the year-end results because dollar conversions were so unfavourable, but in local currencies, the business declined by 1.8%, and pre-tax profit before restructuring charges plunged 54%. Hardware sales, hit by low demand for AS/400s and RS/6000s as well as the decline in mainframes - that was a whopping 24% - were down 9%. AS/400s were off a disconcerting 11% and RS/6000s by 3% - unit sales rose 7% and low-end systems grew 33%, but unfortunately, those are the least profitable ones. Peripherals also took a tumble, with networking and printers down and overall peripherals turnover down 17%. Software business grew 5%, software and services grew 10%, and with maintenance stripped out, the growth was 26% - but many still query whether IBM can make the kinds of margins it needs out of many of the newer services. With that background, what is the outlook for IBM in Europe in 1994? We hear that the message from Hans-Olaf Henkel, the new chief of IBM Europe, Middle East and Africa is that his people should be prepared for more rough water and storms, that the economic picture will not improve before the third quarter, and that within that, IBM's budgeting returns are grim. Henkel is said to be warning that there will be a further decline in hardware revenues for the industry this year, software and services will achieve only moderate growth, and maintenance will be flat.

OEM growth

Against that background, IBM hopes to achieve considerable growth in OEM business, services and personal computers, a little growth in software, and a slight decline in maintenance - fewer mainframes dictate that. IBM can't buck the declining trend in hardware revenues, and outside the personal computer business it is resigned to these falling further. With all the restructuring hits against profits that IBM has taken, it should now be so lean and fit that it is the low-cost producer and marketer, but word is that in Europe, this is still far from the case. Henkel has been warning his people that the competition generally still has much lower marketing and administrative expenses than IBM and exploit the advantage with aggressive pricing. In a chilling warning, Henkel is understood to have told his people "We must take out the IBM employees that our customers do not want to pay for and adjust our salary levels and benefits to the levels of the industry" - so it comes as no surprise that the company is having serious labour problems in France, Germany and Belgium. But Henkel makes it clear that the alternative is that IBM will no longer be in the industry at all - and he recognises that just because you get rid of people, the workload does not automatically go down. The change in leadership in Paris has not changed the message, and Henkel's predecessor as chairman and chief executive, Renato Rivero, was no more encouraging. Top IBMers are repeating his valedictory words to each other in disbelief. "In the last three years, we have reduced our resources by 30%. We have reduced our sales and general expenses by a huge \$1,300m. Actions already taken this year mean further reductions will be realised in 1994. And we plan for more reductions in 1994." In manufacturing, he warns that cost levels are still not where they have to be, although here he reckons that everything necessary to achieve this cost reduction is now in place.

PARSYS TAKES ON £500,000 OF VENTURE CASH, REORGANISES FOR ORACLE LAUNCH

Parsys Ltd has won £500,000 of extra venture capital and a new chief executive to finance a European restructure. The company is changing its costume for the launch of a massively parallel Oracle-based machine, the Super Node 2000, at the CeBit show in Hannover this week. The move, which sees ex-venture capitalist Robin Philips take the helm, involves Parsys stripping out its sales and marketing operation into a separate firm, Parsys Ltd, to facilitate European expansion. The research and development operation becomes Parsys Engineering Ltd. Parsys Ltd will take control of the firm's existing Spanish office, and will then open offices in Germany and Italy. The sales and marketing operation will be internally divided into commercial and scientific markets, and the Super Node machine will be sold primarily into the commercial market. Selling for below £50,000, it will be available in versions for transaction processing, management information systems and for evaluation and development. Based around T800 Transputers running Parsys's Posix-compliant Idris-based operating system, the machine will be offered with T9000 Transputers when supplies are sufficient: Parsys's managing director, Ian Coburn said that it would not follow the path of Parsytec GmbH to develop a PowerPC-based node, even though the T9000 was only available in "handfuls" at the moment. "We're working very closely with Inmos", he added. The extra venture capital for the restructure comes from British Gas Ventures Ltd and the Electra Innvotec Ltd partnership, each of which will contribute equal amounts. Coburn, who will boost his workforce to roughly 40 from 26 as part of the move, was cagey about using the cash to move into the US. Although he was talking to US distributors, "I've seen a lot of British companies move into the States only to find out that it's very, very big," he said wryly.

HP, NOVELL BUY INTO GEOWORKS TO WOO MASS MARKET

Hewlett-Packard Co and Novell Inc have each taken "significant" minority stakes in Geoworks Inc, a Berkeley, California developer of operating systems for small hand-held devices. Hewlett-Packard wants to popularise the concept by flooding the lower end of the market with various application-specific information appliances, using low-end iAPX-86 parts such as the 8086, so that the basic devices can cost under \$300 apiece. Target markets include estate agents, doctors and nurses. Hewlett will manufacture the devices, and Novell will provide networking software, the idea being to minimise the intelligence needed in the handheld device and put it in the server.

ENCORE ADDS ENTRY-LEVEL INFINITY 90/SA TO ITS LINE

Fort Lauderdale, Florida-based Encore Computer Corp has extended its 88100 RISC-based Infinity 90 "alternative mainframe" line downwards with the launch of the Infinity 90/SA, which like its bigger brothers runs the Encore Umax implementation of Unix System V. The new systems, available now, are designed to deliver scalable compute and input-output performance at prices starting at "just over" \$200,000.

HYPERDESK AXES ORB WORK, C++ OMG SUBMISSION TO FOCUS ON GROUPWARE

Hyperdesk Corp, Westborough, Massachusetts, whose technology is part of the Object Management Group's Common Object Request Broker (CORBA-I), is going out of the ORB business. Last week it withdrew its C++ CORBA mapping submission to the OMG as it was being voted on (UX No 473). The move will probably cause Hyperdesk's C++ opponents, HP, IBM, Sun, Iona, DEC and NEC, to regroup and come up with a new proposal, according to OMG president Chris Stone. Hyperdesk is a victim of the fact that middleware is the software people don't want to pay for. It is now going to restructure the company and pursue a tools and applications strategy, abandoning the distributed object platform that its initial business plan imagined it would stand on. Hyperdesk president Herb Osher described the new software as a kind of groupware, based on distributed object principles, with Windows clients and a platform-independent back-end. The unnamed software, which Hyperdesk's majority owner, the Japanese company Ascii Corporation, is funding, is now in prototype and should be ready by the end of the year. Hyperdesk has gotten rid of its sales and marketing staff and its CORBA ORB and Unix engineers, Osher said, laying 30 people off and retaining 35. Hyperdesk never formed an alliance with a bigger stronger company as is the fashion these days. Osher claimed it was because the industry has targeted objects as its next battleground like operating system were in the recent past and the major players are therefore concerned about owning the technology. The Hyperdesk withdrawal leaves about 50 end-user customers in the lurch. Osher, who will stay with the restructured company, says he is talking to them to help them find a new platform to move to. Several, he said, indicated a willingness to buy the source code. Novell also has a deal with Hyperdesk to use its technology with NetWare. Osher says they have been discussing what to do for "many weeks" and it's possible they may decide to go forward as planned, with Hyperdesk continuing to provide its expertise. IXI also had a deal with Hyperdesk but apparently never acted on it.

BULL SETS UP NEW UNIT TO OEM PEGASUS MACHINES

At UniForum next week, Compagnie des Machines Bull SA will announce a new unit within its Open Systems and Software division to try and win OEM contracts for its PowerPC-based Pegasus machines - particularly in the US where it is virtually unknown. The firm will target PowerOpen Association members; personal computer manufacturers moving to the PowerPC; former 88Open members and Motorola Inc 68000 users. The unit will have 12 staff spread across Austin and Boston offices. Bull will also establish a parallel organisation in Europe, but will sell Pegasus via other channels too, such as existing value added resellers and its Zenith Data Systems division. The company says it will price the boxes at least 10% lower than its nearest system rival.

IBM RETAINS LEGENT FOR MERCURY NETWORK MANAGEMENT AGENTS

IBM Corp's Networking Software Division in Research Triangle Park, North Carolina has turned to Legent Corp, Herdon, Virginia for help with development of Mercury, a network management environment based on active agent technology. The two will put together an agent software development kit and an Agent Management System, both supporting the Simple Network Management Protocol and designed to send and receive performance, reliability and configuration management data across the network. The Agent Management System will offer four primary functions: agent discovery, agent repository, agency policy management, and a means for agent distribution. The software kit will include an automatic code generator that accepts specifications of managed objects in formats including DMTF MIF, SNMP MIB, and Corba Interface Definition Language formats, and creates interfaces to the application code; and a set of management services. It is set for fourth quarter.

SUN TO SHORE UP CLONE BUSINESS, HAS BLUEPRINTS FOR NEW SPARCSTATIONS 5, 20

Sun Microsystems Inc's plans to make Sparc as ubiquitous as possible - see front page - naturally involve renewed efforts to increase unit volumes, hoping to grow the non-Sun Sparc business from the 20% to 25% of these last couple of quarters to 50% of the total in three years, according to acting head of Sparc Technology Business marketing, Derek Meyer. Indicative of that necessity, STB last week made yet-another attempt to shore up its clone business which has suffered in the past by Sun's predilection for stomping on competition that it itself created. For the first time, Sun will offer clones design kits for making hardware identical to Sun's own, beginning with the blueprints for two unannounced Sun products due in April: Kodiak (aka the SparcStation 20), a faster version of the Sparcstation 10, and Aurora (alias the Sparcstation 5), the MicroSparc-II edition of the low-end LX and Classic boxes (UX No 464). Both are meant for high-volume manufacture with anti-Pentium Aurora available with state-of-the-art graphics options, high-speed networking and collaborative multimedia capabilities. Axil Workstations is apparently a customer for both. STB is also making available the support logic in Gypsy, its new MicroSparc-II-based nomadic workstation now officially rechristened Voyager (see page 7). These devices include a power management controller, monochrome and colour LCD controllers and a single-chip PCMCIA controller. Meanwhile, STB announced it is sampling 85MHz and 100MHz versions of the MicroSparc-II. (The MicroSparc family is meant to stay abreast of Pentium's power with these chips paralleling Intel's new 90MHz and 100MHz models. There are great hopes for MicroSparc-III as a low-cost mass chip.) It also has a three-chip 70MHz MicroSparc-II chip set priced at \$540 in quantities of 5,000. Of all the Sparc makers who started out a few years back, there are only a few of any significance left: ICL Plc, Axil, Tadpole, Tatung and perhaps TriGem with increasing hopes for Toshiba and Fujitsu. STB believes by the end of the year it will sign other channels in the US and Asia and there is also talk of moving into Eastern Europe.

IBM'S BIG APRIL ANNOUNCEMENT BEGINS TO TAKE SHAPE

One of the IBM Corp April announcements - tipped for April 7 - is expected to include a new PowerPC-based Powerparallel server aimed at mainframe users as well as the first iteration of IBM's so-called parallel mainframe. The parallel AIX system is billed as a network file server with Escon channels, so that it will be able to use mainframe disks, although whether it will be able to share mainframe disk controllers and drives is unclear. The announcement will also include the CMOS 9221 microprocessor-based query-only DB2 co-processor for mainframe users, initially with up to 48 processors, although later in the year, the company is promising a High Performance Transaction Server variant running CICS, which will take up to 192 processors, and could grow to 320 by the end of next year. For traditionalists, the company will extend the 9021 top-end water-cooled line with a 10-processor model some reckon will deliver about 475 MIPS.

TATUNG DELIVERS DUAL, QUAD SPARC BOXES

Tatung Science & Technology Inc, Milpitas, California, is now shipping new multiprocessing Sun Microsystems Inc-compatibles, including quad-processor machines, using 50MHz Texas Instruments Inc SuperSparc RISCs. The Super CompStation 10-402 and 10-514 are dual and quad-processor workstations respectively. With 32Mb RAM, 1Gb disk, and from four to nine SBus slots and a 19" colour screen, the 10-402 is from \$15,000. The 10-514, with four SuperSparcs, starts at \$30,800 with 64Mb RAM, 2Gb disk, up to seven SBus slots and 19" colour monitor. Both can be configured with up to 12Gb disk. Server versions start at \$14,500 and \$30,300 respectively in the same memory configurations. Tatung offers the machines with Solaris 1.x or 2.x.

APPLE LIFTS THE VEIL ON ITS PLANS FOR MACINTOSH SYSTEM

Apple Computer Inc's plan of campaign to fend off the challenge from Microsoft Corp's forthcoming Chicago Windows 4 is to progressively introduce the concept of active agents into the operating system. The company also plans further graphics and multimedia technologies, better speech recognition and text-to-speech capabilities, and better collaboration services. Apple's outline of its plans was extremely woolly, but *MacWeek* and *PC Week* reckon they have the programme taped. The three-year strategy is said to include adding full support for Novell Inc's NetWare on servers, and incorporating Taligent Inc's object frameworks in future releases. For the desktop, Apple's first new offering will be System 7.5, code-named Mozart, which is expected to ship by the mid-year, for both 68000 and PowerPC machines. Mozart will include a new Finder desktop designed to enable users to automate navigation around the user interface; PowerTalk, the client half of the Apple Open Collaboration Environment technology; QuickDraw GX; QuickTime; a task-centred Help function; built-in TCP/IP support; and a Drag Manager that enables users to drag and drop data between applications. The next big step forward is System 8, code-name Copland and set for early 1995, again to run on both processor families, although it will include a native PowerPC version of the Mac file systems and AppleTalk file stacks. The rewritten, higher-speed file system is expected to provide folder-by-folder security with local access privileges associated with user accounts. The Finder is expected to introduce predesigned selections of new window, button and scroll-bar appearances; co-ordinated fonts, styles and colours; variable-size icons; and time-saving utility features for finding and managing files, all controlled by a new Appearance Manager, will be associated with local user accounts, so multiple users can share a machine but see radically different views of its operating system and contents. The Finder utility is expected to include spring-loaded folders that automatically open when icons are positioned over them while dragging, and automated grouping icons that have AppleScripts associated with them, which can act as agents, tracking recently used items and performing other basic recurring tasks. It will also include an Open Transport networking scheme providing native support for IPX, TCP/IP, and AppleTalk networking protocols. Apple's servers are expected to have native support for NetWare services by late 1994 or early 1995. In late 1995 or early 1996, Copland should be followed by Gershwin, or System 9, a multithreaded, multitasking operating system with memory protection, OpenDoc 2.0 and three-dimensional modelling - to be followed in mid-1996 by a version of the operating system code-named KN, with built-in speech synthesis and recognition capabilities.

DIGIBOARD LAUNCHES NEW ISDN COMMS SYSTEMS FOR NETWARE, NT AND UNIX

Eden Prairie, Minnesota-based DigiBoard Inc has announced the European introduction of its IMAC family of ISDN communications systems. PC IMAC and PC IMAC/4 are ISDN terminal adaptor network interface cards running under Novell Inc NetWare or Microsoft Corp Windows NT. Both are said to install in an AT, EISA or Micro Channel (PC IMAC only) expansion slot to provide on-demand remote local network connections via dial-up ISDN lines; PC IMAC connects between a local network server or remote personal computer and a single 128Kbps ISDN line, while IMAC/4 provides connections for one to four 128Kbps lines via the company's ISDN Data Pump plug-in modules. PC IMAC lists for \$1,000, PC IMAC/4 for \$1,200. Also launched are the IMAC and Dual IMAC stand-alone ISDN local network bridges. IMAC is said to provide a direct connection between a Thicknet or Thinnet Ethernet cable and a single 128Kbps ISDN line, while Dual IMAC provides connections for two 128Kbps ISDN lines to transmit data at up to 256Kbps for ISDN data calls; both products are claimed to work with any hardware platform, network operating system or ISDN CCITT switch, and are said to be programmable locally via RS-232 connection or remotely via TCP/IP. IMAC lists at \$1,600, Dual IMAC at \$2,800. All products will make their European debuts at Hannover. The company has also announced DigiBoard PortServer for Novell remote access and personal computer Unix network users. PortServer is said to enable workgroups or clusters of eight or 16 asynchronous RS-232 serial input-output devices to be connected to any Ethernet network running the TCP/IP network protocol; the devices can be located anywhere along the Ethernet line, says the company. DigiBoard is also claiming a three-to-one performance improvement over PortServer's rivals, apparently achieved by incorporating its Net C/X protocol software, which encapsulates its C/X System software on top of TCP/IP, into the product. PortServer is available in eight- or 16-port versions and will be available from late March. It will ship with a driver for Santa Cruz Operation Inc Unix System V.3 and an Asynchronous Input-Output driver for the Novell NetWare Connect remote access software. PortServer 8 is priced at \$1,700; PortServer 16 at \$2,200. Support for additional versions of Unix is promised next quarter.

UNCLE SAM BANKROLLS ADAPTIVE TO DO DESKTOP PARALLEL BOARD

Adaptive Solutions Inc, the Beaverton, Oregon firm with the Connected Network of Adaptive Processors (CNAPS) family of single-instruction multiple-data massively parallel pattern recognition systems, is still around, and has won initial funding of \$1.3m over three years from the Advanced Research Projects Agency of the US Department of Defense to bring massively parallel processing to the personal computer. The aim is to develop a system that will enable standard personal computer users to execute pattern recognition, image processing and signal processing applications at speeds 10 to 1,000 times faster than on Pentium-class machines. Target applications include speech and optical character recognition, forms processing, real-time signal processing and video compression. The development agreement calls for Adaptive Solutions to develop a massively parallel plug-in board for desktop personal computers, a full development environment, and an object-oriented support environment for parallel processing. After the three-year effort is complete, extensions could bring total funding to \$2m. The first phase of the programme calls for completion of the CNAPS/PC board and a C compiler and debugger development environment, to be ready by the third quarter. The CNAPS/PC will be based on the new CNAPS (MP)2 massively parallel microprocessor containing 64 processors on a single chip, optimised for compute-intensive pattern recognition and control applications. The CNAPS/PC board will be configurable with up to two CNAPS chips - 128 processors. A companion board will make it possible to add two more of the chips to create a four-chip 256-processor configuration that delivers up to 6.4Gb-operations per second. Assembly language programming and neural network experimentation software are to be completed during the second phase, in early 1995. The last phase, extending into 1996, calls for Adaptive Solutions to deliver a library of C++ functions that will facilitate the rapid development of image processing and neural network applications. All development software will run under Windows NT. The optional phase is for development of a mezzanine board for interconnection of multiple CNAPS/PC boards, enabling algorithms executing on multiple CNAPS/PC boards to communicate with each other and co-ordinating their activities. The company started selling the CNAPS/64 system in March for \$35,000, but it now offers a CNAPS/VME board, a 6U VME board that contains from 16 to 256 processors, with prices starting at \$3,900 in OEM quantities. A CNAPS Server II connects to a Sun Microsystems Inc or Hewlett-Packard Co workstation to serve as the development system for the CNAPS/VME board or target system for compute-intensive applications.

IBM REVEALS TADPOLE'S POWERPC-BOOK

IBM Corp has launched its PowerPC-based AIX colour notebook computer developed - and assembled - for it by Tadpole Technology Plc, of Cambridge, UK. The machine, dubbed the RS/6000 N40, will be available from March 25 and, as expected (UX No 475), will cost \$12,000. It weighs about 6 lbs 14 oz and includes Tadpole's Nomadic Computing Environment, but runs for only about 45 minutes on the internal batteries, although an external battery pack is also available. It runs the PowerPC 601 at 50MHz, until the low-power 603 arrives, and is rated at 41.7 SPECint92 and 51 SPECfp92. It comes with from 16Mb to 64Mb RAM, 1,280 x 1,024 active matrix display, 340Mb disk, SCSI-2, Ethernet, and support for PCMCIA.

X/OPEN WILL WAIT ONE MONTH FOR ELEVEN MORE BACKERS FOR API TESTING TOOL PROJECT...

X/Open Co Ltd is now well into its campaign to attract ISVs for a project it hopes will lead to the development of a range of application programming interface testing tools using techniques derived from the UK Defence Research Agency's TenDRA system, also the basis of ANDF, the Architecture Neutral Distribution Format (UX No 471). The tools X/Open have would rigorously scrutinise a program's conformance to a given range of application programming interfaces, and thereby allow developers to assess the suitability of the software for other hardware and software environments. The results would enable ISVs to make appropriate modifications to programs to ensure they conform to those APIs. X/Open says most ISVs it has canvassed are obviously keen to find new ways of supporting different platforms in more economic and profitable ways, but has had difficulty convincing them that an X/Open project is the way to do it, or to stump up the "small financial contribution" required to cover the planned project's expenses. With one unnamed ISV already signed on and 25 others (all Unix companies) considering terms - it needs a dozen sponsors - plus the required agreement from X/Open's own user council - the project has in the standards body's view an estimated 75-25 chance of happening. It has set a time limit of a month from now for these things to fall into place before it goes off and begins work on one of the countless other projects that require its attention. If it doesn't happen, it will prove that the plan is too early for the industry to bear, says X/Open. The project envisaged will be a shared development - like CDE or 1170 specification work - utilising the expertise of the project member companies who will utilise the stuff in their existing projects and define what it takes to develop real-world portable code. X/Open hopes the resulting testing tools could eventually be integrated into the various software testing tool packages on the market. The project will, if it goes ahead, use TenDRA technology - including the front-end of ANDF - to provide API "awareness" to the compiler, and ADL, the Sun Labs and Japanese MITI-developed API description language that will drive the APIs into the testing tools themselves. ADL specifications will be royalty-free, some kind of licence to TenDRA will be required, but X/Open will put all resulting testing tools specifications into the public domain. DRA will offer complete compiler systems as well as the basic API checking mechanism. Ultimately the testing tools could help application binary interface camps standardise their efforts, would certainly help ISVs bring their applications to Unix and could even help the efforts of groups like the Public Windows Initiative (although there are many issues that require attention first in this case). DRA will be showing versions of its compiler and API-checking utilities at UniForum next week.

...AS EC'S DEPLOY PROJECT CRANKS UP

If it happens, the X/Open project will run in parallel with a separate European Commission project to create two-stage software development and compiler tools based on ANDF (UX No 471). That effort, Project Deploy, which has Software AG and IXI Ltd as development houses, will be announced on the 17th of this month and will be underway shortly regardless of the fate of X/Open's endeavour.

POWER AND POWERPC, PAST AND PRESENT

For the record, the genealogy of IBM Corp's RISC microprocessor is as follows: the multi-chip Power1 introduced in the RS/6000 line in 1990 moved to Power1+ in 1991, which was the basis of Power1++ and the single-chip RSC implementations in 1992. From here, Power1++ became the single-unit, multi-chip Power2 which debuted last year and will become Power2+ with large level-two cache in machines expected as soon as this week. The IBM RSC became the multiprocessing-enabled IBM/Motorola PowerPC 601 last year. The notebook PowerPC 603 will debut this year, followed by the desktop and entry-level server 604, and 64-bit high-performance 620 iteration around the turn of the year. The 601, 603, 604 and 620 are all IBM/Motorola parts out of the Somerset facility. The Power2+ will step up to PowerPC architecture either next year or in 1996 as the Power3, exclusively an ultra-high performance IBM architecture, inheriting PowerPC 620 features such as 64-bit and multiprocessing.

MAC SERVICES WILL DELIVER MOTIF-MAC INTEROPERABILITY, SAYS POWEROPEN

The PowerOpen Association has begun clarifying the issues surrounding interoperability between the Macintosh and Motif graphical user interfaces on PowerPC-based systems. The group says it is not mandatory for developers to support Apple's Macintosh Application Services extensions to Motif and X Windows, which will provide Macintosh applications with their distinctive look-and-feel. If they do, users will be able to work simultaneously on both Motif, Mac, and character-based applications and be able to cut and paste data between them. Each Mac application will appear as a window in Motif. Users will also be able to run Microsoft Corp MS-DOS and Windows, and OS/2 applications using third party vendors' software emulators, and an application catalogue listing products from certified vendors will appear next year. Systems management will initially consist of install and update functions for applications. The PowerOpen application binary interface (ABI) is due at the end of April. ABI documentation will be made publicly available detailing the base PowerOpen Environment, which comprises the PowerPC architecture, the ABIs and the application programming interfaces (APIs); a porting and migration guide, which is due in the summer; information on Macintosh Application Services; and a PowerPC 601 user manual. The Association also has a System Information Library, which lists technical reference information to help vendors create PowerOpen-compliant operating systems, although they will be able to add their own extensions too. Both IBM Corp and Compagnie des Machines Bull SA, for example, will market their operating systems as AIX/6000, while Thomson-CSF SA will sell its implementation as UNI/XT. The Association will follow the ABI release with a developers conference in Boston from May 2-4, and expects some 200 members to attend. It also intends to provide vendors with porting services, a bulletin board listing development updates, and a branding programme, and will develop the specification through technical work groups and suggestions from members. In the near-term, the organisation says it will review such technologies as object-oriented frameworks and multimedia APIs. PowerOpen Europe will be formally announced at CeBit this week, and Bull's laboratory in Grenoble, which is about to be accredited as a Posix testing centre, is considered a good candidate for PowerOpen conformance testing in Europe too.

COGNOS CLAIMS THE POWERHOUSE NAME, SAYS IT WILL DEFEND IT

Although we heard it on good authority from people who we think should know, Cognos Software Inc says that in fact it does have dibs on the PowerHouse name (UX No 477) and will be defending it. Cognos says the newly-formed NeXT spin-out, PowerHouse Systems Inc, has a letter from it saying the firm can't use the PowerHouse name and says it is initiating action against it to prevent it from using the PowerHouse moniker in its company title or products. Cognos says the trademark is registered in good standing in the US, but could not verify its standing in other countries. The company admits that its software does at times get confused with other Power-prefixed products such as PowerSoft, but denies it is switching its newest client/server offering to a new nomenclature, Axiant, because of naming or trademark problems with PowerHouse. Although it plans further PowerHouse releases and continued support for its 28,000-strong PowerHouse user base, the arrival of Axiant raises obvious questions about the long-term future of the Cognos product in its current guise. Why PowerHouse Systems went ahead with its naming convention if PowerHouse is already an established trademark is unknown: company officials contacted did not respond to questions.

DEC AND PROTEON COLLABORATE

Following on from their announcement of a contract manufacturing agreement last November, Massachusetts-based Proteon Inc and Digital Equipment Corp have announced the first fruit of their joint project to develop a Token Ring interface card for DEC Alpha servers and workstations. The DEC TRN controller 700, which is manufactured by Proteon, is said to provide support for DEC's 3000 AXP servers and workstations, and features DEC-developed software drivers within its OSF/1 operating system. It will initially support TCP/IP, source routing, DECnet-OSI and Pathworks; Open VMS support for the DEC 3000 AXP will be available later in 1994. It ships from June for \$2,400, through third parties.

EUROPEAN ROUND UP

Winkworth, Derbyshire-based **Ethix Ltd** is now distributing NobleNet Inc's remote procedure call compilers for C and Visual Basic programmers in the UK. + 44 629 826 000.

Farnborough, Hampshire-based IBM software and services company. **Data Sciences Ltd**, has won a £3.5m contract from the UK Department of Health to develop a system that can collect and store inpatient data from NHS hospitals. The "Hospital Episode Statistics" system will run under Unix on **Sequent Computer Corp's** Pentium-based machines, and use an **Informix Corp** PDQ relational database. The deal also includes a five-year facilities management contract.

Bath University is replacing its **ICL Plc** mainframe with a **Digital Equipment Corp** Alpha AXP DEC7000 server, running Open-VMS. The deal is worth £500,000, and was publicly funded by the UK Joint Information Services Council. The system will host a national database service for medical research, which customers will query using London-based **Information Dimensions Ltd's** BASISplus document management and text retrieval software.

Vickers Defence Systems Ltd, Newcastle, England, is using 62 **Silicon Graphics Inc** Crimson VGX workstations as the basis of simulation training systems to teach Challenger I and II tank gunners and commanders in the British Army the art of target acquisition and engagement. The deal is worth £2.5m to Silicon Graphics.

Chelmsford, Essex-based systems integrator, **Corporate Computers Plc**, is now reselling and supporting **Santa Cruz Operation Inc** software in the UK. + 44 245 450 045.

Market research firm **Indeteco** claims the **Santa Cruz Operation Inc** has 75% of the European Unix-on-Intel market.

The Brussels-based **Open Document Architecture (ODA) Consortium** has started shipping version 2.0 of its ODA Toolkit, which now incorporates ISO DISP FOD36-conformant desktop publishing capabilities. **WordPerfect Corp**, which joined the Consortium in January, will provide a generic ODA Converter, and also set up a Common Usage Database so that developers can exchange reports with the organisation. + 32 2 774 9623.

Informix Software Inc's UK subsidiary has moved headquarters from Ashford, Kent to a larger site in Feltham, Middlesex. The European headquarters will remain in Ashford, however, as will some training functions. + 44 81 818 1000.

Unisys Corp has won a £1m order from the **Isle of Man Government** to upgrade its existing Unisys 2200/400 proprietary mainframe with a 2200/500 Unix-based enterprise server.

Market research firm **Dataquest Europe Ltd** has moved its offices to parent **Dun & Bradstreet Corp's** premises in High Wycombe, Buckinghamshire. + 44 494 422 722.

Insignia Solutions Ltd has signed up Hewlett-Packard Co to sell and support SoftWindows in Europe.

Legent Corp has signed up its first UK distributor in the form of London-based Oracle specialist **Sequeologic Ltd**. The firm will sell Legent's ACE series of Oracle enhancement software and is hoped to be the first distributor of many in the region. + 44 71 403 4335.

Financial and distribution software specialist, **Lawson Associates Inc**, has moved its UK and European headquarters from Chertsey, Surrey, to bigger offices in Hayes, Middlesex. + 44 81 754 8450.

Digital Equipment Corp has appointed ex-**IBMer** Richard Jones as UK director of sales and marketing.

NeXT Computer Inc has signed up Marlow, Buckinghamshire-based **Sydec Plc** to distribute NeXTStep in the UK. The firm specialise in the financial sector. + 44 628 475 555.

Security and systems management software house **BrainTree Technology Ltd** has relocated from Cheadle Hume, Cheshire to larger offices in Northenden, Manchester. The firm has also been chosen by **Quinn Associates Inc** to distribute its DEC VAX/VMS and Unix disk management software in Europe. + 44 61 945 1511.

Sequent Computer Corp and the **ASK Group Inc** have co-founded the Very Large Database Advisory Group in the UK for customers that are either planning or have already implemented large Ingres databases. Group members will meet quarterly, wherever is deemed suitable, to discuss issues concerning the design, development, implementation and running of these databases. Founding members include **British Telecom** and the **Central Statistic Office**, the IT section head of which, Geoff King, has been voted in as chairman. +44 932 851 111.

Hewlett-Packard Co and **Oracle Corp** have jointly set up a Co-Operative Technology Centre in Boeblingen, Germany, to undertake development, marketing, sales and customer support for customers running Oracle applications on HP 9000s. The venture is staffed by employees from both firms, who will work alongside local support teams.

Siemens Nixdorf Informationssysteme AG has set up a disaster recovery service for users of its RM range of Unix servers in the UK. The facilities are located in Bracknell, Berkshire, Hounslow, Middlesex, and Birmingham.

Pyramid Technology Corp has appointed David Koch as vice president and general manager of Northern Europe - the UK, Scandinavia and the Benelux countries.

With Eric Leach Marketing Ltd running the Object Management Group's affairs in the UK, and Soken Planning Co Ltd doing the same in Japan, the OMG has now brought **LogOn Technology Transfer GmbH** on board to represent it across Central Europe - this includes Germany, Switzerland, Austria, Belgium, Holland, France and Italy. + 49 6173 2852.

Velizy, France-based Unix specialist **Steria SA** says it has been given the task of developing the graphical features and animation for a simulation that explains the voyage of Vinci - the European "sun sailing ship" - to the public. At the end of the century, Vinci is scheduled to voyage to the dark side of the moon to photograph it. The aim is to demonstrate that it is possible to propel interplanetary space engines, with the aid of pressure exercised by photons emitted from the sun going to enormous sails extending thousands of feet square. The **French National Science Institute** will provide the spatial mechanic algorithms for the public demo. Steria, **Sema Group**, and **Christol Consultants** will jointly develop the simulator, which will enable us to pilot the interplanetary sailing ship.

Neuron Data Inc has opened a subsidiary in Germany in Neu Isenburg, near Frankfurt. It will be run by Rolf Perschbacher, who was previously managing director for the **ASK Group Inc's** German subsidiary.

Unify Corp has hired Paul Hart as European product market manager. Hart was previously UK marketing manager for Cognos Inc.

Tricord Systems Inc has opened its first European office in the UK. **Tricord Systems Europe Plc** in London will serve as the sales, promotion and technical support centre for the UK. It also plans to open offices in France and Germany in the first half of the year, to be followed by manufacturing facilities in the second half.

Puteaux, France-based object-oriented software supplier, **Business Objects SA**, is setting up an indirect sales structure for Asia: it says it will use "regional distributors that have strong technical competence, relational database expertise and who are well integrated into local industry and government," and says OEM agreements are pending; it has hired Ricardo Fuchs, formerly a manager at **McDonnell Douglas Information Systems** in Japan, to run the unit.

SUN PUTS NOMADIC VOYAGER SPARCSTATION INTO PRODUCT ORBIT

At CeBit Hannover Fair this week, Sun Microsystems Inc will, as expected (UX Nos 461, 476), launch Voyager, its nomadic - or remote networkable - Sparcstation for users who need to take their workstation to different sites. The three-piece luggable weighs-in at 13lbs without a keyboard and snaps together on a desktop. Sun's first home-grown portable technology is also the company's first venture into flat-panel displays, infrared communications, PCMCIA add-in devices and battery power, not to mention carrying cases. Voyager, some four years in the making, is not intended for use in transit like a portable *a la* Tadpole or RDI. It uses the long-awaited 60MHz Fujitsu Ltd microSparc II rated at 43 SPECint92 and 37 SPECfp92, around twice the performance of the low-end Sparcstation LX. Voyager is offered with a choice of a 14", 1,152 x 900 active matrix monochrome screen by Hosiden, a 12" colour active matrix screen by Sharp or for users that will transport just the chassis, a 17" conventional CRT. Voyager has a PCMCIA slot in place of an SBus expansion port, that'll house two Type II or one Type III device. Sun's thinking is that most SBus cards used are for graphics acceleration or network expansion and Voyager has an in-built SBus-like interface and frame buffer on a daughterboard that puts TGX graphics up on the flat panels. The module can be upgraded to work with new screens as they appear, like the full-screen colour flat panel due soon. Other logic in Voyager includes a power management controller and a single-chip PCMCIA controller. Sun will offer a US Robotics WorldPort modem and Sun-labelled fax software on a PCMCIA card immediately. Sun envisages TCP/IP networking over Point-to-Point Protocols as Voyager's main communications mechanism. An infrared interface for sending data to and from handheld and portable devices using Hewlett-Packard Co's SIR or Apple Computer Inc/Sharp Corp interface protocols sits on the front of Voyager. The unit runs Solaris 2.3 edition 2, a chopped-down release that takes up just 98Mb of space compared to the usual 170Mb; "but its not a Solaris Lite," the firm emphasises.

Roam

SunSoft has lopped off system software that a standalone nomadic simply won't ever touch and has added PCMCIA device drivers, power management tools and Roam - a mail tool developed by Sun and Stanford University that supports disconnected and remote mail use - plus support for Type 5 compact keyboards and a mechanical mouse. Other Sun users will get these features in Solaris 2.4 due this spring and from May all new Sun boxes will come with an SBus port that'll accommodate two PCMCIA devices. Voyager runs from the mains or an optional battery pack that'll give two hours of uptime. With from 16Mb to 80MB RAM, 3.5" floppy, 2 Type II PCMCIA slots, infrared, ISDN, Ethernet, 16-bit stereo, SCSI, external monitor port, parallel and serial ports and 2.5" 340Mb disk - so far the biggest that can be configured - the monochrome unit is from \$10,000, the colour flat panel system is \$15,000 and the colour tube is from \$9,000. The PCMCIA Fax/modem card is \$575, a battery is \$325 and carrying case \$225. The aluminium frame helps dissipate up to 60W generated by the system which has no fan. Sun says it expects to ship as many as 2,000 Voyagers a month from the off - many will go to government sites. Europe and Japan are seen as primary markets. Its not putting the thing through any new channels - but expects Voyager to be a popular with resellers and distributors as a way of selling Sun kit which can be demonstrated at a customer site - and won't have SunExpress peddle it. Sun needs - and promises - to add support for ATM technology which it is pushing hard on its other systems, at the moment that's strictly an SBus-based solution. There are 85 engineers working on Voyager's descendants, a high-profile ad campaign begins this week.

TI HAS SPARC BOXES FOR TELEPHONE FIRMS

Having sold its Unix computer systems side to Hewlett-Packard Co a couple of years ago, Texas Instruments Inc is getting back into the systems business with Sparcstations designed specifically for use by phone companies. Texas now has a machine that is compliant with the Network Equipment Building Standard, set by Bell Communications Research. The Texas box will use the Micro Disk Fault-Tolerant RAID-1 subsystem from ECCS Inc, Tinton Falls, New Jersey. The disk array is claimed to be the first hot-swappable RAID device to package two 3.5" disk. The Sparcstations run SunOS 4.1X and Solaris 2.X.

DOCUMENTUM MANAGER DUE ON ALPHA BY YEAR-END

DEC and the Xerox-back start-up Documentum Inc have cut a joint marketing deal that will see the Documentum Server, the Pleasanton, California-based company's high-end enterprise document manager, ported to DEC Alpha machines by the end of the year. The start-up, which has a \$9m bankroll, has been focusing its software at key Fortune 1000 corporates like pharmaceutical companies which is apparently exactly what DEC wants it for. Documentum claims it cut the time a drug company needed to prepare to submit a new drug application, an exercise that can reportedly consist of over a million pieces of paper, from one year to one week, something worth \$5m a week to the drug company for every week saved. Documentum's object-oriented client/server technology, distributed across Sun, HP and IBM platforms, is based on a concept the company calls the "virtual document," essentially reusable output. Its product consists of the Documentum Server, which manages text, images, voice and graphics, Documentum Workspace, a graphical drag-and-drop user environment available for Windows, Macintosh and Unix/Motif clients, and Documentum Toolkit, a rapid application development kit. The system, which Documentum is targeting at manufacturing and government as well as pharmaceuticals initially, is priced starting at \$1,500 per seat for a 32-user environment, \$1,000 per seat for a 100-user environment and \$550 per seat for a 1,000-user environment. Documentum currently markets through 13 sites worldwide with 8 direct sales offices in the US and 5 distributors in Europe, Canada and Japan. It is working with integrators such as Andersen Consulting, Boeing Computer Services, EDS and Trident and its strategic partners include Frame Technology, Oracle, Sun and Verity. Its list of initial sites is quite impressive.

OPEN SYSTEMS MANAGEMENT TO PUSH INTO US MARKET

Unix systems management tools vendor Open Systems Management Ltd, Wokingham, Surrey, is about to take its first step into the US market together with Leederville, Western Australia-based partner and joint developer Functional Software Pty. The two companies aim to undertake a cross-shareholding agreement and then set up a US office in the autumn with the help of venture capital funding or by partnering a company with an existing US presence. They will court interested parties at UniForum next week. The ultimate aim is then to back both companies into the US organisation and go public, before moving into Japan and Germany. The two firms offer the 16 bit COSMOS systems management tools and application development environment, which is currently sold predominantly into the UK and Australian markets. By the end of the year, the product will support the Open Software Foundation's Distributed Computing Environment, and there are also plans to support Novell Inc's NetWare via the Novell Distributed Management System and Microsoft Corp's Windows via Hermes. Open Systems Management + 44 734 770 333. Functional Software + 61 932 882 88.

BULL IS MOVED TO THE TOP OF FRENCH STATE PRIVATISATION LIST

The European Commission last week received Compagnie des Machines Bull SA's restructuring plan, but beyond the fact that it involves a move away from systems and towards computer services in order to minimise job losses, the details are a deep, dark secret. Bull simultaneously announced that now that the plan is with the Commission, it is ready to take on board new investors - as from last week, when the French government announced that Bull was being jumped right up the list, and would be one of its next two privatisations. A European Commission spokesman told Reuter that a decision on whether or not to clear the last tranche of the state cash injection into Bull would be taken within six months, probably before the Commission's summer break. Officials were optimistic on chances of getting the plan approved: Competition Commissioner Karel Van Miert told the French earlier this month that the fact there was an intention to privatise the firm was a "positive" indicator that the restructuring would be efficient.

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When **Compagnie des Machines Bull SA** begins shipping its **PowerPC 601-based Pegasus machines in July (UX No 474)**, it will also announce phase two of its **SMP-based development work, code-named Mississippi**. Mississippi is what Bull describes as a "federation" or cluster of multiple 8-way Pegasus machines, which will be based on **PowerPC 620 processors**. The systems will have shared memory, be connected via Bull's own high-speed **Interconnect System Link**, and a single system image will be presented using **Oracle Parallel Server**. **Mississippi will be targeted at the commercial mainframe market and perform at up to 7,000 tps, competing with IBM's own PowerParallel servers.**

Convex Computer Corp will finally unveil its long-in-the-making **Exemplar Precision Architecture RISC-based scalable parallel machine** this week, what it is calling a multipurpose parallel computing platform

Legent Corp has kicked off **Partners Plus**, its first channel marketing program aimed at resellers, integrators and specialized software developers.

Novell Inc is taking another page out of **Microsoft Corp's** book and acting very snooty about what it'll port to these days. Don't bother to knock on their door for either **UnixWare** or **NetWare** unless you've got a million units in the field. **IBM** learned as much when it tried to get **NetWare** for the **PowerPC**.

Meanwhile **Snowbird**, aka **UnixWare 2.0**, the **NetWare** and **MP-enabled** system has been pushed back to year-end: is **Novell** expecting a little too much when it says it'll snow on **Chicago** and **Cairo**?

Well, it took a bit of doing but we got someone at **IBM** (unofficially of course) to confirm there is such a thing as a **615 PowerPC** chip on the drawing board. That's the part that's supposed to have the built-in **iAPX-86** emulation but there's nothing in silicon yet.

Looks like **AST Research** can't find much use for **RISC**. *Electronic News* quotes **AST** president and CEO **Safi Qureshey** as saying, "From **AST's** point of view, we have not seen to date, a compelling business reason for **AST** to commit its resources in the **RISC** architecture area - whether it is **Mips**, **Alpha** or whether it is the **PowerPC**."

Toshiba Corp top brass are reported to be having intense discussions on the **PowerPC** and software issues. It could use the thing in a line of servers.

We're expecting **Massachusetts** start-up **Bridge Builder Technologies Inc**, with its object development environment **Contexture**, to be acquired any day now by one of the tools vendors.

We hear the real reason **Echo Logic** got folded back into **AT&T Bell Labs (UX No 476)** is because **Apple Computer Inc** ceased the month-to-month funding of its **FlashPort** technology.

Hewlett-Packard Co has cut prices up to 20% on its mid-range **HP 9000/700** workstations: the **715/50** is now \$12,905, the **715/75** is \$15,605.

Data General Corp, which has said before it wants to put **DG/UX** on multiple chip sets, wants them to be commodity pieces that also include serious **SMP** support like the **88110** has. So it's thinking maybe **Intel** with the **P6**, **Mips** and **PowerPC** once it gets to the **620**.

IBM Corp chief **Lou Gerstner** has reportedly developed a vision for the company. At least that's what they're telling financial analysts who have been invited to come and hear all about it on **Thursday March 24**.

IBM Corp paid former chairman **John Akers** off with more than \$3m cash, plus salary, pension, stock options and a bonus, the *Wall Street Journal* reports: at the time **IBM** indicated that no such pay-off had been made to **Akers**.

NeXT Computer Inc says it will announce its new **Enterprise Objects Framework**, its distributed technology for constructing business objects that utilize industry-standard relational databases to provide persistent storage, at the rechristened **NeXTstep Expo** in **San Francisco** **June 20-23**. **NeXT** chairman **Steve Jobs** will give one keynote and his new partner **Sun Microsystems Inc** chief **Scott McNealy** will give the other.

No matter how **Sun Microsystems Inc** CEO **Scott McNealy** may spout off about the so-called **SuperHighway**, sources say the company's spanking new chief technology officer **Eric Schmidt** is quietly starting an **Internet** company inside **Sun**. It would apparently productise the wide area network technology **Sun** created for its own purposes making secure use of **Internet-derived** information and keeping out the viruses and worms **Internet** is famous for.

Well you may ask why **Sun Microsystems Inc's** chip arm, the **Sparc Technology Business**, hasn't officially been declared a planet yet. Well, the answer lies in its name which the lawyers are running through the system to see if it treads on anyone's toes.

SunSoft Inc is thought to be readying a new systems administration environment for use with the next **Solaris 2.4** release under **Motif**: it will include a new version of the **AdminTool** services and more.

Sequent Computer Systems Inc is to take control of its **Japanese** destiny, buying the 51% of **Pana-Sequent Inc** currently held by **Matsushita Electric Industrial Co**, and renaming it **Sequent Computers Japan Inc**.

UniForum Argentina is in **Buenos Aires** between **April 26-29**. + 541 319 6060 - ask for **Andy Pino**.

We got our wires crossed last week when we said **Gateway 2000** was lining up a **PowerPC** system (**UX No 477**): we meant **Pentium** of course.

Distributed Computing Environment support is due on **IBM Corp's** expected **MVS/ESA OpenEdition 1.0** **Posix-compatible** operating system in **April (UX No 475)**: **DCE** for **OS/400** and **VM** will follow later in the year.

With **ICL Plc** now labelling its new **Team-Server** and **SuperServer** boxes **Fujitsu-ICL**, it looks at a glance as though the **UK** firm's **Japanese** parent is beginning to seek a higher visibility within the company. However **ICL** says the branding is its own idea to try and attract more sales in markets where the **ICL** name isn't well-known but the **Fujitsu** is. In our experience **ICL** needs all the help it can get to tell its story outside of the **UK**.

Reportedly the overhaul of **Open Software Foundation** expected by **UniForum** next week could see a third of **OSF's** 300 staff axed and much of its software development activities curtailed, although much is still undecided. With a deadline of **8.15am** **Weds 23rd** already set - when **OSF** has timetabled its conference - it looks like much of the horsetrading will take place as executives congregate in **San Francisco** in the 24 hours before the show opens.

NEC Corp described a **500MHz 32-bit CMOS RISC** chip prototype it has developed at the **International Solid State Circuit Conference**, claiming it's the world's fastest **RISC** chip: it says it consumes only one-thirtieth of the power of existing **RISCs**, and reckons that it would be great for parallel processing - but no-one seems to know what architecture it implements - is it compatible with anything or totally new?

Gossip suggests that **Mips Technologies Inc** now has a **200MHz** version of **R4400 RISC** in the labs, rated at **125 SPECint92 (UX No 464)**.

Matsushita Electric Industrial Co has cut a preliminary **OEM** agreement with **IBM Japan Ltd** for **PowerPC-based** workstations which it will market under the **Panasonic** label: the company currently takes **Sparc** and **Sparc** clone workstations **OEM** - and controls what's left of **Boulder, Colorado-based Sparcsystems** builder **Solbourne Computer Inc**.

For all you **PowerPC** lovers and haters out there, our new sister publication, *PowerPC News*, will make its debut on the **Internet** this week. For a free subscription, simply send your e-mail to **add@power.globalnews.com** - no further message is needed.

JSB Computer Systems Ltd has returned to its roots: its **HQ** will be transferred from **Macclesfield, Cheshire** to a larger site in **Congleton, Cheshire**, where it originally started life in **1981**.

Hurwitz Consulting Group has published **Client/Server Development Tools: A Competitive Analysis Report**, covering 30 key tools and technologies and priced at \$1,995.

The industry's going to lose the last of its red-hot bachelors. **Sun's** **Scott McNealy**, who's had trouble saying the "M" word in more ways than one, is hoping to plight his troth **Labor Day** weekend. He says maybe he and **Susan**, his intended, might hold the ceremony on an island but "it'd be **Alcatraz** because this is a life sentence."

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SUN'S WAY IS WINNING IN PLANNED INDUSTRY RE-ORG

Sweet irony. This time around, Hewlett-Packard Co executives can't take advantage of the naivety of the big business books and claim sole responsibility for reconstructing the Unix industry like a year ago with COSE. This Wednesday March 23, when the vanishing Open Software Foundation gets up to outline how it's going to disappear, the script it's reading from will have been largely written by none other than its arch-enemy Sun Microsystems Inc, the company it was born to oppose. In casting about for a way to disassemble itself, OSF sponsors were persuaded to adopt, as an exit strategy, a plan ostensibly put together last April for NewOrg by SunSoft Inc's chief technology officer Rob Gingell under the direction of Sun CEO Scott McNealy. This document, redrafted and now dated March 11, 1994, fell into press hands last week along with a copy of the Org'94 proposal based on it that was handed up to the OSF board for a vote on February 3 by the OSF Committee on Organisation (OSF COO). The OSF board is understood to have given it the go-ahead and a somewhat modified proposal, it is thought, was circulating amongst industry executives last week in an attempt at consensus. As a result it is believed that Sun, the key recruitment target along with its trailing retinue of companies like Fujitsu Ltd and Novell Inc, will join the new OSF although it won't be OSF for long. Although there's no time before Wednesday morning to run a trademark search and see what's unencumbered, at the first board meeting after the reorganisation, OSF's name will be changed. (There's said to be a list of some 20 possible names). OSF sponsors, IBM, HP and DEC primarily, will doubtless try to put a happy face on this week's events but underneath they are now believed to view OSF as a beast that long ago slipped their leash, having devoured at least \$200m in return for Motif plus other bits and bobs of technology. The new organisation, whatever it is called and however the OSF sponsors try to position it, implies that there was something seriously wrong with the old one to begin with. The new organisation is expected to house COSE and OSF bylaws, which will apparently be rewritten along Sun principles to separate specification from implementation. OSF head count will be chopped severely, perhaps to around 40 technical people. New management will probably be recruited and all development halted by December 31 when the new business model kicks in fully. Technology will be developed on an "a la carte" basis under the new scheme and subcontracted outside. Existing OSF technologies will die off unless companies intervene to sponsor them under the new business model. (Although they talk of meeting prior commitments, even DEC, the only OSF'er to buy into the OSF/1 operating system, seems to think only Motif and perhaps DCE are assured an afterlife.) Most importantly Org'94 will facilitate multiple implementations of a single specification. Supposedly new Org'94 members would somehow be insulated against the cost of OSF's prior commitments and accrued liabilities - there is still the matter of the Addamax antitrust action to resolve - although it is unclear how they can prevent it from following OSF even in its reconstituted form. *More details page 4.*

SUN BUYS OUT UNIX SOURCE CODE FROM NOVELL FOR \$82.5M

Sun Microsystems Inc last week tore away the last vestige of any pretence Novell Inc still might harbour that it is the final repository of Unix by buying out its Unix royalty stream from Novell for \$82.5m, as anticipated here two months ago to the day (UX No 470). The pact, signed St Patrick's Day morning, was reportedly delayed by haggling over terms and price and even five days before seemed mired down. The deal, according to Sun CEO Scott McNealy, makes Sun for the first time a full-fledged software company, one of that tiny band that includes Microsoft, IBM and Novell. The voluminous documents and Byzantine contracts between Sun and AT&T, McNealy quipped, will make a rare "bonfire." The buy-out gives Sun unencumbered rights to Solaris and will make it easier for SunSoft to assume AT&T's discarded mantle and relicense Solaris to other vendors. SunSoft, out from under what it considered onerous restrictions dating back to its 1987 agreement with AT&T, can finally become master of its own pricing schedule, president Ed Zander said, expecting that a pricing analysis could take six months but result in a scheme enticing to potential OEMs and likely to produce incremental volumes, especially on its Intel product. Although SunSoft has a non Unix-based object-oriented operating environment in the works called Spring that should start rolling out this year, the Novell deal still looms large because, as Zander computes, based on experience, it takes five to seven years to move an installed base to a new operating system. As part of the agreement, SunSoft will license Novell's NetWare client, server-based NetWare for Unix and IPX/SPX protocol. The deal relieves Sun of the burden of paying royalties without so much as receiving a bug fix in return, a situation equally true, Zander said, for HP, IBM, DEC and SGI. "At least from Microsoft," he said in backhanded praise of his worst enemy, "you get code." In a week replete with irony, it was noted that the Novell-Sun pact, coupled with the pending demise of the Open Software Foundation, put Sun in approximately the same position it was in six or seven years ago when AT&T bought a piece of it and Sun was all puffed up about how it was going to rule the Unix roost. "If you look at it that way," McNealy noted, "then we bought out the royalty stream with the money AT&T paid us."

IBM'S POWER2 PARALLELS

IBM Corp's PowerParallel system announcement at the CeBit Hannover Fair was decidedly off-key last week, as the firm effectively "previewed" the systems without much substantive detail in Germany, intending to flesh the things out for the US press at UniForum this week. The original SP1 PowerParallel machine unveiled last February scaled up to 64 62.5MHz Power RISCs - the new systems will go to 128 Power or Power2s mixed as wide and thin nodes. As well as Unix boxes, there will be, as expected, two MVS-based S/390 parallel systems, the S/390 Transaction Server and S/390 Query Parallel Server, which will interoperate with the Unix systems. The systems come with IBM's high-performance switch (HPS) internal communication system and adapter, tailored for database and on-line transaction processing and scientific and technical applications requiring hundreds of GFLOPS performance. As anticipated with Power2 (UX No 475), compute power for the parallels will be twice the current SP1's 125 MFLOPS, the architecture supports four times its 40Mbps bandwidth and eight times the memory. As servers, the systems will connect to Escon, Token Ring, HIPPI, high performance subsystems adapter, SCSI-2 fast/wide differential adapter/A and differential high performance external I/O controllers via new Micro Channel adapters. Storage options include the 9333 drive, 7135 RAID, 9570 array and 3490 tape array for up to 31Tb. System software includes enhanced systems management, full versions of AIX on each node, a parallel development environment and 12 new applications including the Ingres database, SAP R/3 and Livermore Software's car crash simulator, bringing the total number available to 63. IBM showed a 16-way system running DB2/6000 and CICS/6000 on 8 nodes and weather forecasting, the car crash simulator and fluid dynamics applications on the other 8; and a 12-way box with Oracle7 Parallel database and SAP R/3. IBM says it has shipped more than 80 SP1s worldwide, over half of them in Europe.

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HEWLETT-PACKARD STORMS INTO FIRST PLACE AS UNIX KING - DATAQUEST

Hewlett-Packard Co is the world number one vendor of Unix systems on Dataquest's definition. Dun & Bradstreet Corp's research house in San Jose reckons that in 1993, the worldwide Unix-based systems market grew by more than \$2,000m or 11.6% last year. It reckons that the total market was \$19,623m, and that Hewlett-Packard took 19.5%. IBM Corp is a distant third, and Digital Equipment Corp is slipping so fast that it is in danger of being pipped by Silicon Graphics Inc this year. The figures are preliminary, and are subject to very substantial revision before final figures appear.

**Top Five Unix Systems Vendors by Revenue
(Millions of US Dollars)**

Company	1993 Revenue	Market Share %	1992 Revenue	Market Share %
HP	3,834.5	19.5	2,871.2	16.3
Sun	3,588.9	18.2	3,082.3	17.5
IBM	2,307.1	11.8	1,818.8	10.3
DEC	1,098.4	5.6	1,009.1	5.7
SGI	1,087.7	5.5	799.5	4.5
Others	7,707.1	39.4	7,995.3	45.7
Total	19,623.7	100.0	17,576.2	100.0

CA MANUFACTURING SOFTWARE UP ON HP-UX

Computer Associates Inc is putting its CA-CAS mainframe manufacturing software up on Hewlett-Packard Co Unix - CA-CAS/Unix is for commercial sites, CA-CAS/Unix AD is for the aerospace and defence industries. Users can run mainframe CA-CAS MRPII applications on the CA-CAS database which is now hosted on HP-UX servers and front-ended by PCs. The firm's CA-Unicenter systems management package is now also up on HP's model 700 workstation, whilst IBM France is to distribute CA-Unicenter for AIX on RS/6000s and Data General Corp is to sell and support CA-Unicenter on its AViiONs.

PARSYS HAS DESKTOP T9000 PARALLEL TRANSPUTER LINES

Parsys Ltd, London NW, had its new SN9500 and SN9400 desktop massively parallel machines at Hannover, five days before it rolled out the SN2000 model at the same show (UX No 478). The SN9500 starts at £17,500 for four processors, and can be used with up to 32 HTRAM Transputer modules, each containing a T9000 processor. HTRAMS are a de facto standard for Transputer modules. Rated at up to 6,400 MIPS, the machine can be hooked up to an optional Sparc-based host and comes with up to 2Gb of memory, and uses up to four motherboards which can take up to eight Size 4 or Size 2 HTRAMS each. The HTRAMS connect to four 100M-byte per second C104 switches in the machine's backplane. Parsys is also working on specialised HTRAMS for Ethernet and SCSI. The machines run the Inmos Ltd development tool sets, the ACE parallel development system, and the Idris Unix like, which can act as a Posix-compliant Unix system for recompiled applications. The firm will have Oracle running on the unit within a few months. The baby SN9400 is a desktop system that links to a personal computer or workstation front end. The machine takes up to 12 HTRAMS for a peak performance of 2,400 MIPS and 300 MFLOPS. Like the 9500, it will take Parsys' own SCSI and Ethernet HTRAMS and will run the same software. Starting at £3,375 for one processor with 4Mb memory, it can also be networked.

ADOBE TO GROW HORIZONTALLY WITH \$525m ALDUS ACQUISITION

Mountain View, California-based Adobe Systems Inc, which overwhelmingly dominates the electronic typeface and document creation business with its PostScript page description language, has now decided that the most promising avenue for further expansion is to grow horizontally and to offer its own desktop publishing products as well. Accordingly, it has proposed marriage to Pagemaker developer Aldus Corp, and has definitive agreement to acquire the Seattle company in an exchange of shares valuing it at about \$525m at the current price. The combination will create a company with annual sales of over \$500m - Adobe will exchange 1.15 of its own shares for each of the 13.8m Aldus out. Paul Brainerd, president, founder and major shareholder in Aldus has agreed to vote his shares in favour of the merger and has given Adobe an irrevocable proxy for all of his Aldus shares. The two also agreed to payment of a break-up fee if the transaction should not be completed. They reckon that the combined company will have "the largest, most respected typeface library", the world's "top-selling" page layout software, and "best-of-breed illustration, photo-editing, presentation, image retrieval and video-production applications". John Warnock, Adobe chairman and chief executive, will take those posts at the merged company. Adobe president and chief operating officer Chuck Geschke will retain those positions with the new company. Brainerd and another Aldus director will become directors of the new company on completion of the merger. The merged company will consist of three operating divisions: Systems Products, Application Products and Consumer Products. The combined name has not yet been decided. The two had revenues last year of \$520m with more than 2,100 employees located throughout the world - last fiscal, Adobe did \$57m net on sales of \$313m and Aldus net profit of \$9.5m on sales of \$207m.

WHAT IBM WILL PAY GERSTNER

You have to laugh or you'd cry, although the widows and orphans that hold IBM Corp shares have every reason to weep - IBM has finally made clear exactly how much it is compensating Louis Gerstner for the ignominy that will befall him if he fails to turn the company around, and a more blatant leftover from the Gordon Gekko "greed is good" 1980s would be hard to find. The total includes an annual salary of \$2m, an annual incentive target of at least \$1.5m with a minimum 1993 award of at least \$1.25m. A long-term performance incentive with a target opportunity of at least \$500,000; a one time payment of \$4.29m for the value of benefits forfeited as a result of resignation. \$160,130 for reimbursement of taxes. a 10-year stock option for 500,000 IBM shares at \$47.88; an annual pension at 60 of about \$1.275m. A payment of the difference between the market price and and \$8.125 for each of 3.2m shares of RJR Nabisco stock on which Mr Gerstner holds through employment at RJR Nabisco, amounting to something in the region of \$2.24m as at February prices. \$637,500 from the 300,000 RJR shares he held as collateral for a loan to buy them. And in the event of termination without cause or due to a change in control in IBM, a payment of 36 months salary plus pro rata incentive payments and other specific benefits.

TANDEM LAUNCHES KEY PARALLEL SOFTWARE FOR ITS HIMALAYAS

Tandem Computers Inc has now come out with some basic system software for its parallel Himalaya machines, which scale to as many as 4,000 MIPS Technologies Inc R-series processors: NonStop SQL/MP, NonStop Transaction Services/MP, NonStop Transaction Manager/MP and NonStop ODBC Server. NonStop SQL/MP is an SQL-compliant database engine designed to support "massive" databases and high volumes of complex queries against them. Transaction Services/MP and Transaction Manager/MP, set for the fourth quarter, are designed to form a parallel processing transaction engine that will ensure that workloads are balanced between hundreds of processors. ODBC Server, available now, is designed to provide support for off-the-shelf client-server application development tools, but was not priced. Tandem also has an agreement with Micro Focus Plc under which it will deliver an IBM Corp CICS-compatible personality for its NonStop TS/MP transaction engine.

APPLE MAC FINDER, A/UX APIs TO FEATURE IN POWEROPEN ENVIRONMENT

Apple Computer Inc has submitted its Macintosh Finder and A/UX 3.1 application programming interfaces to the PowerOpen Association for inclusion in the PowerOpen Environment specification, and plans a line of PowerOpen-compliant servers for the end of the year. This means A/UX will effectively be rolled into AIX by year-end, and developers will be able to build hybrid AIX-A/UX applications that use either Motif or Macintosh front-ends. The new AWS 95s are expected to be four and eight-way machines based on the PowerPC 604, but all PowerPC-based Macintosh clients will continue to run System 7 - Apple has no intention of making these boxes PowerOpen-compliant. Meanwhile, the Association says it is on track to release its draft PowerOpen specification - internally called version 0.9 - in April, and expects version 1.0 to follow in late June. It reckons version 0.9 is 95% complete now, but amendments will be made based on developers' input. PowerOpen will begin certifying vendors' operating systems in September, and should have an application certification process in place by October - it expects to have about 50 packages certified by year-end.

A+ IS FIRST FRUIT OF SUN-AMDAHL ALLIANCE

The recent Sun-Amdahl Corp OEM alliance is showing first fruit. Amdahl said last week it was making available its A+ family of data center-quality software and middleware to support mission-critical applications in a large-scale server environment. Amdahl is architecting extensions to Sun's Solaris operating system which will be the foundation of the A+ suite of server middleware enhancing its security, performance and availability. The new edition of Solaris, exploiting the Sparc V8 multiprocessor architecture, is designed specifically for large-scale database management systems. It is being tailored to optimise response time, capacity and throughput on SparcCenter 2000 and SparcServer 1000 platforms. As part of the A+ family, Amdahl announced availability of pieces of its Enterprise File Manager, including A+UniTree and A+User Access tools for managing data across distributed environments, as available on Solaris. In addition, it has also put A-UMA, its implementation of the Universal Measurement Architecture for reporting performance data, on Solaris along with \$24,000 OpenTune, a Motif-based X-client performance monitor which displays the UMA data. OpenTune is due in May; the Enterprise File Management is due this month starting from \$10,000. Sun could price list the software; Amdahl will sell it.

COMPUWARE MERGES WITH DUTCH SOFTWARE HOUSE UNIFACE

Mainframe diagnostic software house, Compuware Corp is stepping up its move into the open systems world announcing a merger with Unix software developer, Uniface Holding B.V, Amsterdam, Netherlands last week. Under the terms of the agreement and final approval of the transaction, the Cupertino, California-based company will issue 8,000,000 shares of its common stock to the shareholders of privately held Uniface. Compuware has valued the firm at \$280m, on an annual turnover of \$58m. Uniface will operate as a wholly owned subsidiary and no organisational changes are planned, say the two firms. Uniface has 110,000 licensees, 1,800 customers and 12 subsidiaries worldwide. Uniface was expected to file for a public offering this year, but according to Chris King, Uniface's UK managing director, the company was advised that a partnership with a large corporate company would also be lucrative. "Compuware offered us more incentives strategically and better R&D investment plans for the future. The deal also opens up the large corporate market for us. And for Compuware we provide them with a more complete client/server product portfolio," says King. Uniface, which retains its name, will become Compuware's open systems division and be responsible for developing and marketing its own software and EcoSystems' EcoSphere framework and EcoTools products. Compuware acquired EcoSystems Inc in a similar deal last year (UX No 448).

CONVEX HOPES TO BREAK PARALLEL BARRIER WITH HP-UX

The drag on sales of massively parallel systems is most often attributed to the lack of a machine that is both hardware- and software-compatible with a large applications base. Now Convex Computer Corp is attempting to crack that barrier with its much-anticipated Exemplar SPP scalable parallel processor unveiled last week. Developed in conjunction with Japanese partner, steelmaker NKK Corp, it uses up to 128 100MHz Hewlett-Packard Co Precision Architecture 7100 RISCs and runs a Mach OSF/1 microkernel operating system with a layer providing support for applications running on HP's HP-UX Unix. SPP-UX also provides source compatibility for applications up on Convex's C series minisupercomputers under ConvexOS. The operating system layer allows user-level and application interfaces to run HP/UX binary executables - that essentially delivers HP-UX middleware, including Motif, X Windows, OSF Distributed Computing Environment and commands and libraries on Exemplar. HP-UX applications can run without modification with a re-compile, but need to be re-written if they are to take advantage of the systems' parallelism. The SPP/1000CD - compact design - is a server that scales from two to 16 processors and delivers up to 3.2 GFLOPS performance. The SPP1000/XA - extended architecture - is offered with from eight to 128 CPUs delivering up to 25 GFLOPS, about three times the performance of Convex's traditional vector supercomputers.

Building blocks

The SPP1000 includes Convex's two-level Toroidal Interconnect system which the Richardson, Texas firm says eliminates the bottlenecks that often limit scalability. A first CTI level connects shared memory, processors and I/O components in the building blocks. The second level connects the nodes, retaining, Convex says, a consistent view of memory for all processors. It also provides CTIcache, an interconnect caching system. Each PA chip configured comes with 1Mb data and 1Mb instruction cache. There's up to 32Gb memory distributed between the nodes, which is accessible to all processors. The I/O system transfers data at up to 4Gbps and supports up to 900Gb disk. Each node has a dedicated 250Mbps access to the I/O system. The SPP1000/CD goes from \$145,000 to \$750,000 - the SPP1000/XA is from \$550,000 to \$8m. They're being sold by Convex and HP from the second half of the year - HP hopes to market its workstations as front-ends to Exemplar. Convex sees discrete manufacturing, government and defence, computational chemistry, oil exploration and production and biochemical research and development as potential markets. Convex and HP signed a wide-ranging technology sharing agreement leading to Exemplar back in March 1992, when HP took a 5% stake in the firm. Convex hopes Exemplar, of which it has sold one so far, can revive its flagging fortunes - the firm reported a net loss of \$61.3m in 1993, with revenues down 16.7% at \$193.1m. Convex claims an installed base of some 1,300 machines and says new C-3 series minisupers will be announced later this year.

SANTA CRUZ JOINS TOMEN BECAUSE IT HAD BEEN DOING SO WELL WITH IXI

Santa Cruz Operation Inc is putting up ¥6m of the ¥10m capital being provided for its joint venture with Tomen Co, SCO KK, that will sell SCO's Unix system software products in Japan from April 1. Tomen Electronics and Tomen Information Systems are putting up the other ¥4m. The venture rises out of the successful distributorship IXI Ltd - now an SCO subsidiary - established with Tomen Electronics Co for the sale of its products in Japan two years ago. Tomen is already an SCO stockholder by dint of its investment in IXI, which was converted to SCO stock when the California firm acquired IXI last year. SCO KK will operate in parallel with the IXI-Tomen outlet for the time being and starts life with 10 employees. An engineering group there will be responsible for localisation of all SCO products. SCO has existing agreements with several other Japanese distributors, OEMs and systems integrators, including NEC Corp, which has localised a version of Open Desktop 3.0 for its Intel PC9800 line. SCO currently does half its business in the US and half in Europe, with negligible sales elsewhere. Tomen hopes the unit will generate \$136m from hardware, software and integration sales.

HOW ORG'94 WILL ORGANISE

Org'94 - see front page - would get a handle on costs by separating infrastructure funding from project funding. Executive sponsors, who get a board seat, would pay \$1m a year, sponsors \$200,000 for a fifth of a director and others \$5,000 to \$25,000 depending on who they are. The infamous OSF Request For Technology (RFT) scheme would be retained, augmented by what is called a "Pre-Structured Technology (PST) process." It is described as a group of companies taking the initiative to propose a complete package including a solution to the identified user requirements. PST would require that specifications be put into the public domain in a timely fashion, ensure that documented interfaces and test suites needed for submission to X/Open are available, guarantee other companies the right to buy project sponsor privileges, guarantee access to source implementation for developing derivative work, ensure equitable early access to source implementations and require that sponsored source implementations be available to all at a fair market-based price. The OSF Research Institute will remain unchanged funded largely by the US government although DEC last week was already talking about getting its future microkernel technology not from the Research Institute but direct from Carnegie-Mellon. Projects, which would require board approval, would have to be aimed at increasing portability, interoperability and scalability to be okayed. New projects would need a two-thirds vote of the board, follow-ons one-third. Project sponsorship is supposed to buy the underwriters licensing rights at reduced prices, but is not supposed to affect technology selections. Licence fees would be used to meet royalty and other expenses and then distributed to sponsors proportionate to their investment.

Royalty credits

Prior investments would apparently be partially reimbursed where possible in the form of royalty credits. Special Interest Groups would be encouraged to be more active and users and ISVs given representation on each Project Steering Committee, the new governance body for each Org'94 project while with having a director-at-large on the board. Large users and ISVs will be encouraged to become Org'94 sponsors or sponsor specific projects. The Org'94 proposal given to the OSF board February 3 speaks of a migration to the new business model. Motif would move to the new model in August, DCE in November after the release of DCE 1.1, DME immediately and OSF/1 in June after the release of OSF/1 1.3. The OSF restructuring has the same stench of big-vendor smoke-filled rooms about it as previous deals of this nature have had. But broader based action would probably prove impossible to manage.

Team sheet

The folks on the so-called OSF Committee on Organization included Jim Bell (HP), Marty Ford (OSF), Ira Goldstein (OSF), Roger Gourd (OSF), Tsuneaki Hatta (Hitachi), Jeanette Horan (OSF), Eileen Iverhard (OSF), Doug Johnson (HP), Glenn Johnson (DEC), Mike Johnson, Georges Lepicard (Bull), Jon Newman (IBM), Ron Paglierani (OSF), Mike Saranga (Informix), Steve Savignano (DEC), David Tory (OSF), Donna VanFleet (IBM), Buzz Walker (HP) and Kaoru Yasui (Hitachi) not to mention their lawyers and press agents. They built on the work on the NewOrg Organizing Committee (NOC) that we now come to find out included Gary Andrews (IBM), Jeanne Bac-cash (then Novell), Jim Bell (HP), Michael Bhalla (IBM), Tim Davis (NCR), Mike DeNicola (Fujitsu), Rob Gingell (Sun), Tsuneaki Hatta (Hitachi), Doug Johnson (HP), Glenn Johnson (DEC), Georges Lepicard (Bull), Hirokazu Narita (Fujitsu), Jon Newman (IBM), Steve Savignano (DEC), Michael Sears (Sun), Lew Shannon (NCR), Rajiv Sinha (Unisys), Peter Stuart (ICL), Donna VanFleet (IBM), Kaoru Yasui (Hitachi) and most fittingly Armando Stettner, now at Sun, who when he was at DEC got us all into this by proposing the Hamilton Group that eventually became OSF.

AMDAHL UTS UNIX ON RIVAL MAINFRAMES

Amdahl Corp is finally officially making its UTS native implementation of Unix System V available on all System 370- and System 390-compatible mainframes, effectively all mainframes built by IBM Corp, Hitachi Ltd - and sold by Compares Informationssysteme AG as well as Hitachi Data Systems - and Fujitsu Ltd. The implementation, which has always run on 370-type machines although Amdahl was reluctant to support it on other machines than its own. UTS includes native 3270 support and channel attached SNA and pricing is usage-based - charges are tied to the portion of the mainframe dedicated to the UTS system and any optional features installed. Amdahl sees a market for it from mainframe users that want to migrate to open systems over time.

SEQUENT OFFERS IT PLANNING SERVICE

Following its recent restructuring, Sequent Computer Systems Inc's newly-formed enterprise division is to begin offering an Enterprise Architecture Planning service to help bring users' IT strategies in line with business objectives. The service includes Sequent's Cost/Benefit 2000 cost/benefit analysis which aims to determine the value of IT investments and link them to business goals. Meanwhile, Sequent will have more to say about the planned revamp of its Unix and Windows NT lines next month (UX No 475) - when a new version of its Dyntax/OS Unix will also be announced (UX No 458).

AGE PUTS IMAGING INTO PC X SERVERS

As expected (UX No 467), San Diego, California-based AGE Logic Inc has released a version of its XoftWare/32 for Windows PC X server with the XIEv5.0 X Imaging Extension: prices go from \$600, upgrades are \$300. AGE is also now offering Serial ConneXion, a serial-X Windows technology that can transmit compressed data over Internet Protocol lines for use with its products - the first, a serial version of XoftWare/32 for Windows is now in beta, versions for Windows NT and OS/2 are due next quarter. The serial Windows product will be \$250, upgrades are \$100 - an AGE serial host connection is required for each host system, which costs \$125. +1 619 550 3112

FUJITSU, TOSHIBA BACK GENERAL MAGIC

Fujitsu Ltd and Toshiba Corp separately announced that they are to join the investors in Apple Computer Inc's General Magic Inc spin-out, the company that developed the Magic Cap object-oriented graphical operating environment and TeleScript scripting language for searching on-line sources, particularly from hand-held devices. Fujitsu plans to start a new on-line service using the General Magic software within the next two years. Investors in General Magic include AT&T Co, Matsushita Electric Industrial Co, Motorola Inc, Nippon Telegraph & Telephone Corp, Sony Corp, and Philips Electronics NV.

OPENVISION RAISES NEW FUNDING

OpenVision Inc, the Pleasanton, California systems management outfit has raised a further \$28.8m through the sale of preferred stock. The firm claims 200 customers since it started trading on April 1993. From now, large OpenVision accounts get to be on the firm's newly-formed Strategic Alliance Council, with access to the board, executive committees and product planning and operations groups: First Boston Bank, Wells Fargo Bank and GTE are first on the Council. Meanwhile, New York city-based Integration Consortium Inc is to resell OpenVision Inc's line of systems management and planning software, which now numbers some 26 products and services. +1 212 972 4266

QUORUM'S MAC-ON-RISC NOW UP ON HP-UX

Quorum Software Systems Inc now has its Equal 1.3 Mac-on-RISC application adapter riding on HP PA-RISC machines, its third port after Sun and Silicon Graphics. HP will be bundling the software on Power On CD along with other "try me" software and data sheets. The Equal stuff on the CD will be a working version that customers of the HP 9000 Model 700 workstations can play with for 30 days. It is bundled with Mac editions of Microsoft's Word and Excel programs. With Quorum, HP now has most of the emulators available to it including Insignia's SoftPC, Wabi and Apple's new Macintosh Application Environment (see page 5). Quorum of course is the only one that can claim to be Microsoft-endorsed. HP customer can transfer existing Windows or Mac licenses of Word and Excel and get a Unix upgrade for \$399 each or \$695 for both. New users pay \$599 for Word or \$699 for Excel or \$1,295 for both.

MAINSOFT INKS MICROSOFT DEAL

Windows-to-Unix house MainSoft Corp has now signed that licence agreement with Microsoft Corp for Windows 3.1 libraries that gives it the right to use Windows source code in its MainWin Cross Development Kit that allows C and C++ Windows applications be ported to Sun, HP, IBM and SGI workstations (UX No 465). The agreement will allow MainSoft to offer future versions of Windows, plus technology like OLE 2.0 on Unix platforms. MainWin is an implementation of the Windows API sitting on top of Xlib under Unix, not an emulation layer.

SUN OFFERS PLUTO RAID FOR ITS SPARCS

Sun Microsystems Computer Corp last week announced Pluto, its first RAID subsystems, designed internally from the ground-up. The company believes the new high-availability "high-volume" technology will give its servers impetus in the commercial space, expecting it to feature on "most" of its SparcCenter 2000s and SparcServer 1000s as well as its SparcServer 10s. Sun says it has sold a thousand 2000s and twenty-five hundred 1000s to date and apparently expects the majority of them to be retro-fitted. Pluto, which Sun promised to sell in the "thousands" this calendar year, will be sold only on Sun machines but it will allow Sun to try to capture RAID business that would go to Data General Corp's CLARiiON Unit and BoxHill Corp as well as make its systems more appealing. Pluto marks the industry's first use a fast Fiber Channel interface, and is officially called the SparcStorage Array Model 100 Series reportedly capable of storing 31.5Gb of data, roughly the equivalent of 16m printed pages, on a maximum 30 high-performance 1.05Gb 20Mb/sec 3.5-inch SCSI disks. The system includes a tightly integrated GUI-based SparcStorage Volume Manager, on-line data administration and configuration software. The unit is highly modular, easy-to-manage and customer-maintainable. It uses disks incorporating the SCSI single-connector design that Sun co-developed with drive manufacturers. The Model 100 is currently controlled by a 40MHz Microsparc chip and six new intelligent RISC-based SCSI processors and features 4Mb of non-volatile RAM for fast write response and caching. It provides RAID levels 1 (mirroring), 0+1 (mirroring optimised stripes) and 5 (striping with parity), for a claimed 99.99% uptime per array. The new full duplex, 25Mb/sec ANSI-standard Fiber Channel interface allows arrays to be 1.25 miles (2km) apart for disaster-resilient configurations. The subsystem, which fits in a SparcServer 1000 box, also allows for multiple host connections. Sun claims the subsystem is highly scalable thanks to an array processor that can operate at 2,000+ I/O operations per second for data-intensive random access applications such as database, file service and OLTP and over 15Mb/sec sustained data rate for sequential applications such as imaging, multimedia and video.

SCSI will go away

The Fiber Channel interface is more powerful than SCSI and will soon be upgradeable to 50/100Mb/sec. (Sun reckons SCSI will "go away" in the 1996-97 timeframe.) Sun has priced the stuff very aggressively, claiming the industry's lowest dollar per megabyte at \$1.62 for a full system. Pricing starts at \$24,900 for a 6.3Gb configuration and goes to \$50,900 list for a fully loaded 31.5Gb unit. The Model 100t, compatible with Solaris 2.3, will be available in May, with RAID level 5 functionality following in the third quarter as a free upgrade. A rack-mountable Model 200, supporting up to 72 2.9Gb 5.25-inch drives per SBus slot, will be available in the fall. Sun reckons it will be able to store terabytes in short order. In the second half Sun expects to be able to offer continuous availability for Oracle servers followed by Sybase and Informix in 1995.

HAL OFFERS GRAPHICAL DCE MANAGER

Getting (mostly incompatible) OSF Distributed Computing Environment implementations talking to each other and providing software to make DCE's command-line-based tools easier to use is becoming all the rage. Hewlett-Packard Co recently unveiled a more friendly front-end to DCE (UX No 472) - now HaL Computer Systems's Austin, Texas-based HaL Software Systems has a new set of graphical administration tools for DCE that run under Motif. HaL says DCE Cell Manager Tools enables administrators to manage distributed networks centrally because it spans the range of DCE admin facilities and combines their functions into a single tool set. The set includes Namespace Manager, for viewing, searching and editing cell directory namespaces; Configuration Manager, to verify the status of nodes in a DCE cell and perform operations on hosts; and User and Group Security Manager, which allows the DCE security registry to be maintained. HaL says the tools are the first of a planned series of DCE applications and can be used with DCE 1.0.x on SunOS and Solaris from the end of next quarter - on AIX and other platforms from the fourth quarter. Two versions are available: DCE Manager Lite is targeted at development environments with cells of 10 clients or less and is \$5,000 per copy. Cell Manager is for production environments and is \$15,000 per copy. +1 408 379 7000.

DEPLOY SEEKS A-VIA INTERFACE

As expected, the European Commission kicked-off its Deploy project last week (UX No 471), with the aim of creating software compiler, development and testing tools based around ANDF and TenDRA technologies developed by the Open Software Foundation and UK Defence Research Agency for use in getting a single application implementation up on multiple platforms. The complete solution envisaged under the scheme goes by the name of A-VIA, architecture the virtual interface for applications. The idea is to house all private, standards group and EC work in one place, with the ultimate aim of putting specifications into the public domain through X/Open Co Ltd. X/Open's ISV porting and testing tool initiative is envisioned as a sub-component of Deploy (UX No 478). X/Open says it'll establish some kind of action group that will develop an agenda relevant to Deploy in accordance with its User Council-defined open systems requirements, and feed its findings back into the Deploy process - and elsewhere. As indicated, it hopes to bring ISVs together to investigate problems and practical details of implementing APIs such as Spec 1170. What it doesn't want to happen is for a single set of tools to emerge out of, and controlled by, the Deploy developers.

FORMER UI EUROPE STAFF ESTABLISH ETI

One of the EC Deploy project's members, the Milanese group of software companies known as Etnoteam, with combined revenues of \$21m, has a new outlet for its products in the shape of ET International SA, a company established in Brussels by former Unix International Europe staffers Scott Hansen and Pat Arundel. ETI will market Etnoteam products across Europe and establish distribution channels in the US and Aisa. ETI also provides the Bootstrap Institute's assessment service, which measures the quality of software development processes in accordance with ISO 9000 standards. ETI +32 2 675 7208.

APPLE REVEALS CAT-IN-HAT MAC ON RISC

That busy bee, Apple Computer Inc last week announced as scheduled its long-awaited Cat-in-the-Hat project to run Mac applications on RISC machine. The now formalised Macintosh Application Environment (MAE) will run on Sun's Solaris 2.3 and HP's HP-UX 9.01 under joint engineering (testing and performance) and cooperative marketing arrangements with both companies, Apple said. HP and Sun, which will ship trial copies, will put "infomercials" on the machines touting it. MAE machines will offer users the Apple GUI in a Unix X window along with Mac features such as Aliases, TrueType, publish-and-subscribe, AppleEvents, Balloon Help, QuickDraw and 32-bit addressing. The more cache in a machine the better MAE's performance, Apple said. It requires at least 16Mb internal. Apple said it has tested 50 of the top 100 Mac programs on the stuff and they run, even some "tricky stuff." MAE, essentially a well-behaved X Windows application, integrates Macintosh and Unix so users can manipulate the Unix file system directly from the Mac interface, cut and paste both text and graphics between X Window and Mac applications and administer Unix systems through the Mac interface. The Mac architecture also supports workstation devices, allowing access to Macintosh-formatted floppies and CDs from existing workstation drives. MAE support NFS which allows users to access, display and manipulate remote and local Mac, PC and Unix files. Apple plans to add support for AppleTalk in the future. It is compatible with HP's Visual User Environment, SunSoft's OpenWindows and Motif. Apple will put the stuff through its normal distribution channel once it becomes available in late April, selling it for \$550 list. Foreign pricing may vary, it said, but could offer no examples. It will be available overseas in May.

PURIFY VERSION 3.0 DUE AT UNIFORM

Pure Software Inc, Sunnyvale, California, will announce version 3.0 of its Purify C and C++ application code-tester at UniForum. The environment has more error prevention mechanisms and a new graphical user interface. Also new is PureCoverage, a tool which analyses and reports on data from Purify, ensuring, the firm says, that every line of code has been tested. Purify costs from \$1,300 on SunOS in July - Solaris and HP-UX versions are due in the third quarter - PureCoverage is \$900. Together, the two are \$1,600 if you buy at least three of them. +1 408 524 3083.

APPLE LAUNCHES THE FIRST THREE POWER MACINTOSHES

Apple Computer Inc duly introduced its first three Power Macintoshes, with a rather misleading base price of \$1,819, since the price excludes fairly important items such as a screen and a keyboard. The three are the Power Macintosh 6100/60, 7100/66 and 8100/80, subscripts referring to the clock speed of the PowerPC 601 chip. Apple reckons it has over 150 software developers worldwide committed to shipping native PowerPC versions of their applications. Apple Business Systems also announced that it plans to introduce Apple Workgroup Servers based on the PowerPC in May. The \$1,819 base price buys an 8Mb 6100/60 with 160Mb disk. Adding basic monitor and keyboard takes the price to \$2,100. The 7100/66 is from \$3,200 the 8100/80 from \$4,500, rising to \$6,160 for a system including 16Mb of memory and 2Mb of Video RAM. Apple also has PowerPC logic board and processor upgrades for current Macs, and a new Apple Multiple Scan 20 Display 20" two-page, colour Trinitron display, costing \$2,150. There are 30 applications running native on the new Power Macintoshes launched last week: 50 more are expected within the next 30 days.

DEC LAUNCHES A NEW LINE OF DECpc XL SERVERS FOR RESELLERS

Digital Equipment Corp last week launched the first three systems in a new DECpc XL Server family of high performance, upgradeable, Peripheral Component Interconnect-based servers and added five Pentium-based models to its Value Line desktop systems. Intended primarily to be marketed by resellers, the DECpc XL Servers provide a choice of processors, operating systems and certified and supported add-on peripherals and options. They can be configured with 60MHz or 66MHz Pentiums and 80486DX2s, and will be upgradeable to DX4 or Alpha RISC. The DECpc XL Servers replace the DECpcST and application DEC xP families and support NetWare, Windows and Windows NT Advanced Server, Santa Cruz Operation Inc Unix, UnixWare, DEC's Pathworks, OS/2, and Vines. The CPU-specific components are on a daughter board and the common system components on the motherboard, which includes an integrated graphics controller; a Fast and Wide SCSI-2 controller; seven slots, four of them EISA, two PCI-only slots and one dual-use slot; and nine bays for up to 8Gb of internal storage. Maximum memory on 80486 systems is 128Mb, with 128Kb external cache. The Pentiums take up to 192Mb memory and have 256Kb external cache. Prices start at \$3,700 for the DECpc XL Server 466 with 8Mb of memory and a 535Mb Fast SCSI disk.

SNMP ROUTER MANAGEMENT FROM RETIX

Santa Monica, California-based Retix has launched what it claims is the first SNMP-based router management tool to support all major Unix-based network management packages including SunNet Manager, HP Open View, IBM NetView/6000, and NetLabs DiMONS. Called RETIXVision, the product is said to provide remote configuration of Retix products, troubleshooting, and retrieval and display of device data such as performance, status and configuration. According to the company, the product can be run in stand-alone mode on any Unix workstation, used with other Unix-based management systems, or used with the Retix Network Management Packs (claimed as fully compiled Retix device MIBs) to provide additional Retix-specific alarm reporting and device icons. Available now, RETIXVision lists from \$6,000.

MARKET ROUNDUP

Mortice Kern Systems Inc, Waterloo, Ontario, has won **SunSoft Inc** as a customer for its InterOpen/XPG4 commands and utilities, which enable SunSoft to establish Posix.2 and XPG4 conformance.

As expected (UX No 474), **Insignia Solutions Inc** has put SoftWindows, its Microsoft Corp-blessed Windows-on-Unix emulation software, up on SunOS. A licence is \$550, licence extensions are \$430 whilst a maintenance and upgrade programme is \$250 a year. The company says its not planning any specific campaign to cash-in on the withdrawal of **SunSoft Inc's** Wabi from the market until more bugs in it are ironed out, however SoftWindows implementations for other Wabi OEMs, including IBM Corp, plus DEC Alpha and Silicon Graphics Inc versions, are due to be announced later this month for shipment in April.

MARKET ROUNDUP

Minnesota firm **Software Moguls Inc** has two new modules for its network backup system. Backup Synthesis Module and Archiving Module work with the firm's SM-arch backup and retrieval system. The first consolidates data created or generated since the last backup into a new backup procedure. The second backs-up data not required for short-term applications. Prices start at \$3,000. +1 612 933 8790.

Informix Software Inc is now shipping OnLine Dynamic Server 7.0, the second phase of its parallel dynamic scalable architecture software. It now includes the Informix/Sequent Computer Systems Inc-developed parallel data query system and will be available only on Sequent boxes for the first six months. A minimum five user licence goes from \$7,500.

Poet Software Corp, Santa Clara, California, says it has become a voting member of the **Object Database Management Group**, which defines a common language for object database systems. Poet says applications written using the ODMG-93 specification are portable across 90% of today's object databases. Poet says it'll incorporate OSMG-93 in its C++ development system by early 1995. +1 408 970 4640.

Faximum Software Inc, West Vancouver, Canada, is readying a version of its Faximum Plus for IBM Corp's AIX/6000 operating system. Meanwhile, first fruits of its 18 month-old technology development agreement with **Hewlett-Packard Co** are also on the runway - Faximum Client/Server will be available for **SunSoft Inc** Solaris and HP-UX, and allows a single box to operate as a fax server to networked Unix machines. The box doesn't have to be a dedicated system, only connected to a fax modem. Pricing and availability to be announced at UniForum. +1 604 925 3600.

Visual Engineering Inc, San Jose, California, is offering a new presentation graphics system for Unix called Ovation, which it claims deliver as many, and in some cases more functionality and features than traditional PC- and Mac-type presentation: Ovation is \$800 per user on most Unix platforms. +1 408 452 0605.

Paris-based Unix software publisher **Softway SA** has completed its uncoupling from its financier **ISE International**, forming a new holding company, **Selsid SA**, held by Softway managing director Jean-Luc Nahon and **Initiative & Finance**.

Compagnie des Machines Bull SA, still trying to diversify and find more sources of revenue, announced it is now selling externally its line of distribution and stock management software, and is offering to outsiders the services of its logistics centre near Charles de Gaulle airport. The Unix-based Liberty line of software is optimised for Bull's DPX/20 systems.

Omron Corp and its Far Eastern subsidiary **Omron-Data General** say they have begun marketing the Luna 2010, the second product to emerge from joint development with **Data General Corp** in the US: the DG/UX-based workstation has up to four Motorola Inc 88110 RISCs and is offered for computer-aided design and manufacturing and factory automation.

UK financial and accounting software supplier, **Pegasus Software Ltd**, Kettering, Northamptonshire, has introduced the latest incarnation of its Unix-based accounting system, Pegasus Nine version 3.5. New enhancements include a report manager, EC statistics, BACS and improved database interrogation via Informix's On-Line relational database. Pegasus Nine is out now and an average package is £7,000.

AGE Logic's former marketing and strategic relations VP Craig Schmidt has joined **Walker Richer & Quinn Inc** as marketing manager for network products.

Since the managing director of the **ASK Group Inc's** International Region, Colin Tenwick resigned, UK md Michael Hedger has stepped into his shoes temporarily.

NETWORK APPLIANCE READIES HIGH-END NFS SERVERS

Network Appliance Corp, Mountain View, California, will debut new versions of its dedicated NFS network file server appliance technology this week. The existing FAServer 400 is superseded by the 450 tower, plus high-end FAServer 1300 and 1400 high-end companions for large installations. The 1300 is a 7" x 19" x 23" rackmount system with space for up to 14 attached external drives that will be housed in the reseller's chosen chassis. The 1400, with the same footprint, is a high-availability version in which disks, power supplies and cooling fans can be hot-swapped and the file system expanded on-line. The FASware 450, the company's first European offering, measures 10" x 29" x 22" and again has 14 disk bays for up to 27.3Gb storage. Up to eight of the firm's servers can be strung together with FAScluster software, providing up to 218Gb disk. Although it upgraded the software for its file server only a few weeks ago (UX No 474), Network Appliance has re-worked the stuff for its new lines. FASware release 2 supports hot-swapping (on the 1400), two FDDI channels, domain name service clients, local tape control, user and group quotas, system log daemon, routed clients and serial consoles. Set to follow are new administration functions like SNMP MIB, cluster management, hierarchical storage management, higher density disks, data compression, NetWare File Access and AppleTalk protocol support PCI Bus plus Pentium and RISC processor implementations. There's already an on-line Snapshot back-up facility which automatically keeps up to 20 logical copies of the entire system on the RAID and can be used to make tape back-ups. Network Appliance's Write Anywhere File Layout file system is designed for arrays of large SCSI-2 drives using RAID 4 - and manages all disks as a single partition - the file system grows by adding disks. The firm claims 3,189 NFS operations per second performance and a fastest average response time of 3.1msec. It has some 140 installations at 60 sites since the 400 shipped last June. The company has 12 US resellers and 7 others around the world, from where 90% of its revenue is derived. The 1400 with two 2Gb disk is from \$23,000 in May with FASware 2.0. The 450, with two 1Gb disks is \$17,000 now +1 415 428 5100.

OLIVETTI REBADGES DEC ALPHA RANGE, HAS NEW INTEL MACHINES

Ing C Olivetti SpA debuted a raft of new Intel-based Unix boxes at the CeBit Hannover Fair last week, and says it is now rebadging a range of Digital Equipment Corp Alpha AXP machines under the LSX 700 name. The LSX 700 family runs OSF/1 and comprises entry-level LSX 7300 workstations and workgroup servers; LSX 7400 departmental servers; as well as LSX 7700 and LSX7900 enterprise application servers. A new R7-600 server for small workgroups runs Microsoft Corp's Windows NT as well. Olivetti also has a new multiprocessor server, the LSX 5050, which is based on four Pentiums and performs at 250 TCP/As. This runs Unix SVR4, Windows NT, Santa Cruz Operation Inc Unix and NetWare. In addition, the firm unveiled its new uniprocessor SNX Systema line of network servers. The range includes the entry-level SNX120 based on a 100MHz 80486DX; the midrange 66MHz Pentium-based SNX140; and the high-end 90MHz Pentium F45C-based SNX 160. The latter can also incorporate a second chip or overdrive socket. Each runs shrinkwrapped versions of NT, SCO Unix, Unix SVR4, Windows for Workgroups, MS-DOS, UnixWare and NetWare, and will be sold by indirect channels. Olivetti will only sell SNX machines running Unix SVR4 direct. No pricing was available, although all boxes are shipping now.

ACUCOBOL SEEKS BUSINESS BUSINESS

Acucobol Inc of San Diego, California has opened an office in Japan to sell its products direct. The move is designed to compete directly with Micro Focus Plc and its Cobol product which according to Acucobol Japan's business manager Ken Okazaki has made the Unix Cobol market almost invisible in Japan because it sells only OEM. Okazaki sees major demand for products such as the AcuCobol-85 for DOS/V and a similar Solaris-J product as companies downsize, leading eventually to an equal place for Unix business applications alongside the technical and scientific applications that still dominate the Unix market in Japan.

DATA GENERAL HAS CLUSTERING SOLUTION FOR AV9500s

Data General Corp used Hannover as the launchpad for its new 12- and 16-processor 88100-based AViiON AV9500 servers (UX No 475), and also announced it now has the means to cluster up to four of them together using Oracle Corp's Parallel Server. The systems also run the Tuxedo transaction processing monitor and can perform batch and on-line processing simultaneously. They start at \$400,000. The company also added new entry-level AV4500 servers starting at \$9,490 as well as AV450s priced from \$11,995 and AV550 workstations coming in at \$14,995. It debuted new CLARiiON storage systems supporting Microsoft Corp Windows NT-based servers, which range from \$26,200 to \$73,690 and also introduced new 60MHz Pentium-based personal computers. These run Windows NT and Windows, Novell Inc NetWare, Santa Cruz Operation Inc Unix and Interactive Unix. A 16Mb model starts at \$8,295. And Data General also announced it had signed 17 new or enhanced agreements with such software vendors as Baan International Inc, Computer Associates Inc, and Datatel Inc.

NEC EMERGES AS ONLY FIRM NOT TO COLD-SHOULDER A STAKE IN BULL

One of France's two popular political satire puppet shows, *Les Guignols des Infos*, reiterated the government's announcement last week that it would privatise Compagnie des Machines Bull SA. As one puppet leans over to inspect the Bull logo, the anchor-man puppet intones that investors should be aware that, "among every few prize privatisations, is a...TRAP", just as what is now revealed as a Bull logo/mousetrap slams down on the unsuspecting puppet's neck. Ironic a couple of days later to see French minister of industry Gerard Longuet telling the Japanese that there "is no limit to NEC's participation in Bull." The era of Japan-bashing that characterised Edith Cresson's tenure has certainly come to a screeching halt. While calling the idea of NEC Corp taking ownership of Bull "just a calculated theory," Armand Malka, vice-president of Bull's Unix Systems Division, told us that he did not believe it would affect Bull's Power RISC strategy. NEC does not have enough presence in the Unix workstation and server market in either the US or Europe to offer an alternative product strategy. "I don't think it would call it into question; the PowerPC is too strong. If anything, it would probably cause NEC to ask itself some questions," he said. Malka stopped short of predicting that becoming owner of a Power RISC adherent would cause NEC to abandon the MIPS Technologies Inc chips it fabricates and uses in its systems. "There is a real developing market for cheaper RISC processors like the R4000 and even the predecessor, from games companies like Nintendo and Sega, for example," he said. If NEC doesn't bite, it will not be easy to find another buyer, although is "unlikely" that NEC would want to become the sole proprietor of Bull, Longuet told *Le Figaro*. Longuet says he just wanted to show the Japanese during his trip last week that "there are no suspicions, no taboos, that all offers are welcome and that the game is open to all players;" in any case, he added, "I think Europeans will remain the majority shareholders in Bull, and if they are interested, it is in their interest to do something now - afterwards, they will not be able to reproach us for not having reminded them of their responsibilities;" he also said that the French government is not intent on relinquishing all of its Bull holding. If NEC does not bite, of the potential candidates quoted by La Tribune-Defosses, only Electronic Data Systems Corp and ICL Plc expressed any possible interest, and then only in bits of the company. Ing C Olivetti & Co SpA and Siemens AG held out a "no comment". By contrast, Hewlett-Packard Co, which vied with IBM Corp for the deal concluded two years ago, said: "At that time, we had a complete plan for co-operation, but they didn't want to go with us. We don't repeat history." Someone at Intel Corp said, "It would be like asking us to buy shares in Renault or AGF (an insurance company)." Digital Equipment Corp said, "We have a restructuring plan to complete and if we had to undertake external growth, it would be in buying complementary activities. Bull right now is a direct competitor."

unigram·x

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Rumours were circulating last week that Novell might be discussing either or both merger and acquisition. The name Borland came up perhaps because of *The Wall Street Journal* story that it was considering sale of an equity stake. The name AT&T came up because it's known that Novell has talked to it before about merger. It is believed that there is a well-positioned contingent inside Novell that has been actively interested for a long time in getting acquired. CEO Ray Noorda, who cleaned out his desk two weeks ago preparatory to departure (UX No 478), is believed to be against the idea. AT&T's Bob Kavner, once chairman of Unix System Labs - which he sold to Novell - is rumoured to have been a strong candidate to replace Noorda, but currently there is still no successor in sight.

Forbes magazine figures IBM Corp and Apple Computer Inc could have put \$85m into Taligent so far, half of what they'll need to spend before it starts selling software next year. That's apparently without reckoning in the \$17m Hewlett-Packard Co spent for a 15% stake.

SunSoft Inc is now offering version 1.1 of its trusted Solaris implementation for Sparcstations and servers - not Sparcserver 1000s or Sparccentre 2000s - replacing version 1.0. It goes forward for B1 USA NSA Orange Book and UK ITSEC evaluation, both of which are due for completion by the end of the year. A Solaris 2.x trusted implementation won't see the light of day until a beta release penned for the last half of next year.

Our sister publication, *CliE NT Server NEWS*, the Windows NT book, reports that the US Department of Justice will call Microsoft chief Bill Gates to Washington probably in early April and offer him the choice of a consent decree or an antitrust suit.

Maybe it's our imagination, but it seems noticeable these days that Sun Microsystems Inc is leaking talent, particularly on the engineering side, with folks jumping ship and going to other companies. It's said that on their dark days, Sun folk complain of being "DECized" because of the increasing bureaucracy.

We neglected to mention last issue that one of those PowerPC-based Rainbow machines that IBM could introduce in April, specifically the entry-level RS/6000 Rainbow 3+, will run something called AIX 3.2.5p, ostensibly the "p" stands for personal.

UniWorx, San Diego developer of computer-based educational products, is looking for someone to publish and/or distribute its \$60 Hands-On Internet with Fast Unix primer for PC users, now in beta. It's packaged as a book and diskette. +1 619 563-1004.

Sun Microsystems will announce Kodiak and Aurora, alias the SparcStation 20 and the SparcStation 5, its well-anticipated upgrades to SparcStation 10 and LX/Classic lines respectively (UX No 464), next Tuesday, March 29.

After generating £7m turnover in the People's Republic of China in 1993, ICL Plc has now decided to go the whole hog and open an office in Beijing - up till now its Hong Kong subsidiary has looked after most of the firm's business in the region. ICL will open a liaison office in Shanghai in March, and plans to establish a network of service centres as well as increase the number of local distributors in the area.

From the end of this year, IBM Corp will begin incorporating Taligent frameworks, such as communications security and device drivers, into AIX and OS/400.

The 64bit PowerPC 620 is expected to clock in at 200MHz and will rival IBM Corp's Power2 in performance. It is due to materialise in 1995, but there are already 7 new PowerPC projects on the drawing board, including one that will come in above the 620. A 100MHz 604 is scheduled for mid-April.

SunSoft is offering a \$995 toolset for Solaris-on-Intel application developers, which includes Solaris x86, a Solaris software development kit, a ProWorks C development environment and three months technical support. With a C++ compiler, the toolset costs \$1,200 - both prices rise after June 30, the end of Sun's financial year.

Parallax Graphics Inc, Santa Clara, California, has a range of 24-bit colour, EISA-based frame overlay cards delivering full-motion video on HP 700 workstations (except the 712, which has no EISA slot). Parallax has integrated its drivers and software tools with HP's MPower 2.0 multimedia environment on HP-UX 9.0.3 and the boards support a variety of compression and other video standards. Prices go from \$2,000 to \$4,000, and ships start in 60 days. +1 408 727 2220.

Menlo Park, California-based Lucid Inc will announce version 3.0 of its C++ Energize Programming System at UniForum this week for Solaris 2.x and SunOS 4.1, with other versions planned for later this year. Japanese language versions of Energize are being developed by Lucid's distributor there, Nippon Telegraph & Telephone's INS subsidiary. Energize 3.0 is \$4,250 per single licence - \$29,000 for 10. +1 415 329 8400.

Already available on HP9000s and HP3000s, NSD Inc, San Mateo, California, is putting its job scheduling, reporting and new document management software - NERRD, or networked electronic report and document distribution - up on Solaris, SCO Unix and AIX. +1 415 573 5923.

Apple Computer Inc is to distribute XVT Software Inc's graphical user interface development environments through its AppleSoft development tools channel.

Failing to come up with a better way to explain things, Sun Microsystems Inc has resuscitated its old slogan "The Network is the Computer."

Cray Research Japan Ltd is in talks to have Toshiba Corp market its Sparc-based servers in Japan.

Bristol Technology Inc, is introducing version 2.0 of its Wind/U, Windows-to-Unix toolkit which forms the basis of Insignia Solutions Inc's SoftWindows emulator. Wind/U 2.0 supports Microsoft Corp's Win32s API and the 32-bit version of Visual C++, enabling, the Ridgefield, Connecticut firm says, developers to write applications in C++ or other Windows development environments that run on Windows, NT and Unix all from the same base. +1 203 438 6969

Toronto firm Platform Computing Corp has won DEC and Convex Computer Corp for version 1.2 of its LSF load sharing facility, which can transparently distribute tasks across systems from different vendors. LSF is being bundled with DEC Alpha AXP Farm running Ultrix or OSF/1, and Meta Computer and HP Cluster from Convex. IBM also distributes LSF, which is available in addition on HP-UX, Irix, Solaris and SunOS. +1 416 978 0458

Hewlett-Packard Co and Oracle Corp have set up a Co-Operative Technology Centre in Boblingen, Germany, to undertake development, marketing, sales and customer support for customers running Oracle applications on HP 9000 Unix systems. The venture is staffed by employees from both firms, who are to work alongside local support teams.

Dun & Bradstreet Corp's Dun & Bradstreet Software division has sold about \$38m in client/server Decision Support and Financial Stream software since the launch of its Smart-Stream application in August: the volume equals about 300 units and the dollar amount exceeds original forecasts by 200%; future sales are "expected to increase at an even faster rate" the firm said.

For all you PowerPC RISC lovers and haters out there, our new sister publication, *PowerPC News*, made its debut on the Internet last week: for a free subscription, you just send your electronic mail address (with no message) to addr@power.globalnews.com and it'll bounce back to you.

Apple Computer Inc is continuing its efforts to license its operating software to major computer manufacturers, but is making greatest headway in Japan, "well-placed industry sources" told Reuter. One source said Japanese companies are more interested than their American counterparts because of the rising sales Apple has notched in their country in the past few years. Japanese firms are also far less sensitive to upsetting ties with Microsoft Corp or Intel Corp, the source commented.

Back in the early days when they were casting about for something to call the Common Desktop Environment (CDE), IBM's Bill Filip and HP's Gary Eichhorn came up with the soubriquet OpenWindows, little realizing that the tag already belonged to Sun. Chuckling to itself, Sun reportedly said it didn't mind (figuring it would be good advertising). IBM lawyers however apparently chickened out, fearful of Microsoft Corp's reaction.

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NEW OSF GETS THE NOD FROM SWEET SIXTEEN

Sixteen companies turned out last week to grace the dais and lend their support to the reorganisation of the Open Software Foundation. Chief among them was Sun Microsystems Inc, which is now going to pay \$1m a year for three years to become an executive sponsor of the consortium. When OSF was first formed its initials were supposed to be interpreted as "Oppose Sun Forever." There are now altogether eight executive sponsors sharing the lightened load and soon to sit on the new OSF board under its new chairman Dennis Roberson, vice president of corporate software at DEC. Four of them are original OSF founders: IBM Corp, Hewlett-Packard Co, DEC and Hitachi Ltd. The other four are from the old AT&T wing: SunSoft Inc, Novell Inc, Fujitsu Ltd and AT&T Global Information Solutions, aka NCR. The other eight are associate sponsors who are only kicking in \$200,000 apiece to participate and share board members. They include Bull Worldwide Information Systems, ICL Plc, NEC Corp, Ing C Olivetti & Co SpA, Siemens Nixdorf Informationssysteme AG, Silicon Graphics Inc, Sony Corp and Transarc Corp. Other firms who were being pressured to join at the last minute suggested that some of this latter group succumbed only to get the monkey off their back. Two who didn't were Unisys Corp and the Santa Cruz Operation Inc which acknowledged they will probably join-up down the road but would first like to see whether anything constructive comes of the reconstituted concern. OSF said the reorg leaves its 400 existing members "unaffected." As part of the reorganisation X/Open chief Geoff Morris and OSF president David Tory will sit on each other's board on an ex officio basis. The director-at-large representing the user community has changed from Mike Johnson of Unilever to Joseph De Feo of Barclay's Bank plc. *More details page 3.*

SUN SLASHES WORKSTATION PRICES WITH AURORA/ KODIAK

This Tuesday March 29 Sun Microsystems is scheduled to make its Big Bang announcement, bringing out the Sparcstation 5 (Aurora) and Sparcstation 20 (Kodiak) to claims of shattering the workstation price model. The 5 will start at \$3,995 and the 20 at \$12,195. Because of the new families Sun will cut the price of its existing entry-level SparcClassic to \$2,995, figuring it'll be the lowest-cost fully configured colour workstation on the market, at least for the time being. Sun will also claim to set new performance levels. With its new 70MHz and 85MHz MicroSparc II processors, the Sparcstation 5 reportedly offers twice the application performance of its predecessor, the Sparcstation LX, at a lower price. The new workstation is rated at 64 SPECint92 and 54.6 SPECfp92 for the 85MHz model and 57 SPECint92 and 47 SPECfp92 for the 70MHz model. Both machines share the pizza box packaging of the Sparcstation 1000 and the 5 maxes out at 2GB internal, 40Gb external and 256Mb main memory with three SBus slots, an optional slim-line CD, optional internal 3.5-inch drive and high-quality audio. Users can upgrade to the 20 with a board swap. It can also accommodate the company's 2D and 3D accelerators. The entry-level price buys a 15-inch monitor, 535Mb drive, 16Mb memory. The 85MHz unit starts at \$11,395 and includes a 20-inch screen, 32Mb memory, 1Gb of storage and the TurboGX accelerator. The Sparcstation 20 is now Sun's flagship workstation, available in uniprocessor and four-way MP configurations, and boasting a 75% price/performance improvement over the 10. It uses either 50MHz or 60MHz SuperSparcs, the first use of the 60MHz. The 20 includes as standard 24-bit true colour and other graphics capabilities, claiming to be the fastest 2D workstation in its class, the fastest 3D for under \$25k and the fastest 3D at any price with available options. Memory goes to 512Mb, internal storage to 2GB and it can hold four SBus cards. The 20 comes in six versions with entry-level performance rated at 69 SPECint92 and 78 SPECfp92, topping out at four-way with 6034 SPECrate int92 and 6752 SPECrate fp92. There are also Sparcserver 5 and Sparcserver 20 systems beginning with a 5 at \$9,000 for 32Mb memory and 1GB storage and a 20 for \$13,000 for 32Mb of memory, 1Gb of storage and a CD. Sun is also offering multimedia versions of workstations.

IDC PREDICTS ENLARGED NOVELL INC'S "EVENTUAL EXIT" FROM UNIX SOURCE BUSINESS

IDC reads Novell Inc's Unix licensing agreement with Sun Microsystems Inc as probably signalling Novell's "eventual exit from the Unix source code technology business, and frees SunSoft Inc to aggressively pursue that role," even if its not part of its current thinking. The deal could result in some price cuts for Solaris, the market researcher believes, but expects SunSoft to take aggressive pricing action on technology licensing rather than on shrinkwrapped products. Novell, IDC believes, which now says it'll reach 100,000 UnixWare installs by year-end, had originally planned to hit that mark a year earlier and missed by 60,000 units. Novell Inc became a much larger company last week when it bought WordPerfect Corp for about \$1,400m in shares, and paid \$145m for Borland International Inc's Quattro Pro spreadsheet: this will boost annual sales to some \$1,900m - which makes it about half the size of Microsoft.

DEC'S BUSINESS WITH UNIX

In an upbeat keynote speech to UniForum delegates in San Francisco last week, DEC boss Robert Palmer noted that Unix has proved indestructible despite the best efforts of the industry, but warned that the new Open Software Foundation organisation will be vendors' last chance to get it right: "this better work or Unix will die," he said. Up to now, DEC has been one of five firms each spending between \$75m and \$125m a year on engineering Unix - that's over \$500m in total that gets passed on to customers. This model, Palmer rightly observed, is economically unsound and means vendors have effectively been developing the same things in their Unixes - five times over. Indeed, vice president Willie Shih, who came to DEC from IBM last year and now runs a merged Windows NT and OSF/1 business unit, admits DEC's Unix strategy has been in shambles for the last five years. Although the Foundation's OSF/1 effort will finally grind to a halt this summer - see page 3 - DEC, which alone has spent some \$150m getting OSF/1 1.2 into shape for Alpha, says it hasn't been dependent on OSF from an engineering standpoint since it took the full OSF/1 implementation from the Foundation back in March 1991. It will press ahead with development of the Mach-based system it has tuned for scaled and fine-grained SMP, and is currently seeking a new name for the operating system - Advantage Unix has been heard as just one of the possibles that's been doing the rounds. It's currently fashioning real-time and parallel-enabled versions of the microkernel, though whether it'll pick up any of the reigns OSF drops, like the planned OSF/1.4 object environment remains to be seen. It's currently bullish about the Alpha-OSF/1 sales its making, saying that particular sectors will see business double in the six months to the end of June over sales in the first half of its year. Details of what Shih describes as an "agile strategy" are unforthcoming, but overall DEC's Unix business now accounts for almost half its revenues, with Windows NT riding somewhere just below 10%. It believes it has 80% of the leading Unix applications up on Alpha-OSF/1 now - 2,500 all told - and expects to have 90% by the end of June, compared to the 2,000-odd Solaris 2.x applications.

INTEL "MAY SWITCH TO NT"

At his flashy UniForum keynote address last week, Intel CEO Andy Grove reminded attendees that Intel itself is a big Unix user, but that continued fragmentation may push it to adopt NT instead. Intel's NT pilots have left them impressed with the operating system and Grove maintains it's so much easier doing business with Microsoft because of its control over the code. Grove also reckoned the Unix industry ought to have a UniForum a month since it seems to be the only time it gets anything done, a reference to last year's hurried COSE coalition and this year's OSF reorg.

X/OPEN SNAPSHOT OF SPEC 1170, OUTLINES NEW INITIATIVES

X/Open Co Ltd has released a snapshot version of its Spec 1170 Common Unix API specification on CD-ROM running under Microsoft Corp's Windows. A Motif version of the CD-ROM will follow in July, but the existing release costs \$180 - or \$140 if it is downloaded off the Internet. This step marks the formal handover of the draft specification to X/Open, which is expected to start its fast-track process rolling in April. The full specification should be adopted by October or November, after which conformance testing and branding will commence. Next on the fast-track agenda, however, is the distributed computing Federated Naming specification, which includes services, interfaces and protocols. Fast-tracking of this spec will start in the next couple of weeks and the finished document should be ready by the autumn. And, following an open meeting in early May and the next user council meeting in June, the Desktop Requirements Topic Group will start looking not only at human-computer interfaces, but also object-oriented services to simplify the sharing of information and facilities across heterogeneous networks. It will evaluate and prioritise work on internationalisation services, so that developers can build tools such as universal multilingual spelling and grammar checkers; security services to regulate network access into a desktop system and desktop access to data held elsewhere; desktop-specific systems administration; and user communication services to simplify the development of such software as e-mail and workflow management tools. Other issues under consideration include mobile computing, localisation, transparent data conversion, especially in regard to cut and paste, printing, faxing, and video conferencing. Whether Microsoft Corp will get involved with the interface effort is unclear (UX No 478).

DEC CHIEF USES LEAN LAPTOP TO HELP GET THE MESSAGE ACROSS

DEC chief Robert Palmer ran part of his keynote presentation at UniForum from Lean, its prototype Low-End Alpha Notebook which currently houses a 21066 Alpha AXP that can be set by the user to clock at anywhere between 25MHz and 166MHz. The 6.9lb Lean that Palmer used was clocking at 140MHz - and was a real lap-warmer after only a few minutes use - this one running an OSF/1 2.0 kernel DEC has adapted for portables, with power management features, but able, it said, to run any OSF/1 applications. DEC still hasn't decided whether to productise the thing - a Windows NT configuration is also seen - but a voice simulator running on the device was touting its own specifications at 64Mb RAM and 500Mb disk. Designed from the ground up as a notebook rather than a cut-down workstation it supports all the features of a typical iAPX-86 notebook including VGA colour active matrix display, full-size keyboard, integrated track ball, two PCMCIA slots, standard I/O connections, high-capacity 2.5-inch disks, PCI and large RAM support. Battery life is said to be two hours, more an hour in fast mode.

OPEN SYSTEMS SKILLS LOOK REWARDING

The 1994 Open Systems Salary Survey of 150,000 professionals - excluding management - conducted by Pencom Systems Inc and UniForum, (UX No 475), shows that Unix software architects are the best paid amongst their colleagues, with yearly salaries averaging \$73,930. Kernel developers command some \$71,500, X Windows programmers \$69,000, object-oriented programmers \$64,030 and application developers \$53,220. The majority - 51% - of salaries range between \$35,000 and \$55,000. Those compare with the average salary for mainframe specialists of around \$44,000, Pencom says. Men's average yearly salary across the open systems industry is \$52,980 - \$46,290 for women, an inequality of 13%, though that's significantly lower than the average across the IT industry as a whole which is some 33%. The survey showed that Unix firms in the Northeast of the US pay best, with salaries averaging \$54,860. Results from phase two of the study, which will sample a further 140,000 professional to identify which attributes lead to increased salaries in the open systems industry, is to be published at the end of June. Full copies of the results are available on the Internet by completing phase two of the questionnaire which is posted in some 18 locations. +1 512 343 6666

PERIPHERAL DEVICES ACQUIRES DELTA MICROSYSTEMS, REPOSITIONS ITSELF

Sun value-added reseller Peripheral Devices Corp will close the deal to acquire Livermore, California-based Delta Microsystems Inc on April 1, and the King of Prussia, Pennsylvania-based firm will reposition itself primarily as a provider of customised systems administration software. Financial terms were not disclosed, but PDC has sold Delta software and documentation for the past five years. Existing Delta products, such as BudTool and MigTool, will keep their brand names, but all future offerings will assume the PDC name. Delta will become a new division within PDC - PDC Engineering - and will be headed up by former Delta vice president of engineering and software development, Roger Stager, who will be in charge of 15 software developers. Ex-Delta president Donald Trimmer will become PDC vice president of marketing. Meanwhile, PDC launched two new products at UniForum. DiskInfo 1.1 enables systems administrators to graphically categorise disk usage across a heterogeneous Unix network by owner, size, access time and file type. It costs \$795 per network, and runs on Sun Microsystems Inc, Hewlett-Packard Co, IBM Corp and Auspex Systems Inc hardware. FreezeFrame 2.0, on the other hand, enables systems administrators to do live backup across heterogeneous Unix networks, while users continue to modify files. It runs on Auspex and Sun hardware and is installed on each one of the systems administrator's servers. It costs \$295 for one node, and \$1,995 for 10 nodes for the Sun version. Auspex-based pricing has not yet been determined.

FUJITSU AND HP TEAM ON BUSINESS SOFTWARE FOR JAPAN

Fujitsu Ltd and Hewlett-Packard Co announced in Tokyo that they plan to co-operate in the marketing of Fujitsu's Exekit business software, known as Manasus 2 in the Japanese market, on Hewlett-Packard's HP 9000 family of Unix systems, looking for sales of 500 copies over the next three years at \$22,500 a time. Fujitsu has sold 350 copies of Exekit since it introduced the business software last May, almost all in Japan, although a few copies have been sold in Australia, South Korea and other countries in southeast Asia. The new agreement with Hewlett-Packard will not be limited to Japan, the companies said. Fujitsu says that software and related services now account for 13% to 14% of parent company sales, and could reach 20% within five years.

HP TAKES AMASS STORAGE FILE SYSTEM...

Hewlett-Packard Co is to market Denver, Colorado-based Advanced Archival Products Inc's Amass file system software with its optical disk subsystems, meaning all of HP's optical library products, which offer from 20Gb to 187Gb storage using 1.3Gb disks can now be supported on HP 700 workstations running HP-UX 9.01 and on Sun workstations running Solaris. Amass, a \$6,000 piece of code also runs on SGI workstations with Irix 5.2 or higher supports a range of optical jukeboxes and them appear as a single internal disk, so they can be used by applications, the firm says. AAP has integrated Amass with a data manager for transparent file migration and retrieval over client/server set-ups and a Motif-based library management and administration in Amass-SMS, which is up on Sun, HP, SGI, IBM and Auspex systems at from \$6,500.

... AS ANDATACO SLAMS AMASS AS "PROPRIETARY," CANCELS CONTRACT, DEVELOPS ITS OWN

However for all AAP's claims, San Diego, California-based Andataco is less than enamoured with Amass and has cancelled its contract with AAP for the software on its Ensemble storage line because, it says, "Amass is a proprietary optical file system supported on a limited number of Unix platforms. NFS must be used on top of Amass file system to make the optical storage system available to the network." Instead, Andataco is offering its own optical file server, Ensemble/OFS, which it claims does not require software drivers and is compatible with any system using NFS or Novell Inc NetWare. It comes with an Ethernet controller with embedded NFS and NetWare protocols and doesn't use cycles on the host system. Ensemble/OFS optical libraries go from \$13,000 for a 20Gb system to \$80,000 for a 187Gb configuration. AAP +1 303 792 9700. Andataco +1 619 453 9191

NEW OSF PLOTS TECHNOLOGY ROADMAP - OSF/1 GRINDS TO A HALT

There is some concern that this new animal, the Pre-Selected Technology (PST) process, that OSF intends to add alongside the old RFT (Request For Technology) mechanism and described at one point as "the best of COSE," may be poorly understood. To help explain it, HP says a white paper will be pulled together in the next few weeks from all the scattered notes people have. There's a good chance they may just post it on the Internet. PST is envisioned as a way of enabling firms to bring pre-agreed technologies forward for consideration - with RFTs the place for competing submissions. Meanwhile, OSF will also be working to draw up a technology road map over the coming weeks. It will be reviewed by the new board perhaps by the time of its first meeting at an unscheduled date in April, though the thing is unlikely to see the light of day for some time. An architecture planning council will oversee all projects, which will be funded only by interested firms. Source licence revenues will meet technology royalties, any remainder going to project sponsors in line with their investments. Distancing itself from the old regime, Tory says board members which vote against the general wishes of members will be held to account in public, though its unclear how this will work in practice. OSF's first task will be to look at what's there and what's missing, to find out which of the existing technologies will continue and how the COSE work can be accommodated. Outstanding work under the old OSF schedule will halt by year-end. The DCE Network Management Option is set for late spring, OSF/1 1.3 for June, Motif 2.0 August and DCE 1.1 in November. As expected, OSF/1, the operating system that OSF created, will finally grind to a halt with the 1.3 summer release, although DEC will continue to develop its implementation under another guise - *see front page*. Several firms admit that currently there's no fresh technology under consideration, though apparently some letters of intent have been sent to OSF by unidentified companies about running CDE 1.2, the next phase of the COSE Common Desktop Environment, through the untested PST process. Both DEC and HP think it likely the reorganised OSF will work on Motif and CDE as a merged project. It's also expected to try and salvage the Interapplication Communication RFT from the now defunct Unix International, fiddle with federated naming for DCE and attempt to repackage DME into more manageable components somehow.

HP KEEPS UP THE PRESSURE WITH PA-7150 WORKSTATIONS

Determined to keep ahead of a pack which includes DEC and Silicon Graphics Inc, plus the PowerPC and Pentium crowd, Hewlett-Packard Co will this week fill in a few chinks in its armour, announcing some new mid-range HP 9000 series 700 models which use the PA-7150 RISC, an enhanced version of the 99MHz PA-7100, which can go to 150MHz (UX No 467). The 735/125, at \$40,000 with a 19" colour screen, 32Mb RAM and 1Gb disk, is rated at 136 SPECint92 and 201 SPECfp92. Its out next quarter. In like-with-like comparisons, HP reckons the 735/125 has DEC's Alpha 3000 AXP Model 600 beat by 16% on integer and 20% floating point performance, and offers 80% more 3D vectors-per second than Silicon Graphics Inc's Indigo2 Extreme R4400. HP's 125MHz engine is also available as a board-swap for current 90MHz model 735 users at \$9,100, whilst a 125MHz 755 is due later in the year. There's also a new version of the 99MHz box optimised for clustering, the 735CL, which will go to 125MHz next quarter. The 735CL come in four- or eight-node clusters with Ethernet or FDDI links. HP is teaming with Oracle Corp for a version of Oracle7 Parallel Server which the database firm will have running on HP 9000 series 800 servers by autumn. The two have already developed a distributed lock manager for clustered 800 servers and will integrate the Oracle7 Parallel Server with HP's Cluster Monitor software tools and utilities. HP says it has also integrated the Computing Centre Management System component of SAP AG's SAP R/3 application with OpenView, so that OpenView Operations Centre can collect information and messages from SAP R/3 and pass network information to R/3.

ARIES READIES HYBRID SPARC-POWERPC BOXES - MULLS MIPS RISC

By the end of the year, Aries Research Inc will have taken its first step out of the orthodox Sparc-clone marketplace that Sun Microsystems Inc is trying so hard to cultivate, by releasing hybrid Sparc-PowerPC 601-based boxes for the commercial market. The new machines which will be both two- and four-way systems will run Apple Computer Inc's System 7 if Aries has its way and could get a port and a licence from Apple. Aries suggests Apple is keen to port Systems 7 to Sparc. The PowerPCs will come on add-in boards and will run desktop publishing applications, while the Sparcs will be used for Mac communications and networking. They will be priced somewhere between IBM Corp's PowerPC-based RS/6000s and Sun's SparcCentres. The Fremont, California-based company is also evaluating Mips Technologies Inc's R RISC because Sparc is falling behind in performance compared to other RISC chips, it says, and will use other PowerPCs as they become available. Meanwhile, Aries released its latest Sparc-compatible offering at Uniforum last week, the Marixx SI desktop system. Aries says it will fill the gap between the Sparc 10 and the SparcCenter 1000, and is positioned as a network server, although it can be used as a standalone graphics workstation. It comes with two Texas Instruments Inc Viking 50MHz SuperSparcs, two MBus connectors supporting up to four additional CPUs - either Vikings or Ross Technology Inc's HyperSparcs - 64Mb of main memory and 2Gb of internal storage. The Marixx SI will ship at the end of next month, starting at \$36,900.

DEC PUTS SUNSOFT'S CDE UP ON OSF/1

SunSoft Inc has been determined to get its feet under the Maynard's table in one form or another, and now that they're part of the same fraternity DEC apparently feels that making some nodding gestures in the general direction of Mountain View, must be OK. Last week it signed to put SunSoft's Common Desktop Environment implementation up on its DEC Alpha AXP OSF/1 operating system, and was even showing the thing running on an Alpha box in Sun's UniForum stand after having worked on the port for three weeks. DEC promises the front-end by year-end, an Advanced Developers Kit in the autumn. The idea of Solaris in place of its OSF/1 on Alpha is a non-starter, despite Sun's reported overtures. Meanwhile, Siemens Nixdorf Informationssysteme AG is also talking to Sun about licensing CDE (over HP's implementation). The deal should be closed in the next couple of weeks, but won't be announced until late May or early June. Again, products are scheduled for release at the end of the year, while the next CDE snapshot is due in April. Sun intends to announce its own schedules at its development conference at the start of May.

WORKPLACEOS TO CLAIM AIX AT LOW-END

IBM Corp's AIX Unix won't end with the company's planned WorkplaceOS, but it might become a different beast. The microkernel, object-based WorkplaceOS on which IBM is setting much stall, will run AIX, Windows, OS/2, DOS and Mac applications and is set to supersede AIX in some regards, initially on client and low-end systems. Although there is an effort to see if it will be possible to converge AIX and WorkplaceOS in a microkernel release - and any decision is at least a year out - AIX will continue as an OS for servers for the foreseeable future, according to director of RISC Systems Software, Donna Van Fleet. Furthermore, because IBM isn't so dependent on Novell Inc Unix code as Sun Microsystems Inc was, there's no chance IBM would pay as much as Sun's \$82.5m to buy out a source licence, she says.

ICL'S PLANS EIGHT-WAY SPARC USING MBUS

With its TeamServers and SuperServers only weeks old, ICL Plc is already talking about eight-way Pentium boxes and plans an eight-way Sparc once it can buy or develop more I/O bandwidth on the bus. Up to eight Sparcs are feasible with MBus, ICL reckons, more requires some additional engineering and a new housing. Currently powered by Texas Instruments Inc SuperSparcs, once the bi-endian HyperSparc arrives from its Fujitsu Ltd parent's Ross Technology unit, ICL hopes it'll be able to offer the new boxes with a choice of processor like it envisaged a year or more ago. By the end of this month it expects to have out NXMP+, its Unix SVR4.2 MP implementation for Sparc - DRS/NX became NX when the DRS line was dropped - but will migrate to the MP-enabled UnixWare 2.0 as soon as it arrives, pinning its hopes on Novell Inc eventually delivering significant NetWare functionality that'll enable it to tie in LANs with ease.

BSD UNIX FOR SPARC

Berkeley Software Design Inc is porting its Unix-like BSD operating system to run on Sparc processors and, as we know, making it binary-compatible with Santa Cruz Operation Inc Unix. Both projects will be detailed in June at the Usenix show, when the SCO version goes into beta. BSDI reckons it shouldn't have too many problems making BSD binary-compatible with SCO Unix as "BSD and System V aren't very different anyway" - the main problem lies in differences in shared memory, but BSDI intends to license third party libraries to solve this. Meanwhile, BSD/386 v1.1 for Intel-based hardware (UX No 475), is already shipping, and costs \$545 for a single system unlimited user binary license, and \$1,045 for binaries plus source code. Additional system licences cost \$200. BSDI reckons it has sold 9,000 of the things up till now, enough to generate annual revenues of \$1m, and is seeing turnover double on a month-by-month basis. The product's main appeal, the firm believes, lies in its network access capabilities - BSD has full peer-to-peer connectivity with the Internet, which means customers don't need a router to hook up to it. The offering also comes as an all-inclusive package on CD-ROM, including compilers, X Windows and Mosaic licences.

CHORUS, MITSUBISHI JOIN UTG

Chorus Systemes SA and Mitsubishi Electric Corp/Apricot have joined the UnixWare Technology Group support organisation as sponsor and associate members respectively. Meanwhile, Chorus has kicked-off a new programme - "Shape your future now!" - designed to promote the benefits of microkernel strategies which includes training, consulting and support plus the Chorus/Mix microkernel itself in binary and source evaluation packages. The scheme is also available through Novell Inc's Unix Systems Group. With partners, Chorus is gradually tailoring versions of its microkernel for a variety of markets, including fault-tolerance, telecommunications, process control, embedded systems and real-time - the latter effectively a "picokernel" it says. Its also working on a native OMG-compliant Corba object layer for Chorus/Mix, part-funded by a European Esprit programme, called Chorus/Cool, using the OMG Interface Definition Language. It expects more real-time announcements in a couple of months.

DAWN HAS O-O INTERFACES FOR TOOLTALK

Dawn Technologies Inc has diversified out of the computer-aided design device simulation market to unveil its DawnTools object-oriented interfaces, which make it easier to exploit ToolTalk and Common Desktop Environment messaging protocols. The tools comprise TT++, which is an object-oriented interface to ToolTalk and costs \$2,500, and CDEM++, a layer above ToolTalk that encapsulates CDE messaging protocols and costs \$1,000. Both are written in C++, and currently support Sun Microsystems Inc's SunOS, Solaris, and Hewlett-Packard Co's HP/UX. The Sunnyvale, California-based company says it intends to support all implementations of CDE as soon as the code becomes stable, and will port to other non-CDE environments on a request basis. Dawn developed DawnTools in response to a lack of available tool integration products on the market, but now reckons it could generate as much as \$15m in the next couple of years. It is currently developing other ToolTalk tools for areas such as administration, and working on other class libraries, such as presentation libraries and graphics plotting. It also wants to put ToolTalk up on Microsoft Corp Windows NT to ensure interoperability, and will built tools to ensure compatibility between T++ and CORBA-compliant environments.

RETIX DEBUTS SNMP MANAGEMENT TOOL

Santa Monica, California-based Retix Inc has introduced what it claims is the first Simple Network Management Protocol-based router management tool to support all major Unix-based network management packages, including Sun Microsystems Inc's SunNet Manager, Hewlett-Packard Co's HP OpenView, IBM Corp NetView/6000, and DiMONS from NetLabs Inc. Called RetixVision, the product is said to provide remote configuration of Retix products, trouble-shooting, and retrieval and display of device data such as performance, status and configuration. According to the company, the product can be run in stand-alone mode on any Unix workstation, used with other Unix-based management systems, or used with the Retix Network Management Packs (claimed as fully compiled Retix device Management Information Bases) to provide additional Retix-specific alarm reporting and device icons. Available now, RetixVision lists from \$6,000.

ICL TEAMS WITH PYRAMID ON PARALLEL MAINFRAME-KILLERS

ICL Plc is inexorably getting closer to Mountain View, California-based Pyramid Technology Corp, and despite the fact that they use different RISCs - Sparc for ICL, Mips R-series for Pyramid, they have extended their alliance on server fundamentals for the second time in a month. This time the aim is to integrate symmetric multiprocessing and massively parallel operating system technologies to create the architecture for a machine that can be viewed as a single image regardless of how many processors it has. The objective mirrors IBM Corp's plan to create a "parallel mainframe" except that ICL and Pyramid do not carry with them all the MVS, IMS and DB2 baggage that threatens to undermine IBM's effort. The partners hope to build on ICL's distributed mainframe expertise and Pyramid's leadership in symmetric multiprocessing and data centre Unix to create systems intended to satisfy the most demanding mainframe users. Stage one of the plan is to create a single image system - though not a single box, ICL says - using ICL's Goldrush and Pyramid's Nile as the starting points, where Goldrush will house the database and Nile the applications. An envisioned second stage will see the two will work on the aspects that are vital to mainframe users - enhancements to their systems management and improved functionality in the areas of archiving, fault resilience and system recovery. ICL has found Pyramid a far better fit with its corporate systems division, which is driving this work, than the client-server unit.

LOOK LAUNCHES VERSION 2.1 OF OO TOOL

Paris, France-based Loox Software SA has released version 2.1 of its object-oriented graphical user interface builder and software development tool for X Windows in preparation for moving its research and development efforts to the US (UX No 473). The aim is to encourage independent software vendors to adopt Loox, essentially an object layer that sits on top of Motif. Version 2.1 is now available under Solaris x86, and includes a new Compound Editor, which enables users to build self-contained, self-verifying, autonomous graphics components that can be ported between applications. It also has improved on-line documentation, and is shipping now on CD-ROM, costing \$9,950 for a single development license. The next major release in July or August will enable users to alter individual components within a given computer-aided design package, and will be compatible with such graphical user interface builders as TeleUse. The firm is also working on C++-based class libraries - Loox is currently written in C - and will open an office in Singapore in three or four months. +1 415 903 0942.

UNGERMANN-BASS REPACKAGES NETDIRECTOR

Tandem Computer Inc's Ungermann Bass has changed the way it packages its NetDirector network management applications, so that customers need only pay for the functionality they require. Release 1.1 of NetDirector for HP and Sun, will henceforth be sold as two different bundles - NetDirector for Unix Network Node Manager at \$10,000; and NetDirector for Unix SNMP Platform at \$6,000. An IBM version of the product is due to follow soon. The firm has also integrated version 2.0 of its Paradigm problem management applications with NetDirector for Unix, but customers have to buy this separately - it starts at \$16,500. Version 2.0 incorporates a new facility for tracking service level agreements and a Windows client. It is also possible to bundle release 1.1 of the FocusView series of applications with NetDirector for an extra \$6,000. FocusView now manages Drag-onSwitch, Access/Stax and Access/One hubs.

AVID TO DO AUTHORIZING SYSTEM FOR SGI

Avid Technology Inc is to develop a high-end authoring system for Silicon Graphics Inc workstations to provide the capabilities required by those authoring interactive titles for the game, educational software and interactive television markets. Silicon Graphics has agreed to work closely with Avid in providing support to ensure optimal use of its workstation technology. The authoring system will be able to create compositions from high-quality video, audio, music and interactive two- and three-dimensional graphics. It will also include a generalised scripting system so compositions can be played on various operating environments. Avid and Silicon Graphics are already working jointly to bring Avid's Media Suite Pro desktop video editing technology to the Indy and Indigo2 workstations by the summer.

AMDAHL HAS 12-WAY MAINFRAME, NCUBE, ORACLE TIES...

Amdahl Corp is gearing up to pre-empt IBM Corp's early April announcements with launches and announcements of its own on Tuesday. It is expected to trump IBM's 10-way ES/9000 with a 12-way mainframe of its own, and to join forces with "three international leaders in relational database and advanced processor technologies" to create "advanced, high value enterprise intelligence systems". It is believed that this refers to an alliance with Oracle Corp, massively parallel systems builder nCube Corp, and probably Sun Microsystems Inc to create an answer to IBM's planned database query server. Amdahl says that "systems developed under the alliance will dramatically impact the way large companies conduct business on a global basis".

...GOES TO DG FOR CLARION OEM DEAL

Separately, the Sunnyvale mainframer announced that it has gone to Data General Corp for an OEM agreement on its CLARiiON disk arrays, and has launched them as the Amdahl Series 3000, aiming them at the Sun Microsystems Sparccenter 2000 and Sparcserver 1000 that it markets itself, and also at IBM's RS/6000 and at NetWare servers. Amdahl is also to work with Data General on advanced data storage and data management technologies, starting with further optimisation of performance and availability of the CLARiiON arrays in Sun environments. The arrays support RAID levels 0, 1, 3, 5, and I/O concurrently, have two 20M-byte per second interfaces and 64Mb mirrored cache, coming in 5Gb to 40Gb capacities in a single cabinet. Amdahl also announced five new services for open systems client-server environments - client-server needs assessment, client server network design and optimisation, client-server migration planning, open systems installation and training, and systems integration.

HAL HAS UNIVERSAL DOCUMENTS DISPLAY

Although HaL Computer Systems Ltd hasn't much that's tangible to show for its years of hardware development efforts, its coding unit, HaL Software Systems is showing the way to go. With a graphical DCE administration tool already under its belt (UX No 479), the Austin, Texas concern has a new unified system for navigating, retrieving and displaying information from a variety of sources including SGML and World Wide Web documents and relational databases. Now in beta, Olias Browser will be up on Sun Microsystems Inc workstations first from May, on other unices from the third quarter, and on Microsoft Corp Windows early next year. text is dynamically formatted with images, graphics and tables and the full-text search system comes with an expandable and collapsible table of contents and hypertext links. Olias Build Tools compile SGML documents into a library format for storage and searching, which can be distributed on CD-ROM for viewing with Olias Browser. A gateway to other sources such as World Wide Web is provided by Olias Remote Information Broker, whilst Olias Filter development Kit allows other kinds of existing documents to be migrated into SGML for electronic delivery and viewing under the browser. Build Tools and Remote Information Broker are due in the third quarter, the Filter Development Kit by year-end. Olias Browser is \$100 per user, Build Tools are \$7,500 for up to four users, the Broker is \$50 per user and the development kit \$5,000 per site licence. +1 512 834 9962

MOTOROLA UNVEILS LAST 88110-BASED SERIES 900 SERVER

Motorola Inc's Computer Group has introduced what it says is its last Series 900 server to be based on the 88000 processor before it moves to the PowerPC. The model 984 is based on four 50MHz 88110 processors, which each have 16Kb of on-chip cache and are linked by a tightly-coupled memory bus, 1Mb of secondary cache, up to 1Gb of main memory, and up to 512Mb of on-board memory. It supports up to 1,000 users and is claimed to perform 1.8 times faster than the dual processor version, which is rated at 116.2 AIMS or \$557 per AIM. Benchmarks should be available by April, as should the machine. The model 984 starts at \$100,000 and is upgradeable to the PowerPC.

CANDLE MAKES ITS UNIX MOVE AT LAST WITH IBM, HP AND SUN

Systems management tool providers Candle Corporation, Santa Monica, California, has been keeping quiet about its plans to expand from its MVS mainframe base while its rivals have been more vocal. But in that time it has been working on the underlying technology that will allow it to run its Availability Command Centre tools on multiple platforms, including AS/400, Unix and NT. The AS/400 version is already shipping, while demos of IBM, HP and Sun Unix versions were shown at UniForum last week. Candle's CT - Candle Technology - architecture is split into four parts: workstation client software for OS/2, Windows and Motif platforms; the data server/repository, based on Candle's own relational/object database and running on Unix, OS/2, NT, AS/400s or MVS; applications services, based on a set of C++ libraries (Borland at the moment, although Candle is working with IBM on C Set and has written its own C++ compiler for the mainframe); and communications services, a layer of software to handle communications protocols such as SNA and TCP/IP. Candle products monitor system resources and workload, and can be set up to automatically re-configure in the event of a problem. IT provides central point of control for very large installations. Candle is also working with Transarc Corp to tie its products in with the Encina transaction processing monitor, CICS/6000 and distributed DB/2, and is working with one of its largest customers, American Express, on its Unix-based products. It is also talking to IBM about products for the SP1 PowerParallel system and parallel mainframes. The monitoring software is currently up on Unix, the rest should be available by year end. Privately held Candle has 1,100 employees and achieved \$210m in sales at the end of last year, with \$235m anticipated this year. It claims to have been consistently profitable. European headquarters is in Munich, and the UK office is in Guildford, Surrey.

OBJECT LAYER FOR TOP-END, POWERPC VERSION, NT CONSIDERED

AT&T Global Information Solutions - aka NCR - is developing a C++-based, CORBA-compliant object framework that will sit on top of its Top End transaction processing monitor. This object layer, which is scheduled for release at the end of the year, will enable developers to write class libraries based around the product. The firm will also port Top End to the PowerPC in the same timescale, and is currently evaluating a Microsoft Corp Windows NT version and a Sequent Computer Corp port. Meanwhile, it has licensed Four Seasons Software Inc's Supernova application development environment, and Powersoft Corp's PowerBuilder graphical user interface builder - the aim here is to encourage independent software vendors to build shrink-wrapped applications that have Top End embedded in them. The company says it has sold 1,500 server licences up till now, and has 200 customers worldwide, although it expects to increase this figure to 4,500 by the end of the year. About 160 of the 200 are software developers, primarily in the retail and financial markets, although transport and telecommunications packages are starting to emerge. The firm is also keen to move into the healthcare market. Its other 40 or so customers, such as Reuters and Delta Airlines, are using Top End to run their businesses.

TRANSARC OFFERS ENCINA FOR WINDOWS

Transarc Corp is putting an Encina OLTP up on Windows to enable business to include PCs within their distributed computing models. The initial development work was done by Intel Corp, which wants to see an iAPX-86 server implementation too. The product is built upon Gradient Technologies Inc's PC-DCE, and Windows-based Encina clients can be created from Visual Basic, Visual C++, PowerBuilder and JYACC JAM. Runtimes are \$100, development kits \$1,000. Transarc expects to do between \$20m and \$22m business this year, about double last time around. 50% of sales are direct, the rest from its OEM deals with the likes of DEC, HP, IBM, Hitachi, NEC, Stratus and Siemens. Mitsubishi Corp is expected on board soon. The firm claims 200 licensees of its DCE implementations, 100 on Encina and is readying version 3.0 of the DCE Distributed File for the summer.

UNIFORUM ROUNDUP

Pencom Software Inc has beaten **Unisoft Ltd** to supplying the **PowerOpen Association** with both application and system software test suites. Pencom hopes to have the suites ready in about six months and reckons that the contract, combined with follow-on work should earn it more than \$1m.

Cray Research Inc reckons that by the time it releases its next massively parallel machine, T3E, in mid-1995, its Unicos operating system will be fully microkernel-based - at the moment, it is a Unix-based hybrid. The firm's C90 and EL supercomputers will follow suit in between two and three years time. Cray also plans to port the ToolTalk messaging system and an implementation of CDE - the most likely candidate being Sun's - to Unicos, and eventually intends to give it an object-oriented front-end.

Cray Research Inc holds the trademark to the "superserver" name and will be notifying **ICL Plc** of the fact in the near future. A possible relationship with the UK firm went quiet after ICL threw its high-end lot in with **Pyramid Technology Corp**.

X/Open Co Ltd has decided not to take the **Public Windows Initiative** alternative Windows specification because it says it couldn't take the risk of being burdened with a **Microsoft Corp** lawsuit. Anyway, because the spec is reverse-engineered Windows code user's would all too quickly end up with an outmoded reference environment, it adds.

Microsoft Corp's Chicago or Windows 4 is expected to go for between \$20 and \$30 a shot.

Data General Corp has 32-way AV9500s in the pipeline and should be able to offer 8-way clusters of the machines within 12 months. It also reckons it is now close to signing several vendors to take DG/UX - such companies have focused mainly on the technical arena to date, but now wish to move into the commercial market.

Neuron Data Inc has started shipping version 2.0 of its Smart Elements rule and object application development environment. The product has enhanced graphical user interface widgets, supports C++ and the company's own Data Access Element - a data connectivity option that enables developers to transparently access and manipulate data from multiple sources using point-and-click. It starts at \$9,850 for a developer's licence.

Supplier of **Microsoft Corp** Windows-based business applications, **Thuridion Inc**, is to acquire the assets of **Xalt Software Corp** for an undisclosed sum. The Scotts Valley, California-based firm began selling Xalt's Xalt Office in January and is currently developing a Windows version of the product, which is scheduled for release in the third quarter. Xalt Office is a graphical office automation package that runs under Unix, and on X terminals under Motif. +1 408 439 9800.

Next Computer Inc has made its Portable Distributed Objects software available on **DEC's** OSF/1 operating system (UX No 470). PDO Version 2.0 for OSF/1 will be out in mid-1994. The distributed object framework already ships on NeXTStep and HP/UX platforms, with a Sun Solaris version planned.

Xerox Corp's XSoft division's InConcert workflow software now supports **Hewlett-Packard Co's** HP9000 workstations. Network support has also been enhanced to include **NetManage's** NetChameleonNFS and Sun's PC-NFS implementation, while the product now also supports Informix Online 5.0, Oracle 7, and Sybase 10 databases. It costs \$21,000 for two developers licences and eight end-user licences.

Personal computer-to-Unix connectivity software and development tools supplier, **Unipress Software Inc**, is now shipping **Microsoft Corp's** LAN Manager for SunOS and will release another version for Solaris 2 in July. The product costs \$2,995 for a 48-user server license and \$7,995 for an unlimited user license. + 908 287 2100.

Cambridge, UK-based **Unipalm Ltd** will start shipping its **Microsoft Corp** Windows-based e-mail product, Mail-It, from the end of March. The product enables users to send images, graphics, audio, video, multimedia, and multi-font text to Internet host locations from a personal computer. It incorporates Multipurpose Internet Mail Extensions, the Simple Mail Transfer Protocol, and Unix-to-Unix copy command transfer files, and costs \$700 for a five-user licence. Mail-It Remote is also available for single or mobile users.

The **SAS Institute Inc** has new stand-alone graphics-based software for real-time document management and information retrieval from such sources as newswires or the Internet. InfoTap runs under HP/UX, IBM's AIX and Sun's Solaris. +1 919 677 8000.

Cupertino, California-based **Digital Tools Inc** has unveiled version 2.0 of its AutoPlan II project management software. New features include an application programming interface so developers can integrate third party applications and databases, and an Inter-Project Bulletin Board. The firm has also started shipping its new AutoTeam time and event activity manager as an add-on to AutoPlan II version 2.0. AutoTeam automates the updating of project schedules without needing to access AutoPlan. AutoPlan starts at \$1,495 and AutoTeam at \$495 per single user license. +1 716 396 3100.

JSB Corp's MultiView Mascot version 3.3.1 now runs on both SunOS 4.1 and Solaris 2.1. Meanwhile, version 3.0 of the Scotts Valley, California-based firm's Virtual Socket Library supports OS/2 and IPX/SPX.

DEC is putting-up Austin, Texas-based **UniSQL Inc's** object-relational, multidatabase system, UniSQL/M up on OSF/1, it announced last week, as part of its Accessworks database line. Accessworks Object SQL Server will be out in May. UniSQL figures the move as the first use of a multidatabase architecture by a major industry.

SIGS Conferences' Object Expo '94 is at the New York Hilton between June 6th and 10th.

Madras, India firm **Ramco Group's** Sunnyvale, California unit, **Ramco Systems Corp**, will debut 12 new enterprise management applications in its Marshal line of client/server products during DB/Expo in San Francisco in May. The 12 new modules range across financial, distribution, materials, manufacturing, personnel and productivity tools. Up on a variety of operating systems and LANs, a five-user Marshal system starts around \$40,000. +1 408 522 8080.

A beta version of **Novell Inc's** Netware running native on Sparc is scheduled to materialise by the end of the summer.

Empress Software Inc, Greenbelt, Maryland, has a new object-oriented graphical user interface for the Empress RDBMS, running under X-Windows and Motif, and available on Sun, SGI and HP platforms. Other platforms are promised in the near future.

Pure Software Inc is giving away 20,000 free copies of its new PureCoverage tool (UX No 479), which prevents untested code from being shipped to customers, to its existing Purify user base.

Tektronix Inc has extended its relationship with **Hummingbird Communications Ltd** for the rights to Hummingbird's suite of PC X Server products.

Redmond, Washington-based **Open Computing Security Group** has added graphical front-end administration tool to its OCSG/Kerebos software and support for Security Dynamics Inc's SecurID token card. The interface provides facilities for creating and maintaining the Kerebos database: release 5.2.1 in server, client workstation and toolkit configurations runs on SunSoft, IBM, HP, DEC and NeXTStep Unix - version 5.2 client software is up on Macintosh, Windows and MS-DOS. +1 206 883 8721

UK firm **Imperial Software Technology**, Reading, Berkshire, introduced version 3.2 of its X-Designer GUI builder at last week's show, which now allows C++ developers to define groups of interface elements which can be re-used elsewhere in their design. Version 3.2, which can also be used by C developers, also includes a new toolbar, optional floating point widget palette, user-definable widget icons and increased widget integration facilities. X-Designer on SunOS, Solaris an HP-UX is \$3,500, upgrades are free. +44 734 587055

RDI Computer Corp has renewed its OEM agreement with SunSoft Inc for Solaris 2.3 - and SunOS 4.1.1 - which it will ship unmodified on its PowerLite and BriteLite portables. Unlike its rival Tadpole Technology plc, which modifies Solaris for portable environments, RDI prefers to keep full compatibility with Sparc-based workstations from Sun: it's first OEM deal was struck three years ago. Meanwhile, RDI's microSprac-based PowerLite is now on Sun Federal's third party list.

FLOATING POINT SYSTEMS UK BRINGS IN GENERAL MICRO SYSTEMS' PROCESSOR-INDEPENDENT V64 PREDATOR

Floating Point Systems UK Ltd, which this week moves to Wokingham, Berkshire has announced immediate availability of the V64 Predator, a single board 64-bit computer with multiprocessor capability that can be fitted with a variety of microprocessors. It is designed to save developers from the cost of redeveloping their products each time a new processor hits the market. At present it supports Sparc, Supersparc, Motorola Inc 68040 and Intel Corp 80860 and later in the year will support PowerPC, Pentium, Alpha and PA-7100. Floating Point has signed an exclusive European partnership agreement with General Micro Systems Inc of Rancho Cucamonga, California, the manufacturer of the product and US distributor. The computer uses Mbus standard level 2 and a VME64 interface that will support up to six 150 MIPS processors in one VME slot. Unix and real time operating systems can be used concurrently via two Sbus slots and its split architecture. The base board consists of the Main - supported by two Mbus processor slots and the Accelerator - with its own Mbus processor to handle data as fast as it comes in. The Accelerator part of the Predator has a 64-bit Inter-Processor Communication Bus to get round the limitation of VMEbus data transfer rates and has board-to-board transfer rates of 150Mbytes per second with burst transfer of over 200Mbytes per second. It supports Solaris versions 1.x and 2.x and for real time applications there is support for VxWorks, RTMX and Toolsmith's Unison. The base board costs £5,000 and the SuperSparc version is an additional £2,000. The product is part of Floating Point's new strategy to diversify its market away from the defence sector. It was formed in Europe as a separate company from its predecessor Floating Point Systems Inc. Through management buy-outs from the collapsed Beaverton, Oregon company of similar name, it was completed in 1992. Now a marketing company, Floating Point Systems UK has been looking for new products, and also distributes the IDL scientific visualisation development software from Research Systems Inc in the UK and Scandinavia and the RACE Architecture-based MC860 series of multicomputers for real time applications from Mercury Computer Systems Inc. In its dying days, its former parent liked to call itself FPS Computing. Most of its US assets were sold to Cray Research Inc.

WHO IS APPLE'S JAPANESE POWERPARTNER?

So we know that the first licensee - and there may be more than one - of Apple Computer Inc's Macintosh System on PowerPC will come from Japan, but which are the most likely suspects? Fujitsu Ltd is firmly in the Sparc camp and Hitachi Ltd is unlikely to be wooed away from Precision Architecture, while Mitsubishi Electric Corp has made investments that have yet to yield a return in Alpha, so those three can probably be ruled out. There is a theory doing the rounds that NEC Corp could get so much closer to Compagnie des Machines Bull SA that it would be prepared to dump the R-series RISCs that it fabricates, but we don't buy that one - it makes too many different R4000 parts. Matsushita Electric Industrial Co has had a nasty experience with Sparc as a result of its investment in Solbourne Computer Inc but is so close to Fujitsu that it is unlikely to defect from Sparc. Oki Electric Industrial Co is in the Precision Architecture camp and is not a personal computer player. Canon Inc is a very likely candidate because it is already halfway there in that it markets Apple machines through Canon Sales and is to build machines to run NeXTstep, so it can be counted as a banker. Sony Corp - presently an R-series user - and Sharp Corp both have ties to Apple, and are sufficiently unattached elsewhere that each is a possibility, as is long-shot Seiko-Epson Co. But the real dark horse is Toshiba Corp: against is the fact that it is rather a wan R-series fabricator but resells Sun Microsystems Inc Sparcsystems; for are the facts that it already has a big joint venture with Motorola Inc making chips in Japan, is close to IBM Corp in a number of other areas, notably colour flat panel displays, and the fact that if it became a Japanese PowerPC fabricator, it would be first in the game rather than an also-ran - so looks a promising each-way bet.

NOVELL, AT&T HAVE NETWARE TELEPHONY

Novell Inc and AT&T Co have at last come down to the wire with their development effort to bring Novell's Telephony Services for NetWare - the product has mysteriously changed its name to NetWare Telephony Services - to market, and will begin shipping next month. NetWare Telephony Services links PABXs and computer networks so that desktop computer users can place phone calls by choosing a name from a phone list displayed on their screen, or create conference calls by highlighting names and clicking on a conference call icon - always supposing that the parties clicked want to participate. The product incorporates integrated voice-mail, facsimile and electronic mail capabilities, and will support desktop video mail, they say. Initially 40 software developers will offer applications for NetWare Telephony Services, things such as programs that put pop-up windows of customer accounts on screen when phone calls are received, schedule conference calls in advance so that they begin automatically (even if you happen to have "just slipped out", presumably), and take advantage of existing features in the PABX. The pitch is that NetWare Telephony Services eliminates the cost and administrative overhead of installing special hardware in every personal computer, adding secondary phone lines and connecting every computer to a desktop telephone - the only physical connection is between the phone system and the NetWare server. The application programming interface is based on the international Computer Support Telecommunications Application standard. It includes a NetWare Loadable Module; client software libraries; appropriate PABX driver; and a sample application, TSCall, an electronic telephone directory. Pricing begins at \$200 per user, falling to \$75 if there are enough of them, and AT&T will market the product under the name PassageWay Telephony Services Solution. It is initially out for Microsoft Corp Windows, but support is planned for OS/2, UnixWare and Macintosh, beginning later this year.

UK FIRM TAKES OVER INFO 4GL PRODUCT

The UK's Doric Computer Systems International, Watford, Herts, has bought the worldwide copyrights to the Info 4GL range of software products from Henco Software, Waltham, Massachusetts (now renamed Expressway and concentrating on different markets). Info, a relational database management system, includes a data dictionary, Forms-based data entry, interactive report writer and free-form query system. The software started on Prime and VAX hardware, although Doric ported the software over to Unix around 18 months ago. It has now opened an office in Seattle and plans to launch the Unix version in the US. Future developments include the addition of a graphical user interface and SQL interfaces to Oracle and Ingres. ESRI of Redlands, California, uses the product as the basis for its ARC/Info geographic information system. Tel: +44 923 252288.

INTEGRATED MICRO TO GO PUBLIC

Integrated Micro Products Plc, the Consett, County Durham, UK builder of fault-tolerant Unix systems - it makes Motorola Inc's NX machines for phone companies - has decided to go public in the US rather than in the UK, and is offering 1.8m American Depositary Shares - representing the same number of ordinary shares - at \$10.00 per share; it will receive gross proceeds of \$15.75m, with shareholders cashing in getting \$2.25m. Joint underwriters for the issue are S G Warburg & Co Inc and Volpe, Welty & Co. IMP bought US firm Parallel Computer Inc from General Automation way back in 1988, and took over its Edison, New Jersey sales office as its US headquarters (UX No 198).

STRAPPED SEQUOIA SECURES MORE CREDIT

And Sequoia Systems Inc, Marlborough, Massachusetts fault-tolerant Unix systems builder and partner of Hewlett-Packard, has secured a \$10m line of credit from State Street Bank & Trust Co, a unit of State Street Boston Corp, and says it needs the loan for its short-term working capital. Meanwhile, the Sanderson Computers Ltd arm of Sanderson Electronics Plc in the UK has signed with Sequoia to resell its fault-tolerant Unix line with the travel industry software from its Astrologic Ltd subsidiary.

uni gram X

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The OSF reorganisation documents we have read and the OSF founders we talked to like HP maintain that a fire wall will be put between the new OSF members and the liabilities, namely the Addamax antitrust suit, that the old crew ran up. This is also the perception of companies like Sun. However, OSF chief Dave Tory expects, in a supreme sense of irony, that Sun, which financed the suit will (along with all other members) end up paying a share of any costs that arise. Tory says the legal entity that is OSF, no matter what its name is changed to, remains, with only a few of its bylaws altered, and the suit will take its normal course.

IBM Corp was showing off the unannounced Wabi 1.1, aka Wabi Plus, at Uniforum last week. That's the stuff it's adding its software-based Instruction Set Translation technology to trying to get Wabi to run more Intel applications and heighten its performance. IBM says it can now chug along in the 33/486 range and promises 66/486DX2 performance by the end of the year.

OSF and its founders are ticked off at Sun and SunSoft for the spin they're claimed to be putting on the reorganisation story (UX No 479) and saying it will bite them back.

DEC's Linkworks groupware package won the "Software for Europe" Gold award at Cebit a few weeks back, as awarded by *Computerwoche* magazine.

The French Unix Users Group, AFUU, and the Institute for International Research is organising a new conference, Unix 94: Challenge and Strategies, at the Cite des Sciences et de l'Industrie in France on May 3-6th. +331 46709590.

And the UK Unix User Group Annual Conference is being held at the Royal Holloway and Bedford New College in Egham, Surrey on 11-15th April. +44 763 273475.

Former UniForum UK executive director Roger Frampton has left London-based MicroMuse Ltd by "mutual agreement" where he had been marketing communications director since July last year.

Version 4.4, due in April, will be the last of DEC's Ultrix releases. Thereafter users will have to go to DEC's OSF/1, which has translators that can run Ultrix binaries, or go elsewhere.

Digital Equipment Corp says sales at its Mexico subsidiary have surged following approval of the North American Free Trade Agreement. Sales forecasts are up 30%: the company is bidding for the TAC-4 Navy contract for computer equipment, which could be worth as much as \$1,000m in sales of the company's Alpha RISC-based machines.

The Wall Street Journal estimates that Microsoft Corp now takes in 37% of all PC software revenue generated worldwide.

We're expecting Legent Corp to make an acquisition.

Why is Novell Inc buying Quattro Pro? Unkind cynics say it needs the spreadsheet to work out how much money it lost in buying Unix.

Trade union sources say Compagnie des Machines Bull SA chief executive Jean-Marie Descarpentries told managers that the company could cut between 1,500 and 2,000 more jobs between now and 1995, principally outside of France, *La Tribune-Defosses* reported: Descarpentries reportedly said that the \$285m that appeared in the company's 1993 accounts for restructuring costs includes some \$138m to finance the cuts, and quotes Bull company management saying that "nothing has been decided" and that "breakdown of provisions is confidential."

An innocent little patent awarded to Irvine, California-based Advanced Logic Research Inc could turn out to be a time-bomb: the patent covers ALR's microprocessor upgrade technology, which makes it easier to upgrade old iAPX-86 machines to 80486 or Pentium processors, and the *Wall Street Journal* suggests that it could even claim royalties on the patent from Intel Corp, which has been pushing its Over Drive upgrade capability with its Vacancy commercials on television.

Novell Inc was not the only game in town when Wordperfect Corp came onto the market - Lotus Development Corp had first suggested paying \$700m for the company, the *Wall Street Journal* reports, noting that Novell finally agreed a price of \$1,400m in paper - a deal that has shrivelled its share price by 20% so that it is nominally now worth only \$1,120m - if the share price falls much further, renegotiation may be needed, or the deal may collapse; Novell unsuccessfully sought to merge with Lotus four years ago.

Massively parallel systems manufacturer nCube Corp is setting up in the UK to feed off Oracle Corp's customer base. The Foster City, California-based firm, which is controlled by Oracle's chief executive Larry Ellison, will target commercial markets from its UK offices, based in Stockley Park, near Heathrow. It has already enjoyed success in the video-on-demand market, which Oracle is targeting heavily on the software side. +44 81 899 1706.

Clarifying its previous statements, ICL Plc says that, while it might be interested in a joint venture with Compagnie des Machines Bull SA on computer services areas such as facilities management, it is not interested in buying bits of Bull.

Cray Research Inc last week launched release 8.0 of its Unicos Unix System V for supercomputers, saying it has added new features to appeal to commercial operating environments, including improved scalable parallel processing, security features and centralised resource management; it also said that its Trusted Unicos is the first system assigned the US Department of Defense "red book" rating by the US National Security Agency, following a four year-evaluation.

Prices for Sun's Sparcstorage Array start at \$24,900 for the 6.3Gb configuration, going up to \$50,900 the fully loaded 31.5Gb configuration: that is about half the street price for 9337-2XX arrays for IBM Corp's AS/400 in comparable storage configurations.

Sprint Corp and Silicon Graphics Inc will jointly develop a network to enable users to create publications and other creative projects online via computers at different sites: the "drums" network will also offer direct access to Internet.

A department of the French Finance Ministry intends to replace its IBM and Bull mainframes with a client-server system based on Bull's DPC/20s and HP's Emerald workstations, running Unix System V.4: *Computerwoche* expects Informix Corp's database to be chosen over Oracle Corp's offering because software development work could then be undertaken using the Windows version of Online 4GL.

Sun Microsystems Inc has picked Faximum Software Inc to provide the fax software that will ship with its new PCMCIA modem. The product, which Sun will distribute, is targeted at the new Sun Voyager portable workstation. It is the little Canadian company's second OEM deal after the one it has with HP. It will release its own version in May.

It's not only when they congregate in cartel-like solidarity that the industry big-wigs scare the "bejeezes" out of little software companies. To protect themselves from the big boys who want to become one-stop shops and sell stuff like tools direct, a bunch of tools vendors led by Centerline Software are kicking around the idea of forming a consortium of their own. Possible founders reportedly include Pure Software, Alsys and possibly Mercury Interactive.

Novell's plans to acquire WordPerfect, perhaps motivated in part by their similar cultures, were incredibly closely held. Top-ranking Novell officials, even people who are going to have to manage the merger, were completely uninformed of what was going on and could only speculate after Unigram indicated something was afoot. Rumour has it some of them were only told at the eleventh hour after they were gathered in a room and the doors locked. Papers like *The San Jose Mercury News* have trashed the wisdom of the move and there's concern over Novell valuation. Speculation in the industry wonders whether Novell will now consolidate in Utah and close down its San Jose operation and whether there'll be a brain drain now at WordPerfect. WordPerfect's president is also being touted as a possible replacement for Ray Noorda.

To keep the droning to a minimum, the organisers of last week's OSF bash at UniForum determined that only one company from each of the two now-reconciled camps should get to make a speech. Both Ed Zander of SunSoft and Mike DeFazio of Novell wanted to be the one to represent the old AT&T contingent. So during Tuesday rehearsals it had to be decided by the toss of a coin. HP called it, Zander lost it and Unigram wound up with the quarter.

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SEQUENT RAISES COMMERCIAL UNIX STAKES WITH NEW SMP SERIES...

Sequent Computer Systems Inc will this week introduce its anticipated new generation of symmetric multiprocessing Unix machines that will turn the heat up on rivals in the competitive high-end commercial sector like AT&T Global Information Solutions (NCR), Hewlett-Packard Co, IBM Corp, Pyramid Technology and Amdahl Corp - plus the crop of vendors currently that see massively parallel systems as the answer for on-line transaction processing and decision support systems. The Symmetry 5000 series uses from two to 30 60MHz Intel Corp Pentiums, runs a new SVID 3-compatible version of the firm's Dynix/ptx Unix, has an enhanced bus system and can be clustered in two, three or four-node configurations. With two CPUs, the entry-level Symmetry 5000 SE20 comes with 64Mb RAM, 8.4Gb disk, a 25-user Dynix/ptx licence and costs \$171,100. A high-end eight-way version with 768Mb RAM and 111Gb disk for up to 1,000 users starts at \$1,030,400. An entry 5000 SE60 costs \$470,000 with two CPUs, 256Mb RAM and 31.5Gb disk for 100 users. A 24-way SE60 with 1.5Gb RAM and 236 Gb disk for up to 2,100 users is from \$2,635,700. Top of the range is a system with 30 CPUs, 2Gb RAM and 840Gb disk. An entry-level SE90 cluster comes with two dual-CPU, 100-user SE20s, each with 256Mb RAM and 2.1Gb disk, ptx/Clusters software and 8.4Gb shared disk for \$475,800. An SE90 with two dual-CPU clustered SE60s is \$923,000. The SE60s have 256Mb RAM, 2.1Gb disk, clustering software and 21Gb shared disk. By the end its second quarter in mid-year, the Beaverton, Oregon-based firm expects 90% of its revenues to come from Series 5000 sales - the systems ship this month. Most Symmetry 2000 models are superseded, including the high-end 490s and 790s, though the low-end 220 is continued and parts for other 2000s will be available so users can still max out their existing configurations. Upgrading from a 790 to a comparable SE60 will cost between \$300,000 and \$500,000 - Sequent expects four or five such customers each quarter. 5000s and 2000s can co-exist in mixed cluster configurations. With the 5000, Sequent has cut the number of cabinets from the 16 it uses on the 2000 to four - two system and two expansion units. UK pricing has not yet been firmed up and will be available next week.

Not in the MPP fan club

Sequent has expanded its 80Mbps Highly Scalable Bus to 240Mbps for the 5000, and claims that on a 24-way system with 1.5Gb RAM it tested internally - one of 78 5000s built during development - the bus was only half full. Sequent's Dynix/ptx 2.1.1 Unix SVR4 implementation, enhanced for high-availability, is upgraded to SVID 3 with release 4.0 and is compatible with the previous release. Sequent has some 5,500-odd 2000s installed, around 10% of them clustered. Like other commercial SMP and parallel system vendors, Sequent has banks and financial institutions with disparate information systems in its first line of sight. Its competitors, however, especially the emerging parallel players, say SMP approaches will never be able to scale high-enough, or be cost-effective enough to meet the needs of the really large users looking to move off proprietary systems - see page 5. But with a decade of SMP experience under its belt, Sequent believes its clustering techniques will allow all but the very largest users, perhaps the top 2%, to dismantle and migrate existing databases piece by piece. Indeed "massively parallel is a bad word and an ugly programming environment," it says.

...SEEKS COMMERCIAL UNIX STANDARD

Although there's maybe 18 months more development life left in its current Dynix/ptx kernel (UX No 475), what Sequent really wants is a single, stable source of commercial, high-availability Unix; it doesn't want to spend hundreds of millions of dollars on doing its own kernel engineering. Indeed Novell Inc's desktop focus has many of the high-end Unix players concerned, especially as the Enhanced Security/Multiprocessing Unix SVR4 ES/MP project begun at Unix System Labs at the behest of the then Unix International is now indefinitely on hold. Furthermore, Sequent sees no benefit to customers from the new-fangled Open Software Foundation. It sees little prospect that antagonistic vendors with a slew of Unix flavours, can do anything sensible in the way of achieving what it would like to see - a single implementation. Indeed, OSF's raison d'être runs to single specification, multiple implementations. What we shouldn't be surprised to see, we are told, is some effort to define commercial Unix standards lead the Sequents, AT&Ts, HPs and Pyramids of this marketplace. Sequent dismisses other Unices with commercial pretensions like SunSoft Inc Solaris, which it reckons has 18,000 bugs, won't scale above 10 CPUs and doesn't embody a real clustering solution: Sun's hardware is OK though, it offers.

UNIFORM MANAGERS QUIT

The day after Uniform closed a week or so ago, IDG World Expo, the management company running it, quit its multi-year contract. Since World Expo took over last year, Uniform has reportedly been unhappy with the staffing and amount of investment World Expo's put behind the show, forcing Uniform itself to bring in outside staff to help and generally spend more money than it intended. When summoned to the post-show Saturday morning Uniform board meeting and told to come with a better plan for next year and a solution to the expenses imbroglio, sources say, World Expo answered the ultimatum with a resignation. World Expo claims it did a good job, counting 24,000 verified attendees, which it figures is 50% over last year. Last year Pemco counted anyone who registered whether they came or not and got a figure of 28,000, of which maybe 21,000 showed, but no one will ever know for sure. This year 38,000 registered. This year's Uniform lacked the electricity of two years ago but was a far better program - albeit under-advertised - than it's been in a long time. It still can't draw the end users, however, probably because of its venue. Uniform also probably could have handled the ticketing for the Beach Boys concert better too, alienating fewer people by denying them entry. As it was, the band played to a half-empty house.

TORY "TO LEAVE OSF" AT YEAR-END

With the reorganisation, Open Software Foundation chief David Tory, whose services have come high for a non-profit organisation - reportedly \$1.6m a year - has told some of his new members that he expects to be leaving eventually since Org94 "can't afford" him. Currently, expectations are that he'll stick around through the transition until, say, January 1. However, the next OSF board meeting is also expected to okay an executive search to replace him. The funny thing about all this dithering over whether Tory's in or out are the reports that Sun Microsystems Inc made it a condition for joining OSF as long ago as last year that Tory and his senior staff would go. OSF founders IBM Corp and Hewlett-Packard Co reportedly accepted it *a priori*.

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NUTCRACKER TO ATTEMPT TO MERGE SPEC 1170 WITH WIN32 API

DataFocus has launched NuTcracker, its long-awaited Unix-to-NT scheme, which promises to recompile Unix source code, link it to built-in DLLs and crank out native Win32 applications that run on NT and Chicago, which will pave the way to get Unix programs into the mass market. DataFocus, whose first acknowledged customer was Informix, which originally used it to port Informix-SE to NT Advanced Server, says it can do this with C and C++ code from Solaris, HP-UX, AIX, SVR4, Ultrix and XPG4/Posix platforms. The firm claims HP and Cabletron are now using NuTcracker and AT&T Bell Labs' David Korn used it to port the fabled Unix Korn-Shell '93 to NT. DataFocus has in mind to create a NuTcracker ABI, a merging of Microsoft's Win32 and over time the Unix Spec 1170 and Common Desktop Environment (CDE), producing a single consistent API spanning Intel and RISC that it fancies the industry could standardize on. To press its effort, the Virginia company has teamed up with NEC Technologies to establish NuTcracker and NEC's Mips/NT boxes as the development platform of choice for Unix/NT developers, recruiting distributors and resellers for NuTcracker-on-NEC. Currently NuTcracker includes only the 95% of Unix calls that DataFocus reckons are the most used, though what percentage of the Spec 1170 that represents is unclear. The multi-versioned CDE will only be added when, DataFocus president Patrick Higbie aptly observes, "they figure out what it is." In the meantime, taking a leaf out of the Unix book, DataFocus, a \$3 million subsidiary of publicly held Convergent Solutions Inc, claims it has ostensibly formed a "consortium" of some of the top players in their fields to contribute to NuTcracker. IXI Ltd, now a unit of the Santa Cruz Operation, is expected to kick in its new Win-tif technology to add a Windows look-and-feel to ported Unix applications. AGE Logic is putting in its X/Motif stuff and Mortice Kern Systems the MKS Toolkit with its Posix shell and key Unix utilities like make, vi and awk. Besides the MKS' toolkit, NuTcracker has its own pieces of Unix. NuTcracker will ship first at the end of April as an SDK with its SVR4/Posix-based API and the MKS Toolkit. It will list for \$1,995 but carry an introductory tag of \$995. At the end of the second quarter, a NuTcracker X/Operating Environment with AGE's XoftWare/32 for NT PC X Server, IXI's Win-tif and NuTcracker DLLs will be available along with a NuTcracker X/SDK that combines the SDK and X/OE with libraries for porting X/Motif applications. The product includes AGE's new XoftHost for NT. Both are unpriced. Higbie says that the run-times NuTcracker creates can be distributed free within an organisation. DataFocus claims that NuTcracker cuts the time needed to go from Unix to NT by around 60% and also creates a single source code base for both operating systems.

ORACLE TO CONCENTRATE ON REVENUE GROWTH AND MARKET SHARE

Oracle Corp's third quarter figures showed a net profit up 170.8% at \$69.7m against a period that included a \$24m litigation charge, on turnover that rose 30.4% at \$482.8m, a week or so ago. Net profit for the nine months rose 481% to \$169.2m against a period that included a \$43.5m charge for an accounting change plus the legal bill, on turnover that rose 29.4% at \$1,333m. Oracle says that its quarterly revenue growth was driven by licence sales, which rose 30% over the year-ago level. The company also cited strong growth in Oracle7 product demand and service revenues, adding that Unix licence revenues rose 37% over the third quarter of fiscal 1993, but desktop licence sales leaped 67% over the prior period so that Unix and desktop licence revenues made up 89% of total licence revenues in the latest quarter, up from 82% a year ago. Sales in the US rose 29% over last year's first quarter, 38% if you eliminate last year's Oracle Federal business, which is being run down, but Oracle Europe managed only 20% growth, with a 6% currency translation effect making the dollar figure look worse. The quarterly revenues at Oracle Intercontinental rose by 58% over the third quarter of fiscal 1993. The operating margin was 21.5% in the latest quarter, compared with 18.3% during the same time last year, excluding the \$24m provision for the lawyers. The company says that it now plans to focus much more aggressively on revenue growth and market share, based on a continuing strong market and the company's own solid position.

FUJITSU AND IMPERIAL COLLEGE TO RESEARCH PARALLEL COMPUTING

Fujitsu Ltd and London University's Imperial College of Science, Technology and Medicine have teamed to collaborate on research into parallel computing applications. The work will form the basis for a new Centre for Parallel Computing in the College's Department of Computing, which will be headed by Professor John Darlington. Fujitsu is lending Imperial College a 128-processor model of its AP1000 Sparc-based multiple instruction-multiple data parallel computer model based on up to 1,024 Sparc chips, which is connected to the UK SuperJanet Joint Academic Network and will thus be available for use throughout Europe - and hopes that the collaboration will result in new supercomputer applications. According to the College, many departments will benefit from being able to run applications that are too demanding for their existing machines. Planned projects range from new ways of analysing the Earth's core through modelling layers of atoms to research into semiconductors. Non-numeric applications such as multimedia and virtual reality will also be high on the agenda - the loan equipment includes a high-definition television set. The College already has links with Japan: the Physics Department, for example, is involved in a £3m project with the Japanese government-run Research Development Corporation.

TENON UNIX DUE APRIL FOR POWER MACS

While Apple ponders putting A/UX on its desktops, Tenon Intersystems Inc of Santa Barbara, California is expecting to ship its Mach Ten Unix for the Power Macintoshes at the end of April. The new version of Tenon's Berkeley Unix BSD release 4.3-based MachTen was demonstrated as a beta at Uniforum and will run in emulation mode. A native PowerPC implementation should follow in the fourth quarter according to company president, Steve Holmgren. He says the emulated version should enable the Power Macintosh 6100 to replicate the performance of a Mac IIci, while the performance of the 7100 will approximate the performance of a Quadra 800 running the current implementation of Mach Ten. On a Power Macintosh 8100/80 it should run faster than on the fastest Quadra. The native PowerPC version of Mach 10, based on BSD release 4.4, should follow in the fourth quarter offering "very significant" performance gains and Posix compliance. Don't expect compliance with the PowerOpen ABI just yet however - the company is waiting until it falls in line with X/Open's Spec 1170 Common Unix API. Tenon is also working on improved compilers, based upon its existing RS/6000 offerings. These, say Holmgren, will let developers produce applications mixing calls to the Macintosh Toolkit and Mach Ten Unix. June should see the release of a new, native X-Windows client-end server that, Holmgren claims, will produce X-mark price-performance ratings "an order of magnitude" better than those already on the market.

TRAAKEN HAS NETSERVER MICROKERNEL-BASED NFS SERVER SOFTWARE

Mountain View, California-based start-up Traaken Software Inc is about to come out with a new version of its threaded microkernel-based network file server software. The existing version, NetServer 93, comes shrink-wrapped and runs on Intel Corp 80386 and 80486-based personal computers. It uses log and journalling-based file organisation techniques, provides automated self-maintaining disk backup, and unattended file backup. The product will hook up to any machine using Unix LPR and LPD protocols on top of TCP/IP or to any personal computer with PC-NFS. It can deal with up to 40Gb of data stored on up to 22 hard disks, has a menu-oriented interface for systems management, and is exportable through a Telnet interface, which means users can manage files and printing remotely from an X terminal. NetServer 94, due soon, supports RAID disks up to a maximum of 64Gb and 1,280Gb of files. It can also backup remote files and update host and user files via Sun Microsystems Inc's NIS+. It also includes a new API, written to try and foster an OEM market - the firm is looking for PC manufacturers, disk vendors and other resellers. Also in the works is support for 32-bit SCSI and an SNMP agent for remote management. NetServer was developed by Gordon Waidhofer, an ISV who has been doing contract work for companies like IBM Corp and SunSoft for years. + 408 722 7180 - ask for Michael Bourke.

POWERPARALLELS ARE "NOT DEEP SCIENCE," IBM EXPLAINS

IBM Corp's Power2 PowerParallel Unix systems due this week will start at around \$400,000 for an eight-way node with between 1.5 and 2.5 times the performance of the existing Power-based SP1, which goes from 1GFLOPS to 8 GFLOPS at peak rates. The SP2's second generation high-speed switch will provide more intelligence to the Micro Channel and other adaptors it supports, with a lower latency and higher bandwidth. With the two MVS-based S/390 parallel mainframes that will debut alongside it and the eventual provision of high-speed Escon links to it, IBM hopes SP2 will tap new commercial markets that haven't been addressed by the scientific bias of its first generation parallels, especially in its traditional markets like decision support. Indeed it says it already has a dozen customers evaluating SP2s running either DB2/6000 or Oracle7 Parallel Server - Oracle Parallel Query is in beta, and Sybase is coming. SP2s will be available in three node types, as Power2 versions of the SP1, and in new narrow and wider node types. IBM's commercial market support manager for PowerParallels, Dave Gelardi, says one of the main hurdles is convincing potential customers that parallel processing "is not deep science." As such more standard software, such as the firm's NetView/6000 network management system and Adstar storage management is coming over to the PowerParallels. Typical SP1 installations have 16 nodes with low 100s of Gb of disk. The PowerParallels have a system software layer which hides their parallel architecture - a kind of cloaking mechanism - allowing standard AIX, and therefore AIX applications, to run. New versions of IBM Unix will typically appear three months after it debuts on other platforms. Although software must be ordinarily re-written to be able to take advantage of parallelism, Gelardi says the more parallelism that can be encapsulated within a system's middleware, such as parallel-enabled database and query systems, the less parallel-aware an application needs to be. Parallel architectures are unlikely to be scaled much further down than their present configurations, because at levels where symmetric multi-processing and uni-processors kick-in, they simply can't compete.

NOW DRA "IS INTERESTED" IN THE MONEY, AS IT LINES UP COMMERCIAL DEALS

If all goes to plan, the UK Defence Research Agency, will have several commercial deals, for hundreds of thousands, if not millions of dollars, in place by May time. It's a far cry from DRA project manager Dr Nic Peeling's cry of "we're not in it for the money," back in 1991 as TenDRA was chosen for the Open Software Foundation's ANDF, Architecture Neutral Distribution Format technology. Peeling and other staffers from the UK Ministry of Defence unit, including business manager Derek Walker, were on hand at UniForum, showing their stuff on X/Open Co Ltd's stand. DRA's TenDRA portability and compiler technology is now being used in European Commission - and X/Open Co Ltd - software porting and conformance testing projects. It has a large system vendor, a chip-maker and an ECAD supplier evaluating terms for TenDRA and at the very least expects to be able to carve a \$5m business out of the stuff. It's already had lots of interest from test-suite and software-checking firms like UniSoft Ltd and if it becomes an industry standard, TenDRA technologies and licenses could be worth as much as \$50m. DRA is currently funded to the tune of \$3.5m - with \$2m from the MoD and \$1.5m from elsewhere. "Now DRA is interested in the money," says Peeling (UX No 338).

IDE RE-WRITES SOFTWARE THROUGH PICTURES, PLANS FLOTATION

Interactive Development Environments Inc will launch a rewritten version of its Software through Pictures (StP) application development tools for structured analysis and design this week. Meanwhile, the San Francisco, California-based firm, which currently turns over about \$25m, says it plans to go public in between 12 and 18 months, by which time it hopes its price-earnings ratio will have gone high enough - mainly on the back of sales of its object-oriented product. It expects StP/Object Modelling Technique to account for at least half of all new license sales in 1994.

SUN'S BIG BANG THEORY OF ENTERPRISE COMPUTING

This week in San Francisco, Sun Microsystems Inc will flesh out a new commercial computing strategy at Big Bang, its "Enterprise Computing Summit." The European equivalent is in Paris on April 13. Customers, prospects, third party software developers, value-added resellers and other partners will be there, and Sun will review its product roadmap, particularly in the fields of systems and network management. It will also detail how it will start spinning off and shipping products that it has been using internally. Third party offerings such as Computer Associates Inc CA-Unicenter and OpenVision Inc's eponymous software will be put up on Solaris over the summer.

SOLARNET PC NETWORK WILL SHOW IN SEPTEMBER

After doing some serious thinking about how and where to position the stuff, Sun Microsystems Inc's PC connectivity unit, SunConnect, will introduce its TCP/IP-based networking system for integrating and managing PCs from Unix in September. Although previewed here last October as a network operating system for PCs (UX No 456), SunConnect has re-conceptualised SolarNet as means of tying PCs to the enterprise system, rather than as a NOS per se, mostly due to the way analysts and commentators have perceived the way the market is going, it says. Tying PCs into rightsizing strategies is becoming more important, it reckons, and likely a better selling point from Sun's point of view. SolarNet's server component runs on a Solaris 2.3 server and uses the Dynamic Host Configuration Protocol to feed client configuration data from an NIS+ naming service database to desktop Windows clients. PCs can be added to SolarNet via three floppies that must be uploaded at the desktop, and allows administrators to control networks from any Windows node using SolarNet client and user tools. PC users can access host and distributed Unix applications via support for PC-NFS, as well as Windows Telnet and FTP. SolarNet is compatible with Windows for Workgroups and can co-exist with NetWare and LAN Manager. SolarNet's SNMP support also allows the PC environment to be integrated with enterprise network management systems like SunNet Manager, OpenView and NetView. Prices will go from between \$3,000 and \$5,000 it is thought, including one server licence and multiple clients. A Solaris x86 version is to follow, with other Unix implementations thereafter. Desktop Management Workgroup APIs will be supported as they emerge. The market for TCP/IP on PCs is set to grow at a compound annual growth rate of 52% over the next four years, according to IDC, with IPX and DECnet not be far behind.

IBM TURNS TO TIVOLI FOR SOM OBJECT SERVICES

IBM Corp may have given up on the unequal task of trying to tie Tivoli Systems Inc's Management Framework to Distributed Management Environment components under the abandoned OSF vision, but it's bitten a second time. Now IBM Corp is licensing the Austin, Texas-based firm's object management services, including those for user-defined policy, scheduling, instance-tracking, object collections and extensibility, which IBM will integrate into its System Object Model and Distributed Systems Object Model. The Tivoli Management Framework was recently chosen by X/Open Co Ltd's systems management workgroup as a draft specification for developing a system management interface. The two are also working to enable IBM's NetView network management to exchange events with Tivoli's Management Environment products so that, for example, information on network problems can be displayed at the systems management console, allowing related problems to be diagnosed.

100MHz POWERPC DEBUTS

Motorola Inc and IBM Corp have unveiled a new 100MHz version of the PowerPC 601 microprocessor. Not only is the new chip faster, it is also smaller - fabricated in 0.5 micron CMOS, compared to existing 0.6 micron versions. As a result, die size has been reduced from 120 to 74 square millimetres and "typical" power consumption reportedly drops from eight to four watts. The part is expected to ship in limited quantities in the second quarter, with volume production set for fourth quarter - timing that is uncannily similar to that of Intel's 100MHz Pentium. The processor has an estimated SPECint92 rating of 110, and SPECfp92 of 130.

UniBits

At the request of **Parsytec GmbH** (UX No 477), the **PowerOpen Association** will establish a group to discuss which calls should be included in the PowerOpen specification to make it suitable for parallel computing after its developers conference in May. When the spec comes out in April, it will cost \$125 for Association members and \$250 for non-members.

The word on the street has **Ontos Inc** pulling out of the UK: the Burlington, Massachusetts-based firm wouldn't comment.

Sun Microsystems Inc has appointed Martyn Lambert as director of marketing for Northern Europe. Lambert, who was formerly vice president of European Operations at Pyramid Technology Corp, left the company when it centralised its marketing activities at headquarters in San Jose, California.

Wall Data Inc has started shipping French, German and British English versions of its Rumba Office and Rumba Office Menu Configurator version 1.0 software. Pricing is localised, and the products are available from the Redmond, Washington-based firm's London offices. + 44 81 813 8188.

Legato Systems Inc is porting its NetWorker backup and recovery software to Solaris. Sun aims to promote its servers as central storage management systems in heterogeneous enterprise networks. The two will sell joint solutions.

In the UK, **Sun** will sell the SparcStation 5 (Aurora) for £3,500 and the SparcStation 20 (Kodiak) from £12,700. SparcServer 5 and 20s start at £7,900 and £11,700 respectively. SparcClassic pricing will also be slashed to £2,630 (UX No 480).

Cambridge, Massachusetts-based **Thinking Machines Corp** and **Dharma Systems Inc**, Nashua, New Hampshire, now have Decision/SQL, a decision support database for Thinking Machines parallel Connection Machine based on Dharma's SQL/Access technology. The firms claim the query system performs 100 times faster than conventional DB2 mainframe systems. The product is available now, no prices.

Micro Focus Plc's Cobol version 3.1 for Unix is now available on Digital Equipment Corp Alphas, running OSF/1. Three tools are also shipping - Toolbox for Unix, or integrated development utilities; Dialog System for Unix, a user interface construction and execution tool; and OSX for Unix, which provides cross-platform application portability and distributed file handling. Both companies are distributing and supporting the products. Single user licenses start at \$1,250.

Adobe Systems Inc is to release a Unix version of its Acrobat electronic document software. Burlington, Massachusetts-based **Novasoft Systems Inc** is integrating Acrobat into its technical drawing and workflow management package, NovaManage from June, when NovaSoft will act as an Adobe systems integrator.

SPEC, the **Standard Performance Evaluation Corp** has a new steering committee that's focusing on performance evaluation for supercomputers, clustered and parallel systems.

Iona Technologies Ltd has ported its Orbix object request broker to Hewlett-Packard Co's HP/UX operating system. A Microsoft Corp Windows 3.1 version is also due out in the second quarter, and IBM AIX, OSF/1, and OS/2 implementations will follow over the next six months.

CenterLine Software Inc is porting its CodeCenter and ObjectCenter Unix programming environments to Intel PCs running UnixWare and AT&T (NCR) System 3000. CodeCenter and ObjectCenter are out in the second quarter and cost \$2,000 and \$3,000 respectively for a user license and \$3,000 and \$4,000 respectively for a floating license.

Ottawa, Ontario-based **Gallium Software Inc** has new shrinkwrapped font management products, enabling customers to use Mac and PC fonts on their Unix boxes. The FontTastic range includes Font Server, Font API, and Font Manager, and is available now at \$250. + 1 214 233 7091.

Lanham, Maryland-based **Group 1 Software Inc** has started shipping Unix versions of its MailStream Plus mail sorting software, starting at \$6,500; its Barcoding application from \$2,000; and its Geographic Coding System, starting at \$7,500. The products are available on Hewlett-Packard Co HP 9000s and IBM Corp RS/6000s. + 800 368 5806.

White Pine Software Inc's new member of the eXodus X server family, eXodus eXpress, enables Microsoft Corp Windows 5.5 and Apple Macintosh 5.1 users to dial into Unix and VMS hosts over a telephone line. It is sold as a \$100 extra to eXodus for Windows and Macintosh.

VisionWare Inc has introduced XVision for remote users, a PC X server that enables Microsoft Corp Windows and Windows NT users to connect to Unix or VMS host-based applications via a serial line. The product is based on XVision 5, is available now and costs \$245 for a single user license. + 414 325 2113.

TriTeal Corp is porting its implementation of the Common Desktop Environment to SGI workstations and other Mips ABI-compliant systems. The two firms will undertake joint marketing. Meanwhile, the Carlsbad, California-based firm now has the development rights to HP's Task Broker, which automatically distributes computational tasks among Unix workstations. TriTeal will port it to Sparc, IBM, SGI and Alpha hardware. It has passed on exclusive worldwide distribution rights from Science Application International Corp to Artecon Inc. Its got Jeff Witous as executive vice president of business development +1 619 930 2077.

Software Pundits Inc is shipping its Affinity object linking and embedding software for Unix, combining Microsoft OLE 1.0 APIs with the Link, Embed and Launch-to-Edit technology it jointly developed with Lotus, allowing developers to create compound documents that include linked and embedded data from multiple applications across a heterogeneous network. Affinity costs \$7,500 and includes a client and server library, a daemon and Network Manager, the OLE API and specifications, a Presentation Format Adaptor and communications adapters for TCP/IP and ToolTalk. + 617 229 6655.

Novell Inc is "shopping itself to a number of companies, including AT&T and IBM," according to **Lotus Development Corp** spokesman Brian Simmons: in addition it has allegedly at one time or another, held merger talks of varying degrees of seriousness with firms as diverse as Apple Computer Inc, Sun Microsystems Inc, Borland International Inc, Oracle Corp and Adobe Systems Inc.

Compagnie des Machines Bull SA has two years to find industrial and financial partners, chairman Jean-Marie Descarpentries told a meeting of Bull employees on Thursday: Les Echos quotes him as saying that "We have two years to find industrial partners, if possible Europeans; we would need at least three which would hold 15% to 20% of the capital, with which Bull would co-operate, business by business;" he also told the meeting he was not opposed to employees holding a stake of around 35% and a blocking minority.

Kapiti Ltd, the fast-growing Slough, Berkshire banking software specialist has agreed to be acquired by UK distributor Misys Plc, which is offering £40m in shares with a partial cash alternative.

Sun Microsystems Inc has appointed Microlink as its official representative in Estonia: Microlink is one of the larger Estonian companies. Reiner Nilvak, president of Microlink says his firm aims to be at the cutting edge of the Unix workstation and server market in Estonia, and recently Microlink and Sun signed an agreement with the Bank of Estonia under which the bank's computer system will be based on Sun Sparcstations and Sparcservers working under the Solaris operating system. Meantime SunTronic, Sun Microsystems' official partner, has signed a sales agreement with the state-owned Russian gas company Gasprom; conditions of the deal have not been announced. A representative of the company, formed only six months ago, has sold Sun-based systems to the Institute of World Problems in Uzbekistan and to several Siberian banks.

Ask Group Inc, has opened an office in Vienna, Austria for regional partner support and customers in eastern Europe and Russia.

Encore Computer Corp did not get a mention in **Amdahl Corp's** big announcement - see page 5 - but the company popped up with an announcement in Fort Lauderdale, Florida that it has formed a strategic alliance with Amdahl to create a new line of storage subsystems in a deal valued at more than \$1,000m: the two have a five-year contract to produce and market storage systems derived from Encore's Infinity 90 alternative mainframe system and technologies with the first shipments planned for the third quarter this year.

Far from being strapped for cash (UX No 480), **Sequoia Systems Inc** says its sitting on \$16m.

Eastman Kodak Co says its going to forge alliances with computer companies as it restructures its imaging business to focus on electronic technology on one hand and its film business on the other. It has already partnered the likes of Sun Microsystems Inc, Apple Computer Inc and Canon and the move is seen as the first mark of new Kodak new boss George Fisher from Motorola Inc.

AMDAHL HAS ORACLE-NCUBE- INFORMATION BUILDERS PACT

Amdahl Corp has duly announced its alliance on enterprise servers with Oracle Corp and nCube Corp - the third company turns out to be Information Builders Inc - and introduced four new models in its 5995M series mainframe line. The quadripartite alliance aims to deliver the database server within the next couple of months: it will apparently be compatible with any mainframe with an OEMI parallel or Escon port. Under the agreement, nCube will provide the massively parallel technology; Oracle, its Oracle7 co-operative server technology, and Information Builders its EDA/SQL query software, which will be integrated into Oracle7. Amdahl will integrate the components and provide service. The new mainframes have been enhanced with larger main storage configurations to meet higher throughput capacity, and offer increased availability via ConServ for concurrent upgrade and maintenance of expanded storage. They also have an enhanced Multiple Domain Feature and include the Escon Multiple Image Facility. The single-sided processor models 5995-5570M and 5995-6570M, with five and six processors respectively, will be available in the fourth quarter, while the 10-way and 12-way multiprocessor 5995-10670M and 5995-12670M will not be shipped until first quarter 1995. Amdahl says the 12-way processor will provide up to 40% more capacity than previous 5995M models. The company also said the new models would be fully compatible with IBM Corp's expected 9021-V3 10-way model mainframes as they come onto the market.

IXOS COMBINES GUI-BUILDER WITH ROGUE WAVE

German software house, iXOS Software GmbH, Munich, has integrated its object-based Motif interface-builder, iXBuild 3 with Corvallis, Oregon-based Rogue Wave Software Inc's C++ class libraries, View.h++ 1.2. The net result is a set of integration tables that allow iXBuild 3 users generate interface code in View.h++ 1.2 - the tables are free with iXBuild. Interfaces generated by iXBuild are run-time independent and can run on a variety of Unixes. iXBuild 3 is \$4,500 for the first licence. View.h++ is \$800 for object code and \$3,000 for source. iXOS is distributed by UniPress Software Inc and Qualix Group Inc in the US.

AVS HAS OO APPLICATION DEVELOPMENT ENVIRONMENT FOR TECHNICAL MARKET

Advanced Visual Systems Inc will launch a new object-oriented application development environment for the technical market at its user conference on May 2. The product will enable users to integrate C, C++ and Fortran languages and has graphics and visualisation capabilities. At the same time, the Waltham, Massachusetts-based firm also plans to introduce its first combined AVS/Uniras products (UX No 453), in the form of ChartXplore, which has new Motif-based widgets for graphing and plotting. AVS has also now integrated 1993 acquisition Uniras's Toolmaster library and plotting software with its own ContourXplore visual programming environment and graphical user interface. This enables users to display an unlimited number of curves, axes, and view points in any given window by overlaying gadgets on top of widgets to extend their functionality. Toolmaster for AVS is available now, and costs £3,000 for existing AVS users. No other pricing was available.

HP OFFERS DATA WAREHOUSING SOLUTION

Hewlett-Packard Co's Professional Services Organisation is expanding its OpenWarehouse programme to include data warehousing (integrated decision support databases), consulting and integration services via what it calls the Intelligent Warehouse Solution (IWS). The idea, it says, is to help solve management and usability problems that occur when, for example, departmental resources become large enterprise repositories. Taking on open systems rivals and other solutions such as IBM Corp mainframes and AT&T Co Teradata parallel systems, HP says it'll deploy IWS techniques on most Unix relational databases, ODBC-compliant data access tools, and on "almost any" open hardware platform. IWS includes analysis, design, pilot design and full production deployment. It was originally developed for use with HP's internal 200Gb sales/order data warehouse, which ran on IBM MVS mainframes. HP is bringing a raft of third party software to bear on IWS, including Information Advantage's Axsys, Business Objects's BusinessObjects, ClearAccess's ClearAccess, Brio Technology's DataPrism, Planning Science's Gentium, Andyne Computing's GQL and Carleton's Passport. Using IWS will typically cost between \$120,000 and \$400,000, HP says.

ICL PLOTS MPP STRATEGY

ICL Plc executives have been on tour in the US seeking partners to bring its computer systems - as opposed to retail solutions - to market there, when the question is very often, "IC who?" Integrator Electronic Data Systems has already added the UK firm to its equipment list, and a couple of weeks ago ICL teamed with parent Fujitsu Ltd and cousin HaL Computer Systems Ltd on a stand at UniForum to tout its new TeamServers, SuperServers and Goldrush technology. Further couplings are expected to result. Meanwhile, the latest agreement ICL has signed with Pyramid Technology Corp (UX No 480) - and the two have been extending their original agreement in leaps since ICL's corporate technology people and the Pyramid team found they were talking the same language - is expected to come to fruition by the end of the year. The idea is to develop software that will allow ICL's massively parallel Goldrush and Pyramid Nile servers linked together to be viewed and operated as a single system. Because it has been put together with off-the-shelf parts, ICL says it won't have to sell too many of its parallel machines, due in August, to re-coup a research and development investment of several million pounds to bring the thing to market. The massively parallel stuff is hard to do, it admits, believing it will appeal only to a fairly limited set of customers at the high-end of the market. High-street banks, building societies and the like are looking, ICL believes, to consolidate disparate information systems they have typically built up over years to address the de-regulated market opportunities which spawned mortgage, life assurance, pension and share dealing services from basic checking or savings accounts. In the UK, ICL says, some long-established high-street financial organisations are getting beaten-up by newcomers like the FirstPerson Bank plc which has all of a customers' details on hand and accessible at one place from one integrated system, from where one operator can process all of a customers' requests. A typical bank or building society will have financial records for each of its services stored in a variety of systems which can't usually be accessed from one point in the system. (How many times have you heard "I can't tell you that, you'll have to speak to another department"?) Some, ICL believes, will want to consolidate everything in a large DB2 systems, but others have grasped the open systems message and want to have a large Unix relational database - and the Sequent and Hewlett-Packards can't offer symmetric multiprocessors big enough for the job yet, it believes. That's where Goldrush, seen as database engine driver, is positioned, with Pyramid SMP systems running the applications. Indeed, MPP systems and software seemed to set whatever product tone there was at UniForum a couple of weeks ago, where IBM was touting its second generation PowerParallels and Oracle and Sybase were making much of their parallel databases. Subsequent Amdahl, nCube, Sequent and Kendall activity - see elsewhere in this issue - has only added to the flurry of debate.

ASK LAUNCHES MANMAN/X MANUFACTURING SOFTWARE VERSION 3.0

Ask Group Ltd has launched version 3.0 of its ManMan/X manufacturing software, which now supports database systems and operating environments including SunSoft Inc's Solaris, Informix On-Line version 5.0. The product has also been given some new modules to provide services including service and maintenance administration, service order processing and sales and marketing. ManMan/X still uses technology from Baan Holding BV, its manufacturing software partner, but Baan has been flirting with database rival Sybase Inc for the past eight months. ManMan/X 3.0, which is concentrated on the Unix side, is one half of the firm's manufacturing operations. The company also markets its Knowledgebase product into the AS/400 and proprietary markets, but as yet functionality between the two product lines has not been fixed. This means that manufacturing organisations with distributed systems which include legacy data and Unix systems won't be able to hook the two together using the Ask system. Ask is saying that the two manufacturing products will not be integrated functionally this year, and that even when they are, they will remain two separate products.

CONVEX CREATES CXSOFT TO HOLD CLUSTERING SOFTWARE

Now that Convex Computer Corp has got its Exemplar SPP parallel system out of the door, it is putting some of its clustering and other software through a new business unit, CXSOFT. Initially the Convex MLIB math library for HP-UX, LSF load-balancer, ConvexPVM parallel programming system for clustered workstations and ConvexNQS+ batch queuing system will go through the new unit. LSF is up on a range of RISC platforms, the rest are up on HP-UX platforms and the HP-UX-compatible Exemplar.

WHERE NOW FOR A/UX? WHERE NOW FOR ITS SERVERS?

by Chris Rose, PowerPC News

So the dust has settled. The first dotting users have Power Macintoshes sitting on their desks and colleagues hanging over their shoulders demanding to know how fast X-Wing and Word for Windows runs. But while the desktop Power Macintoshes hogged the lime-light there was precious little in Apple Computer Inc's announcement to cast any light on its plans for new servers or its A/UX implementation of Unix. Apple's plans for A/UX have been the subject of long and impassioned debate among the user community, the whole thing stirred up by the news that Apple was killing development of its current code-base, in favour of a bright, shiny, new A/UX - PowerOpen compliant and based upon IBM's forthcoming AIX version 4.0.

The coup de grace was due to be issued as we went to press: today Apple is due to announce A/UX 3.1, the last incarnation of A/UX as we know it. It will also announce an accompanying release of AppleShare Pro 1.1. Users won't notice many differences other than improved speeds. Apple has apparently tidied up the kernel and done everything possible to squeeze the last ounce of performance out of the new software, but there are no major new features. Apple UK's Steve Everhard (a man who simply has 'Servers R Us' on his business card where the job title should be) says that together, the new A/UX and AppleShare Pro should generally be about 40% faster. In special cases, such as the enumerate function, the server will be 140% faster - good news for those who obsessively recalculate their folder sizes, supposedly. Very nice, but all the improvements quoted are for the two new pieces of software when used in combination. Information on how much faster A/UX is by itself is not readily available, an indication that, at the moment Apple still sees Unix as a platform for hosting AppleShare Pro, and little more. Next stop on the A/UX road will appear in the first quarter of 1995 when Apple is set to unveil the PowerOpen-ABI-compliant-AIX-based offering. Whether the A/UX name will survive has yet to be decided says Everhard. Will it look like today's A/UX? don't bet on it. The primary interface will be Mac-like, and Apple will continue its tradition of what Everhard accurately calls "masking the worst excesses of Unix". However there are no guarantees that the exact look-and-feel of A/UX will be preserved across the transition in the same way, say, that System 7 was preserved in the change from 680x0 to the PowerPC chip. Certainly A/UX applications will need to be recompiled, though AIX applications will not - so stand by to run those RS/6000 applications on Apple hardware.

Son-of-A/UX

Son-of-A/UX, let's call it PowerOpen for short, will run on new specialised server machines due to appear from Apple in the first quarter of next year. They will, says Everhard, be built to an architecture radically different from anything that the company has produced before. He's loath to give details at this stage, but acknowledges that the architecture will handle symmetric multi-processing, support RAM in the Gigabyte range and have multiple, high-speed communications buses. "One of the things that Bull brings to PowerOpen is their great knowledge of multiprocessing software - we intend to take advantage of that" he says. It will also have swappable processor cards so that users will be able to plug in the latest processor board as they emerge. It will NOT comply to the PowerPC Reference Platform (PReP). Expect RA support and a PCI bus architecture. It is unlikely, however that you will be able to get the new Unix to run on existing Macintosh servers, Everhard says, though Apple is making the necessary stories about providing an upgrade path. While Unix has a secure future on Apple servers, it looks increasingly unlikely that the company will be offering the operating system on its desktop machines. There is, says Everhard still an "open discussion" within Apple about whether PowerOpen will appear on the desktop machines, but the balance of opinion is against it. The desktop Unix market is too crowded, to much of a commodity, for Apple to be able define a niche: "We are trying to keep an open mind, but at this stage of the game we are struggling to find what part we can play", Everhard says, adding that, "there is a lot of competition for R&D dollars within Apple". Instead of developing desktop Unix, the temptation is to spend the money on the Macintosh Application Environment, software already picked-up by Sun and Hewlett-Packard which lets Unix-users run Apple applications in an X-Windows. But whichever way it jumps, "we know that we cannot play a half-hearted role [in the Unix Market] like before" Everhard admits.

Server market

On the face of it, the same arguments apply to the server market too - if Apple has difficulty finding a case for going up against the Suns and the HPs on the desktop, then going up against the Suns, HPs, IBM, Bulls, DECs, Ncube's et al in the server market cannot be easy either. Everhard doesn't see it that way and argues that the same attention to detail and ease-of-use which Apple brought to the desktop, will let it make its mark in servers. Partly, the company intends to build on its traditional strengths, providing back-end engines for desktop publishing and the like. However it also intends to break away from the Macintosh world, gaining more general industry acceptance. It also has an eye on this month's hot technology - video servers - and is working on multiprocessor, image distribution servers using its Quicktime movie software. It is an audacious strategy and takes Apple into uncharted territory, in both technical and marketing terms. The company's entire ethos is based around the desktop and expertise with graphical user interfaces and close hardware-software integration. Big, multiprocessor boxes running AIX - does that sound like the Apple you know? - no wonder Apple's Unix business does not want to squander R&D dollars on the desktop, it has bigger fish to fry.

DAYSTAR PLANS 68060 UPGRADE FOR 68040, 68030 MACINTOSHES

Apple Computer Inc may have eschewed the Motorola Inc 68060 microprocessor for the Macintosh line, but for those that despite all evidence mistrust Macs driven by these new-fangled PowerPC RISCs, it seems there will be a 68060 upgrade option. According to *MacWeek*, a company based in exotically-named Flowery Branch, Georgia, DayStar Digital Inc, is working on a line of Maccelerator boards that will use the 68060 and go into both 68040- and 68030-based Macs, with ships planned for the summer. The 68060 is a low power consumption 3.3V part claimed to deliver three times the performance of the 25MHz 68040. Motorola describes the 68060 as a superscalar, superpipelined part and rates it at 100 MIPS, 15 MFLOPS; it is fabricated in 0.8 micron CMOS, includes two 8Kb caches on chip and the processor is initially offered in 66MHz and 50MHz versions.

QSP MAKES INTERNATIONAL PROGRESS, BUT BOTTOM LINE TAKES STRAIN

Quality Software Products Plc's first year-end results following its flotation were disappointing, still showing the effects of investment in its flagship Universal OLAS accounting software. The firm, which floated last April, has been grooming the product as a successor to its existing OLAS software, and has spend £1.3m in the year, appointing a team of 30 support workers and a 10-strong sales and marketing team to push it into the market. Four modules for the system supporting IBM Corp mainframes, RS/6000s, Sun and Sequent machines have been developed, and a further three are being produced - two in 1994, one in 1995. The modules support the DB2, Oracle and Sybase relational database systems, but according to the firm, the system is flexible enough to generate modules for any box in three months.

SUNSOFT SHIPS SOLARIS SDK FOR INTEL

SunSoft Inc has announced the availability of the Solaris Developer Solution Pak, a fully-bundled development environment providing a toolset for developers of Solaris x86 applications. Priced at \$995, it includes Solaris x86 operating environment, Solaris Software Developer Kit (SDK), SunPro's ProWorks C development environment and three months of technical support.

UK SHOULD GET AWAY LIGHTLY ON JOBS FRONT IN DEC'S EURO-SHAKE-UP

Digital Equipment Corp has revealed how its recently announced restructuring plan will affect the UK. The changes, first suggested in January of this year, focus on sales and marketing in the UK, which DEC considers inefficient. The new structure, labelled the Customer Value Chain, is effective from the end of this month and will remove duplicated operations. Greater emphasis is to be given to supporting the requirements of specialist business partners, on which DEC admits it has been slack. DEC aims to lessen its dependence on large company contracts by doubling the relative value of its income from smaller, more general customers to 40% of revenues by the end of the financial year 1995 from 20% last fiscal, significantly shifting its customer base. Nine new sales branches will be opened and DECdirect, which previously competed with DEC's business partners, is being pushed into the background, becoming a support structure for co-operation with partners; the unit, previously a vehicle for direct sales from DEC, now handles the logistics of shipment and invoicing when a sale is made with a partner. The move, which has been planned for 18 months, originally scheduled 800 job cuts from the UK as part of those announced by Vincenzo Damiani, head of DEC's European operations, earlier this year. The final number shed here could be as low as 600.

COGNOS' POWER SHIFT

Seems that what Canadian firm Cognos Software Inc meant all along about dubs to its PowerHouse product name was not that it didn't have the trademark (UX No 479), rather that it would be difficult for it to start asking courts to enforce it now, when it has already allowed competitors like PowerSoft Corp to trade unchallenged with the PowerBuilder name. It's the use of the identical PowerHouse moniker by the start-up PowerPC builder of the same name that wrangles. In any case Cognos is ending its Power naming convention with the Axiant client/server development system now in beta with 15 users - SDKs are due in October. Axiant runs under Windows front-ends and uses Cognos' own flavour of object technology, but says OS/2 and Unix front-ends and an OMG-compliant object system using the DEC/Microsoft Corp Common Object Model may follow. Cognos, a Unix player for some two-and-a-half years, does 55% of its business on DEC VAX and HP 3000s, 10% on AS/400s and a growing portion on Unix - its currently searching for Unix engineering head. 37% of its sales are in Europe, 35% US and 8% Canadian. The PowerHouse 4GL, it says, will continue for as long as users and developers want it.

IDT DEBUTS 133MHZ ORION

Integrated Device Technology has formally taken the wraps off a 133MHz version of its MIPS Orion chip, reports our sister publication *ClienT Server News*. It's been showing the thing off for some time, starting with previews in boxes at last fall's Comdex, but the original strategy had been to release a more conservatively rated 120MHz piece of silicon. Now it looks like IDT's upped the stakes in a move to retain a bigger performance edge over Intel's new 100MHz Pentiums, to say nothing of the PowerPC. It also looks like IDC's strategy of manufacturing chips before full characterisation was finished has paid off. That's a calculated risk where the first handful of layers are processed, maybe 60% or so of the total work, and the wafers are stored while the company finishes designing the rest of the part, the really critical layers. The result is supposed to cut a month or more off of time-to-market, and IDT said it's going to get the 133MHz stuff out in production quantity by the end of April. Samples are already circulating. IDT rates the new chip as having a 2.3 times price/performance edge over the 100MHz Pentium. Against the 66MHz PowerPC IDT claims a 53% absolute performance advantage and 1.5 times the price/performance. All of its comparisons are based on a \$370 price tag for the Orion R4600/133, \$784 for a 66MHz Pentium and \$350 for a PowerPC 601/66, all in 10,000-piece quantities. IDT concedes that its own Orion R4600 100MHz silicon at \$240 does have a better price/performance ratio, although of course the performance is also lower.

AUDITORS QUALIFY KENDALL SQUARE'S REVISED REPORT, QUERY ITS SURVIVAL

Commercial massively-parallel systems builder Kendall Square Research Corp has had a far from clean bill of health from its new auditors in the wake of the company's over-ambitious revenue reporting efforts. Its new auditors, Coopers & Lybrand, warn that "recurring losses" and legal problems "raise substantial doubt about the company's ability to continue as a going concern." Kendall Square said it doesn't expect to be profitable for the current year, but William Koch, now chairman and chief executive as well as the company's largest investor, told the *Wall Street Journal* "We have the company on a good course for a turnaround." He said that Kendall Square is negotiating with various universities for payment for computers valued at \$20m, but does not have any assurance of receiving cash for the machines - it had a tendency to ship machines to interested colleges and book them as sales with no guarantee that they would be paid for. The company also disclosed that on December 8, the Securities & Exchange Commission entered a "formal order directing an investigation" of the company and its current and former officers and directors. The investigation covers both public reports and trading in the company's shares but Koch is confident that everything will be cleared up: "We have addressed many of the problems that have plagued the company and are working on any that remain," he said. Even so, he admitted that sales had ground to a halt because of customer concerns about the accounting scandal and the fact that the KSR2 computer unveiled last autumn "wasn't really ready to ship until late February." He has promised a \$25m investment when the shareholder class action settlement is complete, and has provided a bridging loan in the meantime. But in its filing with the Commission, Kendall Square disclosed that an additional class-action lawsuit had been filed recently by other shareholders; Mr Koch characterised the latest attack as a "nuisance suit designed to try to extort a little more money."

LEGENT BUYS FISHER D'ALTON IN THE UK

Remember we told you Legent Corp was reaching for its wallet? (UX No 480) Well, last week the firm made an acquisition - but it isn't the one we were thinking of. Legent's Information Technology Division has decided to branch out into the business process re-engineering business in the UK, acquiring information technology change management consultancy Fisher D'Alton Ltd, understood to be pretty much a one-man band. The Cambridge-based acquisition, which will account for 10% to 15% of Legent Information Technology's annual turnover, specialises in migration of users from mainframe-oriented environments to client-server systems. Legent, which is developing a Unix-based performance management system called Northwoods with its new subsidiary, is not releasing any financial details of the agreement. We're still expecting Legent to make another acquisition.

TANDEM HAS HIMALAYAS FOR INTELLIGENT NETWORK

Tandem Computers Inc has transferred its Intelligent Network software for phone companies over to its new parallel NonStop Himalaya machines to provide a range of scalable on-line, fault-tolerant parallel processing servers that provide call handling information in response to queries from the telephone network. The new INS Family costs from \$235,000 and consists of the INS/100, INS/1000, INS/10000, Flexible Service Logic communication server and TSCE-2000 service creation environment. The INS systems use the MIPS Technologies Inc R-series RISC running the NonStop Kernel. The baby INS/100 is aimed at telecommunications laboratory and field trial applications. The mid-range INS/1000 also offers Network Equipment Building Standard environmental requirements for deployment alongside main exchanges. The INS/10000 is a high-end server aimed at "global telecommunications service providers". The INS/Communications Server is a Signalling System 7 communications server providing high-speed network interfaces to the INS processors. TSCE-2000 provides an open service creation environment for rapid development of services; all out now. Flexible Service Logic will provide a data-driven execution environment to speed service deployment and enable services to be customised to the individual subscriber level - out at year-end.

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Sources inside **Compagnie des Machines Bull SA** are apparently concerned about delays to the AIX MP Port needed for the IBM/Bull Pegasus SMP box. Multi-threading isn't due till later this year, the boxes are for the third quarter.

Meanwhile, **Bull** has formed a 20-person worldwide OEM Sales Division inside its Unix Systems Group to market Power and PowerPC-based systems to large OEMs (UX No 478). It starts with the re-badged RS/6000s and will eventually get the Pegasus SMP box running Unix and Windows NT. 12 of the 20 staff are in Billerica, Massachusetts, at Bull HN Information System headquarters, making it clear the US is the main initial target which is headed by Roland Clarke - formerly a marketing exec in the Unix unit - reporting to Stephane Davidier at Bull HQ.

Former Unix International boss, Peter Cunningham, has a contract to do some consulting work at **Sun Microsystems Inc** in the UK.

Rumours were circulating again last week that there might be an announcement of Ray Noorda's successor. If it is imminent - and as we went to press some thought it might happen before Easter - then it's a very closely held secret. Last week even top brass inside the company said they didn't know either when it would come off or who it would be. The name of **IBM Corp** VP Ellen Hancock circulated for a while and then got denied. Nobody seems to believe HP's Bob Frankenberg's a contender anymore. That leaves two others supposedly on the short list: the water-cooler gossip inside **Novell** is pulling for Richard Hackborn, the Mormon who ran HP's hugely successful laser printer operation and left recently, and the other is Intel VP Ron Whittier. Time will tell.

Desktop versions of AIX 4.1 for **IBM Corp's** PowerPCs will be called PC Client, *PC Week* learns. One will be for character-based terminals, the other, a Personal Productivity client, will incorporate Motif, X Windows, and CDE. 3D graphics, voice, and video is optional. AIX 4.1 will also come in two packaged options for servers: Location Application-Server for entry-level, departmental servers, and the Enterprise Server for high-volume applications.

Software AG has opened a Moscow office with five staff to serve the Commonwealth of Independent States: +7 095 124 2746

Cincom Systems Inc has formed a Systems Innovation Office to carry its object-oriented and multimedia products and is now shipping a multimedia workbench at from \$5,000, which includes its Supra Server database

Sequent says early returns suggest its newly-created Enterprise Architecture Planning service is going to be heavily oversubscribed (UX No 479).

Sic transit gloria mundi: **Computerland** is now **Vanstar Inc**, a \$1.1bn PC integrator.

Wyse Technology Inc has added a Series 6000i Model 665 with a 60MHz or 66MHz Pentium supporting up to 128 users under a range of Unices and Microsoft operating systems at from \$9,000.

Intel Corp has reportedly set out after a tiny Sydney-based company called **Pentium Computers Australia**, a spin-out of its Hong Kong distributor, seeking a name change. The company produces 80386, 80486 and Pentium machines from Intel and AMD motherboards it purchases in Hong Kong and Taiwan.

Just how **Org94**, aka the newly reconstituted **Open Software Foundation**, gets used remains to be seen. Some think there's too much overlap between it and X/Open and that over the next 18 months or two years that'll have to be sorted out, probably to the deficit of OSF. Others think IBM will try to use it to push Taligent as a standard. Motives for Sun are pretty thin on the ground. Maybe its just there to find out what's happening.

Whoops! In the hub-bub of Uniforum we made a mistake about those new SparcStation of **Sun's**. The 5 and the 20 share the same three-inch high pizza box. We mistakenly identified that with the eight-inch box of the SparcServer 1000. Also the Big Bang is specifically this week's Enterprise Computing Summit.

Unintimidated by **CMP Publications'** failure in the SCO niche, a bunch of ex-*Unix World* folks starting with publisher Bob Billheimer have formed **Venture Publishing Inc** to put out *SCO World*. The first issue of the newsstand magazine, dated May, turned up at Uniforum. Billheimer's formula, looking much like the old *Unix World's*, includes international distribution.

Sequent Computer Systems Inc keeps tabs on the industry and maintains and updates its own strategy - and those it recommends to customers - by using a list of industry "franchise holders" and a plan of record to work against. At present it figures **Intel Corp** "owns" the desktop hardware architecture, **Microsoft Corp** the desktop operating system, **Oracle Corp** the enterprise database, **Sybase Inc** the workgroup database and **Novell Inc** the networking environment. Its plan of record examines and plots the direction of all technologies, who is active in them, where its competitors stand in relation to them and whether Sequent should work with or against them and so on.

What we meant of course was that 50% of **DEC's** Alpha AXP RISC business is now Unix, the rest VMS, with a small share so far - less than 10% - for Windows NT (UX No 480), though we understand the overall figures may not be that far off too.

Sequent is porting **Sybase Inc's** Replication Server to its Symmetrys. It says its installed around 70 of its Windows NT-based Win-Servers, some six-ways, though none running mission critical applications. The firm is also looking for technology partners in a range of areas - not just commercial Unix - it doesn't want to be doing stuff like disk packaging, as it is now.

Sequent Computer Systems Inc has new numbers from InfoCorp which show that in revenue terms it had 30% of the \$1,200m 1993 market for commercial Unix systems priced over \$700,000. **AT&T GIS** (NCR) had 14%, **Amdahl** 11%, **Hitachi** 10%, **Pyramid** 9%, **IBM** 8% and **HP** 7.5%. Units, rather than revenue, show Sequent with 40%, HP 16%, Pyramid 15%, AT&T GIS 9% and **DEC** 5%.

Sybase Inc has joined the **X/Open Co Ltd** working group on systems management which recently adopted **Tivoli Systems Inc's** Management Framework as a draft specification for developing a system management interface. Sybase has also won one of its biggest orders: the Dutch Finance Department having signed for a system to supply daily information for up to 15,000 users.

Atria Software Inc, Natick, Massachusetts, has introduced version 2.0 of its ClearCase software configuration management tool, which now supports **DEC Alpha OSF/1** in addition to **Sun**, **HP** and **SGI** platforms. Atria claims 7,000 licencees. Out this quarter, the new GUI-based system costs from \$4,000. +1 518 650 5155.

Siemens Nixdorf Informationssysteme AG wants us to know that its still an OSF sponsor.

Atrium Technologies Inc has a new version of its Dazel DCE-based client/server information delivery application: Dazel 2.0 comes with a new Motif front-end, phone/address book, support for terminal servers networked printers and faxes, PCL, PostScript and ASCII printer support, a graphical DCE security tool and is up on SunOS, Solaris, AIX and HP-UX. +1 512 328 6977

As expected, **Adobe Systems Inc** has put version 2.5 of its Photoshop software up under Unix on Sun and Silicon Graphics boxes, at from \$1,900: it recommends 32Mb RAM.

As expected, **Insignia Solutions Inc's** SoftWindows will be up on **DEC Alpha**, **IBM RS/6000** and **Silicon Graphics Inc** workstations this month.

Unigram.X went to press on Thurs 31 last week - the UK is shut over Easter weekend.

DEC's new Unix/NT guru Willy Shih, like his former master at **IBM Corp**, Lou Gerstner, doesn't have an overreaching strategy for his unit other than to weed out the product line and execute on what sells.

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IBM POWER PERSONAL CLOSE TO SOLARIS OEM DEAL

IBM Corp's Power Personal Systems division, which has been charged with doing whatever it can to make its PowerPC machines successful, was hoping to close an OEM deal with SunSoft Inc on Good Friday for the PowerPC version of Solaris that it'll put up on its PCI systems, due in the second half. However, the deal, which IBM wanted to announce at SunSoft's developers conference in San Francisco last week, is hung up with the lawyers, who are negotiating terms for the source and redistribution rights IBM requires. IBM, which has been touting Solaris-on-PowerPC to a variety of firms, including Data General, expects the deal to be closed imminently, although the port isn't yet complete. Beta versions are expected in the fourth quarter, with general availability slated for the beginning of 1995. SunSoft has moved the Solaris kernel across to 601 - indeed, it showed a very early mock-up of the system as long ago as Comdex. The file system and other components have yet to make the leap. In SunSoft's defence, given that not all of PowerPC's ABIs are clearly defined, it can legitimately plead it is still trying to hit a moving target. More powerful however, is its desire to synchronise the PowerPC release with the next revision of Solaris for Sparc and Intel as a single Unix source tree for three architectures. In any case, it won't be able to point to a moving target for too much longer, according to IBM. Most industry sources agree Apple Computer Inc will sign off on the PowerPC Reference Platform (PReP) - it has already bowed to PCI bus - once eleven outstanding differences are resolved. Most of those are Macintosh-specific issues which will be tricky, though not impossible, to overcome, like how to work around the frame-buffers Mac software uses, which aren't part of the PReP. Nevertheless, Apple staffers still voice open discontent with PReP (UX No 481). They point to PReP's lack of support for high-speed I/O, and for the advanced audio, graphics and video capabilities, which have made the Macintosh so popular. IBM meanwhile, is confident engineering teams will soon be agreed, on a compromise that'll involve trade-offs on both sides. Stuff like disk-handling and keyboard issues in future PReP specifications will likely be done Apple's way. Backing PReP means that Apple's proprietary System 7 will run on other PReP-compliant PowerPC systems. It also means users could choose to run other PReP-compliant operating systems, including Windows NT or Unix, on their PowerPC Macs. The hurdle for Apple is formidable - it could start a transition as soon as next year - but the same is true on the other side of the fence where physical changes to the structure of PReP will rebound on those already doing PowerPC work. IBM, which has a couple of engineers assigned to the Solaris port, has already committed to offering Personal AIX, OS/2, WorkplaceOS, Taligent, Windows and Windows NT on the ISA-enabled power personals, and is set to get SCO Unix up next, followed, it hints, by NeXTStep and UnixWare, if conditions are right.

SUNSOFT PRODUCT BONANZA INCLUDES SOLARIS 2.4 FOR SPARC AND INTEL...

SunSoft Inc, now apparently in control of all of its technology and pricing following the Unix source buyout from Novell Inc, went on a product spree at its Developer Conference in San Francisco last week - a stage it shared with its parent's Enterprise Computing Summit. SunSoft announced its anticipated 2.4 Solaris revision for Sparc and Intel architectures, derived from a single source tree; an IPX/SPX protocol stack and other NetWare connectivity software; dipped its toe in the OpenStep water with a starter kit; and delivered the patched-up Wabi 1.1. *Page four for details.*

...READIES ADDITIONAL COMMERCIAL ENHANCEMENTS

Over and above last week's Solaris fest, SunSoft Inc is already planning an additional Solaris announcement targeted at high-end commercial users that is thought to be in the works for a couple of week's time. It is likely to outline implementation details of some of the joint development work it has been doing with Amdahl Corp to add enhanced RAS, reliability, availability and security features derived from Amdahl's UTS mainframe Unix to Solaris. It promises a more robust kernel, further SMP optimisation for parallel databases, including a distributed lock manager, enhanced failover support and further down the line, improvements to its own admittedly "simple-minded" clustering option. SunSoft is soon expected to price-list Amdahl's A+ unbundled middleware suite of high-end system performance measurement modules that the mainframer is currently offering on Solaris (UX No 478). Meanwhile, Amdahl is preparing a new OpenWatch module for remote performance measurement in June, and a performance modelling system currently slated for the last quarter.

NEW SGI INDY GETS 100MHz R4600PC, IRIX 5.2

Silicon Graphics Inc, determined not to let the recent Sun and HP workstation announcements put it in the shade now it is starting to put some numbers on the boards, will this week upgrade its entry-level Indy desktop with a 100MHz Mips R4600PC Orion part. This is rated at 62.8 SPECint92 and 49.9 SPECfp92, leaving the price at \$5,000. That's up from the 36 SPECint92 and 37 SPECfp92 marks of the original R4000-based Indy. For \$5,000, a diskless system comes with 16Mb RAM, 15" colour screen, dithered 8-bit colour graphics, the IndyCam colour digital video camera, optional IndyVideo card, Indigo Magic user environment and a new optimised Irix 5.2 Unix SVR4 implementation. It can accommodate up to 256Mb RAM, 2Gb disk and seven SCSI II devices. The new Indy is more powerful, but also more expensive than its nearest Sun rival, the 70MHz microSparc-based SparcStation 5 Aurora, and is similar in performance to, but more expensive than HP's 712/60 Gecko, although it compares favourably when loaded with 32Mb RAM, 535Mb disk, 16" 1,280 x 1,040 colour screen and IndyCam at \$7,000. Indy is SGI's leading unit volume product. The 100MHz R4600PC replaces the R4000PC - primary cache - which comes with 16Kb data and 16Kb instruction cache, double that of the R4000PC. SGI says the optimised Irix 5.2 requires 20% less RAM to operate and runs applications like PhotoShop and AutoCAD twice as fast as the first Indy incarnation.

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ACER BUILDING POWERPC/ PENTIUM-SWAPPABLE PCS

Taiwanese computer manufacturer Acer is designing machines with swappable processor boards that will allow PowerPC, Pentium and perhaps other processors to be swapped into the same machine. UK marketing manager David Tanner told our sister publication *PowerPC News* that the company should have the motherboard ready during the next quarter, and a range of swappable processor daughter-boards will follow in the third quarter this year. Tanner says that the company has yet to decide how the new machines will be marketed: both OEM and end-user options are still available. Likewise, the cost of manufacture and preliminary pricing has yet to be pinned down. Until now most PC manufacturers, including IBM have said that swappable PowerPC/Pentium boxes would be difficult to produce at realistic prices, however Tanner characterises the problems as "fairly trivial, to be honest". He points to the company's ability to design and manufacture its own application specific integrated circuits (ASICs) as one factor which will help Acer along. Moreover the company is apparently aiming at PReP compliance. A population of PReP-compliant machines that can have Pentiums slotted in would, paradoxically, be a blessing for the PowerPC industry. Currently, betting on PowerPC requires a major commitment from a manufacturer, while the ability to build a single chassis with support for alternative processors would lower the stakes.

IBM OS/2 FOR POWERPC WON'T RUN OS/2 APPLICATIONS

As current thinking has it, IBM Corp's version of OS/2 for PowerPC - due this summer - will be able to run 16-bit Windows straight out of the box, thanks to an in-built iAPX-86 emulation built into the software. However existing OS/2 applications will not be able to run - they will have to be recompiled. This quirk was discussed by Paul Giangarra, IBM's chief architect of Workplace OS. It would be relatively easy, he agreed, to extend the emulation to existing OS/2 applications, but currently, this approach is being discounted as the company puts all its weight behind native applications, rather than a relatively slow emulation. "It is better today to run the native applications on the native system" he says. The situation has a direct parallel in Microsoft Corp's Windows NT, where implementations on different RISC chips all run Win 16 applications under Insignia Solutions Ltd's SoftWindows emulation, but Win32 applications need to be recompiled. As with NT, recompilation should be pretty easy, but companies who have committed to the move are still thin on the ground. One factor that may still cause a change of tack is the company's desire to maintain the relatively strong catalogue of shareware OS/2 utilities. Giangarra says that the importance of this software base was pointed out to him at CeBIT and he will be taking that thought back to the labs as the best reason for including iAPX-86 emulation for PowerPC OS/2. The decision leaves IBM's Power Personal division in an interesting position. When it launches its first three machines sometime in the second half of the year the prime operating system will be the Workplace OS-hosted OS/2 that we have just been talking about. Power Personal's key selling point, it says, will be the 'Human-Centric' technology that the excellent floating point performance of the PowerPC processor will be able to provide. These include things such as speech and pen input, as well as multimedia support. Unfortunately, IBM is being really rather secretive about how many of these technologies are set to be available when the machines are launched. The worst case would see the firm launch very nice PowerPCs able to run Windows applications under emulation and not much else. If that's the case, as Giangarra says, native OS/2-for-PowerPC software will be key to selling the machines.

CINCOM BUILDS MULTIMEDIA WORK- BENCH AROUND SUPRA SERVER

Cincom Systems Inc, Cincinatti, Ohio has released Multimedia Workbench, a networked multimedia development environment, which is based around Cincom's Supra Server distributed relational database management system for Unix. It supports Microsoft Corp's Media Control Interface for accessing audio and video data on Supra Server, includes Cincom extensions for handling image data, Windows utilities for transferring all types of local personal computer files into the Supra Server database, net-working software and the Asymetrix Multimedia Toolbook Developers' Kit. The Multimedia Workbench is currently available under DG/UX, AIX, HP-UX, SunOS and OSF/1 operating environments. Additional client licenses and run-time licenses are available. It costs \$5,000.

EDS CHOOSES SILICON GRAPHICS FOR NEW HIGH-PERFORMANCE UNIT

General Motors Corp's Dallas-based Electronic Data Systems Corp has given fast-rising Silicon Graphics Inc another fillip by choosing the Mountain View company's Challenge network resource servers - they use the 64-bit Mips Technologies Inc R4400 RISC chip and scale up to 36 processors - as the basis of a new dbIntellect initiative to offer high-performance support databases and multimedia information management systems. The alliance is to provide companies with the means to sell goods on the so-called Information Super-highway and to develop multimedia marketing campaigns with parallel database servers. They see a market of some \$5,500m a year and look for \$250m each in sales over the next three years. Targets include telecommunications, transport, media, manufacturing, retail and the financial services markets. The deal pushes SGI further into the commercial world it once disdained.

SENTINEL LAUNCHES ITS IBM- BUILT FAULT-TOLERANT SERVER

Horsham, Pennsylvania-based Sentinel Systems Inc, acquired by Helionetics Inc, Irvine, California a year ago, has come down to the wire with its Sentry-E fault-tolerant mid-range superserver, and is ready to ship the first of the machines this week, having slipped the schedule by about two quarters. The Sentry-E, being manufactured by IBM Corp in Charlotte, North Carolina, is designed to run Unix, OS/2 and Pick, is built of 50MHz 80486 chips and uses the EISA bus. Prices start at some \$50,000.

ORACLE, RELIANCE PACT TO DEVELOP MULTIMEDIA FOR NETWORK PROVIDERS

Oracle Corp has signed an agreement with the Reliance Comm/Tec Corp unit of Reliance Electrical Co, Cleveland, Ohio to develop and market interactive multimedia systems for network providers. The venture will combine Reliance Comm/Tec's Matrix system and Oracle's recently-launched Media Net and Media Server products. According to the companies, the Matrix system will accommodate speech, video data and wireless transmissions over all distribution media including copper wire, fibre optic cable, coaxial cable, and combined fibre-coax networks. Media Net is an open, high-level protocol designed to be used to connect users requesting on-demand services through television sets to the Media Server, a digital multimedia library, which delivers the requested services to the user.

UNISYS LAUNCHES DATACENTRAL ENTERPRISE DATABASE SERVER

Unisys Corp has tailored one of its mainframe lines - 2200 presumably, although it carefully says only that the machine is made in CMOS - to create the DataCentral enterprise database server, a key aim being to rebuild its base in the airline business, where IBM Corp mainframes have been eating away at its market share. The DataCentral is designed to support concurrent high-volume transaction processing and real-time query processing against the same database while maintaining a consistent transaction response time. First application for the thing is the Unisys Customer Management System for airlines - which ships in the fourth quarter. The DataCentral is out in the second half, and is designed to access databases on IBM Corp mainframes, Digital Equipment Corp minis and Unix and NT machines as well as with Unisys mainframes; it supports Macintosh, Windows, Unix workstation and Windows NT desktop clients. The Data Central software environment conforms to the X/Open Co Ltd Distributed Transaction Processing model, and costs between \$500,000 and \$1m.

PHILIPS, BSG TEAM ON DOWNSIZING FOR MULTINATIONALS

Houston-based systems integrator BSG Corp and the Philips Communications & Processing Services arm of Philips Electronics NV have formed a new joint venture to help companies move to a client/server architecture. The venture, which will be run through BSG's BSG/Alliance IT unit, is targeting multinationals looking for client-server development, datacentre consolidation and management, and global telecommunications services.

DEC'S SABLE SERVER COULD EAT COBRA

Digital Equipment Corp this week will introduce its highly publicised Alpha SMP machine, code named Sable, first seen publicly at Fall Comdex and again last month at UniForum and now officially dubbed the DEC Server 2100 Model A500MP. DEC has been taking orders and the system could help correct its precarious position. An entry-level uniprocessor will cost \$26,900 for 64Mb RAM, 2Gb storage, a CD-ROM and a floppy, with either OSF/1 or OpenVMS - some \$8,000 more than essentially the same machine pre-configured with Windows NT. Long-time DEC watcher, Illuminata chief researcher Terry Shannon, describes the Sable (an Artic manimal killed for its fur) as actually a mongoose, bound to eat Cobra, DEC's AXP 4000 series which Shannon says will now interest only the Futurebus+ crowd. Supporting Shannon's contention are reports that the price of the 4000, conceived of as only an interim box, will be reduced by a third. Sable will reportedly ship this month with OSF/1. A pre-release of the OSF/1 3.0 with SMP support will be available, with a productised version coming in June or July. According to data released at Decus France the week before last, a uniprocessor Sable should be good for 160 tps and a four-way for 650 tps. Additional CPUs will cost \$9,000 each. The grapevine claims Sable, consistently advertised as a maximum four-way, will actually expand to eight processor down the road. Sources say the 190MHz 21064/PCI machine is EV5-ready, possibly EV6. It will upgrade to a 275MHz processor later this year. A rack-mounted version, code named SuperSable and officially dubbed the A600MP, will reportedly also debut.

IBM SHOWS OFF PROSPECTIVE POWER PERSONALS

IBM Corp showed its three prospective PowerPC boxes at UniForum a couple of weeks ago - but the poor little things haven't even been granted the dignity of code names. One is a 6 lbs 603-based laptop known simply as "the Mobile." It includes a 500Mb drive, 16Mb of memory, two PCMCIA slot, stereo, thin-film display, a tiny camera on a swivel above the screen for video conferencing, a track point on the keyboard and a CD-ROM that IBM is thinking about making removable so users could choose between it and a floppy drive. It is shooting for three-hour battery life and is promising speech recognition. There is also a 601-based desktop with specifications in about the same neighbourhood. Then there is the highly modularised ergonomic three-piece "Executive" whose tiny tower unit is designed to grace a bookshelf and whose screen and keyboard are intended to be tucked away when not in use.

WELL, WHY DIDN'T YOU SAY SO IN THE FIRST PLACE

Right before Easter, Sun Microsystems Inc came out and said its revenues for the third quarter, ended March 27, would be between \$1.17bn and \$1.2bn, a number that fell short of what Wall Street analysts were expecting by as much as \$100m. The market retaliated Easter Monday, dropping the stock down five points. Paine Webber started calling the stock "unattractive" and Merrill Lynch downgraded its rating. The *New York Times* started writing about the stock falling 19% on "disappointing revenues." Dean Witter hung tough. Sun attributed the shortfall to a softness in the US and customers postponing purchases in anticipation of its rolling out its new machines. Then, about last Wednesday Sun piped up again and noted that its third quarter earnings-per-share would be 60 cents, well above the consensus range of 35 to 45 cents, because its margins were better than anyone thought as it had shipped a higher percentage of high-end servers and graphics workstations. When last we looked, the pundits were scrambling to readjust their ratings. Actual figures, which came in late on Thursday, showed a profit of \$57.5m for the quarter and indeed a dividend of 60 cents, against \$51.7m and 47 cents last time. Revenues for the nine months hit \$1.96bn, up from \$1.41bn in the same period last year. Although turnover grew by less than 5% overall because of a greater mix of systems sold as customers await new desktop products, gross margin was 42.8%, the highest for six quarters. Full details are due April 12th.

OMG ISSUES SMALLTALK MAPPINGS RFP..

The Object Management Group last week posted a Request for Proposal (RFP) for a Smalltalk Language Mapping for its CORBA Interface Definition Language (IDL) as well as a preliminary Request for Information (RFI) for Common Facilities. OMG wants any Smalltalk letters of intent by May 27 and submissions by July 29. Responses to the Common Facilities RFI, which will be used to produce an architecture and road map to determine the order of future RFPs, are due by June 4. +1 508 820-0633.

...AS IONA LEADS C++ MAPPING INITIATIVE

As expected (UX No 478), Hyperdesk Corp's withdrawal from the Object Request Broker business has caused the firm's opponents - HP, IBM, Sun, Iona, DEC and NEC - to re-group and come up with a new proposal for mapping C++ to the Object Management Group's Interface Definition Language. This submission forms part of the CORBA 1 Common Object Services Submission (COSS). The C++ crowd met in the Mountain View, California area on Good Friday to hammer out a compromise, the bulk of which was reportedly accepted by those present, although nothing was inked or made public as OMG processes have yet to take their course and there is still some legal fallout from HyperDesk's stand-down that must be resolved and that may take some time. Reportedly, the technology of Irish firm Iona Technology Ltd, Dublin, will predominate this time around, though even it will have to rewrite parts of its Orbix ORB and IDL compiler. Indeed, the specification as envisaged will apparently require all of the submitters to re-architect part of their designs - some more than others, however. The mappings will provide an interface between C++ and OMG's Interface Definition Language so that any objects written C++ can be made available to CORBA-compliant object request brokers. The mappings are part of OMG's COSS specifications which define relationships between objects, networks and applications and cover conventions like naming, persistent object storage, events, execution and addressing. The specification will have to pass through OMG's technical committee and board before it is published as an OMG specification in CORBA 1.2 - a "rationalised" version of the CORBA 1.1 standard established at the end of last year to which OMG will add C++ mappings as an addenda. Iona, bankrolled by SunSoft Inc to make Orbix, which will run on Windows NT, Windows and various Unices, interoperable with Distributed Objects Everywhere, will complete its UnixWare port in a few weeks, with a SCO Unix version not far behind.

OMG WORKS ON CORBA 2 SUBMISSIONS

The Object Management Group's technical committee met in Berlin last week to sort through the CORBA 2 interoperability submissions. It seems likely to adopt a combination of gateway translators and a standard protocol mechanism (ie DCE). It also appears the OMG political process is now so well-understood that submitters are taking the most radical and entrenched starting positions possible to gain bargaining ground from which to trade-off.

ASK TO TAKE \$46m RESTRUCTURING HIT, SHED 100 MORE JOBS

Ask Group Inc, now based in Santa Clara, California will take a restructuring charge of about \$45m to \$47m against its fiscal third quarter figures to March 31, and also expects to report an operating loss for the period. The third-quarter results will also include a one-time charge of about \$5m to increase the allowance for doubtful accounts, reflecting the more conservative accounting policies the company recently instituted. And other unusual one-time expenses were incurred during the quarter. The restructuring charge is for expenses related to closing unnecessary facilities, non-cash write-offs of purchased intangibles, reductions in the work force and other asset writedowns. The cuts and its new business plan have persuaded CIBC Inc and First National Bank of Boston to go to final negotiations on new bank loan terms and a new pact is expected to be signed this month. It had \$20m cash on hand at March 31 to cover all immediate financial commitments. On the lay-offs, it expects to shed 100 employees via firings and attrition, from its current total of 2,100 by the start of the next fiscal year.

SUNSOFT DEVELOPER CONFERENCE

by William Fellows

Now in control of all of its technology and pricing following its Unix source buyout from Novell Inc, SunSoft Inc last week announced its anticipated 2.4 Solaris revision for Sparc and Intel architectures, the first derived from a single source tree, bringing the two implementations into sync and delivering SMP support to its x86 customers. Solaris x86 (the last revision of which was version 2.1) gets all the stuff in 2.3, including support for up to 20 CPUs, X11R5, Adobe Display PostScript, cache file system, asynchronous point-to-point connectivity, access to the Live! multimedia suite and C2 security. New to both Sparc and Intel users are the XTL Teleservices component of Live! for creating integrated data/voice applications, a journalled file system for logging file updates, transparent overlays and GUI-based installation. (To prove this last point, during the opening piece of theatre at the Developer conference last week, SunSoft president Ed Zander installed Solaris in 65 seconds.) Early access are available this quarter (minus the journalled file system) with volume ships set to begin in the third quarter. SunSoft claims 40% of the 1.6m installed base is now on Solaris 2.3. Sun's own 22,000-strong network will all be Solaris 2.x by June, it says. It claims nearly 2,500 applications now up on Solaris 2.x, with 2,000 more coming.

Double run-rate

The company says it has shipped some 30,000 units of Solaris x86 since it went on general release last July. 15,000 were delivered in the first four-and-a-half months, 15,000 since. Not an amazing ramp-rate for the high-profile Unix-on-Intel gambit, but SunSoft says initial deliveries went to stock its shelves and those of its resellers and distributors and that most of the recent shipments have gone to end-users. And although it reckons it will soon begin to double its x86 run-rate quarter-on-quarter rather than every four or five months, the company nevertheless felt it necessary to address a perceived weakness directly, stating that it is "not dropping commitment" to the Intel variant. As evidence it pointed to three new x86 wins - 8,800 seats in one of Germany's tax authorities, 1,700 units at Spanish bank Banco Sabadell, and others at the Australian Army. It says there are 850 applications now up on x86, which it reckons have been certified on 178-odd Intel platforms. Oracle, Informix, Progress, Ingres and Interbase databases are all due on x86.

NetWare connectivity

Although Sun never missed a chance last week to talk-up its vision of a TCP/IP-only future for the industry, it bowed to the inevitable and at the same time announced add-on products for Solaris that use Novell Inc's transport protocol, Internetwork Packet Exchange, rather than TCP/IP. Part of its source agreement with Novell paved the way for it to offer NetWare products on Solaris, SunSoft says, the first of which will be an IPX/SPX protocol stack that'll allow NetWare 3 and 4 users to access information and services on Sparc-based Solaris hosts without Novell's LAN Workplace TCP/IP host access software. It has licensed the stack from a NetWare clone vendor, but won't say which. Out in the third quarter, the stack is \$400. Support for Solaris x86 will follow. By the end of the year, SunSoft will also offer NetWare server services for Solaris, providing full NetWare-compatible file and print services on Solaris without any change in the Solaris desktop; and NetWare client services for Solaris, giving Solaris desktops full access to NetWare server resources.

Wabi 1.1

The message is changing again, slightly. It used to say run your business on Solaris and run your spreadsheet on Windows. Now Sun Microsystems Inc is saying run your business on Solaris and run your spreadsheet on Wabi. The repaired Wabi, version 1.1, which was announced at last week's SunSoft Developer Conference and will ship before the end of the month, is free to new Solaris customers on return of a coupon. IBM Corp, which has enhanced its own implementation with extended MS-DOS functionality, and Hewlett-Packard Co, are expected to ship around the same time. SunSoft will include IBM's MS-DOS features in the next version of Wabi it delivers. Wabi can be used for Windows emulation on SunSoft's Intel Unix, but it is recommending Locus Computing Corp's Merge 3.1.1 PC-to-Unix system to Solaris x86 and Interactive Unix users for DOS functionality (UX No 463). Merge, which actually runs DOS and Windows code, will ship in 90 days at \$300 on desktops, \$500 for server versions. It appears there is still some work to do to get Wabi up to speed. Sun chief technology officer Eric Schmidt said the company is working on users' requests to have Wabi run applications no slower than on an 80486 machine. It currently still only runs 80386 Windows applications. SunSoft says Microsoft Excel 4.0, Word 2.0, Project 3.0, PowerPoint 3.0, Lotus

1-2-3 for Windows 1.1, AmiPro, WordPerfect 5.2 for Windows, CorelDraw, Aldus PageMaker, Quattro Pro for Windows 1.0, Paradox for Windows 1.0 and ProcommPlus for Windows will all run under Wabi, although Paradox and PowerPoint still require Windows 3.1.

Tip-toe towards OpenStep, NeXTStep

SunSoft brought the first incarnation of its NeXTStep-based object-oriented OpenStep environment to the conference as a starter kit iAPX-86 platforms which it was selling for \$995 during the week - its \$3,995 otherwise. SunSoft and NeXT boss Steve Jobs both claim there are other OpenStep licensees waiting in the wings, but could offer no names. The kit itself is little more than NeXTStep 3.2 and NeXTStep 3.2 developer re-packaged with a manual telling developers which NeXTStep APIs and calls will be included in the version of OpenStep that is to feature in the Distributed Object Everywhere (DOE) environment, and which will be left out. NeXTStep, for instance, is built on the Mach microkernel rather than vanilla Unix, and uses NeXT Display PostScript: DOE is a Solaris environment that uses X Display PostScript. However, SunSoft will port NeXTStep's Mach-based fast Inter-Process Communication mechanism to Solaris for DOE. The kit is essentially an evaluation system that SunSoft hopes will start interested independent software vendors on the DOE track.

DOE RoadMap

The DOE roadmap has the first release of SunSoft's object environment due on Solaris for Sparc and Intel, penned for January 1995, putting it, in its estimation, at least a year or two ahead of object rivals Taligent or Cairo. As well as the DOE/OpenStep version of NeXTStep, a native Solaris/Sparc implementation will be on offer, and even in DOE, SunSoft will offer a choice of Common Desktop Environment or NeXTStep front-ends where required. DOE will offer full cut-and-paste and drag-and-drop between CDE, OpenStep, OpenLook and Windows on the desktop. DOE 1 runtime features includes OpenStep, an OMG-compliant object request broker and services, support for C, C++ and Objective C and interoperability with the Iona Technologies Ltd Orbix ORB which runs on Windows NT, HP-UX, AIX, OSF/1 and other Unixes. Developers get a development environment, OpenStep interface builder, Interface Definition Language compilers for C and C++, object automatic code generator tools, a distributed debugger and object-based administration tool. A second DOE release - "enterprise-ready" - including CORBA 2 interoperability, enhanced database access and finer grained distribution is planned for early 1996. It is release 3 however, not due until 1997, that looks like the real McCoy. Slated as "software for the distributed enterprise" it promises distributed objects that model the business, collaborative computing and applications on demand. SunSoft vice president of object products, Bud Tribble, claims there will be "several hundred" applications available for OpenStep next year, and says he has 50 sites in the Distributed Object Council, developers and end-users, that have been evaluating early versions of DOE. Some of the pre-NeXT DOE application development environment effort is suspended, some goes forward. Jobs, who is also seeking an operating system independent version of NeXTStep using OpenStep APIs, reckons there will be 100,000 OpenStep takers by the end of the year, 300,000 more by the end of next, and 500,000 during 1996.

FRANKENBERG SUCCEEDS NOORDA

As expected (UX No 481), Novell Inc last week named Hewlett-Packard Co VP Robert Frankenberg, 46, to succeed the legendary Ray Noorda, Microsoft Corp's most ardent foe, as president and CEO. Noorda, who will reportedly be "involved and available," remains chairman for the time being. Novell has dissolved the office of president, created last year, and its members, CFO Jim Tolonen and COO Mary Burnside, now report to Frankenberg. At his debut, reportedly attended by 400 members of the press, Frankenberg proposed to meet the Microsoft challenge by going where "they aren't and have difficulty following," referring to the company's networking skills. Frankenberg, who is not a Mormon though he will head a Mormon company, joined HP 25 years ago, fresh out of school, and ended as vice president and general manager of its Personal Information Products Group, responsible for its PC business since 1991. He is credited with boosting HP's market share by pushing its PCs through the channel. He also headed up the group that developed HP's NewWave application environment, OpenMail, NewWave Office and other integrated office products. The experience should prove valuable considering he is now faced with integrating WordPerfect and Borland's spreadsheet business into Novell, an Augean task. He must also figure out how to handle Unix, which Novell bought last year from AT&T, while staving off the onslaught of Microsoft from Novell's core business. Kanwal Rekhi, a moving force behind the Unix acquisition and the company's chief technical officer, as well as David Bradford, chief in-house counsel and a thorn in Microsoft's side, now also report to Frankenberg. WordPerfect president Ad Rietveld will run an application group. The *Wall Street Journal* last week described Frankenberg as one of "only a handful of executives with the technical breath and management expertise necessary to lead Novell." He is understood to have been approached earlier by Sun Microsystems to become president of its hardware arm, SMCC. In the three weeks since Novell announced its intention to buy WordPerfect - a decision that apparently determined Frankenberg's acceptance because it makes possible a "new category of networked applications" - the firm's stock has plummeted 25% out of concerns that it is overpaying and that WordPerfect's sales are stagnating. The company may have been ill-advised to expose Frankenberg to the glare of the press the instant he was appointed, however - after he tried to master their questions, Wall Street's Alex Brown downgraded Novell's stock because the company has "no direction." Frankenberg's appointment will reportedly give Noorda more time to consider ways to better Microsoft.

ONTOS READIES CLASS LIBRARY STORAGE MANAGER

Ontos Inc is due to announce its first product based on the Object Cohesive Enterprise architecture (UX No 467) in about two weeks time. Open Storage Management is a class library that enables third party vendors to integrate Ontos DB with relational databases by mapping them schematically. The Burlington, Massachusetts-based firm will also debut the latest release of its Ontos DB object-oriented database and application development environment at the end of the month. Meanwhile, Ontos denies rumours that it will close its UK operations (UX No 481) - as the firm's only subsidiary, it says the office is pivotal to its international strategy. The UK acts as its European headquarters and support centre for its network of distributors.

HELP WANTED: UNIFORM SHOW MANAGERS

Uniform, which put out an RFP last week, claims it has six to eight alternative show managers to replace IDC World Expo which quit the day after the show closed (UX No 481). Contrary to reports circulating, it says, it has not been turned down by The Interface Group or Blenheim. In fact, it says, Interface, which owns Comdex, is quite interested. It hasn't talked to Blenheim yet, but its ownership of Unix Expo could be a problem if Blenheim wants to put a Unix Expo on the West Coast. There are also concerns about the impact Dallas, next year's venue, will have. Meanwhile, Uniform would like everyone to note that paid attendance on the conference side of the show was up 65% this year to 1,850.

IBM TAKES TO THE PARALLELS

After leading everyone a dance of the seven veils for the last few weeks, IBM Corp equated the unveiling last week of its new "parallel servers," both System/390s and RISC-based PowerParallels, with its historic System 360 roll-out decades ago. The 390s, machines that IBM would now only reluctantly call mainframes, are built out of low-cost CMOS microprocessors and are intended to run the same large-scale applications as traditional mainframes, which IBM didn't fail to note represents a \$1 trillion investment by users. The move is a last-ditch effort by the beleaguered company to save the market that made it great. It believes these machines will not only halt the decline in mainframe sales, but turn the tide and start them moving back up again. It is really a concretisation of last year's attempt by IBM to position the mainframe as the ultimate server. IBM said the two new S/390s, the S/390 Parallel Transaction Server, available June, and the S/390 Parallel Query Server, initially available now with volume in the third quarter, will run applications in parallel that were written for traditional processors. IBM is telling customers they will be able to expand their workloads while lowering their total cost of computing. A Coupling Facility connects the boxes to ES/9000 mainframes to create a single computing facility called the S/390 Parallel Sysplex, sharing data among them. IBM said 32 MVS systems can appear as a single image to the user. The workload can be balanced among the processors. To couple the system, IBM has created a new version of its famous MVS operating system, MVS/ESA SP Version 5, which includes OpenEdition MVS, based on Posix and DCE technology and supporting NFS, that will let MVS run what IBM calls "Unix-like" applications. Next year, IBM said, XPG4 and whatever evolves from the 1170 Spec will be supported. IBM calls its development a "new way of computing," a move away from the glass house to end-user departments with the safety net of the old mainframes.

PowerParallels

IBM also introduced its next-generation PowerParallel machine, the SP2, which it intends to move more deeply in commercial accounts for executive decision support, LAN consolidation, centralised management of distributed systems and data mining in financial, investment, research, banking, insurance and retail. The new models scale from four to 128 nodes, with wide and thin-node combinations and a choice of 62.3MHz Power and 66MHz Power2 processors. It claimed the new Power2 processors provide twice the processing power of current systems, eight times the memory and four times the bandwidth, a characteristic attributed to a new High Performance Switch and Adapters. It calculated a 128-node system at 34 gigaflops peak. It can handle 256Gb internal and 1,024Gb storage. The wide-node option offers seven I/O and network slots, 8Gb storage and 2Gb of memory per node. The thin-node option offers four slots, 4Gb storage and 512Mb of memory per node. Customers can choose combinations depending on their needs for compute or server engines. Full versions of AIX/6000 will run on each node, lending it high availability. (IBM found its new microkernel AIX was too big to fit.) There is an integrated parallel development environment, full parallel job scheduling, a parallel file system and a set of tools supporting parallel database implementations. The boxes will get a Parallel Edition of the company's DB2 AIX/6000 software, now in beta, later this year. There are now 65 ISVs writing software for the stuff and support for Oracle, Sybase, CICS, Tuxedo, SAP R/3 and Quantum Leap is in the works. IBM priced an entry-level eight-node thin-node system at \$398,000. A more typical 12-processor box for commercial use with four wide and eight thin, 768Mb of memory, 12Gb of disk and system software would go for \$685,000. It claims to have the best price/performance ratio in the business. The system co-exists and shares workloads with System/390, the S/390 Transaction Server and the S/390 Query Parallel Server.

CANDLE AND COMPUTER AUTOMATION TIE INTEGRATION KNOT

Computer Automation and Candle Corp last week announced a development alliance that over time will provide interoperability and integration between CA-Unicenter and Candle's Availability Command Center systems management schemes on all platforms, including NT by the end of the year. Details were sketchy, but it seems they are using an object-oriented agent framework to achieve what they want to achieve. And since Candle is the one with the object-oriented technology, we guess that's how they're going to use that and then invent what's missing. They won't confirm.

INTERNATIONAL ROUNDUP

Automatic Data Processing Inc, Roseville, New Jersey, and **Merrill Lynch & Co**, New York have bought stakes of 18.75% and 6.25% respectively in **Wilco International Ltd**, developer here in London of a Unix-based back-office processing system; terms of the deal were not disclosed.

Unix file server supplier **Auspex Ltd**, Oxford has hired **Jeremy Smith**, previously from **Sybase**, as its new UK sales manager.

Itochu Corp (formerly C.Itochu) is now **Legato Systems Inc's** primary distributor in nine Far East countries. It has also developed a Kanji version of **Legato's NetWorker** backup software.

In the UK, the **Rolls-Royce Aerospace Group** has signed for \$21.1m of **Computervision Corp** CAD/CAM software, services and support, the largest order in the computer company's history, which could be worth up to \$60m over seven years.

Encore Computer Corp has signed up three distributors in Eastern Europe to sell its **Encore Infinity** alternative mainframe systems and real-time computers. They are Czech firm **APP/Sequs**, a developer of banking, telecommunications and utilities applications; **EOS Open Computing** in Poland, a software integrator; and **Duna Elektronika** in Hungary, a reseller and distributor.

Paris-based **Business Objects SA** reports that its 1993 revenues more than doubled to the equivalent of \$13.9m from \$5.2m in 1992. The company said the revenues exceeded its 1993 forecast of \$11m. Sales in France grew 58%, but exploded in the US, rising by 750%, and accounting for one third of the total.

Singapore's **Tat Lee Bank Ltd** has bought one of **Tandem Computer Inc's** vast **Mips Technologies Inc** R-series RISC-based **NonStop Himalays K10000** systems for an undisclosed amount. The agreement follows an \$11m order for Himalaya range machines from the **Overseas-Chinese Banking Corp**.

Unisys Corp is to merge its Hong Kong and China subsidiaries and beef up its China operations - its fastest growth region - with a \$10m investment over the next two years; it has set up a wholly-owned subsidiary in China, which will employ some 150 people by year-end.

Apple Computer Inc says that the **BBC World Service** has ordered 87 Power Macintosh systems for use by its Asian language production team; terms of the deal were not given.

IMI Plc's Uniplex Ltd has signed up **Omron Corp** subsidiary, **Tokyo-based ODG Corp**, and **Computer & Technologies Software Ltd**, Hong Kong, to distribute and licence its eponymous office automation software in Japan and China respectively.

Compagnie des Machines Bull SA and **Ilog SA** are integrating their object-oriented constraint programming tools, **Ilog Solver** and **Bull's Charme**. By pooling their resources, the two firms hope to grab 60% of this market within two years. **Ilog** will market the resultant product as **Ilog Solver**, and **Bull** as **Bull Solver**. The two will also jointly develop further specialist add-on libraries.

Harrogate, Yorkshire-based network integrator Corporate Network Services Ltd is marketing **Banyan Systems Inc's** Enterprise Network Services for **Hewlett-Packard Co's** HP/UX in the UK (UX No 473), and will also become an authorised HP reseller for other products.

Oracle Corp has appointed **Alan Gater** to the newly created position of UK applications director in an attempt to promote the development of third party applications.

Database specialist **Raima Corp** has set up a UK office in **Crawley, West Sussex**, headed up by **Norman Wilkinson**, who becomes sales manager for the UK and Ireland. + 44 293 571 539.

Westborough, Massachusetts-based Applix Inc has appointed **Jitendra Valera** as UK managing director. He was formerly sales and marketing director at the **Raytheon Co's** Datalogic unit. + 44 734 880 202.

High Wycombe, Buckinghamshire-based TopLog Ltd is now distributing **Structured Software Solutions Inc's** **FacetTerm3** terminal emulation software in the UK. + 44 628 819 356.

Unisys Corp has brought in **Malcolm Coster** as senior vice president and president of its Europe-Africa division, based in London. He formerly headed up **Coopers & Lybrand's** management consultancy and looked after international business development. **Coster** replaces **Graham Murphy**, who has retired. The firm has also decided to consolidate its Irish operations by appointing **Robert Johnston**, formerly manager of Northern Ireland, as general manager of the whole island. Its existing offices in **Belfast** and **Dublin** will be retained, however.

Henley-on-Thames, Oxfordshire-based Scientific Software Ltd now has **Sun-GKS Compatibility Wrapper**, which provides transparent mapping from the **Sun-GKS C** language binding to **S-GKS**. The product is available for **SunOS** and **Solaris 2** for £250, and all other environments supporting **GKS** for £950. + 44 491 411 727.

Shepton Mallet, Somerset-based Perihelion Software Ltd has ported its **Helios Unix-lookalike** operating system to **Cambridge-based Advanced RISC Machines Ltd's** family of microprocessors for use in real-time embedded control systems. **Helios-ARM** also supports the standard **ARM** development toolset and will soon support **VLSI Technology Inc's** **Jump-Start** graphical **ARM** debugger. No pricing available. + 44 749 344 345.

Users of London-based **Staffware Plc's** workflow automation software can now store their information in **Oracle Corp** and **Informix Software Inc** databases. No pricing available. + 44 71 262 1021.

York-based SeaChange Ltd will introduce version 4.4 of its software development tools in mid-April. The new offering supports **Informix Online** and **Informix Standard Engine**, and has a new "text and bytes" feature for storing and manipulating variable free-format text and binary data. New tools include **SeaGUI**, which enables users to choose between **Motif** and **Windows 3** graphical displays or character displays, and **SeaWriter** for report writing. + 44 904 611 666.

Sequent Computer Systems Corp has promoted former UK sales director **Peter O'Neill** to the position of UK managing director. **Paul Kelly**, former sales manager for the telecommunications and utilities sector, will take his place.

Frontline Distribution Ltd is now carrying **SunSelect's** PC-NFS TCP/IP networking software in the UK. + 44 256 847 110.

Albacomp Computers Co is now distributing **Four Seasons Software Inc's** application development tools in Hungary. + 36 1 252 7116.

Amsterdam, Holland-based Uniface BV has set up a UK Business Partners Division in the UK to recruit and support value-added resellers and systems integrators. + 44 628 477 033.

Precision Software GmbH now has the exclusive right to distribute **Colorado Springs-based Altia Inc's** **Altia Design** prototyping software for product design in Europe. The product is targeted at such markets as consumer electronics and car manufacture. A single user licence for **HP/UX**, **SunOS** and **Windows NT** costs approximately £7,740.

Maidenhead, Berkshire-based Tetra Ltd has won a £1.3m contract to supply the UK Prison Service with its **Chameleon 2000** suite of financial software. The software will run on **Compagnie des Machines Bull SA** **DPX 20** and **XPS-100** Unix systems, and is being implemented as part of the Prison Service's **Finance Outstation** and **Central Unified System** project, which is due to be completed in March 1995.

Hoskyns Plc's **Pinnacle** software for the distribution and logistics sector is now available on **Hewlett-Packard Co's** **HP 9000 Series 800** Unix machines. The two companies are offering to implement the system as well as provide customers with training and after-sales support.

Open Systems Management Ltd has introduced version 2.5 of its **COS/Manager** systems management tools, which includes an automatic scheduling of systems tasks and backup support for enterprise-sized data volumes. + 44 734 770 333.

Ilog SA has unveiled **Ilog Schedule**, a C++-based class library for use in scheduling applications such as planning and resource allocation and timetabling. Target markets include manufacturing, civil engineering and transportation. The product will be available later this month on **HP**, **DEC**, **IBM** and **Sun** hardware running Unix, and personal computers under **Microsoft Corp's** **Windows**.

IBM DEFINES CLIENTS AND SERVERS BY THEIR GRAPHICS CARDS

When is an RS/6000 not an RS/6000? When it is a Power Personal. At the beginning of the year, as we reported (UX No 471), the RS/6000 model 250s - based on the PowerPC processors - were shuffled out of IBM's RS/6000 division and into the control of the Power Personal Division. The team, headed by Bill Colton moved lock, stock and barrel, taking development, marketing and its existing sales channels with it. Colton now reports to Nobu Mii, Power Personal chief. The RS/6000 N40 notebook has also made the switch. The decision was taken, says an IBM spokesman, to "reflect the client/server paradigm". The idea is that the low-end RS/6000s - which will keep their names - have more in common with the PC-type offerings of Power Personal than the mainstream RS/6000 servers. Today, however, the RS/6000 line represents a smooth progression from high-end to low-end so that the cut-off seems fairly arbitrary. Indeed, one IBMer admitted that the decision as to whether a machine is a 'client' or a 'server' is currently based on the type of graphics card which it hosts. One side effect will be in the unit shipments which each part of IBM reports. Look for the US RS/6000 division to report a decreased number of boxes sold next year as the popular Powerstation 250s disappear from its portfolio. The marketing strategy will differ from country to country. So in the UK, where there is no Power Personal presence, all machines running AIX - including the machines that Power Personal is developing from scratch - will be sold through the RS/6000 operation. The same machines, running Workplace OS, will be sold by the Power Personal division.

NOVELL AND WORDPERFECT OUTLINE OPEN MESSAGING SYSTEM

Novell Inc and WordPerfect Corp hope to conquer the enterprise messaging market by combining elements of NetWare 4.x, AppWare, the Global Message Handling System (MHS) and WordPerfect Office to form the Open Messaging Environment. They intend to do this in three ways. First, by strengthening Global MHS's weak points by adding such WordPerfect Office features as message storage and a calendar. Second, by integrating messaging and enterprise NetWare 4.x directory and administration services more tightly. Third, by providing open APIs and AppWare development tools to make it easier for existing messaging front-ends and third party applications to hook into NetWare messaging and other services. Novell's aim is to support competitors' messaging application programming interfaces so that users can move to OME without throwing away the technology they already have in place.

ESKER UNVEILS NEW VERSION OF SCREENER

Esker SA has a new version of its Screener graphical user interface builder and application development tool targeted at customers with character-based Unix servers that want to access their databases from X terminals or personal computers running Microsoft Corp MS-DOS or Windows. Screener runs under most Unix environments, and sits on top of existing applications, where it generates SQL code for database queries. It ships on April 18 in the UK, priced at £2,500 for a Santa Cruz Operation Inc Unix developers kit and £900 for a Windows version. It has been around in France for the past month or so. The Lyon-based firm says it developed the tool as a one-off for a customer in France, but now expects to sell about £1m-worth of licenses by the end of the year. And it is ramping up its presence accordingly. Esker has just opened offices in Essen, Germany, Foster City, California, and Ontario, Canada. It also set up a UK subsidiary in Shardlow, Derby on February 1 - all via internal funding. The company turned over approximately £4.1m last year, on pre-tax profits of about £600,000, and hopes to go public in the next 18 months.

IXOS TAPS SUPERMAC ENGINEER FOR US

iXOS Software Inc, the new US wing of the German company with the same name (UX No 474), has picked Loreli Trippel as its president. She was previously director of software engineering at SuperMac, the graphics accelerator house. Before that, she was with Ashton-Tate for five years working on the presentation graphics side, which coincides with iXOS' imaging interests. Meanwhile, the company has also announced the availability of its iXView/SQL GUI tool, which supports Ingres 6.4 as does its iXos-FrameMerger database productivity tool. Ingres will co-market iXView/SQL.

ORACLE OPENS UP ITS APIs TO THIRD PARTY DEVELOPERS

Oracle Corp will publish the application programming interfaces to Release 10 of its 23 financial, manufacturing, and human resources packages in an attempt to broaden out the base of specialised applications for Oracle 7. Oracle applications only run under Oracle databases, but the firm now hopes to expand the range of development tools that work with its own repository-based ones. The APIs will come with Release 10 documentation and PL/SQL source code will be provided on tape for the price of the applications. Existing users on maintenance contracts will receive the tapes and documentation free-of-charge. The interfaces will be made public on April 18, and Release 10 is scheduled for shipment on May 1. To date, about 20 software vendors are taking part in the Cooperative Applications Initiative, in which Oracle has committed to help them integrate their products with its own. Meanwhile, the company also unveiled new software that enables its Cooperative Development Environment (CDE) tools to access data held in Microsoft Corp's version of Sybase Inc's SQL Server database and others conforming to Microsoft's Open Database Connectivity interface. Such companies as Intersolv Inc with its PVCS software configuration management product, Segue Software Inc with its QA Partner software testing offering, and Odesta Systems Corp with its eponymous workflow application, have been the first to commit to linking their development tools with the CDE APIs.

INTERNATIONAL META HAS UNIVERSAL EMULATOR RISC CHIP

According to our sister paper *Client Server News*, a RISC chip that is claimed to be a universal microprocessor emulator has been launched by Torrance, California newcomer International Meta Systems Inc - and the company wants designers of other RISCs to license its emulation technology and build it into their own RISCs, be those Alphas, Sparcs, R-series or whatever. The first part to include the technology is called the IMS 3250, which emulates Intel Corp's 80486 and Pentium, and International Meta has filed a patent for the high-performance hardware-assisted emulation technology. It says that it can use the technology to create parts that emulate the 68040 used by Apple Computer Inc in Macintoshes, and more than one emulation can presumably be included in the same chip. The company also says that peripheral devices such as controllers or a graphics accelerator or a facsimile modem can be "largely" duplicated by emulation, thus requiring only a fraction of the transistors compared with conventional hardware implementations. The compact IMS RISC core with the microcoded emulation technology is claimed to produce low-cost, low-power, high performance processors ideally suited for portable and handheld computers. Algorithms for image processing, speech recognition, telecommunications and other functions can be embedded into the microcode, "achieving performance levels comparable to or exceeding those of the most popular RISC machines at a fraction of the cost." On licensing the technology to other RISC designers, the company claims they could improve their iAPX-86 performance 10-fold compared with their current software emulations, with an increase of under 8% in the size of the chip. In the case of the Alpha RISC, International Meta says that the technology would add 5% more logic to the chip, but would enable it to run shrink-wrapped MS-DOS or Windows programs at "two to three times the speed of a 60MHz Pentium". IBM Corp is of course already developing a PowerPC 615 RISC processor that includes iAPX-86 emulation on-chip and is due next year. The IMS 3250 part is clocked at 60MHz and is claimed to run Windows applications nearly as fast as a 66MHz 80486DX2 processor. With only 700,000 transistors, it should sell for around \$100, compared with the Intel part, which has 1.7m transistors and costs \$360.

GRADIENT DEMOS DIY LICENSING SYSTEM

Gradient Technologies Inc recently demonstrated a new automatic software license creation, delivery and installation tool, iFOR/LDI (License Delivery and Installation), which lets end users create software licenses on their own systems. The stuff is an extension of Gradient's iFOR/LS technology adopted by the Open Software Foundation. It lets users "try and buy" or create short-term licenses to cover peak loads and emergencies. Gradient says even software rental and usage-based licensing are realistic options. Gradient expects iFOR/LDI to be in beta in October.

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The weekly information newsletter for the UNIX™ community worldwide

Bob Frankenberg isn't the only **HP** refugee this week. **Taligent Inc** has made Joe Beyers, a 20-year HP veteran most recently manager of business development, responsible for evaluating potential acquisitions, equity investments and strategic alliances, corporate director of product marketing and planning. It's been looking to fill that job for a while.

AT&T GIS (NCR) will announce **Red Brick's** data warehouse on its medium size System 3400 and 3500 database engines this week. New announcements for the 3600 parallel systems are scheduled for June.

Sun has lost Curt Fisher to **AT&T GIS**. Fisher, most recently director of reseller channels for **Sun-Tech**, is now vice president, partnership marketing responsible for ISVs and channels worldwide, reporting directly to VP, worldwide marketing Bill O'Shea.

The **Verdix Corp/Rational Inc** merger is complete and the name of the company has changed to **Rational Software Corporation**. It is headquartered in Santa Clara, California.

IBM Corp would like us to believe that mainframe shipments worldwide have fallen since 1988 because they are so powerful, which means less are needed. It also says mainframe revenues will fall again this year but not because of low demand - demand is "very healthy", it says, and it's sold out of mainframes. Swear to God, we're quoting from its typed retort to a story in *The Wall Street Journal* last Monday, "If Mainframe Computers Are Dinosaurs, Why Is IBM Creating a New Generation?"

MainSoft Inc is teaming with both **NCD** and **Axil Workstations** in a Rapid Access Program targeted at software developers. ISVs doing Windows-to-Unix development using the MainWin Cross Development Kit can get discounts on both partners' hardware.

Novell Inc reminds us that a release of Unix SVR4 ES/MP went out last December (UX No 481).

Telecoms giant **MCI Communications Inc** has picked **Versant Object Technology Corp's** ODBMS for a state-based international network management scheme dubbed ICIS (International Community Information System). It's meant to do event reporting, performance management and trouble management.

First **Novell** tells us Bob Frankenberg is Mormon (UX No 481) and then calls us to tell us he's not, claiming there were lots of misperceptions inside the company right up to the announcement.

Epoch Systems Inc has joined **X/Open** as a specification member for the Systems Management Working Group. It intends to focus on developing standardised interfaces such as backup and restore. With Epoch, X/Open is focusing on integrating backup systems with databases and data-centric apps such as document management.

Rob Dickerson, who's been senior VP at **Borland International** and group product marketing manager at **Microsoft Corp**, has joined **Pure Software Inc** as VP marketing.

Last month, delays to **Silicon Graphics'** software interface for the video servers meant **Time Warner's** interactive TV trials in Orlando, Florida, had to be postponed. SGI also has a cut-down object system that's not OMG-compliant for use in the set-top boxes that'll provide the gateway to front rooms.

Sequent Computer Corp has now decided UK pricing on its new SMP machines (UX No 481) - SE20s range from £120,000 to £380,000, SE60s from £275,000 to £700,000, and SE90 clusters from £250,000 to £550,000.

Okay, guys, this is it. You've gone to far. The press release from **IBM** last week weighed 4 pounds 2 ounces.

Continued delays in **ScriptX**, **Kaleida Labs Inc's** multisystem multimedia scripting language, have led to rumours that the **IBM Corp-Apple Computer Inc** joint venture has promised more than it can deliver. Release of **ScriptX**, officially launched in June, slipped from the end of 1993 to April this year, then to mid-1994. Now Kaleida will only say it plans to ship the scripting language and companion operating system this summer.

Nintendo Co is betting its business on its development effort to create a 64-bit games machine with **Silicon Graphics Inc** based on the R4000 RISC, and it has already lined up the first game for the system. Its **Nintendo Co of America Inc** has teamed up with **WMS Industries Inc** to create **Williams/Nintendo Inc** to market games exclusively for the 64-bit Project Reality home system. The first game will be **Killer Instinct**, a "futuristic three-dimensional fighting (of course) game developed for Nintendo by **Rare Ltd** of Twycross, Warwickshire in the UK. **Sega Enterprises Ltd** says it is also negotiating a deal under which WMS Industries would develop games for future Sega game systems.

Sun does up to 8% of a quarter's revenue on the last day.

Object Design, Boston, Massachusetts is still courting investors and is due to sign an equity share deal with **Intel Corp** in the next few weeks. Details of the contract have yet to be disclosed, but the company says Intel will assume a similar position as other shareholders, which include **AT&T**, **IBM**, **Eastman Kodak Co** and **Philips Electronics**. IBM is said to be **Object Design's** largest investor paying a hefty \$27m for a 20% equity stake last April (UX No 437).

Helen Bradley, formerly vice president, systems software for **SunSoft**, has joined **OpenVision Inc** as senior VP, Application Engineering, responsible for the design, development and delivery of its 19 systems management applications. Her appointment, the company said, is a result of the start-up's reorganisation. It has split its technology group into Applications Engineering and Environmental Engineering. Asa Lanum will continue as chief technology officer as well as SVP of Environmental Engineering.

ComputerWorld gave a big front-page spread last week to a story claiming that customers and analysts were disappointed with Hewlett-Packard Co's version of Computer Associates' CA-Unicenter, its first port of the product to a Unix platform. It was criticised as falling "far short of the vendor's claims of one-stop systems management," targeting the help desk module, network management, and performance monitoring specifically.

Wang Labs started shipping **Open/profound** last week, the newest version of its document management software, which includes its **Open/image** stuff. It supports HP-UX and AIX as well as Novell and Banyan LANs and Windows-based clients. Prices range from \$300 to \$2,500. LAN and Unix server pieces, with five clients, go for \$1,650 and \$3,375 respectively.

The first meeting to expand the scope of **X/Open's** Desktop Work Programme beyond just CDE (UX No 478), will take place in the Bay Area on May 4-5. It's open to any company or organisation that feels it has a valid interest in the subject. The focus, X/Open says, is to build a sufficient information base for existing and emerging technologies and user requirements to establish a definitive specification development programme. Any company wanting to participate should contact chief technical officer Mike Lambert at m.lambert@xopen.co.uk

Apologies to **SunSelect**. We incorrectly attributed **SolarNet** to another part of the galaxy last week (UX No 481).

As part of its **Solars Live!** integrated data/telephony services, **SunSoft** will offer **Eastman Kodak's** colour management system later this year. Kodak's technology provides colour correction mechanisms for images so what you see on the screen is what you get from your printer. A colour management API will allow other modules to be plugged in.

Objectivity Inc has pulled in another \$4m in equity financing from all of its venture capitalists, this time including **Seven Rosen Funds**, which gets a seat on its board.

Sun is developing Mosaic-type Internet access solutions for several markets. Meanwhile, first rendition of standards-based distributed systems management environments should be around next year, **Sun** chief technology officer Eric Schmidt believes, once they figure out what to standardise on.

Embedded systems vendors are queuing to endorse **Motorola Inc's** as-yet unannounced next generation 68060 at next week's Embedded Systems Conference in Boston.

Bob Pearson, director of **Sun's** Advanced Desktop Systems Group, says the bulk of the unit's development resources are now geared towards 64-bit system development, and 167MHz, 275 SPECint UltraSparc-I silicon is due by year-end. Systems should be with users well before the end of next year, Pearson says. Short-term, 100MHz SuperSparc product revisions are due in about six months, as soon as **Texas Instruments Inc** can get silicon to the group. **SunSoft** promises it won't break applications during the move to a 64-bit Solaris, expected to be a gradual process spanning five years or more.

Even after **Big Bang** last week **Sun's** galaxy isn't expanding at quite the same speed: expect fewer new planetary objects from here on.

Sun Microsystems spent nine months, with **Anderesen Consulting's** help, putting together its "live" virtual company, **Illuminar Industries**, set up for the Enterprise Computing Summit it held at the same time as the **SunSoft Developer Conference** last week. Scaled down versions are due in Paris this week, and Tokyo next.

Long-time **DEC** watcher Terry Shannon has left **DH Brown** and gone to **Illuminata** with that other Brown refugee Jonathan Eunice as chief research analyst. +1 603 465-3821

Meanwhile, **SunSoft** will bring the most popular sessions of its Developer Conference, like CDE development, over to Europe at the end of May: the Solaris Technical Exchange will tour Europe and includes stops at London, Paris and Munich.

The **Novell Inc** rumour-of-the-week is that it's negotiating to buy the rest of **Borland International**, Philippe Kahn being in so deep he can't get out.

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WHERE IS SYSTEMS MANAGEMENT? ISVs GANG-UP TO DEMAND STANDARDS AND PLATFORMS

A core group of network and systems management application houses, disgusted with the rate of progress platform vendors are nailing down the basic criteria they need to be able to sell product, are forming a Management Integration Consortium. The group, which includes companies such as Peregrine Systems Inc, Remedy Corporation, Isicad Inc, Ki Research and Legent Corp, have drafted a charter they hope to formalise at the consortium's first meeting (at 6:00pm on May 5 in Las Vegas at the Stardust Hotel during Interop). The consortium, whose organisers would rather be off doing their real jobs, is not aimed at solving any of the grand problems of management integration, merely at kickstarting some basic standards. The core curriculum includes common storage for data, a simple and lightweight API for data access, common event management and a generic portability scheme between management platforms. Apparently there are submissions already in the works covering the first three items but they can't be regarded as formal submissions until the consortium is actually created, officials elected, steering committees sanctioned and work groups set up. Sun, NetLabs and Cabletron are expected to be among the founders and IBM and HP are reportedly still evaluating the level of their participation, though they will probably join in some fashion if only to know what's going on. The group has also attracted a few "superusers" such as Martin-Marietta, US West and Alcatel and will also apparently include Accugraph, Ungermann-Bass, Computer Associates, GTE Federal, Bridgeway, SHL Systemhouse, Andersen Consulting, Tivoli Systems and OpenVision. Discussions leading to the consortium's organisation have reportedly been going on for more than a year during which time the platform vendors have failed to make much progress with needed APIs. Interim chairman Eric Olinger of Peregrine Systems, for instance, said the Distributed Management Environment was "locked up in OSF" and that the code was two years away from his desktop and another year away from having applications. The consortium hopes to have initial contributions published by June 1 and to hold a regular meeting of the Steering Committee, composed of founders, by August. For more information, contact Olinger at +1 619 431-2400 or Interim Secretary Jim Corrigan of Ki Research at +1 410 290-0355; e-mail: mic-Info@www.peregrine.com.

POSTMODERN READIES CORBA-COMPLIANT ORB FOR OBJECT WORLD

There will soon be a new kid on the object request broker (ORB) block in the form of PostModern Computing Technologies Inc, which is due to release an OMG CORBA-compliant ORB at Object World in July. The Mountain View, California-based firm reckons Orbeline will appeal to a broader market than its existing NetClasses C++ object transport middleware (UX No 396), but says it has not yet decided whether to sell Orbeline as a standalone product or simply as an element of NetClasses. In the existing version - 2.0 - of NetClasses, which currently runs on top of SunOS, OSF/1, HP-UX, AIX, and Lynx Real-Time Systems Inc's LynxOS, objects are moved around the network via TCP/IP and an asynchronous interprocess messaging paradigm. However, First Pacific Networks Inc is already using Orbeline in a project it is undertaking for Entergy Corp. First Pacific is supplying Entergy with 440,000 Intel 80386-based personal computers, running LynxOS and a new ORB version of NetClasses. These will be hooked up to electrical meters in Entergy customers' homes, collecting and transmitting electricity usage data back to central servers. Other PostModern customers include ATM switching firms Fujitsu Network Services and DSC Corp, and financial organisations like Fuji Capital Markets.

DEC'S GENERATION A DEBUTS IN CLIENT/SERVER BINGE

DEC is going to start tagging all its Alpha products - chips, systems, operating systems, applications, services and hardware options - the AlphaGeneration. Last week, as expected, it debuted the newest member of that generation, the much-anticipated four-way Sable server as the Alpha AXP 2100. In the latest of what have become a series of client/server product extravaganzas, the company also rolled out OSF/1 V3.0 with symmetric multiprocessing support, new clustering packages and is promising 12-way 7000 series Alpha systems by the end of the year going to more than 3,000 tps. *Details on pages 6 & 7.*

Inside

What's new in the RS/6000 world: *page 2*. Archipel unveils Chorus-based parallel Unix operating system: *page 3*. Bull takes Ilog Solver to enhance its Charme object language: *page 4*. Tivoli has new version of its management environment: *page 5*. DEC goes on its latest client/server binge: *page 6*. How to make money in the overcrowded MPP market: *page 7*.

DATA GENERAL COURTED BUT NOT BEDDED...

After getting some worried calls from a few customers, Data General Corp wants it to be known that despite the best efforts of IBM Corp and others it has no plans to put SunSoft Inc Solaris up on its AViiON servers (UX No 477). It may, however, dip its toe in the water and license the Solaris commands and utilities from Sun for a future version of its DG-UX Unix if Novell Inc falls off the Unix curve completely and Sun offers the right terms and conditions. It is interested in ToolTalk too. The Westborough, Massachusetts company says it has had advances from all of the Unix operating system suppliers of late, making it feel like "the only game in town." Although DG has a license agreement with Novell Inc's USL, the DG-UX kernel is all its own work, it maintains, having no non-DG code, and being derived from a 1984 rewrite for scalability. DG thought there would come a time when USL would be adding commercial and other enhancements to Unix faster than it could keep up. It hasn't happened. It pays a royalty, it says, because the USL license talks not only about ownership of Unix code, but of the underlying principles of the Unix system. Additionally it didn't want to appear to be out of the Unix SVR4 swim, and says that in any case the royalties it pays are low enough to warrant it. The problem as DG sees it, is that Novell didn't realise what it was buying when it bought Unix. It didn't really know what to do with it and says it isn't clear whether it will become the leading Unix OS supplier or whether it'll concentrate on other products. Sun, it believes, would like to own the future of Unix, but will Novell say no and put in the resources to develop a competing product, it asks? It currently gets its DG-UX commands and libraries from USL. The earliest it would switch camps would be after the next major revision of DG-UX - there's currently one a year - planned for around March time 1995.

...SEEKS OEMs FOR DG-UX

Although it hasn't officially declared a future CPU strategy for its AViiONs - it must eventually escape the zombified 88110 - Data General says the commercial strengths of its Unix - robust file system, high availability, enhanced SMP and more, and unencumbered code (see above) - have convinced it to offer the system on other architectures. There is a class of system supplier that could use DG-UX on high-end systems, it believes. An Intel Corp iAPX-86 port is done and a PowerPC version is underway - now DG needs deals with the platform suppliers (UX No 475).

RS/6000 ROUNDUP

IBM Corp has made a series of price cuts on some RS/6000 models, along with disk, memory and storage products. The prices of RS/6000 PowerServer models 23S, 25S, 360, 365, 36T, 370, 375, 37T and 570 have been cut by an average of \$3,600. At the bottom of the range, the price of the RS/6000 PowerServer 23S drops by \$300 to \$6,895; at the top end, the PowerStation or PowerServer is down \$13,000 to \$24,500. In addition, there are two new 3514 High-Availability External Disk Arrays for some models of the RS/6000: the 212 and 213 start at \$17,650.

IBM has tweaked the requirements for trading in RS/6000 and non-IBM workstations. Eligible customers can now receive a \$3,000 credit by trading in an installed RS/6000 Model 320, 320H, or 320E on an RS/6000 Model 370. There's also a \$9,000 credit to be had by trading in an RS/6000 Model 320, 320H, 320E, 340, 34H, 350, 360 or 370 against an RS/6000 Model 570 or 580. Many non-IBM Unix systems are also worth \$3,000 against a new RS/6000 Model 370.

IBM has launched the first in its long-awaited line of Asynchronous Transfer Mode products. The new Turboways 100 ATM Adaptor, based on the 80960 RISC, is designed for RS/6000 servers or clients running AIX/6000 V3.2.5, to provide 100Mbps, full-duplex access to Asynchronous Transfer Mode local networks. Because so many applications put a premium on processing power as well as bandwidth, IBM says that it has used on-board microprocessor technology to maximise efficiency. It works with TCP/IP applications to communicate with workstations on Asynchronous Transfer Mode, Token-Ring, or Ethernet networks, to enable gradual migration to Asynchronous Mode. The company says the launch will be followed by a series of other Asynchronous Transfer Mode products, including chips, adaptor boards, switches and hubs, as well as software. The Turboways 100 Adaptor is available now, at \$2,000.

POWERPC 604 "THIS MONTH"

Motorola Inc's Semiconductor Products unit will next week be talking about availability of the multiprocessing MPC604 PowerPC processor in April. Sources within the company have suggested that the chip made it to first silicon about a month ago and that briefings will see Motorola and IBM Corp unveil the basic benchmarks for the new chip. Officially, the 604 is expected to begin sampling in the third quarter of this year, with volume shipments planned to begin in the fourth quarter of this year. It is expected to be clocked at 100MHz and will be fabricated in 0.5 micron silicon, as is the new 601. At around the same time that the 604 goes into volume production, the next generation MPC 620 is also set to begin sampling. The latest word from IBM is that performance of the 620 - rumoured to be clocked at 200MHz - should rival that of the Power2 multi-chip RISC processor that currently powers its high-end RS/6000 servers and workstations. Motorola is also in the process of preparing to unveil its embedded PowerPC strategy over the next month or two. Though 'embedded' normally implies computing power for relatively mundane consumer or industrial equipments, previous briefings given to analysts suggest that Motorola is also looking at more ambitious plans to provide integrated processors for handheld computing, television set-top boxes and the like. The MPC603 low-power processor forms the core that will be used by both Motorola and IBM for their embedded applications.

GENERAL AUTOMATION IS FIRST UP TO TAKE BULL'S DPX/20S - FOR PICK

General Automation Inc, Anaheim is the first taker for Compagnie des Machines Bull SA's upgraded push for OEM systems business. It has signed with Billerica, Massachusetts-based Bull HN Information Systems Inc to take and distribute Bull's DPX/20 Power RISC Unix systems through its worldwide value-added reseller network. The DPX/20 machines are Bull's versions of the RS/6000s it buys OEM from IBM Corp. The machines will be offered by General Automation with both native Pick, and with Advanced Pick running under IBM's AIX Unix. GA's CEO is former VP operations Robert Bagby who took over from Leonard McKenzie in February.

LSI LOGIC CLAIMS FIRST SYMMETRIC MULTIPROCESSING SET FOR PENTIUM

A development system for designers of Pentium-based symmetric multiprocessing systems is now available from LSI Logic Corp, Milpitas, California. It's designed to enable developers to implement a symmetric multiprocessing system using two to four Pentium CPUs and LSI Logic's Hydra high-integration core logic chip set. Hydra - claimed to be the first available chip set developed specifically for Pentium-based symmetric multiprocessing systems, provides all core logic functions in a four-chip set. It supports the shared memory architecture of Windows NT and multi-user Unix, and provides a direct bridge to the Peripheral Component Interconnect bus. It supports cache sizes up to 2Mb, and up to 2Gb of shared main memory with a 128-bit data path and Error Checking and Correction protection. The memory bus is LSI Logic's Multiprocessor Interconnect bus, with a 64-bit wide data path, and the company will be publishing the specifications of this bus. Pricing for the Hydra Development System, available only to qualified OEM customers, is set at \$20,000 for the basic system, with additional separate boards available.

SUN GOES TO NETWORK PERIPHERALS FOR FDDI

Although Sun is firmly wedded to ATM development, its SunConnect division has teamed with Network Peripherals Inc to develop FDDI links for Sparc platforms. SunConnect will first incorporate Network Peripherals' Sbus FDDI network adapters - for fibre and UTP systems - into new SunLink FDDI/S 3.0 hardware for connecting Sparc systems to FDDI networks. It includes the SunNet Manager software proxy agent and replaces earlier SunLink FDDI products. Existing users can trade up for \$1,700 until the end of August, thereafter it is \$2,250. A dual-attached FDDI version is \$3,400 and the single attach UTP/Category 5 version is \$1,700. All are due this quarter.

SIO OFFERS UNIX PORTABLES

New York firm SiO Technology Inc has two new Unix portables weighing in at 6.5lbs. The Intel Corp 80486DX2-66-based SiO FT-500 and FT-501 come with SCO Unix, BSD, Solaris, Interactive Unix, UnixWare, OS/2 or NT pre-installed. With a 9" active colour matrix screen, 8Mb to 20Mb RAM, 340Mb to 520Mb, two Type II PCMCIA cards, on-board fax and Ethernet and a file protection system that guards against accidental shutdown, the unit is \$6,300 - \$3,850 for a monochrome system. +1 212 473 6910.

SOFTWARE PUNDITS OFFERS WINDOWS-TO-UNIX PORTING SYSTEM

Software Pundits Inc, in Burlington, Massachusetts, has introduced its Mirage Windows-to-Unix porting system which it says provides OLE and DDE-compatible functionality for Unix. According to the company, Mirage allows applications developed using the Microsoft Windows Software Development Kit to be developed and run in native Motif or Open Look environments and on Sparc or iAPX-86 platforms. (The company's Affinity OLE for Unix software already combines Microsoft OLE 1.0 APIs with the Link, Embed and Launch-to-Edit technology it jointly developed with Lotus Development Corp (UX No 481). A Windows application is compiled on a Unix platform and linked to Mirage libraries rather than the Windows development kit, allowing, Software Pundits says, a common set of source code to be compiled to produce Windows and Unix versions of an application. Mirage translates 550 Windows calls into X Windows and Motif/Open Look calls whilst complying to both APIs and supports all Windows 3.1 data types, structures and formats. Mirage is £7,500 on a range on Unixes and Windows 3.1, Win32s support is set for mid-year with Win32 to follow. + 617 229 6655.

KNOWLEGEWARE LICENSES OBJECTSTORE

Atlanta-based KnowledgeWare Inc is to take a license to Object Design Inc's ObjectStore object database and will use it as the underlying database component for its new business process re-engineering software tool to be introduced in May. The tool will enable users to identify ways of improving organisational performance prior to designing and building new applications.

ARCHIPEL HAS PARALLELISED CHORUS MICROKERNEL

Annecy-le-Vieux, France-based Archipel SA has unveiled Volvix, a parallel Unix operating system based on Chorus Systemes SA's Chorus/Mix microkernel. Volvix currently runs on machines based on Inmos International Ltd's T425 and T805 transputers and Intel Corp's i860, where the i860 shares its memory with the transputer residing on its node. The Chorus microkernel executes on each node and accesses Unix SVR3.2-based services layered on top via a multiple instruction, multiple data, location-transparent Inter-Process Communication (IPC) mechanism. Unix services are placed where they are most needed and controlled by a dynamic configuration system. The transputer provides Unix services, the i860 does the number-crunching. The IPC also provides users with a global view of the machine, and enables processes to be killed from any node. Archipel says it used Unix SVR3.2 system calls and utilities rather than SVR4 because transputers don't use the virtual memory that SVR4 relies on so heavily, and the operating system's extra functionality isn't justified by its added complexity. Sitting on top of the Unix interfaces are X11 libraries and a Power Virtual Machines (PVM) programming environment and message-passing interface. Archipel has also added Berkeley Fast File System and NFS extensions to further ease application portability to Volvix. This means most applications simply need to be recompiled, the exception being parallel applications that don't support TCP/IP or sockets. The first iteration of Volvix resides in 2Mb of memory, but this will drop to 1.4Mb next month when a new version comes out with an improved memory buffer. A subsequent release, due in the autumn, will support Inmos's overdue T9000 transputer, which is sampling now - Archipel is evaluating Alpha and PowerPC ports too. Volvix is targeted at parallel and embedded markets, and will cost around £1,870 for the next couple of months, rising to £2,570 thereafter. Meanwhile, the firm claims it is currently in discussions with five potential OEM partners, both hardware and software vendors, and is also planning a joint marketing programme with Inmos. Archipel was funded by the EC Esprit-based Open Microprocessor Initiative's Harmony project and the Eureka Eurotops initiative. Customers include the CERN research laboratory, which is developing a dial-in video server, and the University of Lausanne, which is developing applications to reconstruct images from positron emission demographics for medical purposes.

ICL DAIS LATE, BUT NEW APPS COMING

Although ICL Plc has delayed releasing its DAIS object-oriented development environment and systems integration tool until the end of this month (UX No 469), it already has a couple of new applications planned for the environment. One is the so-called distributed "multi-database" DAIS Information Service, due later this year. DAIS/IS enables users to access, update and modify data residing in heterogeneous databases, independent of database structure or management type, operating system or physical location, as if it resided in one virtual database. The product comes in three modules - the IS-client, which comes with an application programming interface; the IS-server; and LIS modules, which provide front-end servers that access the database management systems. Applications can be developed using any environment that uses C calls, and will be database-independent. DAIS/IS will initially support Ingres, Oracle, Informix and IDMSX databases, and VME, Unix SVR4, SCO Unix, SunOS and HP/UX. The second application is PowerVision/EM, ICL's document imaging package, which will be integrated with ProcessWise, a graphical workflow and administration tool that already has DAIS embedded in it. The first release of PowerVision/EM, which will support SunOS and personal computers running Microsoft Corp's Windows, is due in June. A second version will follow in November, which will include a code generator so developers can automatically produce workflow code.

ROSS OFFERS SUN S10 USERS 66MHz HYPERSPARC UPGRADE KIT

Last week, Fujitsu Ltd's Ross Technology announced 66MHz HyperSparc upgrade kits targeted at users of Sun Microsystems Inc's SparcStation 10 and SparcServer 600MP machines. Ross, which has yet to get Sun to use its chips, said the new kits offer a 20% increase in speed over its 55MHz HyperSparc upgrades introduced in October. It is available in single-, dual- and quad-CPU configurations. Because of the new 66MHz kits, Ross has cut pricing on the older kits by 20%. Its stuff is Sparc SCD 1.1-compliant. Ross claims to have shipped 700 upgrade kits between November and March to over 100 companies including universities, VARs and end users. Half were reportedly SparcStation 10 upgrades, the rest went into SparcServer 630s, 670s and 690s. It projects 1,500 upgrades and 300 customers in the second quarter. It claims a two-four times performance increase.

NEW OSF BOARD TO MEET THIS WEEK - WILL ATTEMPT TO PATCH CDE MODEL

The first Open Software Foundation board meeting that Sun Microsystems Inc and the other new sponsors will be privy to is scheduled to be held this week on Tuesday April 19. As of last week, although the nominees could change at the last minute, it looked like Novell Inc would send Don McGovern, vice president of its Unix Systems Group, SunSoft Inc, its technology officer Rob Gingell - who wrote the paper on which the OSF reorg is based - and AT&T GIS would send Mark Hurd, vice president of marketing at its Worldwide Servers Marketing Group. These guys have to be voted on and accepted by the existing board which includes IBM Corp's Donna Van Fleet, DEC's Dennis Roberson, who's chairman, and Hewlett-Packard Co's Jim Bell. Plans are for the board to meet monthly for the next few months while the reorg is in progress. During this time, companies like Novell will have to be reassured that the system is going to work. Part of that will rest with whether the board splits down old religious lines. Doubtless they are all hoping the OSF strategy will enable them to repair the hurried and now broken CDE model which IBM, HP, Sun and Novell, in their haste to organise it, forgot to figure out how they were going to make any money off of it. As it is, CDE 1.0 - final code for which isn't scheduled to be ready until the fourth quarter, will cost the quartet a whopping \$30m - \$7.5m each - with no possibility of recouping that amount. Moving CDE 2.0 into the newly restructured OSF process, as the memo of understanding they have proposed, seeks to repair that flaw and do the arithmetic ahead of time.

INTERNET TO GO COMMERCIAL WITH COMMERCE NET LAUNCH

A group of major companies including Hewlett-Packard Co, Apple Computer Inc, Sun Microsystems Inc, Lockheed Corp and the Bank of America subsidiary of BankAmerica Corp, has come together with Lawrence Livermore National Laboratory this week to announce the first formalised business community on the Internet. By September, the aim is that CommerceNet should enable users to buy goods and services and do banking on-line. CommerceNet could also offer Electronic Data Interchange services, enabling companies to place orders with suppliers, bid on contracts, and also use the network to collaborate in the design of products. CommerceNet has an initial investment of \$12m, with half of the funding coming from the US government. The organisers say that CommerceNet will start life with about 50 major subscribers, mainly companies in the high-tech sector. But, "in short order, pizza parlours and estate agents are going to put their information on line," insists Martin Tenenbaum, chief executive of Enterprise Integration Technologies, a consulting company managing the project. He suggests that a computer manufacturer could solicit bids on the network for chips, award a contract and purchase those chips on-line, selling the finished products to customers over the network, and claims that business can experience a 10% reduction in product costs and an 80% reduction in the time it takes to order products because of the speed of communications. To enable financial transactions to take place over the network, the service will use Mosaic software that will be encrypted, to protect any sensitive information, such as credit-card numbers.

PARSYTEC WANTS MASSIVELY PARALLEL SUPPORT IN POWEROPEN

German MPP manufacturer Parsytec GmbH, Aachen, Germany, will use the forthcoming PowerOpen Developers' conference in Boston to propose massively parallel support for PowerOpen (UX No 481). In a world which is currently focussed on the benefits of microkernel-based operating systems, PowerOpen is resolutely monolithic. Parsytec and other manufacturers of massively parallel systems build machines in which each processor runs its own, private, version of the operating system. As it stands, this requires that each processor would have to run a complete copy of PowerOpen. Since a usable AIX configuration takes around 16Mbytes of RAM, that's quite a few Gigabytes when multiplied by the number of processors found in the average high-end box. "Typically, you might only need about 5% of the functionality" on some of the processors, says marketing manager Frederick Lueking. The company hopes to raise interest in a subset or cut-down version of PowerOpen, suitable for MPP work and hopes to find potential collaborators at the Conference. It also hopes to kick-off some formal work within the PowerOpen Association to get this subset defined.

BULL ADOPTS ILOG SOLVER FOR CHARME OBJECT LANGUAGE

As reported (UX No 482), French C++ tools specialist Ilog SA chalked up another victory for its technology last week with its announcement that Compagnie des Machines Bull SA will be fusing its Charme Object constraints-based programming language with Ilog's own Ilog Solver. A portion of Ilog's graphical library was chosen by Hewlett-Packard Co last year for integration into its newest version of Softbench, which is due out this summer. Under the agreement, Ilog becomes the editor for the combined software and Bull becomes the provider of related integration services. Thus, says Herve Yahi, director of Bull's new Business Process Automation division, the two companies "are creating the first pole of service for constraints-based programming." Bull will sell the combined product under the name Bull Solver, paying royalties to Ilog. Furthermore, Bull will stop marketing Charme Object as a tool "in and of itself," Yahi said. Charme Object is the latest version of Bull's Charme language, which was introduced in 1989, and from which Bull achieved, averaged over 1992 and 1993, licence revenues of just over \$1m and service revenues of between \$8.5m and \$10m. Said Ilog chief executive Pierre Haren, "We're positioning the two biggest actors in this arena of constraints-based programming early enough and definitively enough to establish a standard." Yahi said Bull hopes the accord will push its licensing revenues to between \$1.7m and \$2.6m and services revenues to \$17m. "Ilog is looking to ally itself with the world's biggest integrators. We would like to become the Michelin or the Intel of software," he quipped. At the same time, Ilog introduced Ilog Schedule, a C++ library aimed at facilitating the development of scheduling and resource allocation applications. The product is designed to be complementary to Ilog Solver. The product, which will be available this quarter, is aimed primarily at the telecommunications, manufacturing, construction and transport markets. Among its principle functionalities, it distinguishes three types of resource-unitary, volumetric and conditional resources (which can be used only under defined conditions). Ilog Schedule will be available on Unix systems from Digital Equipment Corp, Hewlett-Packard Co, IBM Corp and Sun Microsystems Inc, and on Windows-based personal computers.

AT&T TERADATA-BUSINESSOBJECTS DEAL

AT&T Co's Global Information Solutions unit is casting around for software to make its Teradata parallel database machines more attractive, and has signed up Business Objects Inc, US subsidiary of the Paris company of the same name, for joint marketing of BusinessObjects on the machines. BusinessObjects uses familiar business terms to analyse data and create reports, which means users don't need to know Structured Query Language or other technical details. The User Module of BusinessObjects costs \$600, the Manager Module for database administrators is \$3,500. BusinessObjects Inc is putting its BusinessObjects database information retrieval software up on AT&T GIS (NCR)'s Teradata database system, which runs on System 3600s and DBC/1012 parallel systems. The software is being tested at CITR, a bank holding company in Paris.

SYSTEM SOFTWARE CONVERTS AS/400 APPS TO RS/6000, HP 9000

Bowing to the inevitable, IBM Corp is to help Chicago-based System Software Associates Inc convert its AS/400 applications to run under AIX on the RS/6000. System Software is already converting its Business Planning and Control System (BPCS) to HP/UX on Hewlett-Packard Co's HP 9000 Series 800 servers, and the resultant product is scheduled for release this quarter. SSA is currently rewriting its BPC/AS programs into what it calls platform-independent software models using its AS/SET CASE tools. The firm then simply recompiles these models into such languages as C. HP and SSA will jointly help customers implement the system via a new programme they have devised called FastPath, and the first contract win to date is Dragoco, a Holzminden, Germany-based supplier of fragrances and flavouring products. Dragoco, which operates in 24 countries, wants to set up an enterprise resource planning system, based on HP 9000 machines, running Oracle. The deal is worth several million pounds sterling.

"NO WAR ON INTEL" BUT IBM TO OFFER UNLIMITED NUMBERS OF CYRIX CHIPS

Cyrix Corp, Richardson, Texas has now landed the fabrication agreement that has been gestating with IBM Corp under a five-year agreement with IBM's Microelectronics Division, IBM will become "a primary manufacturer of the Cx486 microprocessors and will also manufacture its forthcoming M1 "Pentium-class" processors in its 0.5 micron CMOS technology. The chips will be made available on the open market with 'IBM' written on them. IBM's Personal Computer Division may also choose to use them internally. IBM has been quietly fabricating processors for Cyrix's own use since September 1993. The pair reckon they will become number two in the iAPX-86-compatible market, but are not presenting any hostages to fortune in terms of market share. The M1 chip is expected before the end of the year, but IBM cannot give exact dates for when its first Cx486s will appear on the merchant market. Despite appearances, IBM is trying to avoid billing the agreement as an all-out attack on Intel Corp and says that it wants to maintain good relations. Cyrix's M1 design was chosen in lieu of manufacturing Pentium for a number of reasons, not the least being that it can be fabricated in pure CMOS whereas Pentium incorporates some BiCMOS technology. However IBM was also attracted by the licensing terms it was able to negotiate. IBM continues to make its Blue Lightning processors under licence, using Intel designs. Under the terms of the Intel agreement Blue Lightnings can be sold to third parties only as part of (albeit small) motherboards, but Cyrix chips will bear no such restrictions.

HDS X TERMINALS ADD FULL MOTION VIDEO

The Unix fraternity is not going to allow the Macintosh and Windows empires to win the multimedia universe without a fight: Silicon Graphics Inc is leading the way with its Indy multimedia workstations, but the specialist manufacturers of X Window System terminals are coming up fast on the inside track. King of Prussia, Pennsylvania-based Human Designed Systems Inc has just announced the addition of full motion video capability to its entire line of RISC-based X Window terminals. Called HDS Video, the new capabilities enable users of the Intel Corp 80960 RISC-based terminals to display full motion video in up to four windows, each of which can be blown up to full screen size, on their X terminal screen, with support for both analogue and digital video with on-board compression and decompression. Human Designed also announced the HDS Conference video teleconferencing application, designed to enable multiple X terminal users to communicate over Ethernet and see each other in an X window. HDS Video supports analogue and digital connections for playback and recording from a camera, a video CD-ROM or a video cassette recorder connected to the terminal. The company claims that full-screen display can be at a full 30 frames-per-second with broadcast quality. It supports Intel-Microsoft Inc Indeo compression as standard, and offers MPEG 2 hardware decompression as an option. With a video camera, the analogue source is converted to digital form and compressed using the Indeo standard so that it can be sent over the network to other users or stored in a file for later playback. HDS Conference enables two Human Designed X terminal users to set up a teleconference over Ethernet and see each other in windows on their terminal screen; a separate HDS Audio program and kit is needed for recording and playback of stereo sound. With HDS Audio, each X terminal has an internal speaker and connections for external speakers. HDS Stereo Sound and Digital Video each cost \$200, Analogue and Digital Video is \$500 and Conference is \$200 per user. The Human Designed ViewStations all run the HDSware operating environment, an enhanced implementation of X11.5 with local X client applications such as Motif 1.2, OpenLook 3.0, 3270 and VT320 terminal emulations, Display PostScript, and productivity tools such as calculators, clocks, alarms and screensaver.

FIRST POWERPC MAC SERVERS NEXT WEEK

Apple Computer Inc is expected to launch its first PowerPC-based servers on April 25, *MacWeek* reports - and it is working to put Novell Inc's Processor-Independent NetWare up on them, by the autumn or early next year. The new servers are expected to be priced in line with current 68040 models, and there will be RISC upgrades offered for these. The paper hears that the entry-level WS 6150 Workgroup Server will use a 66MHz PowerPC 601 with a 256Kb Level 2 cache and support for 8Mb to 72Mb of memory. The mid-range WS 8150 will have an 80MHz CPU, a 256Kb Level 2 cache, 8Mb memory on the logic board, and up to 256Mb in eight SIMM slots. The WS 9150 tower will use the 80MHz 601. A desktop variant of this top model, called the Power Mac 9100/80, is also expected within weeks.

TIVOLI MANAGEMENT ENVIRONMENT VERSION 2.0 FOR THIRD QUARTER

Tivoli Systems Inc, Austin, Texas, last week announced the much-anticipated 2.0 release of its object-oriented Tivoli Management Environment. Much of the distributed management system was picked up by X/Open Co Ltd's systems management work group some weeks back for possible standardisation - including the OMG Corba-compliant object request broker and some object services (UX No 473) - and Tivoli had earlier put API specifications for TME 2.0 in the public domain (UX No 466). TME 2.0 will reportedly manage networks configured with up to 10,000 workstation clients and 1,000 servers at a time, up from the 200-odd under the current TME 1.7. TME uses the Object Management Group's Common Object Request Broker Architecture (CORBA) 1.1 model to distribute management functions across networks. IBM Corp has already committed to integrating TME 2.0 into OS/2 and AIX versions of its System Object Model and Distributed SOM frameworks (UX No 481). TME 2.0 includes new versions of the management platform and TME applications - admin, courier, sentry and print. There's a new application, Tivoli/Enterprise Console, and an event integration toolkit, Tivoli/EIF. Enterprise Console correlates, displays and responds to events automatically or by alerting an operator. It can accept events from other monitoring or management products - see below - and is built upon Brussels-based Belgian firm BIM Corp's graphical correlation technology. EIF is an API which allows users to build event adapters that integrate third party applications into Enterprise Console. Event adapters will be available for network management systems like HP OpenView, Sun-Net Manager, IBM NetView/6000, NetWare Management System and Microsoft Hermes as well as Sybase and Oracle database management products. Indeed, Sybase is building an event adapter for its SQL Monitor and SA Companion modules, whilst Oracle is integrating Server Manager with TME. Replicated server functionality will be added to the TME information database by the end of the year, Tivoli says, which will preserve data if a TME server falls over. A new version of Tivoli/sentry works with Enterprise Console to monitor resources and services selected by the system manager. TME 2.0 is in beta now with general availability set for the third quarter on Sun, HP, IBM, Motorola, Data General, NetWare and NT clients and servers - plus Windows and MS-DOS clients. Tivoli/admin, /courier, /print and /sentry are \$125 to \$145 per managed node. Workload and Backup operation management applications are \$9,000 and \$5,000 per managed server respectively. Enterprise server is \$20,000 per management station and EIF is \$6,000 per seat. This take of TME allows systems to be arranged into groups - which can include systems from different vendors - that can be managed from a single point.

SQL ACCESS GROUP SETS REMOTE DATABASE ACCESS SPEC

The SQL Access Group in Manchester, New Hampshire is to initiate development of a Transport-Independent Remote Database Access specification, TI-RDA, to provide a guideline for vendors to implement database products that can interoperate with other products over a wide range of transport protocols, notably TCP/IP but also SNA, NetBIOS and IPX/SPX. The aim is to increase interoperability beyond what is now available, simplify the work of end-users and eliminate gateways for both client and server. It is working with X/Open Co Ltd's XNet working group, and will use accepted and emerging application programming interfaces from network and system vendors. It hopes to publish the specification in the fourth quarter this year.

GERMAN RESEARCH CENTRE TO DEVELOP VERBMOBIL TRANSLATOR

The German Research Centre for Artificial Intelligence in Saarbrücken is working on a portable translation device. The first versions of the Verbmobil unit are designed to translate German, English and Japanese, using English as the common bridging language. The aim is to have, after two years, a device that can handle a conversation between two people about a possible date for a meeting. After four years, the goal is to be able to handle the planning of a business trip and a negotiation with a sales agent about ordering an item from a catalogue. The Centre hopes to have a full working product within 10 years. The Verbmobil project is funded by the German Ministry for Research and Technology. The Institute is also planning to collaborate with the ATR Interpreting Telecommunications laboratories in Kyoto.

HEWLETT-PACKARD TAKES ORACLE7 AND OPENVIEW REPOSITORY...

Oracle Corp and Hewlett-Packard Co are joining forces to enhance their systems management offerings by building on HP OpenView to create a system that enables users to perform complete integrated management of network, system and database from one OpenView console. Under the new alliance, the HP OpenView network management system will use the Oracle7 database as a common network and system management data repository, and other HP OpenView applications, starting with HP Network Node Manager, will use the interface provided by HP SNMP Management Platform. Oracle is said to be working closely with Hewlett-Packard on the development project, and the two companies expect to deliver beta test releases this summer, with general availability of the system set for later this year.

...FORMS STORAGE SYSTEMS DIVISION FOR NETWORKED STORAGE

Hewlett-Packard Co has also created a new Storage Systems Division to respond to the demand for network storage offerings. The company is pinning its hopes on forecasts that suggest that while a typical local area network today includes 7.2Gb of disk storage, by 1997, that will have ballooned to 41Gb. The new division will specialise in storage combining disk arrays and subsystems, 5.25" optical drives and jukeboxes, and half-inch tape drives. It will have operations in Greeley, Colorado and Boise, Idaho. The first offerings are the HP Disk System, which supports Micro Channel Architecture, EISA and AT host bus adaptors and also supports Digital Audio Tape drives; it implements RAID Levels 0, 1 and 5 in software with hot-swapping of failed disks; and the HP Disk Array, a hardware-based RAID system, with two Fast SCSI-2 channels, supporting RAID Levels 0, 1, 5 and 6. Prices start at \$3,020 for 1Gb five-bay system, plus \$445 to \$703 for a bus adaptor.

RAIMA DEBUTS VELOCIS EMBEDDED DATABASE ENGINE

Although Raima Corp has just introduced a new version of its Raima Database Manager for Novell Inc NetWare, it reckons its new scalable Velocis embedded database engine, due to be released at DB World in Olympia, London next week, will eventually replace its flagship product. Velocis is targeted at software developers and value-added resellers working in C. It provides ANSI-standard SQL, supports Microsoft Corp's Open Database Connectivity technology, and includes C++ extensions for developers writing object-oriented applications. The product also supports user-defined functions, which means developers can write C routines that execute on a host as independent extension modules or as extensions to SQL. Such extensions can be used as gateways to legacy mainframe data or for external software emulation. Velocis runs under Novell NetWare as a Network Loadable Module, Windows NT, IBM Corp's OS/2 and AIX. It also comes in a standalone Windows version, but Santa Cruz Operation Inc Unix, Solaris and Hewlett-Packard Co's HP/UX versions will follow next month. The offering costs about £1,730 for an eight user Unix licence, and £1,035 for a run-time licence.

COMPUTER BOWL ALL-STAR GAME PLAYOFF SET FOR NEXT WEEK

The famous Computer Bowl All-Star Game, the industry's ultimate trivia contest, a runoff that pits the Most Valuable Players of all five previous Bowls against each other, is scheduled for Friday April 29 at 6:30pm at the San Jose Civic Auditorium with satellite to the Computer Museum in Boston and Microsoft Corp in Redmond. The contest will air on PBS in June. The East Coast team will be captained by Mitch Kapor and include Neil Colvin, president of Foundation Technologies Ltd, Bob Frankston of Microsoft, author Pamela McCorduck and David Nelson, senior software consultant, Novell MultiMedia. The West Coast team is being captained by Bill Joy, Sun Microsystems chief technical officer and includes Bill Gates, consultant Jeffrey Kalb, David Liddle, CEO of Interval Research Corp and Harry Saal, CEO of Smart Valley Inc.

DEC UNLEASHES SABLE SERVERS, OSF/1 V3.0 SMP, IN LATEST CLIENT/SERVER BINGE

By William Fellows and Danny Bradbury

Digital Equipment Corp made the fourth announcement in its on-going series of client/server roll-outs last week, unveiling the 2100 Series of SMP "Sable" servers, alongside a new version of its Alpha-based OSF/1 with symmetric multiprocessing support, more clustering file server software and a new version of the Distributed Computing Environment for Windows NT.

Sable

The 2100 series will consist initially of two units, the A500MP and A600MP models. Either machine can take up to four 190MHz Alpha AXP 21064/PCI RISCs (although they are eventually expected to go to eight), 1Mb cache and both are targeted at customers in the commercial or technical sector. They come with eight EISA slots and three PCI slots. Functioning as local network super-servers, or high-capacity database servers, the machines, intended to ship in large volume, start at \$18,900 for an entry-level desk-side system with Windows NT or \$26,900 with OSF/1. Claiming the things will do 124 SPECint92, 160 SPECfp92 and an estimated 180 tps on each CPU - or 496 SPECint92 and 640 SPECfp92 (and around 600tps) in a four-way - they're intended to deliver a broad-side to servers from Hewlett-Packard Co, Sun Microsystems Inc, IBM Corp and co. They come with from 32Mb to 2Gb RAM, and a maximum 32Gb and 170Gb disk respectively. Both can address over 200Gb external storage at present with a promise of 1Tb capacity by the year end. They ship with an early version of OSF/1 V3.0 in April, Open VMS in May, Windows NT Advanced Server in June. Specifically, a uniprocessor Windows NT Advanced Server A500MP with 64Mb RAM, 1Gb disk system is \$18,900. With 2Gb disk and OSF/1 or OpenVMS, configurations are \$26,900 each. Up to three A500MPs can be rackmounted together - as "cluster-in-a-box" A500MP/R - in a 67" high cabinet at from \$28,400 for a single system. The machine is regarded as a "building block" intended for specific accounts such as the government. An eight-way clustered affair - two four-ways, disk and tape in a cabinet, the A600MP - with Unix or OpenVMS (clustering isn't available to Windows NT yet) go from \$77,800. The A600MP on its own is a pre-package rack-mounted affair that starts at \$43,600 as a Unix configuration. DEC is also offering the two-way Model A500TDS variation, a system configured with 128Mb RAM, 4Gb disk, 19" colour screen and tools optimised for technical application developers at \$54,140. The Technical Developer System, only available to the Unix community, includes the parallel software environment, Fortran90, Cohesion compiler, Kap, Fortran 77 and C tools, Fuse toolkit, and C++ and Fortran 77 compilers for SMP and distributed network development. Sables are also available in other packaged database configurations from DEC and the relational houses until the end of the year. After six months in testing, DEC reckons its on safe ground offering three-year, on-site 24 hour warranty on the things. Within a couple of years DEC expects its revenue from server sales to be lead by Unix machines, then NT installs, followed OpenVMS, in a market worth \$18bn by 1997.

A, B, C...

The "A" 500MP prefix denotes the first iteration of Sable, which has been some six months in testing since its sighting towards the end of last year. "A+", "B" or other notations are expected when Sable moves to the 275MHz Alpha part (which is now going into production), and the 320MHz or other iteration thereafter. Whether there will be a second Sable generation this year depends upon the competition, market reaction to the initial machines and what kinds of volume it is driving, DEC says. The company claims hundreds of orders for Sable in the two week's its been listed.

12-way 7000 expected

DEC's current Series 7000, which goes to a six-way, will get two performance tweaks, one in the summer and one around the turn of the new year that'll see it step up to 275MHz and 320MHz Alphas AXPs and a 12-way architecture. Enhanced I/O a operating system support for more than the OSF/1 and OpenVMS presently offered is planned. DEC has put what it believes is a conservative 3,000 tps measure on the technology. Turbo Laser Plus has been described as the 12-way technology destined for both the 7000 and Series 10000, with two CPUs to a board (UX No 475).

VAXes

There are also two new VAX boxes. The entry-level MicroVAX 3100 Model 95 costs \$21,362 and has 512Kb on-board cache, SCSI controller, thick and thin Ethernet adapter and anywhere from 16Mb to 128Mb memory. It replaces the Model 90 and upgrades - CPU, box or both - are available from a range of MicroVAX and VAXes. The VAX 4000 Model 105A has a 512Kb cache, and can be clustered with any mixture of Alpha or VAX systems. It supports DSSI-to-SCSI converters, and cost \$25,700 with 32Mb memory and a two-user operating licence.

OSF/1 V3.0 with SMP - new name for DEC Unix still sought

An early version of DEC's new OSF/1 V3.0 implementation with symmetric multiprocessing support is available on the Sables, 4000s, 7000s and 10000s - with general release set for August. The current six-way implementation is simply a reflection of the number of CPUs DEC currently offers in any Alpha system, and not an indication of the software's scalability. The company is still working on a new name for its Unix (UX No 481), now saying it'll wait until the Novell Inc trademark has passed to X/Open Co Ltd so it can brand its operating system Unix in some form. OSF/1 V3.0 includes the ability to "hotload" drivers without needing to reboot. Its Local Area Transport driver supports 1,500 incoming sessions.

Measuring Unix

Using its own numbers and public material from the other vendors, DEC has put the existing OSF/1 2.0 up against HP, IBM and Sun Unices in Spec 1170 conformance comparisons. It claims 99.5% of Spec 1170 APIs are in OSF/1 2.0. Excluding SVR curses it claims 87% compliance to the Spec, or 92% with. HP-UX 9.0, it says, delivers 56.6%, 74% and 48% compliance respectively against the same measures, with TCP/IP, XTI and math APIs either missing or non-conformant. Solaris 2.3 it believes is 95.6%, 78% and 85% compliant, with more than 50% of its internationalisation interfaces non-conformant and either missing or non-conformant TCP/IP APIs. AIX 3.2 delivers 61.%, 68% and 45% compliance, DEC says, but additionally claims the IBM Unix has "limited application portability with other system due to incompatibilities often not detected by compilers. ie Typedef's."

OSF/1 clustering

DEC is working to bring its highly-regarded VMS clustering and parallel development techniques to Unix, and is launching an AdvantageCluster programme to this end, which includes a number of packaged system and software options. The DECsafe Available Server supports three nodes presently (more to follow), and comes with an advanced file system and a logical storage manager starts at \$60,000. Ethernet or Gigaswitch interconnect-based Compute Server software includes a load sharing facility - configured systems start at \$55,000, go to \$1.4m and are available from June. An NFS-based AdvantageCluster File Server on OSF/1 which uses a Series 3000 costs \$272,000. There's no theoretical limit to the clustering software for servers, which is based on DEC's workstation farms clustering technology. By mid-year it'll have a Database Server - in fact, Oracle Parallel Server with /Rm/Encore (on the 7000 and 10000 only) and an MP version of DECsafe Available Server. Early next year, it promises an AdvantageCluster with Oracle Parallel Server with RM/PCi and support for a range of CPUs, a distributed lock manager, cluster file system, prestoserve, high availability, some cluster-wide system management and DECsafe integration. By late 1995, it promises full functionality - cluster alias, cluster file system II and extended cluster-wide system management.

OpenVMS

The latest version of OpenVMS, 6.1, enables users of clustered systems to boot satellite systems across architectures. The system also supports Virtual Input/Output Cache, designed to reduce input-output bottlenecks. In the pipeline for OpenVMS are: a log-structured file system to raise throughput, full 64-bit virtual addressing for applications that use over 2Gb memory, a Windows personal computer-based Systems Management Station, with graphical user interface for remote management of OpenVMS clusters, a version of the OSF/DCE Distributed File System and XPG4 branding. DEC has also added a version of the Distributed Computing Environment for NT and is offering DCE 1.2 on OpenVMS 6.1. DEC claims that with 5,000 Alpha application now shipping and 800 expected by June 30, it's achieved critical mass or more. Of them some 2,300 up on OSF/1, it says, 2,300 on Open VMS and 500 on Windows NT.

TechAdvantage tools for application development

Also new are DEC's TechAdvantage tools for application development, Fortran 90 version 1.0 - including an Alpha compiler - the Parallel Software Environment for Fortran and extensions for C programmers which include tools like the DEC OSF/1 compiler, assembler and software development environment. Behind the curtain are the DEC C++ compiler, a workstation-based programming environment DEC FUSE, and a third party Load Sharing Facility tool, which automatically distributes jobs to the least loaded system in multivendor Unix networks. Also launched were the Digital Extended Math Libraries - a set of AXP-optimised maths routines - and pre-processors for Fortran 77 and C which restructure code for optimal performance, called the Kuck & Associates Preprocessor.

Infobroker directory services

DEC has new client and server versions of Infobroker, its X.500-based directory services for the workgroup. The client version runs under

Windows and the server version runs under OSF/1. The product, which stores information about users and resources, costs under \$40 for the client version, and under \$1,000 for the server version. DEC has launched the Pathworks Developer's Kit, providing a set of software development tools for client/server applications. This includes a set of middleware products that helps updates to legacy applications. These include the developer's edition of the firm's ObjectBroker product, alongside the Digital DCE developer's kit and the DECMessageQ Developer's services product which handles queued messaging. The package also includes the Application Programming Interfaces for Pathworks and ManageWorks, its network operating systems. The Pathworks kit runs under Windows, Windows NT, OSF/1 and OpenVMS. The product will start to ship in June, with versions for all systems available by August. The product starts at \$500. DEC has also launched a Turbochannel-to-FDDI adaptor. The product can connect to servers in an FDDI ring without using a concentrator or hub, and cost \$1,350, next month. Meanwhile, the InfoServer 1000 and SW1000 modules are intelligent SCSI controllers for the network, enabling devices attached to the server to be shared in a local area network. They ship from May and start at \$2,760. Other products include version 1.1 of the DEC SNA 3270 Application Services, middleware for client/server applications in an SNA network, linking DEC servers and clients attached to IBM systems. This version contains a library of calculable routines and other components for building applications supporting 3270 data streams. It ships now, starting at \$4,032. Other things include the Etherworks Turbo PCI and EISA adaptors, shipping from May and costing \$300 and \$500 respectively. On the messaging integration side, version 2.0 of the DEC/EDI for OpenVMS product is said (by DEC, oddly enough) to offer a five-fold performance increase over previous versions. The latest edition includes the "EDI Cockpit", which is a Windows-based user interface, and new clients for OSF/1 and OpenVMS. It is shipping now and will cost \$9,000.

IN A CROWDED MPP MARKET THE BIGGEST CHALLENGE IS FIGURING OUT HOW TO MAKE MONEY

Market researcher Palo Alto Management Group believes the massively parallel processing market could be worth at least \$10bn by the year 2000, hitting \$8.5bn by 1998 on the way. Two-thirds of the market, it estimates, will be for commercial OLTP or decision support systems, with old-style mainframe-type pricing and profit models being quickly superseded. It reckons, surprisingly, Tandem Computer Inc has 35% of the market currently, AT&T GIS 29%, Intel Corp and Thinking Machines Corp 6% each and IBM Corp, MasPar Computer Corp, Meiko Scientific Co and nCube Corp 2% each. The remaining 15% is split between some 20 or so other vendors, the group says. Although Tandem doesn't necessarily leap to mind when considering MPP, sales of clustered fault-tolerant Cyclone systems and other machines with multi-hundreds of CPUs generated \$525m revenue for the Cupertino, California company last year, around a quarter of its turnover. Tandem's original stock certificates bear a description of the company as a provider of parallel computing systems.

Beyond shared-memory SMP

Like names given to some other kinds of information technologies, massively parallel processing, or MPP, is something of a misnomer. It has many different interpretations and parallelism can be achieved in a variety of ways. Indeed, using a vanilla definition of MPP architectures which string hundreds or thousands of CPUs together aka Cray, nCube, Thinking Machines or Parsytec, excludes clustering - used by Tandem - or other techniques employed in the successful AT&T Teradata systems. In a limited definition, the market was probably only worth around \$275m last year, PAMG believes. It has expanded its definition so that most systems that have at least 64 CPU nodes are now counted, including workstations or servers linked by clustering software. "Think in terms of scalable computing, beyond shared memory symmetric multiprocessing," says PAMG's Michael Burwen, the study's director. MPP systems are, in his estimation, the only machines that can usefully scale memory and disk size to the terabyte level. In the expanded context, it estimates the 1994 market will be worth some \$1.5bn. There are various mechanisms for stringing CPUs together in a single, or multiple machines - and they're hotly disputed by the competing firms - but with the increasing emphasis on commercial installations, clustering techniques, which allow users to add nodes according to requirements, are likely to predominate, Burwen believes. Firms like IBM and Convex Computer Corp have an additional advantage in that their MPP systems

allow users to run existing software in uniprocessor mode. If IBM's parallel gambit, the SP1 and SP2 takes-off, the company could end up with up to 25% of the 1998 market, Burwen says.

Not up to the job

How fast and how widely adopted the technology becomes depends upon getting robust, secure, high availability middleware - mostly relational databases - up on MPP systems for commercial customers. And it's a real problem at the moment, Burwen says. Although Oracle, Informix, Sybase and IBM have parallelised versions of their databases, and there are ports to various architectures, there aren't yet any real sites doing real mission critical commercial processing - the solutions simply aren't up to the job yet. As such there aren't any meaningful performance figures or comparisons. Indeed, *Computerworld* reports that performance shortfalls at its one test site - New York insurance firm Kwasha Lipton, which is using Navigation Server on an NCR 3600 parallel system (UX No 462) - have forced Sybase Inc to postpone shipping the parallel version of its System 10 database for six months. Navigation Server was announced along with System 10 last May and was to ship this summer (UX No 434) and is being developed upon the NCR 3600. Ports to other platforms, including Sun, HP and IBM are due, though AT&T GIS (NCR) will have it for six months before rivals as part of their agreement (UX No 462). Navigation Server is an add-on module - Informix and Oracle will parallelise at the core level.

Six to come to market

With six more companies due to come to market with MPP systems over the next year or so, a major shakeout is likely, PAMG believes, and says the biggest challenge for MPP vendors over the next five years will be to figure out how to make money. Players in the MPP market include eight firms with revenues above \$25m, 16 with less, and six coming to market. The market clearly can't sustain 30 vendors right now. New MPP-class offerings due this year include those from Jacques Stern's Advanced Computer Research International SA, Unisys Corp/Intel, Hitachi Ltd, Tera, Pyramid Technology Corp and - although given its recent thoughts on the rush to MPP it probably won't be pleased with its inclusion here (UX No 481) - Sequent Computer Systems Inc, which has just upgraded its Symmetry SMP series to the 5000, with a new 240MBps Highly Scalable Bus and clustering options.

William Fellows.

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Chris Brown, who was formerly director of Federal Operations for **Unix System Labs**, has joined **Mortice Kern Systems Inc** as its new InterOpen director of sales, responsible for its suite of OEM products.

Chuck Reilly, the OSF's VP of operations, has hit the streets apropos its restructuring. He's the first of the big bosses to leave.

One of the companies getting ready to take a seat on the OSF board this week for the first time bets that HP's decision to buy into **Taligent Inc** was part of the horsetrading that the big companies were doing in the months leading up to the OSF reorg, though not necessarily a piece of the reorg itself.

Folks are figuring on a reorganisation over at **SunSoft Inc** considering that president Ed Zander, now that he's also responsible for Sun Technology Enterprises (UX No 475), is juggling about 22 direct reports. Even Sun CEO Scott McNealy only has nine executives reporting to him. Phil Samper, SMCC's new president, is also expected to start moving the furniture around the way he likes it once he's there a little bit longer.

Axil Workstations, a **Hyundai Electronic America** Sparc company, has named Youm Huh, formerly executive director of **Samsung Electronics'** Workstation Systems in San Jose, California, to the newly created position of VP, corporate strategic development, reporting to Axil president CS Park. Huh managed Samsung's strategic alliance with HP, founded the company's Workstation R&D facility in San Jose and its microprocessor development team.

It seems that Peter Cunningham's role within **Sun** is to act as liaison officer for **SunIntegration Services**, one of the Sun planets that was set up to develop and implement integration systems for customers (UX No 462).

The **OMG** will add Cobol to CORBA.

HP has told the **OMG** it won't be part of the interoperability demo at the next Object World where little islands of interoperability will interoperate with their buddies. HP says it doesn't understand the marketing significance.

For sure, **Sybase** and **Microsoft** have re-negotiated their seven-year-old deal, but it's less a divorce than a case of "you take the high road and I'll take the low." The current SQL server for Windows NT becomes a Microsoft product for departmental applications and Sybase's new System 10 forms the core of a complete range of high-end NT products for the enterprise, available from Sybase only. Sybase, which was known to be unhappy with not having a direct role in a growing NT market, admits it's trying to build a wall to keep Microsoft out of the enterprise.

Keyfile Corp, Nashua, New Hampshire has a Unix version of its Document Server, and claims to be the first PC LAN-based vendor of document imaging and management products to offer a Unix solution. It will serve Windows-based clients, and be available on HP machines in 60 days beginning at \$10k a server. A Sun port will follow.

Software AG will ship its new Esperant graphical database query tool for end-users on May 31. Esperant enables users with no knowledge of SQL or physical database structures to create queries via a Windows-based graphical user interface. Data can be retrieved from any SQL or Microsoft Corp ODBC-compliant database. It costs \$600 for a single user licence.

US reports say **Novell Inc's Unix Systems Group** has been talking to a number of PBX manufacturers about running UnixWare on their systems, which means PBXs could, in future, be used as telephony servers in a NetWare local area network environment. This would make it easier to deploy computer-telephone integration applications and simplify the management of such tasks as chargeback.

Inmos's next generation T450 transputer is reportedly derived from specs laid down by the European **Open Microprocessor Initiative**, and should be highly customisable as it's expected to be based on macrocell technology.

Chorus Systeme SA is reckoned to be developing object-oriented interfaces for its Chorus microkernel technology.

Pyramid is trying to expand its direct presence in Europe and will open an office in Belgium in the summer, followed by another in Paris in about six months time. The firm has also just won a £500,000 deal with the DG21 cross-border customs unit to supply it with three Nile machines - one 150, and two 210s.

Intel Corp has a new multiprocessor specification that will allow Pentium-based MP systems to run standard SCO MPX, SunSoft Solaris, IBM OS/2 for SMP, UnixWare and Windows NT - plus existing applications. It says systems, operating systems and BIOS based on the MP spec should be around in the second half. And Intel has been showing-off a P6 motherboard - minus actual P6 silicon - with 256Mb RAM, 5 PCI and 2 ISA slots.

The **Petrotechnical Open Software Corp** (POSC) issued a request for applications a couple of weeks ago (UX No 471), but interested parties had better hurry their submissions up - the closing date is April 26. Meanwhile, Phase 1A of the Pilot Project begins in London this week, and involves companies like Elf Aquitaine and Repsol loading data about the North Sea into an Epicentre-based database to demonstrate that the system works. The database will run on a Sun Microsystems Inc Sparc 10. A third Phase 1 pilot may also take off in Latin America if POSC can find enough interested parties in the region. + 713 784 1880.

Motorola Inc is replenishing its war chest, asking shareholders to approve a doubling of the number of common shares authorised to 1.4m from 700m.

Adobe Systems is to release a Unix version of its Acrobat electronic document software, and **Novasoft Systems Inc** is integrating Acrobat into its technical drawing and workflow management package, NovaManage from June, when NovaSoft will act as an Adobe integrator. Rumour has Lotus and Adobe developing interoperability between Notes and Acrobat.

1993 start-up **Arkhn Technologies Inc**, Cerritos, California, has released the first component of its Automated Management Control System. AMCS/Device Manager allows the administrator to view and manage a range of different network devices and components from within a single network map. It covers all SNMP devices, NetWare, X.25 and MapTop protocols, OS/2, DOS/Windows and Sun environments, LAN and WAN devices, communication lines and 70 hub and router devices. +1 310 921 8848

MainSoft Inc is looking for a second round of venture capital and its VCs are reportedly looking for added investors. Reportedly the figure is \$2m. The first round was worth about a million.

Cray Research Inc says its next-generation T3E massively parallel system will debut in the "mid-1990s" (UX No 480), not necessarily 1995. Its Unicos Unix license was bought from AT&T 10 years ago, it notes (UX No 477).

Albuquerque, New Mexico **Aeon Systems** says it is shipping three Alpha AXP systems for Unix real-time development. The VMEAlpha 64 run 150MHz CPUs in tower and rack-mount configurations. With up to 128Mb RAM, 1Gb disk, DEC OSF/1 and an optional i960 I/O co-processor, prices start at \$16,875. +1 505 828 9120.

Integrrix Inc starts shipping a Sparcstation 20-compatible at the Unix reseller show in Dallas this week. The SWS10+ accommodates up to four 50MHz SuperSparcs on two Mbus boards - **Sun's** Kodiak is a 60MHz or 50MHz affair - comes with four Sbus slots and up to 512Mb RAM. A board-level solution with chassis and power supply is \$4,500. +1 805 573 2799.

As expected (UX No 482), **IBM Corp** has announced its Wabi 1.1 implementation for AIX. It requires AIXWindows Environment/6000 1.2.5 to run and costs \$250 from the end of the month. Meanwhile, PowerPC-ready AS/400s due this summer will likely be fitted with some kind of Unix compatibility.

Although it might already have been carved up following **HyperDesk Corp's** withdrawal, the **Object Management Group** has officially announced a second request for proposal for C++ language mapping technology for its Interface Definition language (UX Nos 478, 482). Proposals are due by June 14th.

Taligent Inc's graphical user interface is being dubbed People, Places and Things.

Emeryville, California-based **Scopus Technology** has a new version - 3.0 - of its ProTeam customer information management system, which supports Oracle and Sybase, more telephony integration, new business processing and modeling, and enhanced search and retrieval systems.

IDC notes that by **Novell's** own accounting, including liabilities assumption, virtual pooling of interest, write-offs, stock repurchases and the like, the net cost of acquiring AT&T's Unix System Labs was only \$77m. Based on that figure, Sun's \$82.5m purchase of its royalty stream effectively paid for the acquisition. IDC also notes that SunSoft Inc has to pay a royalty to Microsoft Corp for its Intel Solaris. The researcher guesses SunSoft will engineer out the Xenix compatibility it's paying for.

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SUN RISING IN EAST: FORGES ALLIANCE WITH FUJITSU

Our Japanese sources tell us that this Tuesday April 26th, Sun Microsystems Inc and Fujitsu Ltd, the world's second largest computer company, are going to announce a broad cooperative agreement that will see technology transfers between them in the areas of chips, systems and software. As we went to press, specific details were scant, and sources could not say exactly what technologies might be involved, suggesting they could be writing each other a kind of blank cheque. It did not appear at press time that the announcement would include Fujitsu standardising on Solaris as Sun dearly wishes it would. Rumours of a long-term strategic alliance between the Sparc partners have simmered and surfaced for years, both in August 1988 and January 1991. (UX Nos 192, 316).

AT&T RE-CASTS NCR UNIT AS SOFTWARE AND SERVICES UNIT

Quietly and without fanfare, AT&T Global Information Solutions, the erstwhile NCR, has reportedly begun restructuring itself from a hardware vendor to a software and services company. While it is supposed to revitalise the century-old firm in light of current trends, the metamorphosis is also meant to advance the fortunes of the parent company whose name it now bears. In fact, an insider said, NCR's new tag line "Global Information Solutions" actually sums up how AT&T will deploy the subsidiary to advance its own long-term telecommunications designs. Indicative of the reorganization, AT&T GIS some months ago quietly abandoned its worldwide divisions along small, medium and large product lines and set up a Platform Division under vice president Mark Campbell, a Decision Enabling Solutions Division under vice president Bill Eisenman and a Software Products Division under vice president James Clark. All report through Tom Tang to senior vice president Tom Mays, who in turn reports to chief executive Jerre Stead and is responsible under the new organisation for the development side of the house. The Platform Division is now responsible for all hardware including servers and PCs along with all operating systems, distributed computing services and systems management. Software Products, on the other hand, is chartered to steer AT&T GIS away from any specific hardware dependency.

Software Products are no longer platform-bound

Stead has reportedly spent tens of millions of dollars on analysts and consultants who advised him to focus on moving information not boxes and recast GIS products as customer information solutions. The advice capitalises on GIS' resources: its alliance with "Ma Bell," its Teradata database technology and its historical strength in capturing financial information. (GIS can trace every dollar we spend, insiders brag.) Software Products is meant to develop the middleware to achieve hardware independence: AppWare for PCs, Top End for messaging between clients and servers, the object-oriented Cooperative Framework for business-critical distributed computing, e-mail, X.400, application development environments, tools and LAN Manager. GIS has isolated five "solution sets" it wants to pursue as a corporation: workgroup computing, aka distributed computing; customer transactions, which represent its historical base in ATMs and cash registers; business computing, aka OLTP and rightsizing; the information factory, aka decision support and data warehousing; and interenterprise computing, best described as the transaction management side of electronic funds transfers or the ordering process between a retail operation such as K-Mart or WalMart and its suppliers. Interestingly, Top End, which GIS has discovered is used by 60% of its customers for messaging rather than the OLTP applications it was intended to serve, is a common thread through most of these market segments but obviously no one product holds all the answers. It is by weaving its middleware technologies together that GIS hopes to create its next-generation products. However, Top End is also a good example of how AT&T GIS is no longer platform-bound. Where only a few months ago GIS was treating it as proprietary technology, it is now moving it on to multiple platforms. The Software Products Division is also expected to help extricate GIS from the dilemma of how to develop Unix without winding up in the poor house. Novell Inc, which looks to all the world like it's abandoning source code sales, can't be relied on to provide code, certainly not the kind of "enterprise-critical" software GIS fancies, something a few steps beyond even mission-critical. By the same token, there's no incentive to switch to Solaris and let SunSoft mastermind development because Solaris is too workstation-oriented, again too low-end. And collaborations such as the Org94 phase of the Open Software Foundation are completely untested. So it's up to Software Products to engineer GIS out of expensive and redundant R&D. In concert with Software Solutions, the Platform Division and the DES Division, which is responsible for decision support, data warehousing and data repositories, are aiming their products at the same five "solution sets." The marketing teams assigned to each of the divisions under marketing chief Bill O'Shea, are reportedly interested in alliances with ISVs to generate third-party software to support the sets, and GIS' direct sales force is being retrained to do solution selling.

IBM "SEEKING SINGLE DESIGNATION FOR RISCs"

IBM Corp apparently believes the market is confused about how to differentiate its internal RISC Unix architecture, Power, from PowerPC, the multi-OS processor developed with Motorola Inc, and so has reportedly been working on a solution that, for marketing purposes, could see both architectures branded under a single name. The name PowerMax is understood to have been considered, though that would require the agreement of Apple Computer Inc, being phonetically equivalent to PowerMac(s), the name Apple is using to trade its PowerPC line. Meanwhile, around mid-May, IBM is expected to announce new RS/6000s which use two Power2L processors, but can be upgraded to four. This is due in the fourth quarter (UX No 478). Power2Ls are optimised for workstations and have good floating point performance, but users will reportedly be able to board-swap to PowerPC 601 if they want to use the machine for more commercial applications. The Pegasus symmetric multiprocessing machines that IBM has jointly developed with Compagnie des Machines Bull SA may also debut under any new notation, PowerMax or otherwise, especially now the launch of that technology has apparently been put back from May 24 to the second week of September. A few customer shipments could go out as early as June, but general availability is scheduled for October. The reason for this we are told is that IBM has had some trouble incorporating the symmetric multiprocessing extensions developed by Bull into the SMP version of AIX version 4.1. That release - thought to be PowerOpen-compliant - isn't expected until at least the last week of July. But ISVs such as MicroFocus Plc, Uniplex Ltd and all of the relational database vendors are understood to be working with a beta version of the system software to get native applications ready for Pegasus. The PowerPC Rainbows are now slated for release in June (UX No 478).

ISVs LASH OUT AT MICROSOFT

Our sister publication *Client Server News*' Microsoft watcher *Wendy Goldman Rohm* hears that the US Department of Justice recently received evidence of alleged restraint of trade violations on the part of Microsoft from documents provided by Lotus and WordPerfect. Microsoft has apparently been telling ISVs developing to standards other than OLE - notably OpenDoc and Wabi - that they'll be restricted from participating in beta testing of Chicago, Microsoft's forthcoming combined DOS to Windows system. Lotus and WordPerfect have complained to Microsoft that its engaging in restraint of trade: they believe Microsoft's paranoia that OLE won't be the standard has led to its threatening those developing other standards that they will be cut-off from information about future operating releases. One source said it's gone so far as to state it will restrict anyone doing OpenDOC development from access to its OS technology, including Chicago, for three years. The DOJ is already alleged to be preparing to file suit against Microsoft based on the company's exclusionary conduct.

PARCPLACE ENHANCES GUI-BUILDER, PLANS NEW VISUALWORKS FUNCTIONALITY

Xerox spin-out ParcPlace Systems Inc, Sunnyvale, California, is offering a new 2.5 release of its ObjectBuilder C++ graphical user interface builder. As well as additional palettes and extensible editors, 2.5 includes ObjectBuilder/Xt kit, which allows third-party Xt widgets from KL Group (XRT Graph), Expert Object (HyperMatrix) and Expert DataBase (Acme widgets) and other Motif 1.2 widgets to be used within ObjectBuilder to develop GUIs for C++ applications. 2.5 ships on Sun, HP and IBM platforms next month at from \$4,500. Sales of the company's SmallTalk application development environment, VisualWorks, provide around 95% of revenue - it counts IBM, HP, DEC, SunSoft and Object Design amongst its wins. A new iteration in the works will feature a more object-oriented design, with additional services and the ability to translate methodology directly into objects. HP includes ParcPlace technology in its SmallTalk 2.0 object environment, DEC is doing its own port to the Common Object Model, Object Design is working on an interface to ObjectStore, ParcPlace will be supplying connections to IBM's SOM/DSOM Corba technology and there's no decision yet on who will do the SunSoft Distributed Objects Everywhere/OpenStep link. ParcPlace understands HP has been asked, and will submit, specifications for SmallTalk mapping to the Object Management Group's RFP (UX No 482), based upon ParcPlace technology. In its first full report since going public last February, the company posted revenues for the year of \$26.6m against \$13.8m in 1993. Net income was \$2.0m against a \$2.7m loss last time which included a \$2.2m charge for acquisition and development. The fourth quarter showed revenue of \$8m - \$4.8m last time around - and net income of \$912,000 up from \$154,000.

JOHN CULLINANE BACKS SEGUE SOFTWARE, JOINS BOARD

John Cullinane, founder of Cullinet Corp - which is now lost somewhere in Computer Associates International Inc - can't keep away from software companies, and has become an investor in and joined the board of Segue Software Inc, saying that he is impressed with Segue's expertise in quality assurance and testing of graphical user interface tools for client-server applications. He reckons that its product, QA Partner, is the only "test in parallel" quality assurance tool for graphical interface and client-server applications and represents a major advance in technology over competitors' products. Segue provides automated testing products to organisations developing graphical user interfaces.

HEWLETT-PACKARD IN TAIWANESE TALKS THAT WOULD GIVE IT INSIDE TRACK

Digital Equipment Corp's failure to agree licensing terms for the Alpha RISC chip in Taiwan looks an even bigger mistake by the company with the news that Hewlett-Packard Co has signed a letter of intent with the Taiwan Economics Ministry to form a strategic alliance. Under the agreement, Hewlett plans to set up a product and technology development centre in Taiwan and strengthen its local development of software, high performance RISC processors and personal information products. The agreement is intended to help upgrade Taiwan's ability in the research and development and manufacture of computer and communications systems.

Bi-CMOS BITES THE DUST?

The latest *Microprocessor Report* notes that the advantage of bipolar logic processes - as embodied in BiCMOS fab techniques used by the likes of Intel Corp (Pentium) and Texas Instruments Inc (SuperSparc) - may not last to future process generations. While bipolar transistors increase the speed of certain types of circuits, they also add extra steps and therefore extra cost. Bearing in mind that processes are shrinking all the time, and most stand at around 0.6 micron or below, at 0.35 micron - where the 200MHz R4400 Mips Technologies Inc design will be in the third quarter, and T5 thereafter - the report says, "bipolar has little performance advantage over CMOS and may not justify the cost of the extra bipolar steps". Most vendors are reportedly looking at pure CMOS at this level and beyond.

3DLABS BORN IN MANAGEMENT BUY-OUT OF DU PONT PIXEL

After a spell under the custodianship of E I Du Pont de Nemours Co, the British graphics boards company, originally Benchmark Technologies, latterly Du Pont Pixel, is going back to its founders under the new name 3Dlabs Ltd, in a management buyout on undisclosed terms. As an independent company, 3Dlabs will focus on providing enabling silicon and software technologies for three dimensional graphics on the OEM market. 3Dlabs has assumed the worldwide assets and liabilities of Du Pont Pixel, and will continue to supply existing products and support services to customers. All Du Pont Pixel staff have been transferred to 3Dlabs. Du Pont bought the company because it was a customer for its products and Benchmark was in financial difficulties (UX No 177, 209). The management buyout was led by the original founders, Osman Kent, president and chief executive, and Yavuz Ahiska, vp of business development, who have a majority shareholding. The first chip-level product from 3Dlabs will be the GLiNT 300SX, a high performance three-dimensional graphics processor aimed at manufacturers of personal computers, workstations and plug-in accelerator boards. It will sample in the third quarter. 3Dlabs is based in Egham, Surrey and San Jose.

INTERNATIONAL META SYSTEMS HOPES SGS-THOMSON WILL MAKE ITS 80486-LIKE RISC

International Meta Systems Inc, the Torrance, California-based designer of the 80486 RISC emulator, is close to signing a deal with processor fabricator SGS-Thomson Microelectronics BV. Meta, which has developed the IMS 3250 RISC chip as a competitor to iAPX-86, says that it hopes to formally sign a deal with SGS to get the chip fabricated at the latter's facility in Grenoble, France. The companies have already been working closely together and the 0.5 micron plant, which SGS-Thomson co-owns with Philips Electronics NV, is a prime target for Meta because SGS has cross-licences with Intel Corp, making it harder for the latter to succeed in a lawsuit against Meta. Anyway, Meta claims that its 80486 emulation doesn't infringe on Intel patents, so there. Meta's president and chief executive George Smith has only \$750,000 left in the company's coffers, and it hasn't made any revenue yet. The company, which isn't yet traded on NASDAQ, is coming to Europe in a private placing to large banks, and hopes to get £7m from the move. It forecasts profits at the turn of the year. The IMS 3250 RISC chip is designed for high level integration, including a signal processor, Direct Memory Access and a Dynamic RAM controller on the same chip, alongside 80486 emulation. The firm, which recently signed with Sharp Corp to allow the latter to produce a speech-directed typewriter with the chip, is soon to sign a deal with a major computer manufacturer according to Smith. The Sharp deal took on a new significance when Smith started deriding the ARM chip as much slower than the IMS 3250. Sharp makes its own version of the handheld Newton machine - which currently uses the Advanced RISC Machines Ltd ARM chip.

NINTENDO REVEALS PLANS FOR A 32-BIT VIRTUAL REALITY GAMES SYSTEM

Nintendo Co Ltd has sprung a surprise by saying that it will unveil a next-generation 32-bit games machine featuring virtual reality software this November. Its current machines are 16-bit, and while the company has said that it is developing a 64-bit machine using the MIPS Technologies Inc R-series RISC for 1995, it has hitherto made no mention of a 32-bit one. No word on what chip is being used but presumably it is a 32-bit version of the MIPS chip. Nintendo would say only that the new product is a virtual reality game that does not require players to wear special eyeglasses.

SCAN-OPTICS GOES TO ADAPTIVE FOR ITS CNAPS MASSIVELY PARALLEL BOARD

Adaptive Solutions Inc, the Beaverton, Oregon company with the CNAPS Co-processor Node Architecture for Parallel Systems, has won a significant customer for the technology in the shape of Scan-Optics Inc, which is now based in East Hartford, Connecticut. Scan-Optics intends to embed a CNAPS/VME board with a whopping 512 processors on it as a recognition and classification engine in its Optical Character Recognition systems, running neural network software, under an agreement that could be worth \$2.5m over two years.

BULL SEEKS PEGASUS OEMs

Apple Computer Inc, Motorola Inc, Data General Corp and Sequent Computer Systems Inc are all reportedly in discussions with Compagnie des Machines Bull SA's new OEM unit about taking its Pegasus SMP technology. On offer is the PowerPC architecture, input-output bus, and operating system package. Meanwhile, it looks like Bull's high-end Mississippi project (UX No 478) isn't a cluster of Pegasus boxes after all, but rather a single machine that is expected to house up to eight of the forthcoming SMP-optimised PowerPC 620s. It will run a version of AIX beyond 4.1 as well as Bull's proprietary GCOS mainframe operating system. IBM is also expected to resell the machine, which is being talked-up as running at 5,000 tps. Mississippi could be announced as soon as October.

PYRAMID TO CLUSTER NILES FOR HIGH-END

Pyramid Technology Corp, which claims to have sold more than 100 of its Nile symmetric multiprocessors since their launch in October last year (UX No 457), is already working - like practically everyone else these days, it seems - on clustering the things for high-end commercial users. The Mountain View, California-based company's idea is to implement "the open systems version of parallel sysplex," which it intends to do by loosely coupling its systems with the mesh-type interconnect bus already being used in its Meshine database accelerator (UX No 463). Pyramid says the bus is capable of linking not only Niles, Meshine - due later this year - and the ICL Plc Goldrush parallel database server (UX No 452) which Pyramid intends to resell, but other third party systems too - from laptops to mainframes, it claims. Nodes will have between two and six processors in each draw and each running a copy of Pyramid's DC/OSX SVR4 implementation. Pyramid's software endeavour with ICL on software (UX No 481), will provide a single system image. The aim is to offer a system that can handle serial and parallel loads, and can simultaneously undertake online transaction processing and decision support.

DEC BOMBS...AGAIN

As we went to press late last Thursday, DEC CEO Bob Palmer was still in an all-day board meeting explaining how he intends to extricate DEC from financial crisis and what exactly had happened. The week before, DEC tallied its third-quarter figures and on seeing how bad things were, broke the news to Wall Street three days early. Losses for the quarter came to a stunning \$183 million, or \$1.34 a share, nearly a dollar more than expected. As a result, by last week, it had downgraded DEC stock by nine points - or roughly 32% in five days. This is the second consecutive quarter that DEC has surprised everyone, itself included, by making serious losses. Even Palmer declared: "I didn't expect this mess in revenues and I didn't expect this outcome; I can't imagine the board will be pleased with that." Second quarter figures were also down an unexpected \$72 million, and the mood inside the once-proud company is now glum to say the least. DEC has only had one profitable quarter since the fourth quarter of fiscal 1991. Sun CEO Scott McNealy says he personally can't see "how they can pull out of the dive," but adds "they don't matter" anymore anyway - competitors now say they never see DEC when tendering for major contracts these days. This quarter, DEC's product revenues of \$1.75 billion are up 5% on the previous quarter, but 1.1% down on a year ago. The firm took its greatest hit on services, down 11% to \$1.5 billion, something that not only surprised McNealy, but is unfortunately not recoverable. Customers appear to be switching off their VAXes, but don't seem to be replacing them with Alphas, even though Alpha sales did actually rise 66%, accounting for almost half of total turnover. Moreover, for two quarters now, DEC says it has been unable to deliver on orders placed. Last quarter, officials said it simply got the product mix wrong and was short on parts. And this quarter, the company was apparently unable to meet demand for PCs, Alpha workstations and storage products. Palmer complained, "the company has not done a good job forecasting revenue from the field. I thought we were fixing that but clearly we were not." Meanwhile, Wall Street is angry that DEC hasn't reduced staff numbers in line with its size, estimating that the firm needs to lose an additional 20,000 people, despite the negative affects this would have on the bottom line. But DEC was reluctant to detail further layoffs until the end of next quarter. However, even if it lays off another 6,000 or so personnel, it is unlikely to see recovery by the fourth quarter, and losses seem likely to continue into the first half of next year. It remains to be seen how the board will treat both Palmer and his blighted record now, and current number two guy, ex-IBMer Ed Lucente.

POWERPC 604 GETS HIGH PERFORMANCE MARKS

As expected (UX No 483), Motorola Inc and IBM Corp took the wraps off their 100MHz PowerPC 604 processor last week. The 32-bit RISC is rated at 160 SPECint92 and 165 Specfp92 - almost double that of the 80MHz 601 - where the Intel Corp Pentium reaches 100 SPECint92 and 80.6 SPECfp92 at 100MHz and won't hit the latest PowerPC performance marks until P6 generation. The MPC604 has been optimised for high-end desktops and low-end servers - in SMP configurations the Somerset team expects it to be used into systems with up to four and six CPUs, beyond which the PowerPC 620, due later this year, is expected to take over. Second generation PowerPC Macintoshes and new IBM workstations are seen as initial vehicles for 604 (UX No) though 604 systems will likely be expensive to begin with. MPC604 has one floating point unit, but three integer units - two for single clock cycle instructions, the other for integer multiplication and division. Somerset has kept the single-unit floating point performance up with that of three integer units by implementing a new double-precision floating-point algorithm. The part is already sampling in small quantities to highly favoured customers, but general sampling is set to begin in the third quarter with volume production set for Q4. The unit received first 604 silicon in January. IBM will manufacture the processor at its Burlington, Vermont facility and Motorola at its MOS-11 factory in Austin, Texas - prices are due in the third quarter. The processor is being manufactured in four-layer, 0.5 micron CMOS, but it is worth noting that the part does not use the new, smaller transistor geometry that made its debut in the 100MHz MPC601. So expect smaller 604s in the future. With 3.6 million transistors, the MPC604 takes Somerset's transistor design count to 8 million so far. The 12.4mm x 15.8mm part - at least twice the size of the 603 and a 20% larger than Intel's P54C Pentium - with two separate 16Kb, four-way set associative instruction and data caches consumes between 8 Watts and 10 Watts in normal use. A 'nap' mode takes consumption down to around 400mW. The 604 has an onboard phase-locked loop (PLL) which allows the processor to be driven at 1x, 1.5x, 2x or 3x the bus speed. The estimated benchmark was for a 100MHz processor being driven at 1.5x the 66MHz bus-speed, and assumes a compiler optimised for the new chip. The 601 PowerPC, currently at 100MHz will likely get one more rev, possibly to 135MHz, before it is superseded by 604. The 620, Somerset says, will beat out DEC's 275MHz Alpha which is due in volume in July. The Somerset team, more reticent about its plans than most, promises a PowerPC RoadMap next year which'll show its future plans in more detail. The only word on what the the three-year effort PowerPC effort has cost so far says around \$1bn. The IBM/Motorola Somerset facility has 250 some engineers working on PowerPC design and around 50 other doing the surrounding tool work.

SUNSELECT TRYS TO "POLEVAULT" PWI SPEC INTO ISO

SunSelect, the Sun Microsystems planet responsible for the Public Windows Interface (PWI) Initiative, is doing what it can to keep its so-called Windows specification a live issue with X/Open. X/Open has already rated as slim its chances of meeting key criteria for adoption, specifically the one that reads willing and able to assign X/Open the copyright. SunSelect however is saying its lawyers have assured X/Open it can. Meanwhile, SunSelect has fallen back on what appears to be a contingency plan and has submitted the thing to the European Computer Manufacturers Association (ECMA) which it now says is a "more official standards body than X/Open," relegated in SunSelect's opinion to the status of a mere consortium. It says it's got the spec assigned to an ECMA technical committee and expects to have a draft ready by October or November. Then it will go to an ECMA General Assembly vote in December. ECMA, it figures, can polevault the spec into ISO. SunSelect says ECMA has dibs on an ISO fast track slot that opens the beginning of 1995 and it would take the spec nine months to go through all its voting procedures. Meanwhile, SunSelect is saying it only wants X/Open to do the branding and testing anyway. X/Open will apparently adopt any resulting ECMA standard provided it meets user needs.

HP GOES TO SSS FOR WINDOWING SOFTWARE

Hewlett-Packard Co has turned to Structured Software Solutions Inc, Plano, Texas for the terminal session-management software it needed to build the HP 700/70 Windowing Terminal. This is a low-cost terminal that offers windowing capabilities for running up to six Unix application sessions or connections to networked Unix hosts simultaneously by means of Structured Software's FacetTerm windowing software.

OSF TO TEST FOR DCE COMPLIANCE, INTEROPERABILITY...

Stepping up from its Challenge series of Distributed Computing Environment demonstration events, the Open Software Foundation is going to start turning around the perception of incompatible implementations and multiple development targets by branding products that successfully complete a DCE certification programme. Certification includes conformance testing against DCE APIs and protocols using the DCE Validation and Test Suite which examine DCE core services such as RPC, security, threads and directory and time services. After submitting results to OSF, vendors must also participate in one of OSF's Interoperability Festivals and run other practical interoperability tests. The first I-Fest 94 ran over the last two weeks - AT&T GIS, DEC, HP, Hitachi, IBM, SCO and Transarc put their DCE technology through the mill. OSF will be distributing beta source versions of DCE version 1.1 from mid-May for three months - final ships are due at the end of the year. OSF shipped DCE 1.0.3, with the Distributed File System, new IDL compiler, configuration tool and component system tests at the end of last year for Intel-OSF/1, HP-UX, AIX and SVR4. It wants us to remember that vendors are going to be implementing DCE on a variety of proprietary platforms too: DEC will bundle DCE with OpenVMS; IBM is to ship it on MVS and AS/400 by the end of the year and on VM in early 1995; HP's MPE/XL will get DCE this year; whilst Bull, Hitachi and SNI have proprietary customer sites trying it out. In addition, SNI is due to ship DFS in its Sinix V1.02 Unix in October, DCE on Silicon Graphics Inc boxes was due last quarter and DCE on Sony's News workstations is due this quarter

...WILL SET NETWORK MANAGEMENT OPTION DETAILS...

At the newly-combined Network+Interop 94 show in Las Vegas next week, the Open Software Foundation will set pricing and packaging details for its DME Network Management Option, a piece of technology which along with some distributed management services is what's left of the Foundation's overly-ambitious Distributed Management Environment. Compagnie des Machines Bull SA has been integrating its XMP management protocol (now the X/Open Management Protocol API), the latest XOM 7.0 OSI abstract data manipulation language API, with Siemens Nixdorf Informationssysteme AG X.500 directory services, HP Postmaster routing software and other IBM Corp work. NMO is viewed as a building block for vendors' own network management environment, indeed as part of an agreement with Bull, Hewlett-Packard Co has already been able to re-architect the communications structure of its OpenView Distributed Management Platform (DM) to use XMP and XOM and is to offer SNMP and OSI/CMIP-based OpenView implementations from next month (UX No 472).

...SET TO GROW, NOT SHRINK IN JAPAN

In explaining the Open Software Foundation's new structure and mode of operation to assembled journalists in Tokyo late last month, managing director of the Pacific arm Jim Curtin said that the Foundation's Japanese office was more likely to increase than to cut staff, since it was very profitable. Last year, he claimed, Japan produced revenues of \$2.3m and had costs of only \$1.4m, and so was well on its way to being self-funding.

HEURIKON HAS 68060-BASED BOARDS

Heurikon Corp division of Computer Products Inc has launched what it claims is the first board to use the new Motorola Inc 68060. Called the Nitro60, the board uses a 50MHz 68060 rated at 100 MIPS. The Nitro architecture is designed for use with both the 68040 and 68060 microprocessors, with a single socket that can take either chip, despite the different pin-outs and separate power and ground planes for the two voltages. The Nitro40 and Nitro60 feature an optimized 64-bit VME64 system bus interface, an 80M-byte per second Corebus mezzanine and local bus interface, and on-board Ethernet and SCSI-II interfaces with Direct Memory Access. The boards come with up to 16Mb memory, 4Mb of Flash memory, 512Kb of ROM, 2Kb of non-volatile RAM, and two high-speed serial ports. There is support for up to seven independent input-output controllers. The Nitro60 with 8Mb costs \$5,500 and the Nitro40, \$5,000. Both are available now, the company says.

STERN RESELLS DEC ALPHAs, WILL HAVE PARALLEL MACHINE IN BETA BY AUTUMN

Stern Computing Systems SA is now reselling Digital Equipment Corp's Alpha AXP 7000 and 2100 series optimised for technical and scientific markets and plans to have a prototype of its own Alpha-based Shared Sustained Performance/Enterprise parallel processing machine out by the autumn. SSP/Enterprise has been developed by Stern's Advanced Computer Research International SA unit with the help of Esprit funding. The Alpha systems, or SSP/Application nodes, run a parallel version of OSF/1, enhanced for batch management, accounting, and checkpoint/restart. They also come with Fortran 90 Cray-compatible compilers and Cray and DEC scientific libraries for numeric processing and parallelism. This software comes under the generic name of SSP/Soft. SSP/Enterprise, meanwhile, has taken three years to develop and is based on the so-called SSP/RISC architecture, a processing unit with seven chips, one of which is the Alpha control unit that deals with the operating system and the management of resources. The rest are customised chips developed by Stern, but manufactured by Vitesse Semiconductor Corp, which deal with everything else, including compilation. SSP/RISC is based on control and address decoupling technology as well as hardware loop-pipelined units that are able to operate simultaneously on multiple parts of any loop. This means that, because each functional unit is kept busy all the time, instructions can be issued and executed quickly. Each SSP/Enterprise will incorporate six CPUs, which each perform at one third of a Gflop, and the machine is due out in the middle of 1995. Stern claims it will cost approximately a quarter of the price of an equivalent Cray Research Inc T90, but is targeted at the same technical and scientific market. In the future, the Paris, France-based firm also plans to offer shared memory clustering technology to link multiple SSP/Enterprises together. Memory will be shared by means of a cross-bar interconnect bus, and input-output bandwidth through this memory is estimated to be in excess of 5GB per second. Meanwhile, Stern has already interested several software vendors in developing parallel applications for the mechanical, analysis, and petroleum markets, and adds that Cray applications can easily be ported over to its machines as they have the same Cray Fortran 90 front-end.

SUN SERVERS AT THE HEART OF XEROX'S NEW DOCUMENT SERVICES

Xerox Corp has duly launched its Document Services Platform, based on modular products and an open architecture, to enable diverse computer operating systems to function seamlessly - and called it the underpinnings for the Document Superhighway, although those that find superhighways a bit of a mouthful are going German these days and calling it the InfoBahn - DocuBahn in this case. Xerox promised that DocuSP will ultimately provide a framework for integrating document services from printers, desktops, scanners and storage devices with the same compatibility as a telephone when it is plugged into a wall outlet. DocuSP software is \$53,000 and it will also be available packaged with Sun Microsystems Inc server hardware for \$68,000, both in the fourth quarter. Presenting the system to a publishing gathering in New York, Xerox created books on demand - hard-bound, near-offset-quality books produced from digitally stored information initially scanned and edited in London. New products include an entry-level scanning system for a base price of \$23,000 available now, and a high-speed scanner, available in June. Xerox will also offer the DocuPrint 6135 high speed black-and-white printer in the fourth quarter at \$307,000 and a colour system a little later, starting at \$224,000. Xerox has roped in AT&T Co to help develop and market services that enable customers to produce documents, on demand and virtually anywhere, starting with a full range of print finishing services such as covers, signature or spine binding, tabs and packaging. SynOptics Communications Inc, Santa Clara, also got in on the act with its Asynchronous Transfer Mode communications product line, helping Xerox to demonstrate its high-speed electronic publishing capability, showing the ability to access, download and manipulate complex digital documents - print-ready documents including diagrams, half-tone images and full colour photographs, stored on the networked Sun servers.

ORACLE CLIENT/SERVER APPS, DATABASE LACK REPLICATION SERVICES

As expected (UX No 482), Oracle Corp introduced Release 10 of its client/server business applications under the Cooperative Applications and Services Initiative at its European User Group conference in Maastricht, Netherlands last week. The event was focused on Oracle's self-promotion as a "global, distributed business solutions supplier." But, it was forced to admit the new CAI-based applications, which include Oracle Financials, Manufacturing and Human Resources, will not be truly distributed at all until it adds vital replication services. These services are not expected to be delivered until early 1995, the company says. Although Oracle claims vehemently that CAI applications have already been rearchitected to take advantage of distribution functions, the software will not operate as a total enterprise solution without replication. In fact, according to Greg Brady, Oracle's worldwide vice president of applications, these features for Release 10 CAI applications haven't even gone into production yet. Oracle also backed down on its promised replication functionality for Oracle7 release 7.1, saying that it will not ship in its initial release expected in the next few months, but will follow as a maintenance upgrade by the end of the fourth quarter. (Replication, aka master/slave, allows users to define where master and replicant files of an application, database or even data itself, resides in an organisation. Because replication is asynchronous in nature, which means that an operation will only begin once its preceding operation has been completed, data integrity is maintained even when system failures occur).

US-centric

On the marketing side, Oracle's top US officials gave a very US-centric overview of product strategy, announcing very little European third party support, with news that products in Release 10 will only initially be available in the US and the UK. Localised versions for the continent and the Asia/Pacific are not expected until next year. Despite all the technical hitches in Oracle's global strategy, the CAI and CSI announcements were wide ranging, including 25 new modules for the firm's Oracle Financials, Distribution, Manufacturing, Human Resources and Project Management applications, and the publication of 30 APIs, which will allow ISVs to integrate their applications with the CAI architecture. More than 20 software companies have signed up for the APIs, including BusinessObjects SA, Trilogy Development Group, Clarify Corp, Data General, Aurum Software, EDI Solutions Inc, Datalogix International, Mantix Inc, Sterling Software, Pillar Corp and Sherpa Corp. The Cooperative Services Initiative, also announced at the conference, will provide legacy application migration, transitional outsourcing, application benchmarking, system management and training for its customers. CSI teams with 17 services providers in the IT industry, including six multinational consultancies, system integrators, hardware vendors and system management tool suppliers to build a unified set of implementation services for CAI-based applications. CSI members include Hewlett-Packard, Compaq, Computer Sciences, Price Waterhouse, IBM, Sun, Unisys, Pyramid, SHL Systemhouse and Coopers & Lybrand. Release 10 applications, start shipping from May 1 through to September.

NOVELL AND ORACLE TEAM TO CREATE ORACLEWARE

Individual applications are passe these days and bundles are all the rage. In line with the trend, Oracle Systems Corp and Novell Inc have come together to create OracleWare System in various flavours. A NetWare edition is already available and last week the UnixWare Edition 1.0 release shipped. The bundle includes UnixWare, Oracle7, Oracle Office, Oracle Glue and on-line documentation and it sells for \$5,100, including a five-user licence to Oracle7. On a Pentium-based Compaq Proliant 2000 Model 5/66, the bundle turned in 184.54 tps on the TPC-B benchmark, or \$432.55 per transaction per second.

C++ MAPPING: COMPROMISE LIKELY

It seems one of the reasons the Object Management Group decided to issue a new request for proposal for C++ mapping to IDL was to please new kid on the block, ExperSoft Corp (UX No 477), which reportedly wanted to make its presence felt at its first OMG meeting in Mountain View, California, a couple of weeks ago (UX No 482). However, the other firms assembled there reached a compromise that even SunSoft Inc's Mike Powell was apparently happy with, and it is likely the group will plump for Iona Technology Ltd's binding, with a new extension for parameter passing. Insiders say this balances the contentious issues of ease of programming and flexibility that have plagued the debate so far, and unless ExperSoft rocks the boat at the next meeting on May 10, it seems likely the Iona proposal will be accepted.

IBM YIELDS: AD/CYCLE GIVES WAY TO APPLICATION PRODUCTIVITY FAMILY

It seems that the average large systems user needs IBM Corp's repository for software engineering tools like a fish needs AD/Cycle: according to *PC Week*, IBM is preparing to bury what the paper characterises as one of its biggest blunders in the client/server market, the AD/Cycle application-development strategy. According to John Schwarz, Toronto-based director of application-development solutions in IBM's Software Solutions Division, IBM plans next month to announce an object-oriented, local network-based set of development tools. The Application Productivity Family will replace the predominantly mainframe-based AD/Cycle, and incorporate an object-oriented repository based on database technology from Object Design Inc, the Boston, Massachusetts company where IBM is a significant investor. Many products to be featured in the Application Productivity Family have already been announced or are currently shipping, including the VisualAge object-oriented development tool. But according to Schwarz, IBM will package those products and underlying technology into seven "solutions" aimed at specific market segments such as corporate or workgroup developers.

ONTOS OFFERS LINKS TO NON-OBJECT DATA SOURCES, MOVES TO NT

As expected (UX No 482), Ontos Inc will this week unveil a new revision of its Ontos/DB object database system. The Burlington, Massachusetts-based firm says Ontos/DB R3.0's open storage management developer's kit - built on its newly-formed Object Cohesive Enterprise architecture - provides the basis for integration with non-object information sources and applications such as relational or hierarchical databases, video, CD-ROM and images. The new release also includes extensible versioning and configuration management for viewing data in different ways, on-line schema evolution and instance migration for changing the database model, and semantic concurrency control, said to provide simultaneous updates of the same objects. Ontos/DB R3.0 is up on SunOS, SCO Unix, HP-UX, AIX and OS/2, with a Solaris port underway. Intel versions are \$5,300, other Unix implementations go from \$9,300. The open storage management developer's kit isn't out until June and will be priced at from \$5,000. Ontos is also hauling itself into the Microsoft Corp Windows NT market on the back of a deal it has won with Pacific Gas & Electric. Ontos is supplying software, services and training to the US utility which will develop distributed object applications for its 20,000-strong network of systems, using Windows NT and Chicago. Ontos says its already prototyped the NT development environment database and will offer a full version of Ontos/DB R3.0 on NT in two or three months priced at \$5,500. Ontos, shy of some of the large OEM deals its object database rivals have, claims to be lining up new OEMs and channels for R3.0 which it hopes will see 60% or 70% of its product move through indirect channels. The company plans two further integration modules in the third quarter.

UNISYS LAUNCHES "P6-READY" U6000/500 MULTIPROCESSORS

Unisys Corp has introduced a new family of Pentium-based symmetric multiprocessors: the U6000/500 series. An extension of the U6000/300, and sitting below the Sequent-based U6000 Model 75 and 85, the new boxes feature high speed bus technology, and are claimed to be the first systems on the market to be Intel P6-ready. The series includes a dual processor Pentium 500 Model 20, and a one to five processor Model 50. A two to eight processor Model 80, with dual power supply and cooling technology, is set to be launched by year-end. The 500s feature a 533Mb/sec Synchronous Coherent Multiprocessor (SCM) bus that can support three generations of Intel chips: 60MHz Pentiums now, 90MHz Pentiums by year-end, and P6 chips some time towards the end of 1995. The SCM bus is classified as "passive backplane architecture", meaning that the intelligence is built into the boards built onto the backplane, allowing different types of memory and processors to be attached. There is also a 200Mb/sec Split Transaction input/output bus using the PCI chipset to boost OLTP performance and support quad SCSI and quad Ethernet devices. An additional EISA bus supports PC peripherals. UK prices start from £10,000 for the Model 20/. Unisys has also lowered the price of its 5 processor U6000/65, now using the 486/DX4, and launched a new low-end to its Sequent-based line, the 600/72P. The systems have been upgraded to Pentium chips, and Unisys says it will continue to work with Sequent at the high end of its range: in the UK the two have announced a new joint marketing initiative.

NEC ADDS FIVE NEW MODELS TO ITS R-SERIES EWS 4800 UNIX WORKSTATION LINE

Last week NEC Corp announced five new models in its EWS 4800 series of R-series RISC-based workstations, along with other new hardware and software for multimedia and other functions. Among the announcement was the first notebook sized Unix workstation, the EWS4800/110N, an A4 size notebook which has a performance of 40 SPECint92 and 92 MIPS, along with a 1024 by 768 thin-film transistor liquid crystal diode screen. Also announced was the EWS4800/310LC, which NEC say is the lowest priced workstation in Japan, costing the equivalent of \$4,485 for a diskless configuration and \$5,600 for a stand-alone configuration with a disk unit. The EWS4800/320SX, with 85 SPECint92 and 94 SPECfp92 performance has a standard retail price of \$14,950 and is NEC's new highest performance model. In addition, NEC announced three new Unix servers with improved price-performance ratios, priced from \$41,590 through to \$197,200. NEC hopes to ship 40,000 units of all size types during the next two years. Some of the other new products announced include MMBASE/LIB, a tool and library for transfer of motion picture and sound from a video cassette recorder, compressing to the MPEG standard; and Spoolernet, a print distribution software package.

IBM CLAIMS PC BUILDERS WANT POWERPC...

IBM Corp has received "a number" of commitments for PowerPC-based personal computers, mostly from major companies, Austin, Texas-based IBM vice-president Phil Hester told Dow Jones & Co: he wouldn't disclose the number of commitments received but said he was "satisfied" with the level so far; the machines will be launched "sometime" in the second half of 1994; Hester said the PowerPC personal computers would be aimed at a number of markets, including companies that want to streamline computers, big and small, so they can all run the same software; he wouldn't disclose IBM's pricing strategy for the new PowerPC line, except to say they would start in the same \$1,500 to \$2,000 entry range of competing high-powered personal computers.

...PREVIEWS ITS POWERPC 403GA EMBEDDED MICROCONTROLLER CHIP

Pursuing its dream of seeing versions of the PowerPC RISC powering everything from washing machines through toys to supercomputers, IBM Corp's Microelectronics unit in Hopewell Junction, New York has previewed its first microcontroller variant ahead of an autumn launch. The PowerPC Embedded Controller 403GA, in 25MHz and 33MHz versions, is aimed at office peripherals and consumer video devices such as digital video cameras, personal communicators and networking. It has four-channel direct memory access, DRAM and input-output controllers, two-way set associative instruction and data caches, serial port, multi-level interrupt controller and multiple timer facilities. It will go into the television set-top boxes to be used in the Bell Atlantic Corp and Groupe Videotron Ltee trials. High and low-end implementations are due as the 401 and 405 respectively, tweaked for cost and performance. +1 914 892 5389.

ENCORE DEBUTS RAID SUBSYSTEM FOR IBM MAINFRAMES

Encore Computer Corp has launched the first member of its Infinity Storage Product family, subject of the company's agreement last month with Amdahl Corp (UX No 481). The Fort Lauderdale, Florida company claims the Infinity SP Model SP20 represents a breakthrough in terms of pricing for the IBM Corp mainframe-compatible storage market. The SP20 is designed for IBM and other 3990/3390 or 3380-compatible mainframes, and sells for \$4 per Megabyte. It will ship in volume in the third quarter. Storage is configurable from 48Gb to 440Gb. The controller uses four Motorola Inc 88100 RISC-based processors, high-density, 7,200 rpm 3.5" disk drives from Seagate Technology Inc and advanced RAID technologies developed in-house. The SP20 comes with built-in cache, expandable up to 1Gb, and including features such as Cache Fast Write, Sequential Data Striping and Concurrent Copy. Fast Write is supported via Encore's Non-Volatile Storage option. SP20 subsystems are connected via two to eight OEMI parallel channels, with other options - including Ethernet and other local and wide area interfaces - under development. Following the OEM agreement, Amdahl has the option of reselling the SP20 along with Encore's other storage products, under its own name, but has not yet signed to do so.

DODGE SEEKING TO MAKE UP LOST GROUND

The Dodge Group, the Waltham, Massachusetts-based financial software house formed in 1991, has released its OpenSeries Financials accounting product over a year late. The group, headed by ousted McCormack & Dodge CEO Frank Dodge, wants to blitz McCormack's mainframe-based market by offering client/server-based general ledger accounting systems to large multinationals. Scheduled for release at the end of 1992, the product didn't hit the shelves until the end of last year. The product was late after Dodge ditched Ingres as its database, choosing Sybase and Oracle instead - it is only just completing the Oracle port. It also had to write in support for Microsoft's ODBC interface. Despite its tardiness, the product has already been sold to Nedcor Bank in Johannesburg for \$750,000 and to Sun Life of Canada in Boston, where it is pulling legacy data from an IBM mainframe-based system. Its other customers are the US broker Charles Schwab on the West Coast and Banque Paribas in London. Dodge, who is already being pulled into negotiations with customers in continental Europe, hopes to make \$3m by the year ending September 30, growing to \$8.5m next year and doubling thereafter. It estimates UK revenues alone at between £1 and £1.5m this fiscal year. It is currently shipping modules handling General Ledger, Accounts Payable, Accounts Receivable and Asset Management modules, with a Procurement module following soon. Running its server on Dec Alpha OSF/1, Sun Solaris and IBM RS/6000 AIX, the system uses a Windows client, supporting SQL.

BULL'S Q1 IS BEST FOR THREE YEARS

Compagnie des Machines Bull SA was so excited to see an increase in its first-quarter revenues for the first time in three years, that it departed from usual policy in announcing partial results. Revenues for the first quarter 1994 hit the equivalent of \$1,100m, an increase of 21.3% over the first quarter 1993. The increase was largely due to exceptional growth in Bull's Personal Computer Division, namely Zenith Data Systems, which registered a 70% growth in revenue worldwide, with an extraordinary 132% rise in the US. Other major contributors were its Open Systems and Software Division, where shipments of Unix servers and basic software grew 64%, and its Industrial Division, whose Smart Card OEM business grew by approximately \$48.3m. Geographically, Bull Overseas (Asia, Africa, South America) showed the most significant growth, at 37%. Bull Europe and Bull North America/Pacific reversed their downward trends, with growth of 9% and 5%, respectively.

DATA GENERAL TO CUT ANOTHER 1,000, BUT SALES UP AT LAST

Data General Corp reported a second quarter net loss of \$48.0m last week struck after a \$35.0m restructuring charge, up from a loss last time of \$7.6m, on turnover that rose 5.8% at \$282.9m. At the mid-term, the net loss was \$69.1m, up from a loss last time of \$6.8m, on turnover that fell 0.5% at \$544.1m. The company says it will be cutting its workforce still further, laying off about 1,000 between now and October, the end of its fiscal 1994 year. The company expects to have between 5,500 and 5,700 employees by then, down from 6,550 at the start of its fiscal year. Sales of Data General's proprietary systems were just 14% of total turnover in the second quarter, down from 29% a year ago. The one glimmer of encouragement in the figures is the fact that for the first time for many quarters, the company is back on a growth tack at last, with turnover up 6% in the second quarter. Product revenues were \$184m compared with \$167m a year ago.

KALPANA/INTERPHASE OFFER MULTIPLE ETHERNET SWITCHING ON SUNS

Interphase Corp, Dallas, Texas, and Kalpana Inc have teamed to develop a Network CoProcessing System for Sun servers using Interphase's Sbus co-processor and a switch developed by the two. The "flat-network" arrangement allows multiple Ethernet connections to the switch. As an organisation changes or expands, administrators can move clients to different Ethernet sections without assigning a new IP address, the firms say. A four-port switch with two co-processors and load-balancing software is \$15,000. Interphase: +1 214 919 9120. Kalpana: +1 415 948 4863.

ASK ACKNOWLEDGES "A FEW OFFERS" AS IT EXPLAINS AWAY DREADFUL FIGURES

"There have been one or two unsolicited offers to buy the company which have been rejected," according to Mike Hedger, managing director of Ask Group Inc in the UK, talking at a briefing about the third quarter results. "The company is categorically not for sale," although he added that "any company is for sale as a publicly owned company". The firm reported a loss of \$68.9m to the third quarter ended March 31, against a loss of \$674,000 last time on turnover that dropped 14% to \$86.8m. This included a substantial restructuring charge of \$45m, a large chunk of which grew out of reductions in staff numbers. Total headcount will have fallen by close to 400 by the end of this month, leaving a staff of 2,000 for the whole company. Most of the rest of the charge related to the cost of closing facilities and non-cash write offs of purchased intangibles. The number of offices in the US will be reduced to around 20. Hardware sales fell 71% to \$3.8m, while software revenue fell 15% to \$39.6m. It used to sell turnkey systems running its software but has made a conscious decision to shift away from hardware as there is not enough money in it. Income from services was up 6.8% to \$43.4m. The operating loss figure includes a one off provision of \$4.5m for bad debt, as the firm says it has not been very focused up until now, in terms of staff numbers, on the collection of debts; although not all of this amount will necessarily be written off. The company reports a cash improvement to \$30.8m at the end of the quarter from \$10.7m at the start, which it puts down to aggressive cash management. The balance sheet is now seen as strong enough to support Ask's growth and there is no talk of further equity financing. Research and development is now an important focus and takes up about 14% of revenue with engineers being recruited at the moment. Ask says that the majority of its markets are doing well, namely the UK, Australia, Continental Europe and the Asia Pacific region and that only North America is a problematic area; perhaps underestimating the importance of the US market alone. Its problems are not the result of poor technology, it adds. It says hopefully that looking forward it now has a conservative business plan in place, with a knowledge of what it can achieve and predicts a positive upward trend.

ALL KINDS OF STUFF DOWN AT SUN LABS

All kinds of electronic devices are getting hooked-up to the net, and Bill Joy and the rest of the folks over at Sun Microsystems Inc's Sun Labs research unit are working on trying to clear stuff from the track that could hinder progress further down the line. Sun Labs is looking at ways of resolving the problems of name and address space that the ever-expanding use of the net and other networked services brings, plus the obvious security concerns that go with it. Telephony service providers in metropolitan areas the world over have already had to change numbering systems to cope with additional customers. The so-called information superhighway and associated network services require national - or international - naming solutions. Cable-rigged television set-top boxes, computers at work and other devices are seen as gateways into and home and businesses and Joy's team is also working on the compact, simple, but specialised languages that will operate them and retrieve requested information. (It's not convinced, for example, that General Magic Inc's TeleScript language is the way to do network agent programming.) Sun's science office believes that at this level firms - which may compete in the marketplace in a conventional sense - aren't trying to kill each other off. Rather "there is a community of advanced developers at Sun, DEC, HP and others who all know and understand each others' work well, and are working towards solving similar problems, having similar goals." Pointing the real interest its ideas are creating, Sun Labs recently had the European Commission over looking at its ideas in these and other areas. Furthermore, after having lost what Sun says is three years or more in the RISC race with the development of SuperSparc, Joy has also been turning his hand to chip design once again, apparently helping out with fundamentals like super pipelining and so on in the latest Sparc development projects.

SUN GIVES VOYAGER TO SCOTLAND ALONE

Sun Microsystems Computer Corp has decided to give its manufacturing facility in Linlithgow, Scotland the honour of being the sole source worldwide for its new mid-range Sparcstation Voyager. It has opened a new 77,000 square foot extension to the Scottish plant and inaugurated three new production lines. The expansion raises its investment in Scotland to \$62m and adds 100 new employees, taking the workforce to 450.

IBM AND DEC STRIKE OUT THEIR OWN NETWORK MANAGEMENT COURSE

IBM Corp says it's tired of having to wait for Hewlett-Packard Co to play technology catch-up and won't licence OpenView 4.0, the latest version of HP's network management system on which its own NetView/6000 environment is partly based. Sanjiv Ahuja, director of IBM's enterprise management platforms claims NetView/6000 is now 12 to 18 months ahead of OpenView in terms of the functionality it offers. He says OpenView lacks half a dozen or more advanced distributed network management technologies already offered in NetView/6000. Although NetView/6000 - and DEC's PolyCenter NetView implementation of it - are set to diverge from OpenView, Ahuja says IBM and DEC will continue to offer APIs to OpenView in their NetView products that will maintain compatibility at existing levels. IBM licensed Network Node Manager and Network Management Server from OpenView back in 1991, although Ahuja says IBM has enhanced the node manager significantly since then. Ahuja points to functionality that a new version of NetView/6000 currently under development will have, including support for DB2/6000, Oracle, Informix and Sybase databases (it currently supports Ingres and flat-files) a data storage system that can access data from other systems, and enhanced scalability. HP could do worse than license some of the NetView technology back for OpenView, he quips. A beta version is due in a matter of weeks, finished product is a few months off. Although NetView/6000 and PolyCenter NetView don't yet share the same source base envisaged as part of the IBM-DEC agreement, the firms are working on drivers that'll bring the versions more closely in line, and should be regarded as essentially the same technology, Ahuja says. The two have already agreed to offer PC management in NetView Microsoft Corp-style via Hermes, plus Windows NT ports - NetView/6000 will be up on PowerPC and OS/2 too. It is already available on AIX, OSF/1 and Solaris, and IBM has recently added a Systems Monitor module for managing AT&T GIS and Sun environments. 1993 IDC figures show SunNet Manager with 33% of the Unix-based network systems management market, OpenView with 21%, OverLord (Dimons) at 14%, Ungermann-Bass NetDirector with 9%, Synoptics Lattisnet Manager having 7%, Cabletron Spectrum at 6%, DEC DECmcc 6%, NetView/6000 with 3% and Lexcel Lance with 1%.

...AS HP ROLLS OUT OPENVIEW FOR WINDOWS FOR WORKGROUPS 1.0

Meanwhile, Hewlett-Packard Co will this week roll-out HP OpenView for Windows Workgroup Node Manager 1.0 - a Windows version of its SNMP-based network management solution for VARs that also runs on Windows NT. New features include distributed management, multilevel security, status polling, a trap manager, application builder and bundled TCP/IP stack. It is based upon, and includes, a new version 7.2 of HP OpenView for Windows SNMP Platform, designed for OEMs designing applications for specific network devices or systems. It comes with new status polling, trap management, security, WinSNMP, SNMP data export, integrated stack and 32-bit API for NT. Both packages enable network information to be passed to Unix-based OpenView consoles, and out in June priced at from \$1,500 and \$800 respectively. An HP OpenView for Windows Software Developer's Kit is \$3,500. With node management on Windows and Unix managers and alarm forwarding from Windows to Unix managers under its belt, HP is still promising a common OpenView database for Windows, NT and Unix and the ability to pass information on network devices and topology from workgroups to enterprise manager for next year. Common OpenView APIs across operating systems are set for 1996, along with the distributed database that they will require.

IONA STRIKES DEAL WITH STRATUS

Iona Technology Ltd is integrating its Orbix object request broker with Stratus Computer Inc's Isis Distributed Systems' database messaging system and infrastructure software to make the ORB more robust for users of mission-critical applications in markets such as finance and telecoms. Orbix/Isis will be released at Object World in San Francisco in July, and thereafter Orbix proper will be targeted primarily at applications developers, and users that aren't so reliant on high-availability software. The aim is also to layer Orbix on top of Isis to make the software easier to use - at the moment, you need to be a "rocket scientist" to be able to do so.

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The weekly information newsletter for the UNIX™ community worldwide

Hill and Knowlton senior VP Bruce LeBoss has left to start his own management and marketing services firm named Chip Shot as in strategic approach to the "green." It'll focus on high-level positioning and messaging and subcontract the writing of press releases outside. The principals also include Gene Manno, formerly CEO of Arix, and Peter Gould, another refugee from Hill & Knowlton. +1 408 541-8744.

Someone was mulling over the wisdom of the notion that the best way to defeat your worst enemy is to acquire them and was wondering whether that might apply to the case of **Novell Inc** and Unix. Just a thought.

There's been a change in plans with the new **Management Integration Consortium** (UX No 483) and its organisers say the first meeting will be in Las Vegas at the Embassy Suite of the Hilton Hotel at 6:30pm on Thursday May 5 during NetWorld+InterOp. That's a change of both venue and time since last week. Meanwhile the consortium-in-formation says its steering committee currently consists of **Bridgeway Corp**, **GTE Federal Systems**, **HP**, **Isicad Inc**, **Ki Networks**, **Martin-Marietta**, **NetLabs**, **Peregrine Systems Inc**, **Remedy Corp**, **Sun**, **Ungermann-Bass** and **Unisys**. There are no membership fees.

Hewlett-Packard has seen the wisdom of the **Object Management Group's** suggestion that it take part in the interoperability demo at the next Object World and recanted its decision not to participate (UX No 483).

American Telephone & Telegraph Co is no more: shareholders approved the change of name to **AT&T Corp**. The **NCR** name has survived by hiding out in the Rocky Mountains. The semiconductor operation of **AT&T Global Information Solutions**, headquartered in Fort Collins, Colorado with a second plant in Colorado Springs, has retained the name **NCR Microelectronics Products Division**. It is one of the world's major producers of the controller chips for PC and workstation peripherals.

A source close to the now-famous **Novell Inc-SunSoft Inc** deal that got Sun rights to its source code for \$82.5m (UX No 479) claims Novell got "hosed." Reportedly they started negotiating the buy-out at around \$200m and SunSoft talked them down. Apparently it took SunSoft two months to get Novell to go from \$130m to the final figure. The \$200m figure represented a value on the source code of around \$100m plus the net present value of SunSoft royalties over the next five years with growth factored in.

Hitachi Ltd is still looking for an operating system for its new SH3 microprocessor, which is designed primarily for personal communicators, *Dow Jones & Co* reported - it has an industrial control operating system - Tron presumably - running on it, but doesn't reckon that that would garner much market outside Japan; as reported, **Sega Enterprises Ltd** is using an earlier version of the SH3 in its next generation of games machines, which will hit the market by the end of this year.

HP has replaced Bob Frankenberg with former corporate VP Richard Watts, its the first time Watts has ever owned a profit and loss centre.

Siemens Nixdorf Informationssysteme AG will introduce its new 24-way RM600 this week (UX No 459).

Taligent Inc is starting to show interest in the **Object Management Group's** Common Object Request Broker Architecture and has even started attending meetings.

UK-based Intelligent input-output board manufacturer **Specialix Ltd**, Byfleet, Surrey, plans to go public within the next month or so, before starting on the acquisition trail.

Tongues have been wagging about **Fujitsu Ltd's** interest in **Pyramid Technology Corp** now that its **ICL Plc** sibling and the Mountain Viewer are thick as thieves.

NEC Corp is still talking with the **PowerPC** people about manufacturing the processor for the Far East. **Apple** and **Canon**, for two, would apparently be happier with a sub-licensing agreement as they are said to be worried that the chip is becoming too proprietary to **IBM**.

Pyramid Technology Corp is porting its implementation of SVR4, DC/OSX, to both Intel and Sparc processors.

We hear that **IBM** will have a multiprocessing-enabled Power3 processor out in about 12 months, which will go straight in at the top end of the scientific market and so into the SP3, when that emerges.

Motorola Inc apparently polled customers of its 88000 RISC as to their interest in an 88120: there were no takers. Not even **Data General**, apparently.

HP will set a new range ISDN options for its servers and workstations this week: a Primary Rate Interface via **Ascend Communications' Pipeline** and its own Basic Rate Interface links starting at \$1,000 in June.

Sony Microsystems Inc is reported to be using a 170MHz R4400SC in a NeWS-5000X workstation priced at \$31,500.

Part of **Lotus Development Corp's** downgrading of its Unix effort will see the company sell-off in-house Unix development divisions - except network-related operations - to interested software houses.

There's talk of **HP** and **DEC** joining **UnixWare Technology Group** apparently because they both deal with a lot of **Novell NetWare** clients and need to have some sort of UnixWare policy. Likelihood is we'll hear next week at InterOp.

Microprocessor Report estimates manufacturing cost of the PowerPC 604 at \$180 apiece, compared with \$50 for the 603, \$75 for the 601+ and \$85 for the 601.

New York's **J P Morgan & Co** has signed a deal with **Lotus Development Corp**, Cambridge for 13,000 copies of Notes; the groupware software will be installed on virtually every J P Morgan desktop worldwide; value was not disclosed.

Memorex Telex has signed with **Data General Corp** to market the CLARiiON range of storage systems as part of the new 3937 product line. The two will also work together on future data storage and data management technologies. **Data General** estimates the deal as worth \$75m over the next three years.

Electronic Engineering Times claims **Tadpole Technology Inc** is negotiating to design and make an Alpha portable. Tadpole of course is the company that did the Sparcbook on its own and the N40 for **IBM**.

Sun's MicroSparc III RISC will likely be built upon a new 0.35 micron, four-layer metal process that **Fujitsu Ltd** plans to use beginning mid-1995, *Microprocessor Report* guesstimates. **Hal Computer Ltd's** Sparc will probably use an existing 0.5 micron process.

SunSoft is reportedly developing an OLE "proxy" for its object-oriented applications.

Compaq Computer Corp clearly looks for more of the same after its storming first quarter - with the shares trading up over \$100, the board has approved a three-for-one stock split in the form of a 200% stock dividend - each holder gets a certificate representing two additional shares of common stock for each share of common stock owned.

Unisys Corp's UK marketing agreement with **Sequent Computer Systems** includes that company's NT-based WinServer superservers as well as top-end Unix multiprocessors: Unisys says that this isn't currently a key area of the agreement, but says it is preparing to bring out a series of NT products of its own at the end of this month or the beginning of next.

Engineers at **Unisys Corp** have apparently christened their new Synchronous Coherent Multiprocessor "passive backplane" bus, as featured in the U6000/500 models, the "SCUM" bus.

And so the first meeting of the new **Open Software Foundation** came to pass last week. You'll be pleased to know the new board members were accepted. Described as very "operational," it was mostly about getting members up to speed on what they are supposed to be doing. The state of the organisation, the transition to the new model and what happens after CDE 1.0 were discussed, though nothing was decided.

Sun's PR team reportedly dithered for half an hour over whether to include the term "internationally-based company" in the one-page missive it sent inviting us to listen-in on details of Sun's new alliance this week, thinking it might be too much of a clue (see front page). Moreover, if it'd got its way, we understand that the PR team would've postponed the whole event for a couple of weeks to give it more time to prepare. The deal's mentor, **Bill Raduchel**, chief technology officer, was having none of it.

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OMG TOUTING FOR FEDERAL INTERNET BUSINESS

The Object Management Group is hoping to win some of the \$100 to \$150 million that is being put aside by the US National Institute for Standards and Technology for promoting software development and commerce over the Internet. The money is part of a \$1,000m grant the US government has given NIST to fund its Advanced Technology Programme to promote the development of Information Superhighway-related technologies, flat panel displays, high-speed communications and set-top boxes. OMG, meanwhile, has been looking for partners to set up a worldwide "information brokerage" service, which it hopes will develop into a secondary lucrative line of business. Users would be able to request information about objects over the Net and receive both documentation and the contact details of suppliers. The next stage would be to use the service to sell and distribute software. NIST is soon expected to put out the equivalent of a Request for Proposal, to which interested parties will be invited to respond with suggestions on how they would promote software commerce over the Internet. OMG plans to submit its proposal for an object information service, and Sun Microsystems Inc, Lotus Development Corp, and several university and systems integrators are cited as possible partners. The organisation is said to have one sponsor signed up already, and only needs one more to get things moving. OMG has also informed NIST that ORBs could be used for real-time transactions over the Information Superhighway, providing links, for instance, between applications serving set-top and video servers. Meanwhile, several government agencies are now reportedly refusing to buy any object technology that is not CORBA-compliant, including the CIA, NASA, NSA, and the Department of Defense's Research Projects arm.

KENDALL "PLANNING TO USE POWERPC"

Although it's the financial woes of massively-parallel system builder Kendall Square Research Corp that have recently hogged the limelight, there is a plan afoot within the company to use the PowerPC RISC in a line of MPP systems (or highly-scalable symmetric multiprocessing, as these firms tend to prefer these days), the first of which is slated to see the light of day late 1995 or early 1996. According to internal documents, the Waltham, Massachusetts-based company intends to use a customised 66MHz PowerPC with 133Mbps PCI bus. That's if the company is still around as going concern by then (UX No 481). Kendall wouldn't comment, but sources familiar with the plan say that whilst it may not bode well for customers of Kendall's existing KSR1 and KSR2 systems - a good enough reason for Kendall to hold its breath at the moment - it certainly makes sense for the company in the long-term, and could be the way out the hole it's in. In any case, how much longer could the relatively small concern carry on designing its own proprietary 64-bit CMOS parts used in the KRS? It's had enough difficulty finding someone willing to make the things now that Hewlett-Packard Co has turned its fab lines over to production for its own needs. Reportedly, a Taiwanese semiconductor manufacturer has been found to step into the frame, alongside Kendall's other partner, Sharp Corp. What Kendall would run on the PowerPC systems is unclear - KRS uses an OSF/1 derivative, whilst rival MPP builder and PowerPC convert Parsytec GmbH will run a PowerOpen operating system.

DCE 1.2 PST COMING TOGETHER AS RFT PROCESS IS LEFT TO DIE

According to insiders, the Open Software Foundation is unlikely to issue any more of its infamous Requests For Technology - all future work is set to be defined, created and channelled through the so-called Pre-Structured Technology process, or PST. The recently incarnated OSF introduced PST as a "best of COSE," it said, to augment the RFT process, but so controversial were the RFTs - indeed OSF and its RFT process is the subject of a continuing \$100m anti-trust lawsuit - that it comes as little surprise to hear that the process has been quietly canned. The problem is that no-one is yet quite sure what has replaced it. It's clear PST, from the moment the acronym was uttered to UniForum attendees, was in danger of being poorly understood. There's no word yet on the white paper Hewlett-Packard Co was supposed to pull together describing PST from the scattered notes people had of it, but we hear it's still due. Version 1.2 of the Distributed Computing Environment looks set to be the first piece of technology that gets PST'd, described as a "trial by fire" by one source. Sponsors likely to fund DCE 1.2 development are still organising themselves - and their coffers - and potential subcontractors are being evaluated. Technology embraced will include the anticipated federated naming service and other security extensions. A PST steering committee has yet to be established to give voice to the proceedings, and a complete package to take to OSF as a solution to identify user requirements isn't expected immediately, though OSF says it'll say more next month. Development work isn't part of the new OSF's brief - PST sponsors are to fund contractors and subcontractors - though it seems likely that existing OSF engineering teams in Cambridge, Massachusetts will be contracted and bankrolled to do the work where they are. There is no word on how much the DCE 1.2 effort will cost. Getting DCE 1.1 out cost the salaries of 40 engineers and a handful of marketing staff plus the \$2m OSF spent buying-in some of the technology, reportedly "ten of millions" of dollars though less than the hundred mark. The team make-up is expected to change with PST, though it is not yet clear how. A distributed management PST is thought likely to emerge out of the various existing systems management efforts. DCE 1.2 isn't expected until a year or 18 months after the 1.1 release, which will shortly go to beta and is due in November.

SGI READYING TFP, HIGHER CLOCK ACHIEVED

Although Silicon Graphics Inc has been missing targets for delivery of its high-end, 64-bit TFP processor for some time now, the unit will ship in a limited number of Power Challenge servers by the end of June, according to chairman and CEO Ed McCracken. TFP, the 4m transistor, floating-point intensive variant of SGI sibling Mips Technologies Inc's R4000 co-developed with Toshiba Corp, has had a home waiting for it since the Power Challenge series was announced, boxes first expected at the end of last year, then by the end of last quarter (UX Nos 452,461). General deliveries are now expected in the third quarter. The servers will house up to nine pairs of TFPs - other high-end desktop/desk-sides are likely at TFP's formal introduction in a few weeks' time. TFP is apparently faster in the air than it's been in hangar or on the runway. Originally slated as a 75MHz part, the two-chip unit has already been cranked to a higher clock-rate and initial performance estimates surpassed, according to McCracken. TFP, positioned as a 300 MFLOPS peak performance processor, has a 1.2Gb per second bandwidth and is based on the Mips IV design architecture. It won't replace the Mips III-based R4400, but will fill the need for floating-point performance until the T5 or Terminator arrives, the next-generation R series CPU originally set for the end of this year. As expected, ships of the low-end Indy workstation will comprise at least half of unit volume deliveries by the end of this summer (UX No 461), and may make up 50% or so of total revenue by the end of summer 1995, says McCracken. SGI claims only Sun and HP beat its workstation unit volume shipments and expects to shift 100,000 systems in total - workstations and servers - in the 12 months from this July 1994. SGI has 4,000 employees and is hiring at the rate of 100 per month. Performance problems at its UK operation have been made good. Between 15% and 20% of SGI's revenue is derived from the arts and entertainment world that it has championed with its graphics and imaging systems, mostly from the film business, though that will change once sales of next-generation Mips-based Nintendo game units begin and various multimedia and video server/set-top alliances bear fruit. To further boost its attraction here, SGI is having its systems promoted by US artist Peter Max, who features in an on-going series of SGI ads in the multimedia press, and uses Adobe Systems Inc PhotoShop to create his boldly coloured improvisational images in the digital world. SGI is readying its OSF Distributed Computing Environment implementation but says it hasn't yet decided whether to peddle the software direct or through third parties with experience - a decision is expected by the end of the quarter. SGI last week turned in third quarter net profits up 73.3% at \$35.1m on turnover that rose 39.0% at \$376.3m.

ONTOS TO FOCUS ON DISTRIBUTED, INTEGRATED OBJECT SYSTEMS FOR LARGE END-USERS

Ontos Inc's open storage management option for creating links between the latest R3.0 release of its Ontos/DB object database and non-object information sources, including relational databases, isn't a gateway like other object vendors' mechanisms for accessing the non-object world, the Burlington, Massachusetts company claims. For starters, it doesn't generate code. The module, when implemented, provides APIs that allow developers to write storage managers for other kinds of data types - including relational or hierarchical databases, video, CD-ROM or images - and the data appears as an object to application developers. The module uses a dynamic distribution algorithm to bring data across, creating what Ontos says is a kind of silent wall between an application and the storage manager so that the structure of the data can be changed without altering the application. Shielding the application from the structure will allow, it says, for data to be imported and exported between objects and non-object data stores. The storage management option is the first to debut out of Ontos' Object Cohesive Enterprise framework revealed last year, an architecture it is using to develop products that will integrate object applications with conventional commercial systems (UX No 467). Ontos plans further integration modules (UX No 484), and is expected to offer packaged storage managers for a range of commercial databases.

Quiet period

Ontos admits its been relatively quiet in the market compared to other object players, attributing its stance to a calculated policy of development and re-positioning of the product line and a considerable turning over of staff. In its view the traditional object database market is increasingly divided into two very distinct product streams. First are those firms offering what it believes are effectively single-user, object-oriented programming environments, like Object Design Inc's Symbolics- and Lisp-based technology. The problem for ODI and other language-oriented companies, says Ontos, is that it expects products from the likes of Borland International Inc to dominate this space over time. The second stream are products created by relational refugees that Ontos claims are little more than object-for-relational swap-outs. They're going to be squeezed by the mainstream relational firms which are extending their architectures into this space, the company claims. Ontos characterises its technology as distributed component object architecture and says its focus is on integration capabilities for large end-user deals like the Pacific Gas & Electric win in the US (UX No 484), and British Telecom in the UK. The PG&E deal - which is actually a three-way object database-on-Windows NT tie-up between PG&E, Ontos and Microsoft Corp - will, Ontos says, spawn other commercial products that it'll offer over the next few months. Nevertheless, without the large OEM deals that a good number of its rivals have with some of the leading vendors - Ontos counts Cincom Systems Inc as its one large catch - its difficult to see how else the firm can position itself.

Gone black

Privately-held Ontos is now up to around 40 staff - the \$5m firm claims "several hundred" users and to have "gone [into the] black," recently - with five employees at its Richmond UK-based international unit. It attributes recent speculation about the closure of its UK operation (UX No 482), to a probable disinformation campaign by disgruntled former distributors and employees. The unit is now run by managing director, Andrew May. May, former UK marketing manager, succeeded Richard Williams - with whom he established Ontos UK back in October 1992, after Williams left the firm having failed to meet the parent company's revenue and expense expectations. Ontos CEO Jim Cannon says he's far happier with May at the helm and the relationship he's been able to build with continental partners. Ontos is distributed by French and German outlets and is seeking other European-wide arrangements.

SYBASE WANTS A THIRD OF RDBMS MARKET

Sybase Inc, saying the database software market is becoming a "two-horse race" between itself and Oracle Corp, unveiled its goal of achieving at least 33% world-wide market share by 1995. It claims it has between 18% and 19% of the market now. CEO Mark Hoffman said the company's revenues grew at their fastest pace in the first quarter since 1992. The strong first-quarter results mean "we are taking market share" in all geographic areas, and Hoffman hopes Sybase will be the number two database company in Europe this year. He said the firm's success is likely to be built on its ability to bring products to market quicker and its broadening set of product offerings, able to work with a variety of environments.

APPLE LAUNCHES FIRST RISC SERVERS FOR SHIPMENT IN MAY

Apple Computer Inc has duly previewed its first PowerPC-based servers, the 601-driven Workgroup Server 6150, 8150 and 9150. Apple plans an implementation of AppleTalk specifically designed for Windows 3.1 up as the basis for new collaborative services. Apple will offer PowerPC board upgrades for existing 68040-based Workgroup Server 60 and Workgroup Server 80 customers and Macintosh Quadra 900 and 950 customers wanting to upgrade to a Workgroup Server 9150. The Workgroup Servers and PowerPC 601 upgrades ship next month; the 6150 is \$4,220, the 8150 is \$7,460, \$8,500 with AppleShare. The 9150 is from \$9,230. The upgrade for a Server 60 is \$1,260, for a Server 80 \$1,900. The Macintosh Quadra 605 8/160 is cut 16% to \$1,070; prices on 68040 Workgroup Servers stand.

CONVEX C4 SERIES SET FOR SUMMER

Now also a builder of the massively parallel PA-RISC-based Exemplar, Convex Computer Corp will announce the next generation of its long-standing proprietary C series of systems, the C4 line, this summer. C4s will use a similar gallium arsenide CPU architecture as the existing high-end C3800. The company admits the C series will be its bread and butter for at least another year or more, but it hopes to move all C series customers to Exemplar over time. A fifth of the Richardson, Texas-based company's business is now devoted to data management and big I/O systems. It says its shipped seven Exemplars to date.

EXECUTIVE SHUFFLES AT DEC, AS ROBERT PALMER "GIVEN ONE MORE QUARTER"

Operating on the principle of the last in, first out buffer, Digital Equipment Corp last week bade farewell to IBM Corp alumnus Ed Lucente, known to his friends as "Neutron Eddie". He resigned as the deeply troubled company's head of worldwide sales and marketing, and is being replaced by Enrico Pesatori, head of personal computers. Lucente's departure could, however, provoke more turmoil in the senior ranks. Reorganised repeatedly since his arrival a year ago, insiders say Lucente's influence, via the appointment of his loyalists to key posts, now effects every aspect of the company's operations. Chairman Robert Palmer wrote to shareholders trying to reassure them that he has everything under control and said he intended to "accelerate the next phase of Digital's turnaround strategy," a phase that will take two years. "But we do not intend to alter our single, ongoing strategic focus on open client/server systems that deliver solutions." On the back of the poor results, DEC's board has apparently given Palmer one more quarter to show progress towards a turnaround, the *Wall Street Journal* reports. DEC has only had one profitable quarter since the fourth quarter of fiscal 1991, indeed it has lost more than \$3bn over the last three years. (See page 4).

INFORMIX GROWTH CONSTANT FOR NOW, IMPROVING LATER

Informix Corp sees the growth rate of sales in its major geographical markets remaining constant in the second quarter but improving later this year with the introduction of new products: sales are growing at 25% to 26% in North America, 22% in Europe and 31% elsewhere, chief executive Phillip White said. He declined to comment on the growth rate for overall revenues in the second quarter and for 1994, but said the company plans an advertising and marketing campaign in conjunction with Microsoft Corp for the Informix SE database that will run on Windows NT beginning May 16. He also said that because Informix is convinced that parallel processing technology is the format for mainframes of the future, the company is preparing new products to serve that market. Informix OnLine 8.0 will be demonstrated later this year, he told the assembly: it will also demonstrate a new version of its tools, 4GL-Plus-Plus, in July.

SUN ENLISTS JAPANESE GIANT, FUJITSU

As expected (UX No 484), Sun Microsystems aligned with Fujitsu Ltd last week to defend Sun's Sparc line in the coming chip wars. Sun wants it to be the dominant chip for distributed client/server applications. The two have signed a memorandum of understanding that will see them coordinate their Sparc development plans and jointly spend at least \$500m over the next five years on their efforts. The deal took two and a half years to put together and is still only a skeleton. The two companies were not specific about their precise goals for the silicon, saying they were six months away from disclosing what will essentially be a new more competitive Sparc roadmap, complete with performance targets and availability dates affecting all Sparc species. Sun did, however, say that no current projects would be disrupted. Fujitsu and Sun will not co-develop chips, but maintain independent design teams (they have three each) sharing information if for no other reason than to avoid overlap. To accommodate this new intimacy, the companies will exchange patent rights in what they call "areas of computer technology." The companies said the project still had to be defined in terms of how to build chips, which ones to build, what software to use and how to obtain it. Their unified roadmap is to provide for enhanced 32-bit and 64-bit MPUs that range from two to four times the performance of whatever is currently available from Intel, goals Sun set for itself last year (UX No 427). The firms suggested they will not attempt to leapfrog beyond the performance goal already hinted for the Ultra-Sparc-III. However, enhanced floating point performance, critical to technical markets, is a particular goal for several of the Sparc processors. It is also believed they will focus on packaging issues, integration and low-cost implementation. They also promise to accelerate Wabi performance largely by software techniques. Sun obviously hopes having Fujitsu as its big brother will put the fear of God into competitors, revitalise Sparc leadership and positively impact its share price. To solidify the agreement, Fujitsu extended its existing reseller deal with Sun, the largest contract in Sun's history, for another five years. Sun, in turn, buys semiconductors and peripherals from Fujitsu. The deal will reportedly not impact Texas Instruments, which manufactures MicroSparcs and SuperSparcs.

ARGUS PUTS WORKSTATION KIT UP ON SOLARIS, STANDARDISES ON DEC'S SECURE X

Argus Systems Group Inc, heir to the Addamax Corp's trusted system technology, is going to port its B1-level Compartmented Mode Workstation (CMW) technology from its SVR4/Intel base to Solaris 2.x. It will be available on SunSoft's Sparc and Intel platforms by October 1, the company hopes. The Solaris-based CMW will be submitted to US authorities for Orange Book B1 and CMW ratings and to European authorities for equivalent ITSEC ratings. There is currently no CMW available on Solaris 2.x and CMWs in general are rare enough. Sun Federal was believed to be working on some sort of CMW development, but its status is unclear. The Argus Solaris products will also support the company's secure TCP/IP networking product, developed with DEC, Network Computing Devices and the Trusted Systems Interoperability Group (TSIG). It will provide complete B1 and CMW network interoperability for heterogeneous environments of multilevel secure (MLS) systems. The Solaris x86 version of Argus CMW will support the company's secure DOS and Windows package, which enables Microsoft packages to be used in B1/CMW environments. Eventually, Argus will support a secure version of Wabi. As part of its future B1/CMW plans, Argus intends to license DEC's trusted X Window server and window manager, a standard component of its Ultrix MLS+ CMW as well as the new OSF/1-based DEC MLS+ V3. Argus will standardise on the DEC window system for all its future products, including its Solaris project. Licensing terms are still being negotiated. Argus and NCD have both adopted the DEC trusted X Window system to foster a common look and feel among secure products. They will promote a common set of secure X protocol extensions. Meanwhile, Argus has also reportedly entered into negotiations with other unidentified trusted system vendors to license a variety of security products and technologies, ranging from operating systems to tools, utilities and applications. Frederick & Company, a Milwaukee-based investment banking firm, has agreed to manage multiple rounds of capital financing to support the Urbana, Illinois-based company's strategic offensive. Argus did not disclose the level of anticipated investment.

SUN SPLITS HARDWARE AND SOFTWARE WORLDS, PLANETS RE-ABSORBED

The other boot is about to drop over at Sun Microsystems Inc, where a reorganisation has been on the cards since SunSoft Inc president Ed Zander was left juggling around 22 reports, after getting responsibility for Sun Technology Enterprises when Eric Schmidt was kicked upstairs to become Sun's chief technology officer (UX No 475). Sources as far apart as Australia and the UK say that in a sweeping change, Sun will soon revert to a more conventional system of organisation that will see most of the planets re-absorbed, leaving the parent, SMI as effectively a two-headed beast with hardware (SMCC) and software (SunSoft) concerns. Sun's current planetary make-up has six or more separate business entities, depending on whether the Sparc arm, Sun Technology Business and Sun Technology Enterprises are treated as orbiting bodies in their own right. The planetary system proved organisationally very difficult to manage, but the key to the re-org is the need to create a unified sales force selling SunSoft products, rather than having separate profit and loss operations responsible for selling SunConnect, SunPro or other demarcated products. Although not all details have been finalised, it is understood that SunSoft will take over direct responsibility for all Sun software, the Solaris operating system and objects, with five or six groups focused on networking (PC Lans and connectivity); PC/desktop (PC-to-workstation communication, including Wabi); the enterprise (such as network management); Solaris (operating system marketing); core technology (research and development); and software development (compilers and languages). SunSoft VP product engineering Janpieter Scheerder will head the Solaris group, Steve McKay will lead the core technology group - he's now VP technology development - with current planetary heads likely to retain control within the new groups.

HITACHI TAKES POWERPC AND IS EXPECTED TO JOIN POWEROPEN

Hitachi Ltd, which has been casting around for a RISC chip to favour has plumped for IBM's POWER and PowerPC Combo. Furthermore, Tom Mace, PowerOpen Association President, says he expects the Japanese mainframe and server manufacturer to become a PowerOpen Sponsor member in due course and to promote the organisation in Japan. Sponsor membership entitles it to sit on the PowerOpen board, at a cost of around \$1 million in the first year. IBM will initially OEM its Scalable POWERParallel 9076-SP2 to Hitachi, and the firm will market them through its existing channels - possibly worldwide as the deal is not limited to Japan. The two companies say they are continuing discussions on "future RISC systems based on POWER/PowerPC architecture", including the development of interface standards; potential shared development and manufacturing of systems, components and software. The "components" item of this list is the interesting one: an IBM spokesperson says that this does include discussion of Hitachi manufacturing its own POWER and PowerPC processors. It is clear, however, that Hitachi's interest at this stage is at the high-end of the market, particularly in developing a parallel mainframe-equivalent - there are no plans announced for desktop machines. Apart from the POWER and PowerPC angle, the agreement also calls on IBM to supply Hitachi with its forthcoming CMOS-based System/390 processors. IBM will tweak these so that they run Hitachi's proprietary VOS operating system, a derivative of MVS. Hitachi seems to be favouring the scatter-gun approach to RISC processors at the moment; it currently manufactures Hewlett-Packard's PA-RISC part and makes its own PA-RISC workstations.

NOVELL TO LAUNCH APP BUILDER WITH TUXEDO SUPPORT

As expected (UX No 477), Novell will introduce Visual Applications Builder, a visual programming environment and cross system tool, with integrated Tuxedo transaction processing monitor capabilities on June 17th. Tuxedo support will be provided through an application loadable module (ALM). (An ALM is a client-based module consisting of a set of services or code that is integrated with an application). According to Novell, the ALM will allow developers to build applications with inherited object links to Tuxedo services already operating in a computing environment. It is currently in beta test. A fully object-oriented version of the ALM is expected to be announced next year, the company says. Visual Applications Builder, which is part of Novell's AppWare portfolio, is based technology taken from Serius Corp, which the firm acquired last year. Serius specialised in object-oriented tools that allow users to create applications graphically by using point and click methods.

BONFIRE OF THE VAXITIES: AVOIDABLE MISTAKES THAT TOOK DEC FROM THE PENTHOUSE TO THE GUTTER

by Tim Palmer

How did Digital Equipment Corp, once IBM Corp started to keel over, get itself into the mess it is in today? The answer is that over a five-year period that started from about 1987, it made enough mistakes to finish off a weaker company. Like IBM, it failed to see the damage personal computers would do to its core business, and unlike IBM, it consistently failed to get personal computers right. Yet there was a "Perils of Pauline", "with one bound he was free" solution not simply conceivable but actually available and on offer to resolve that critical problem for DEC at a stroke.

Upstart schoolboy

Seeing IBM's personal computer standard and above all Microsoft Corp and its software as the threatening enemy, John Sculley at the end of the 1980s was looking for an alliance that would ensure the survival of Apple and bring its renegade Macintosh environment the respectability it needed in the all-important business world. At the beginning of 1988, DEC and Apple were to share a platform for a series of announcements heavily trailed ahead of time that it would set the entire industry back on its heels (UX No 163). When the great day dawned, it became clear that something had gone disastrously wrong: a few dull little announcements of tools and interoperability offerings were made, but DEC founder Ken Olsen went out of his way to make it clear that Apple was only one of many alliances and accommodations that DEC would make - and was far from being the most important. Instead of being first among equals at the event, Apple chief John Sculley was treated as an upstart schoolboy. First glaring missed opportunity. The VAX was at the time flying about as high as any computer family ever had, and was widely regarded as being everything that IBM's MVS mainframes weren't in terms of usability, upgradability, and price-performance. Macintosh was blessed as the preferred terminal for the VAX. Interoperability built in, and all the user interfaces and tools familiar to VAX users were intimately integrated with the Macintosh user interface. The then troubled IBM would have trembled. It might even have started really putting its own house in order much sooner and started building hardware and software into every PS/2 so as to make them the ideal terminals for AS/400 and MVS - and actually justifying the premium that IBM's users were expected to pay for IBM personal computers over clones. Amazingly, John Sculley bore much less malice towards a company that had treated him so dismissively than might reasonably have been expected, and a year or three later, he was back again at Maynard actually shopping Apple to DEC. At that time, DEC's share price was still high enough that the company could have bought Apple without its shareholders blanching, overnight turning itself into a \$20,000m-a-year company and putting it well onto the road to its then target of overhauling IBM to take the number one slot in the not-too-distant future. There would be no serious anti-trust considerations, because DEC's repeated failures in personal computers meant that it was scarcely a player at all.

Vacuous essays

Apple would today be using the Alpha RISC instead of the PowerPC, and people would be writing vacuous essays about the threat to Intel Corp posed by this super-powerful new RISC from Massachusetts. Second - almost incomprehensible - mistake. The third mistake had already been made: DEC had failed to recognise the importance of RISC architecture until it was too late, and its first, half-hearted attempt to design one of its own had been killed - and even today, it is not clear that the part then being designed was fatally flawed. Once the thing had been canned, DEC began to fear that the Unix workstation really was going to rule its traditional roost with the tecchies who were always DEC's earliest customer. In a panic, DEC did a deal with the then MIPS Computer Systems Inc, and came out with its line of MIPStations as a desperate stop-gap while it got a new RISC designed. But it managed to screw that one up completely - instead of making its own versions of the R-series bi-endian, it simply switched the byte-ordering to that of the VAX, which meant that none of the MIPS software already written would run, which in effect meant that there were no applications for the things. Not surprisingly, the machines were not very successful. The fourth mistake was to treat its customers with contempt. There can hardly have been a DEC user from 1985 onwards that was not seriously considering a switch to Unix, but instead of treating their deliberations with respect regardless of how it felt privately about Unix, DEC, in the person of Ken Olsen, went around dismissing Unix as "snake oil and Russian trucks". The joke was soon on the poor DEC sales force as DEC users decided that as they wanted Unix, they'd better go someplace else.

Stubborn

At the time DEC killed its first RISC effort, the momentum behind VAX and VMS was sufficient that the company could have safely relied on the VAX base moving to the new processor architecture provided it worked at all. DEC could have embarked on the long process of slowly converging VMS and Unix, following the example that was already beginning to work so well for Hewlett-Packard. Instead it hitched its belated star to the benighted OSF/1 from the Open Software Foundation - formed and financed by DEC and IBM with the specific intention of neutralising the threat from Unix by dividing the community and ruling. By stubbornly sticking with OSF/1, fatally compromised by the bastardy of its birth, DEC was simply telling users that despite all evidence to the contrary, it still didn't really believe in Unix. Mistake number five may well turn out to be backing Windows NT after having seen how ruthlessly Microsoft ditched OS/2 once it saw that the thing was not going to fulfil its promise or Microsoft's expectations. What future now for DEC? It is too big simply to fade away, but the best it can hope for now is to be as successful as Unisys has been over the past five years. It has to look forward to painful and accelerating attrition of its VAX base, with endless false dawns followed by disappointment, and the likelihood that it will be overtaken by several upstart rivals, with Compaq likely to be the first, and Apple likely to be not too far behind. And all the time there will be the nagging feeling that it didn't have to be that way.

HP WINS DEC'S MANUFACTURING PARTNER CONSILIUM

Underlining the extent to which Digital Equipment Corp is losing ground, one of its key software partners - in which it has a significant minority stake, Consilium Inc, is hedging its bets with a strategic agreement with Hewlett-Packard Co. Consilium, Mountain View, California specialises in manufacturing software for the VAX, but it is now to work together with Hewlett-Packard to put its software up under HP-UX Unix on the HP 9000 Series 800 machines, pitching the combination at the pharmaceutical, medical devices and chemical industries worldwide. The relationship is said to include activities that span the manufacturing market, ranging from discrete industries such as semiconductors, to process industries such as pharmaceuticals and speciality chemicals. Consilium's manufacturing execution systems software is used in many industries to track, control and co-ordinate all elements of manufacturing processes in real time. Consilium's FlowStream integrated software, which previously ran only on the VAX, now runs on HP 9000 Series 800 servers and 700 workstations. DEC invested \$4m in Consilium and raised its stake in the firm to 5.8% in 1990.

CHORUS WILL HAVE EMBEDDED MICROKERNEL READY IN MAY

French embedded systems specialist Chorus Systemes says its eponymous microkernel will be ready for the PowerPC during May. The company, whose clients include a number of the largest telecoms manufacturers will show a reference implementation running on a Motorola-built, PowerPC-based 601 board next month. However it has yet to port any of the various Unix-type personalities which can sit on top. Yves Peynaud, the company's head of business development for embedded systems and applications says that Chorus is talking to its customers about which personalities they want: Chorus' usual offering is MIX (Modular Unix) which provides a full System V.4 personality. However, Peynaud says that some may decide that a Posix compliant, or secure personality would be more appropriate. The company is also apparently still doing work to reduce the size of the kernel, which some reports suggest runs to 150k on PowerPC. While this is OK for a telecoms switch, the average auto manufacturer wants something a little smaller.

CORBA 2 SET FOR COMPROMISE

Compromise is in the air again, this time over the Object Management Group's CORBA 2 and the decision on how to make different vendors' object request brokers interoperate (UX No 476). After two and a half days of discussions at the last OMG meeting in Berlin (UX No 482), the participants fell into two broad camps - some endorse a common protocol or Universal Standard Profile model, while others back a gateway approach. IBM Corp, Hewlett-Packard Co, Digital Equipment Corp and NEC Corp sit in the first category, under the Open Software Foundation umbrella. They submitted a Distributed Computing Environment-based proposal, whereby the Interface Definition Language requests mappings to DCE calls. Expertsoft Corp is also included in the first category, but its approach is based on its own proprietary Exportable Object Reference communication protocols and a "Universal Request Forwarding Option". This uses TCP/IP protocols and NDR encoding techniques. Expertsoft reckons its model could potentially encompass the other submissions, although the rest of the vendors don't seem quite so sure. SunSoft, Iona Technology Ltd and another submitter, BNR, on the other hand, plumped for the gateway or translator method, whereby multiple ORBs co-exist in a single address space. And finally, ICL Plc submitted a reference "implementation-independent" framework model, based on ODP, into which both approaches could potentially be incorporated. The firm has now written a document describing this general architecture, and has contacted all submitters with a view to forming a working group to discuss it and the relative merits of the different approaches. The pros and cons of the two technologies appear to be this. A gateway has the disadvantage of slowing things down because it forms a bottleneck when undertaking transactions between client and server machines. It has a complex topology, which means that only specific pairs of ORBs can interoperate at any given time. On the other hand, it can communicate with protocols other than standard computing ones such as TCP/IP. A common protocol, meanwhile, does not cause the above problems, but cannot bridge different protocol domains - for example, it cannot deal with specific telecommunications protocols, a disadvantage when many existing object users happen to be in just that market. There's some consensus behind the ICL proposal but interested parties have until September 21 to revise their submissions.

OMG READIES OBJECT SERVICES SPECS, NEW IDL MAPPINGS IN PIPELINE

The Object Management Group's efforts to get different object request brokers to interoperate (see above, CORBA 2) may be stealing the limelight, but that does not mean the organisation is neglecting its work on object services or language mappings to its Interface Definition Language. Sources say interested parties will submit a single merged specification for object transaction services and object relationship services to the OMG at its next meeting in Pittsburgh on June 28-29. Specifications for the above services as well as security services are expected to be passed by the end of the year. The Group has also just adopted its fourth object service, the Persistent Object Service, which will become part of the Common Object Services Specification (COSS). Incidentally, the first published volume of the COSS specification will be available from the OMG for \$50 at the end of June. Meanwhile, OMG members will also vote on issuing a Request for Proposal for a Cobol mapping to IDL at Pittsburgh, and if all goes well, the specification should be ready by the end of the year. The organisation expects to have agreed on a specification for C++ and Smalltalk mappings to IDL within the next two months, while the US Federal Government is said to be working on an Ada binding to IDL.

BELL ATLANTIC, ORACLE AIM MULTIMEDIA AT BUSINESS

Last week Bell Atlantic Corp expanded its agreement with Oracle on video-on-demand services to cover development of interactive multimedia software and services for large businesses. Bell has been working with Oracle on the phone company's Stargazer family of interactive multimedia services, and the expanded agreement involves joint marketing of multimedia to public and private-sector business including healthcare, retail, finance and education. The alliance will provide customers with digital network services, hardware, software, analysis, design and support. Bell Atlantic envisages the possibility of a retailer opening a virtual store in its electronic shopping mall, and of interactive multimedia kiosks that could be placed in doctor's offices, health clinics or homes to deliver a variety of information and services in a multimedia format, the partners suggested.

X/OPEN APPROVES THREE DESKTOP MANAGEMENT REQUIREMENTS

Three desktop requirements were approved by X/Open Co Ltd's Open Systems Requirements Board on behalf of the Desktop Requirements Group at the standards body's New Orleans meet in March. They will feed into the CDE Technical Working Group which will convert the requirements into new or modified XPG specifications. First is for desktop asset and service management: a desktop that can be integrated within an overall systems management infrastructure, interoperability with the installed base of desktop devices (Windows), and suitable for use by mobile computing devices too. The OSRB regards as urgent (ie to happen within 12 months) that the management of the desktop be integrated with X/Open's other systems management efforts; that management of the Common Desktop Environment and the Desktop Management Task Force DMI management for Windows shouldn't conflict and should result in common procedures and tools. Further out - 24-26 months - it wants the desktop and mobile computing issue to be resolved. Desktop integration: support services that allow ISVs to build easily deployable software which interoperates with legacy systems and provides things like messaging/conferencing; calendaring/scheduling; and compound document handling. It should be able to link, transfer and share objects between documents created by different desktop applications - including exchange of compound documents containing embedded objects between Microsoft Windows and Unix applications (an urgent requirement). Desktop security services: to implement (urgently), recommendations of the Code of Practice for Information Security Management developed by the UK Department of Industry in conjunction with companies and organisations. To use the code as a common reference standard for inter-company trading and for sub-contracting and procurement of IT services and products. The OSRB comprises five users, three ISVs and two system vendors (X/Open shareholders). Current RTGs include the desktop, OLTP, security, database, distributed systems management and software licensing. X/Open's Associate Membership - users and ISVs comprising OSRBs and RTGs - has produced 25 requirements since its inception in January 1993 - most have been integrated into Technical Group specification development plans. The Associate Membership is 89 large private users, 27 large ISVs and seven system vendors, 50% European, 40% North American and 10% from the rest of the world.

XVT 4.0 NOW SHIPPING - CORBA/SOM OBJECTS ARE THE FUTURE

XVT Software Inc, Boulder, Colorado, is now ready to ship the latest versions of its interface development tools, including Release 4.0 of the XVT cross-platform portability toolkit and XVT-Design 3.0, its visual design tool for C programmers (UX No 459). Power++ 3.0, the company's C++-based object-oriented application framework and layout utility, is set to ship this Summer. Visiting the UK for the XVT Developers Conference in London last week, hosted by UK distributors Personal Workstations Ltd, XVT Chairman and CEO Marc Rochkind introduced the new products and pointed towards the way towards further object-based developments from XVT. XVT 4.0's new features include a portable Help system able to use the native help engine of platforms such as MS-Windows and OS/2 when available, portable bitmaps and off-screen rendering for platform independent image display, and an enhanced font model to support native fonts and font mapping. The new design tool, Design 3.0, adds a portable image editor, has an improved user interface, and supports multiple programming projects concurrently, so that different parts of a project can be developed independently and automatically merged at completion. XVT's policy of using the native toolkits of each target environment means that it doesn't have to redesign its products for each operating system upgrade, as those products that take an emulation approach are obliged to do (Neuron Data and Visix are the two competitors most often mentioned). Rochkind views objects as the future direction for XVT: the company has already introduced a set of XVT PowerObjects and is encouraging third parties to develop their own objects. In the future these objects will be CORBA and IBM System Object Model (SOM) compliant and will be independent of language and the XVT Toolkit. The Toolkit will simply be the glue binding the objects together: other, non-XVT objects will also run. "SOM objects are the future", said Rochkind, claiming that Microsoft Corp's "non-portable" OLE will be given a SOM wrapper. If required, XVT will also run on object-based operating environments such as NeXTStep and Taligent. NeXTStep, he predicted, is most likely to turn out as an object development environment for Objective C and an interface builder for objects.

UniBits

DST Tech is to offer AIX, HP-UX and Windows NT versions of its AS/400-based Automated Work Distribution workflow management system. +1 816 435 8600.

PeerLogic Inc is reportedly integrating its Pipes comms middleware with OSF DCE, giving users with a single API set for both, a choice between the OSF RPC or Pipes' messaging system, and access to DCE services. SNMP-based system management environments will soon be able to manage Pipes via an extension.

Computer Associates CA-Unicenter is shipping on IBM RS/6000s.

Wind River Systems will offer its VxWorks real-time operating system on embedded versions of the PowerPC from mid-1995.

Motorola Computer Group spin-out, **Lifetime Software Technologies Inc** is now responsible for developing and maintaining MCG's Life business software and will offer a Unix SVR4 version of LifeWorks on MCG platforms this quarter. +1 408 448 7404.

Tangent Computing KK and KL Group are doing a Japanese version of KL's XRT/3d for Motif widget for building three-dimensional graphs into X Windows applications. Prices go from \$4,600 on Sun, HP, IBM and NEC systems. Tangent +3 3409 5364.

SPEC reminds us that SPECint92/SPECfp92 are speed metrics - single process benchmarks for uniprocessors. Multiprocessors must be assessed for total CPU capacity under SPECrateint92/SPECrate_fp92 for comparison with other systems (UX No 483).

Fremont, California-based **Applied Information Management Inc** has released version 4.2 of its InfoPower network management package for a variety of Unix systems. +1 510 226 2727.

AIX versions of **IBM Corp's** OS/2 and Windows Person to Person group conferencing software are expected in the second half.

Sun Microsystems' SunExpress unit will offer a leasing option to US customers from May.

Vmark Software Inc is using **Data General Corp** AViiONs internally for development.

Core modules for the latest OpenIngres iteration of the **Ask Group Inc** database will ship this month, the remainder ship in July.

Consilium Inc is to offer a Unix version of its VAX/VMS FlowStream real-time manufacturing software: FlowStream 3.1 on HP-UX with Oracle is priced at from \$175,000 for 12 users. +1 415 691 6100.

Redlands, California-based CD-ROM firm, **Young Minds Inc**, has a new mass storage system for TCP/IP networks called Ultra Capacity: +1 909 335 5780.

Edison, New Jersey-based **Information Management Company** is putting its Open Transport for MVS and Tuxedo OLTP monitor implementation up on IBM PowerParallels. Open Transport allows Tuxedo users to execute MVS IMS transactions. +1 908 417 9770.

DigiBoard's new 8 or 16-port PortServer for SCO Unix and NetWare are \$1,600 and \$2,200 respectively.

Multiview Corp has put its PowerHouse-based financial software for **HP MPE-ix** up on HP-UX. Prices go from \$10,000. +1 617 229 2225

Business Objects Inc is working on a version of its query system - which require no SQL knowledge - for **Oracle**. Dennis McCann is now president and Perry Mizota VP marketing.

Tektronix Inc is combining **Adobe** Display PostScript and Acrobat with its XpressWare 7.0 server software in PSXpress for its X terminals, allowing users to access PostScript or Portable Document Format files. +1 503 685 2583

Andersen Consulting is putting its AS/400 Mac-Pac Open manufacturing software up on **HP, IBM** and **Sun** platforms running Informix, Oracle or Sybase. +1 312 507 6588.

Austin, Texas-based **Haystack Labs'** Stalker system audit file manager and reporting system is now up on AIX. +1 512 343 2552

Lotus and **Adobe** are thought to be working on interoperability between their respective Notes and Acrobat test retrieval systems.

Following its acquisition of SGML house **Avalanche** (UX No 443), **Interleaf** has launched SGML Express, tools for creating and supporting documents in one package.

Mantech Systems Corp, Columbia, Maryland, has formed an integration services group, and opened an office in Sunnyvale, California. +1 410 312 3800.

CrossWind Technologies Inc, Felton, California, has version 1.3 of its Synchronise scheduler at \$100 per user. +1 408 335 4988.

Performix Inc, McLean, Virginia, is offering Empower 3.1 benchmarking suite for TPC-A and TPC-C evaluation. +1 703 448 6606.

Sens8 Corp, Sausalito, California, has a new 3D graphics system, WorldToolKit for Sparcstations at from \$7,500. +1 415 331 6318

Acer has added low-end Intel 486DX2/66 and DX4-based 800 servers to its Acer-Altos series at from \$2,135 and \$2,500 respectively: new 90MHz and 100MHz Pentium 7000 mid-range units will be out in May at from \$4,600.

Cygnus Support is putting its GNU tools development kit up on HP's PA-RISC for embedded system design. +1 415 903 1414

Now owned by **Computer Network Technology Corp** (UX No 475), **Brixton Systems Inc** has new internetworking software it says turns standard Unix and NT platforms into IP routers for point-to-point, frame relay or X.25 connectors. Prices go from \$500. +1 603 436 6690.

San Jose, California-based **Network Partners Inc's** Trapper SNMP agent, which works with SunNet Manager or HP OpenView, now supports SCO Unix-based systems priced at from \$500 per workstation. +1 408 526 9200.

Portland, Oregon-based **Rasmussen Software Inc** has a terminal emulator for Windows users running software on Unix hosts: AnzioWin goes from \$250. +1 503 624 0360.

San Rafael, California-based **Island Software's** IslandOffice suite is up on HP workstations at from \$1,700. +1 415 491 1000

Scientific and Engineering Software Inc, Austin, Texas, has added Frame Builder to its SES/objectbench CASE toolset, automating the creation of syntactically correct C++ code-frames. It's from \$5,900. +1 512 328 5544

Northbrook, Illinois firm **Openservice SJI Inc** has added a bunch of resources to its Systemwatch AI-L network administration system. Clients are from \$400 per host, the administrator's console is \$8,000-up. +1 904 645 1801.

CompuWare is putting its EcoTools distributed systems management software up on Sybase.

Version 1.2.1 of Plymouth Meeting, Pennsylvania-based **Aston Brooke Software's** DB-Vision database performance monitor is now up on **Pyramid Technology Corp** MIServer ES systems. +1 215 834 3960

Storage Technology Corp, Louisville, Colorado, has introduced a NearNet 7900 storage management software/hardware using its robotic library for backing-up networks of Unix and other NFS-based systems. NearNet was developed in conjunction Epoch Systems Inc, and future enhancements will use Epoch-derived source code. With an existing tape library, prices go from \$33,600. +1 303 673 5559

Mountain View, California-based **Clarity Software Inc** has released version 2.0 of its Clarity Rapport office communications software, which includes word processing and spreadsheet enhancements. Renamed Clarity Rapport Pro to distinguish it from other members of the family, the product ships this quarter and one floating license for DEC, HP and Sun Unix boxes costs \$900.

San Diego, California-based **Template Graphics Software** claims its latest Figaro+ 4.0 release is the first commercial programmer's hierarchical interactive graphics system (PHIGS) product implementation to support ISO C bindings. +1 619 457 5359.

Austin, Texas-based **Tower Technology Corp** has released TowerEiffel System 1.2 which allows developers to incorporate Eiffel language constructs into their C++ environments. With the system, C++ objects can be invoked from Eiffel and vice versa. +1 512 452 9455.

Unix System Labs is extending its relationship with the Chinese government, winning a deal which will see the **People's Republic of China Ministry of Electronic Industries** and **Unix System Technologies of China** - the joint venture of the Ministry of Electronic Industries, Novell Inc and Hong Kong-based software organisation Dascom Holdings Ltd - using Tuxedo to develop applications for for China's major industries.

Sun's Sparc Technology Business has a single-chip PCMCIA controller, which will allow SBus systems to connect up to two PCMCIA devices (UX No 478).

SOLARIS A "TRAIN IN VAIN" ACCORDING TO KEEPERS OF THE FLAME

Not so much a SunOS 4.1.3 "do or die" club as a discussion group about getting Sun to fix Solaris so SysAdmins can support it sensibly, the Internet-based KOTF (Keepers Of The Flame) has recently been airing views on SunSoft Inc's latest Solaris 2.4 release. Contributions include hearsay that Solaris 2.4 failed its quality assurance tests and won't ship until December to the notion that it is essentially a bug-fix release with few new features. Some applaud the de-railing of Sun's "train" release model, others liked the regularity of it (but not all the patches). The "train" is SunSoft's release model: regular May and November Solaris deliveries with whatever isn't ready supposed wait for the next one. (A less generous explanation says that using the train model "[SunSoft] railroad customers into upgrading to the latest version of Solaris, installing hundreds of the bug fixes, and rewriting their code to use brain damaged System V libraries.") KOTF hears that some people in SunSoft did not believe the train - the first one being 2.2 - would really leave without them, but it did and an amazing number of patches were needed to make the release usable. KOTF thinks new SMCC president Philip Samper abandoned it for the hardware side because he didn't like the way unstable Solaris code was being shipped just to stay on schedule, and that he needs other Sparc suppliers to be able to jump aboard. The difference between Solaris 2.x and SunOS 5.x becomes important, says KOTF, as SMCC doesn't have to track SunSoft releases. Perhaps SunSoft will keep the train and SMCC will release SunOS asynchronously, it ponders. KOTF describes its *raison d'être* as, "as much as we hate it [Solaris], it is here for a while. Let's try to make it at least usable." It invites Sun to correct any erroneous explanations.

APPLE & NOVELL PLAN JOINT ASSAULT WITH NETWARE ON POWERPC SERVERS

The reports that Apple was porting portable netware to A/UX proved half right, in fact the companies are taking the much more exciting step of transferring Netware 4.0 directly to the PowerPC processor. The move is part of a strategic agreement which the two say will provide tighter integration of their technologies and sales and support programs. The product, NetWare on Workgroup Servers, is expected to ship from Apple "late in 1994". It will support both Netware and AppleTalk protocols. The news is good both for the PowerPC and for Apple. Despite pre-dating Windows NT, Netware still retains its 60%-70% of the PC server market. It is the choice of exactly that sector of the corporate computing market, which Apple has been unsuccessful in reaching: the conservative IT manager who wants a robust system, that does the job. Getting Novell on its servers will help Apple penetrate these conservative sites, particularly if it can demonstrate a power-performance improvement against Intel-based systems. And if the rest of the strategy pays off, Apple may find its way onto the desktop eased. For the first time, Mac's will have officially supported Netware protocols running on the desktop. This is also splendid news for Novell, which is fighting a losing battle with Microsoft DOS and Windows on the desktop. The two companies say that they will also implement the NetWare Core Protocol (NCP) Macs using the Open Transport Communications Architecture. The NCP client will run over IPX/SPX or TCP/IP, meaning that Macintosh computers can be managed and administered from Netware. A Macintosh, controllable from Netware and able to run Windows applications (thanks to Insignia), could soften the heart of the bitterest corporate Macophobe. The two companies also say they intend to integrate Novell's NetWare Directory Services (NDS), Message Handling Service (MHS), and Apple's Open Collaboration Environment (AOCE), including PowerTalk client products. They plan to train their sales reps and resellers to handle the new products. Novell says it is currently in discussions with IBM and Motorola about a version of Netware for Prep PowerPC-compliant machines, but currently have no concrete announcements to make.

POWEROPEN DEVELOPERS CONFERENCE CANCELLED AS ABIs/APIs RELEASED

The PowerOpen Association has been forced to cancel its first developers conference next week due to lack of interest. The Association had been hoping for around 200 attendees, but faced with only half that number decided to pull the plug just a week before the event. The Association blames the failure on a number of factors; it clashed with a number of other developer events, but perhaps most important, it acknowledges that it simply did not get enough information out in time and to enough people. A poll of 500 Association members revealed that most would have preferred a conference later in the year and the Association is proposing another date this Fall. By then, developers will have had a chance to play with the finished PowerOpen APIs and ABIs, which were released in beta form last week. Association president Tom Mace says the finished version should be published by the end of June, though a few final nips and tucks are expected in September/October once the system has been tested out on real hardware. The Association should have a conformance suite out in beta this summer, but it will be the fourth quarter before we see operating systems bearing the official PowerOpen stamp of approval.

BULL CASTS AROUND FOR WAYS TO GET CLOSER TO NEC ON UNIX

Underlining the mischief that politicians create when they interfere in the affairs of industrial companies, Compagnie des Machines Bull SA, having been forced into a shotgun marriage with IBM Corp by the great sage of the computer industry in the Elysee Palace, is now desperately casting round for ways to repair the damage in its Unix business. IBM's own financial problems made it self-evidently a hopelessly inappropriate partner for Bull, as was shown when it declined to contribute to the latest fund-raising exercise - while Bull's other industrial partner, NEC Corp. duly put its hand in its pocket. NEC is quite prepared to become even more deeply involved, but the IBM deal threw Bull off its MIPS Technologies Inc Unix strategy with NEC and onto PowerPC. Now according to *Les Echos*, Bull and NEC could decide to work together in Unix systems and software, but for products to be sold beyond 1996, "because we are currently on different approaches," a spokesman told the paper. Whether that means PowerPC or R-series is anyone's guess. NEC and Bull are also seen to be restructuring their mainframe agreements, having abandoned their across-the-board accord on the GCOS 7 line at the end of last year, "because of the demands of NEC's biggest Japanese client". The two are now looking at intensifying their co-operation on the GCOS 8 line, and collaborating on the development of specific aspects of the DPS 7000 line - chips and software, rather than developing a new GCOS 7 machine together: Bull has decided to go parallel.

SNI BETA'S 24-WAY RM600

Siemens Nixdorf Informationssysteme AG is now beta testing three new models at the top end of its RM600 family (UX No 459), and has introduced three modules for its Transview Control Center systems and network management architecture (UX No 474). The new RM600 range comprises three models. The 520 incorporates from two to 12 Mips Technology Inc R4400 processors, has up to 2,048Mb of main memory and up to 266Gb of hard disk. Both the 530 and the 540, on the other hand, hold between two and 24 processors, have up to 4,096Mb of main memory, and up to 266Gb and 951Gb of hard disk respectively. SNI claims the boxes range in performance from 4,200 to around 34,800 SPECint92. Each is claimed to support about 1,000 concurrent users, and includes an upgraded version of its 64bit SPBus that now moves up to 300Mb of data per second, compared with the previous 224Mb/sec. The machines will be marketed as database, communications and multiuser servers, ranging in price from about £500,000 to £2m. Meanwhile, Transview Control Center now boasts three applications: security and distributed printing software as well as Legato Systems Inc's Networker backup package. Other applications such as job scheduling, performance monitoring, and user management will follow in the fourth quarter. No pricing was available.

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KBSJ

Sun Microsystems Inc believes it can entice **Toshiba Corp and Samsung Electronics** over to Solaris and Wabi.

Tripp Blair, former president of **Praxsys Technologies**, the company SunSoft bought to get Wabi, has joined **SystemSoft Corp** as VP, worldwide sales. He worked for Sun as group marketing executive until jumping to the Natick, Massachusetts BIOS, PCMCIA, plug and play and power management software house.

Fenasoft, claiming to be the largest computer trade show in the Western Hemisphere, larger than Comdex even, is set for July 19-22 in Sao Paulo, Brazil.

The Usenix Summer Technical Conference, which will celebrate the 25th anniversary of Unix, will be held June 6-10 at the Boston Marriott Copley Place.

Digital News and Review is calling subscribers to offer them a gold Master Card for no annual fee.

First **Taligent Inc** SDK is due in June: Douglas Brent is promoted to VP product development.

Bull HN Information Systems, which doesn't seem to be in a position to be making flamboyant gestures, has given a brace of DPX/2 systems and 200 terminals worth \$750,000, to the University of Massachusetts.

Computer Associates will be supporting DEC's OSF/1-on-Alpha machines with its CA-Unicenter heterogeneous systems management scheme. CA-Unicenter will integrate with DEC's Polycenter Manager on NetView.

DEC, which is expected to change the name of OSF/1, has reportedly toyed with the notion of calling it either Advantage Unix (UX No ??) or UnixWorks.

Reports on the Japanese wire service after the **Sun Microsystems Inc-Fujitsu Ltd** press conference in Tokyo last week saying that Sun and Hitachi Ltd had also tied up to develop and produce Ultra-Sparcs were denied by Sun the next day. Sun didn't exactly rush to deny the fallacious report. When asked why, it said because it put Hitachi's chip partner HP - and now IBM too - in a bad light if only for the moment.

Xhibition '94 in San Jose between June 20-24 has lined-up Alvin Toffler and Dr Timothy Leary as speakers: should be interesting. The show's organiser, Integrated Computer Solutions Inc, Cambridge, Massachusetts, has got cartoon character Dilbert on-board to promote the event. +1 617 621 0060.

The NeXTStep Expo '94 will be at the Moscone Center in San Francisco June 20-23.

Object house **Expersoft Corp**, San Diego, California, has garnered \$2.5m in a second round of venture funding for development and marketing programs, bringing investment up to \$6.5m.

Legent Corp's VP, new markets, its erstwhile marketing chief Charles Riegel has joined **Seer Technologies** as VP, worldwide marketing.

Cray Research Inc has incorporated three new European subsidiaries to market its Sparc-based CS6400 SuperServer: Cray Research Ltd, Bracknell, Berkshire, UK; Cray Research Superservers SARL, Paris; and Cray Research Superservers GmbH, Munich.

There maybe upwards of 30, and maybe as many as 60 firms hanging hats on the "massively-parallel" market in the broadest sense of the term, but insiders point out that whilst many are pinning hopes on sales of commercial MPP systems, the technical MPP market, as an indicator, has yet to show much sign of significant growth. One argument says commercial MPP needs support from users of sophisticated decision systems, a requirement that just isn't happening yet.

Compagnie des Machines Bull SA has released version 3.0 of its Integrated System Management systems and network management tools (UX No 466), which are layered on top of OSF's Network Management Option. The product now includes security functions, such as user identification and authentication, for distributed applications and servers. A Security Server application enables network managers to register and administer users from a single point of control. ISM runs on Bull DPX20s and under Novell's Netware. IBM AIX support will come in June, followed by HP/UX, Solaris and SunOS, OS/2 and Microsoft's Windows NT by the third quarter.

Now that Unix Expo organiser, **Blenheim**, has take over the popular DB/Expo event, its bundling the show to run concurrently with Networks Expo from next year between May 2-4 at the Moscone Center in San Francisco. DB/Expo East happens in New York this December.

Having sold a 1.5% stake to **Sun Microsystems Inc** for several million dollars at the end of last year in return for a license and development agreement around NeXTStep (UX No 464), **NeXT Computer Inc** is now reported to be looking for additional investors and/or partners. It's still talking up the notion there's another firm close to climbing on board. At that time DEC and Silicon Graphics Inc were seen as potential converts to NeXT's brand of object technology. DEC is already working on an Alpha port and Next has put its Portable Distributed Object System up on OSF/1. SGI apparently hasn't decided which way its going to blow in the object wind yet, but has been developing a new object-type operating system for the set-top converter boxes to be supplied to Time Warner as part of the firms' interactive TV trial in Orlando, Florida (UX No 484). NeXT reportedly did \$11m in software in the second half of last year.

The Open Document Architecture Consortium is holding a developers conference in Brussels in June to try and promote the ODA standard. Meanwhile, **WordPerfect Corp** is due to release the generic ODA Converter application (UX No 478) it developed using the ODA Toolkit next month. + 32 27 74 96 23.

RDI Computer Corp has cut a deal for SunExpress to resell its PowerLite portable MicroSparc "workbook" in North America. SunExpress started selling the machine in Japan a few months ago. SunExpress has exclusive "telesales-only" distribution rights.

Many so-called distributed object systems don't really do any kind of work that can be rightfully described as object-oriented in nature, nor do they exist in distributed, heterogeneous environments, according to insiders familiar with most of the current "object" technologies and strategies. Most of the frameworks, brokers, models and mechanisms either don't work or aren't what they're cracked up to be - even stuff like **Microsoft OLE** and **WordPerfect/Apple** et al **OpenDOC** are little more than services for accessing and administering compound documents, not for doing distributed object processing in any meaningful sense.

Not only is it developing low-end uni- and multi-processing superscalar desktops using Sparc: **Matsushita Electric Ltd** is also rumoured to be developing a Sparc-based massively parallel supercomputer.

Of the 50-odd companies that **Sevin Rosen Inc** has funded, 18 have gone public, 18 have gone bankrupt and the rest are still in development, and Ben Rosen is philosophical about the losers - "Even with the failures you end up getting a coffee cup with the company logo," he noted to London's *Sunday Telegraph*: "I have a whole showcase of them which cost between \$1m and \$2m each..."

Gerald Czarniecki, **IBM Corp's** personnel chief, quit because he did not like the pressure he was under to cut jobs faster, industry executives told the *Wall Street Journal*: the company has cut only 3,000 jobs so far this year, but it has another 28,000 people to shed to meet the goal it set last July, and the slow progress raises doubts that IBM can cut \$3,000m from its costs this year and deliver on its goal to turn a profit, the paper said.

Analysts were so overcome by **IBM Corp's** better-than-expected first quarter figures that chief financial officer Jerry York had to try to cool their ardour by pointing out that yes, RS/6000s were up by a high single digit percentage, and AS/400s were up in low single digits - say 8% and 2% - compared with this time last year, and personal computers were up 30%, mainframes were down 12% and AS/400 was the only product line making an acceptable profit - and it is the others that are the white hopes for the future. **IBM Personal Computer Co's** two-year goal is to be as profitable as Compaq Computer Corp, but it is aiming for a moving target - Compaq currently does a whopping \$800,000 sales per employee, but the company's target is \$1m.

As expected (UX No 465), **Insignia Solutions Inc** is offering its SoftWindows, Windows-under-Unix environment on IBM, SGI and DEC at from \$550: the Microsoft-blessed Wabi alternative - it includes DOS and Windows licences - is already up on Sun and HP boxes. +1 415 694 3712

Santa Cruz Operation Inc denies at the highest level there's any truth to gossip its been peddling itself to SunSoft Inc recently: the two are cooperating more closely on technology these days though. SCO heads-up the COSE systems management workgroup and it's understood SunSoft boss Ed Zander has intervened to ensure his lieutenants offer SCO attractive terms for licensing its Common Desktop Environment implementation, a deal Zander would reportedly love to cut.

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IBM EMBARKS ON AN ENERGETIC CAMPAIGN TO SAVE THE AS/400 - EMBRACES ALL THINGS UNIX

In what amounts to a virtual surrender to the Unix community, IBM Corp last week launched an energetic and determined campaign to save the AS/400, starting by changing the name of almost everything in preparation for all the "open" enhancements it has in the works: "we're open to anything," declared AS/400 US general manager David Thomas. AS no longer stands for Application System, it is now Advanced Series. The database gets a new name - DB2/400 - but don't worry, it's still the same database, even though SQL/400 now comes bundled. However, the most dramatic changes are in the planned embracing of almost everything Unix. Beginning with the new 3.1 release of OS/400 - early versions are due in August, with general availability in the fourth quarter. Spec 1170 Unix APIs and basic Posix conformance will be added to OS/400 gradually - XPG is already scheduled (UX No 483). Of the Spec 1170 APIs, IBM says it'll deliver file system and directory, threads, TCP/IP, sockets, security/authority, process management, shared memory, semaphores, pipes, localisation and thread-safe versions of C runtime routines, in phased introductions. Along with the ANSI C it already has, that should cover between 60% and 85% of the APIs actually used by the most popular Unix commercial applications, IBM reckons. It says it will work towards adding stuff that's missing, like shell and utilities support. To put its effort into context, recent estimates put AIX Spec 1170 conformance at around 61% (UX No 483). IBM has already committed to adding Spec 1170 compliance to MVS next year. The company says the API set is too much of a moving target to be supported entirely.

Unixification pre-empts move to PowerPC

The "Unixification" is part of a general facelift that OS/400 is getting in preparation for the AS/400's move to the PowerPC. IBM is currently re-writing the licence internal code, or LIC, which sits between OS/400 and the machine interface, along object-oriented lines - a project it believes could be the largest object development ever undertaken. Then it'll move on to give OS/400 a microkernel. The LIC (already re-written for AS/400's proprietary RISC) will provide a degree of hardware independence that according to Thomas means "PowerPC customers won't have to recompile a single line of existing code." If that were a Unix vendor speaking it would sound like famous last words, but Thomas points to the four CPU architecture changes AS/400 has undergone since its launch in 1988 - with no recompilations needed yet, he says. Staying on the hardware side, in keeping with the more aesthetic design traditions of the Unix vendors, Big Blue has ditched the AS/400's institutional off-white, filing cabinet livery in favour of sleek black designs for the new models it has launched, some of which are rounded at the back to fit corners better. The four re-styled AS/400s are, as anticipated, PowerPC-ready, awaiting the PowerPC 620 64-bit implementation of the IBM/Motorola-designed RISC architecture that will be available as board upgrades from next summer.

Solutions versus technology

A cursory glance at these directions suggests the AS/400 is on a convergence path with its AIX cousins over in the RISC System/6000 division: not so says Thomas, who maintains "the AS/400 is a solution - RS/6000 a technology choice." The objective of maximising profits will only be met by maintaining separate lines in Thomas' view. In any case he's more concerned with persuading existing AS/400 customers to stay for the ride up to PowerPC. In launching PowerPC "ready" models, IBM will hope to offset the likelihood of customers delaying purchases until the new CPU architecture is actually available.

X CONSORTIUM TO DO CDE/MOTIF DEVELOPMENT?

According to insiders there's a good chance the X Consortium will get itself a commercial life and pick-up a slew of subcontracting work from the new-fangled Open Software Foundation PST process to do future Common Desktop Environment/Motif development - when OSF figures out if and how the it should progress/merge the technologies. Now separated from its MIT birthplace, the X Consortium, repository of the X Windows environment, has yet to make the leap to become a truly commercial operation. It is reportedly talking about merging with XIA, the lacklustre X Industry Association formed to market and promote X because it thought X Consortium at MIT wasn't doing the job properly.

Inside

Unibol has AS/400 to Unix migration tool: *page 2*. SQL Access Group, X/Open team on database access specs: *page 3*. How IBM plans to Unixify the AS/400: *page 4*. Encore has Alpha-based real-time Unix boxes: *page 5*. Gartner Group looks at the client/server market: *page 6*. Apple plans high-end PowerPC-based servers: *page 7*. News roundup: *page 8*.

ROSS TO PLAY ITS PART IN SUN/FUJITSU DEAL

Ross Technology Inc claims it is the missing ingredient on the Fujitsu side of the Sparc roadmap that Sun Microsystems and Fujitsu Ltd outlined three weeks ago, but kept intentionally vague (UX No 485). Ross, which Fujitsu acquired from Cypress Semiconductor some months ago, says it is Fujitsu's predominate CPU development arm, more important to any Sparc contributions that Fujitsu makes than Fujitsu Microelectronics, which it described as working on some low-end "splinter" projects, or HaL Computers International, which has a proprietary Sparc CPU chip set that will never hit the merchant market. Sun's Sparc Technology Business unit, the company's Sparc-development arm and essentially a Ross competitor, suggests Ross is inflating its own importance and that Fujitsu's plans are too vapourish to support its subsidiary's claims. This week, Ross will start sampling HyperSparc chips at 80MHz, 90MHz and 100MHz. They are slated for full production in Q3. A 110MHz HyperSparc will also start sampling in July, for volume production in Q4. Ross chairman and CEO Roger Ross claims he now expects HyperSparc systems to be announced by virtually every major Sparc house. This is expected to include Sun Microsystems itself, an account that has remained resistant to HyperSparc's allures since its days under Cypress' administration when Ross experienced what it now calls "catastrophic fab failure" - it got only one working part out of the first 500 66MHz HyperSparcs made. Using Fujitsu manufacturing processes, such problems, which reportedly cost it six months, are said to be resolved. STB is quick to throw cold water on Ross' claims that it will successfully woo SMCC and that the new high-end HyperSparc will appear in a new iteration of the Sparcstation 20. STB reckons it will get that business itself. But Ross says it is debugging its chips hand-in-hand with SMCC and optimising HyperSparc for Solaris 2.4. The rest of Ross' game plan for V8 Sparc Architecture chips includes shrinking its new chips using Fujitsu's CS55 process and boosting frequency further. It also intends to enhance the micro architecture and boost performance again. Next year, it will expand into the V9 Sparc Architecture and attempt a cost-effective UltraSparc, enhanced V9 floating point and enhanced Wabi performance on its chips. Meanwhile, Ross is sampling 80MHz HyperSparcs for \$2,511, in single units with 256KB second-level cache and a 40MHz MBus operation. The 90MHz goes for \$3,187 and the 100MHz for \$4,019. They run Solaris 2.3 and are also available with a 50MHz MBus interface. Typically, they operate at 3.5 watts power dissipation. Their multi-die packaging reportedly means they take up less space on the motherboard.

UNIBOL PREPARES UNIBOL/400 FOR THE RUSH TO MIGRATE FROM OS/400 TO UNIX

Belfast, Northern Ireland-based Unibol Ltd has been previewing Unibol/400 at its international partners meeting in Belfast. It is a native AS/400 environment running under Unix and results from growing customer demand to move AS/400 applications over to open systems. Unibol sees environment emulators as a superior development route over software engineering tools, object-oriented programming and language translators. The success of the product, it says, lies in emulating a high percentage of OS/400 functionality despite the amount of development that this involves. The product will provide a fully featured command processing facility that incorporates a command compiler to create command objects for both standard and user-defined commands; a command analyser to validate, provide fast support for and to execute commands and a control language compiler that offers a faithful implementation of AS/400 Command Language syntax. RPG/400 version 2 is fully supported, including externally-described files, external calls and display subfiles, as is Cobol/400, and C can be integrated with RPG/400, Cobol/400 and Command Language programs in a Unibol/400 job. Unibol/400 supports disk files, providing support for AS/400 physical and logical file structures along with the access methods that application programs need based on Amalgamated Software of North America Inc's Datagate product; display file support providing complete 5250 emulation protocol block mode terminal facilities on ASCII terminals, with subfiles and DDS-described help formats and user definable panel groups being supported in later releases. It supplies a full set of standard menus and supports use of system request key to interrupt an interactive job. Unibol/400 is currently in beta test and will move into controlled release later this year depending on the product stands up and the level of functionality adequate to support complete application suites, with general release expected in during 1995, by which time it will have been renamed because IBM has apparently copyrighted all "/400" suffixes. Unibol was established in 1979 as a software services company under the name Software Ireland and was bought by Atlanta, Georgia-based Unicom from its owners, the National Westminster Bank Plc, in 1993 when it was renamed. Ian Graham, vice-president of sales and marketing, said that the company has no plans to move into the services market as it see its as a risky business, and he is "not convinced that it's all its cracked up to be."

Software products that users want

Instead it believes in focussing on the software products that users in the market want today, making use of currently available technology, by developing products such as the new Unibol/400 rather than simply developing technology for its own sake. Other products it has on offer include Unibol/36 which enables System/36 users to convert their applications to Unix, based on the idea that it saves on re-engineering and new staff training and offers benefits of Unix price-performance; and its Unibol Desktop, which went into beta test last November, and is a tool that links host-based applications to their own icons on the Windows desktop.

HP GENERATED \$50m IN RUSSIA LAST YEAR

Hewlett-Packard Co turned over \$50m in Russia during 1993. Russia general manager Nick Rossiter says that, based on sales during January and February 1994, turnover this year is likely to be in excess of \$100m. Some 75% of Hewlett-Packard business in Russia comes from personal computers, peripherals, Unix and other multi-user systems, the remaining 25% from medical, analytical and measurement equipment. Yves Couillard, Hewlett-Packard general manager of international sales says, by June 1994, he hopes to have received full approval to up-grade the company's presence in Russia. Hewlett-Packard will change its legal presence from a representative office to a full subsidiary and open several new regional offices. The Moscow office has already hired three new line managers to be responsible for personnel, finance and logistics. Couillard says the company's most serious problems at present are delivery times to Moscow. He says they are too long since many shipments are still going through an intermediate despatching centre in Vienna. By incorporating Russia into a centralised European distribution centre, he says Hewlett-Packard is committed to halving delivery times to Russia.

AVS HAS NEW OBJECT DEVELOPMENT ENVIRONMENT FOR TECHNICAL MARKET

Advanced Visual Systems has duly launched its new object-oriented application development environment for the technical market, AVS/Express (UX No 481). The product comprises several elements. The Network Editor is a visual programming environment, which displays an application's structure in flowchart-like graphics. It also enables users to add AVS/Express and other internally-developed object libraries for user interface, graphics, imaging and visualisation functions without needing specialised graphics programming skills. Other code such as C, C++, or Fortran subroutines can be encapsulated and integrated for use within Network Editor too. Object Manager, on the other hand, manages the application by defining data, functions, and data access as well as scheduling and executing functions. It provides the application's run-time environment, but also acts as an insulating layer between different hardware and operating systems. Furthermore, AVS/Express includes a Data Visualization Kit, an Image Kit for image processing, and a Graphics Display Kit for displaying data. These can be incorporated into an application via the Network Editor, while a User Interface Kit enables developers to build their own Motif or Windows front-end. The product is targeted at such application areas as medical imaging, financial modelling and geographical information systems. It is scheduled for release this quarter, and costs \$18,000 for a Unix workstation-based developers licence, \$4,5000 for each additional seat. Windows NT, Intel and DEC Alpha-based personal computer versions should be available later this year.

NESTOR ENHANCES NEURAL NESTORREADER

Providence, Rhode Island neural networking pioneer Nestor Inc announced release 2.0 of its NestorReader, describing it as a comprehensive set of intelligent character recognition tools for the OEM market and for integrators providing database fulfilment solutions. NestorReader enables automated entry of machine- and hand-printed information from faxed and scanned forms, and offers C-level access to systems that use character and word segmentation for accuracy, with the ability to set field-specific context and provide user dictionaries. It performs document alignment, de-skew, form removal and noise removal and discriminates automatically between hand- and machine-printed characters. NestorReader 2.0 runs under Windows, MS-DOS, OS/2, and SunOS, Solaris and AIX Unices. It is available now costing \$3,000 for iAPX-86 versions and \$7,500 for Unix workstation versions. Nestor also announced N'Route, a Windows utility that enables automatic routing of scanned images or incoming facsimile messages on electronic systems. Documents can be routed by simply printing the recipient's name or identifier on the document and dropping it into a scanner or fax batch, Nestor claims. The document image is attached to a mail message and delivered to the recipient via mail systems such as Lotus Development Corp Notes using cc:Mail or Windows for Workgroups using Microsoft Mail and N'Route includes the same capabilities as NestorReader. N'Route provides the system manager with routing logs and is password-protected; out next month, it's \$2,000. And the company has come out with OmniTools 1.0, which offers access to the intelligent character recognition tools of NestorReader 2.0 through Microsoft Corp's Visual Basic and a variety of macro lang usages, including Visual Basic for Applications. It says it enables machine reading applications to be developed from Access, Excel, Fox Pro, 1-2-3, Paradox, Word and the like without C programming. It offers the capabilities of Nestor Reader in a Dynamic Link Library and costs \$3,000 this month.

UNIFACE OFFERS NEW IBM DATABASE LINKS

With IBM Corp, Uniface Corp - now owned by CompuWare Inc - has developed an interface linking its Uniface database development system with DB2/6000, DB2/2 and host servers. The company says it allows transparent and simultaneous read/write access to AIX DB2/6000 and OS/2 DB2/2, support for DB2 features, database application building for AIX/Motif and OS/2 Workplace Shell interfaces, database applications linking Unix, DOS and Windows clients to DB2/6000 and DB2/2 servers over LANs and gateways to other IBM databases. A DB2/2 driver is \$570, the DB2/6000 driver goes from \$1,500 to \$20,000.

SAG AND X/OPEN GET TOGETHER ON DATABASE ACCESS

The SQL Access Group and X/Open are jointly drafting a specification to expand and unify client database access across distributed environments. The two industry standard groups plan to couple X/Open's Transport Interface, which provides a neutral communications interface for database access over TCP/IP, with SQL Access Group's RDA protocol. (RDA was originally part of the OSI protocol standard). The bodies claim that TI-RDA would provide a uniform way for over-the-wire interactions between applications, instead of vendors supplying add-on proprietary gateways for wire protocol translation. The SQL Access Group says a specification should be completed and generally available by the end of the year.

STREAM DRUMS-UP \$11m FOR EMBEDDED CHORUS MICROKERNEL DEVELOPMENT

A consortium of telecommunications companies, real-time systems vendors and microprocessor manufacturers will this week announce they are starting work on a \$11m project, STREAM, to develop a range of Chorus microkernel-based real-time and distributed operating systems for the embedded market. The project is backed by the European Union's Open Microprocessor Initiative, and members include Chorus, Alcatel, Ericsson, Philips, Siemens, and GEC Alsthom. Matra MHS, which builds the 32bit Sparc microcontroller 90C700 family, and Advanced Micro Devices, which makes the 29K RISC and E Series x86 CISC processor ranges, will provide their fellow members with ready-to-use hardware, but additional ports are planned. The aim is to deliver portable and scalable real-time microkernels and related development tools to the telecommunications, networking and real-time embedded markets within two years. The microkernels will have application programming interface support for Posix, networking, distributed configurations and Unix, and will be made publicly available. They will be marketed by Chorus Systemes SA, and STREAM members also intend to integrate them into their respective product ranges. Target applications include private branch exchanges, broadband communications systems, switching and internetworking equipment, on-board software for high-speed trains, personal digital assistants, interactive TV and video games. + 33 1 30 64 82 00.

VISIGENIC OFFERS ODBC API FOR UNIX

San Mateo, California-based Visigenic Software Inc has licensed Microsoft Corp's ODBC (Open Database Connectivity) source code to provide the first, it claims, ODBC application programming interface for Unix environments. According to Visigenic's CEO, Roger Sippl, former founder and chairman of Informix Software Inc, the firm's implementation of ODBC will allow applications to access both relational and non-relational databases irrespective of their origin (that is from an Oracle, Sybase, DB/2, Informix or Ingres engine). At present, he says, database vendors provide their own proprietary ODBC interfaces, which will only allow applications to access Microsoft databases from within that environment. Under the terms of the agreement, Visigenic has gone to Redmond for the rights to Microsoft's ODBC SDK 2.0, the latest version of the interface - which has yet to be officially announced. It is currently porting the ODBC Driver Manager to Unix and is working on its own ODBC SDK for application development. The kit includes the Driver Manager, header files, sample programs and utilities such as on-line transaction processing support and fault tolerance functions. Visigenic's SDK goes in to beta test next month. It will be available either as a module to the company's application development environment or as a standalone product by the end of the year, the company says.

IBM SETS POWERPC 620-BASED SYSTEM/36 FOR THIS YEAR

IBM Corp has finally given up on trying to persuade the 100,000-plus System/36 shops still out there to upgrade direct to the AS/400, and rather than lose them to Unix, it is preparing a new PowerPC-based System/36 model for launch later this year, the May issue of our sister publication *IBM System User* reports. The new 36 is built around the forthcoming PowerPC 620 64-bit RISC processor that is also being tailored for use in the next generation of AS/400s, which are planned to be launched a year from now. But the new 36 will run only the System/36 System Support Program, SSP, operating system - although it will be upgradeable to the planned PowerPC-based AS/400. Research suggests that there may still be over 200,000 System/36 machines still in service, but many are running old applications in shops that also have AS/400s installed, and a substantial proportion of the all-36 shops have multiple System/36s.

ICL HAS ENGLISH VERSIONS OF FUJITSU'S OBJECT DATABASE, DEVELOPMENT TOOLS

ICL Plc will debut English-language versions of the Intelligent Pad object-oriented visual programming tool and the ODBII object-oriented database, developed by parent company Fujitsu Ltd, at Object-World in the UK in June. Intelligent Pad has been available in Japan since the end of last year running under Microsoft Corp Windows, but the ICL version also supports SunOS, Solaris, Macintosh and the Progress Software Corp database. An HP-UX port is planned too. The idea is for developers to build objects or "pads" on screen, which each represent different functions - displaying pie chart data, for instance. Pads are joined together by dragging them on top of each other to create a more complex application, which, the firm claims, can be decomposed just as easily. Any object, including Microsoft's OLE, can be represented as a pad, and users also have the option of encapsulating and developing C++ pads. ODBII, meanwhile, was born out of Fujitsu's Jasmin project, which began in 1988, and finally emerged on the Japanese market in February 1994. The product is described as a hybrid between relational and persistent language database models because it offers full query support via an ObjectSQL-like interface. It can also link up to all the relational databases. ODBII is targeted at configuration management, engineering and spatial design and multimedia applications, and runs on SunOS, Solaris and ICL's DRS/6000s. Windows NT support is planned for next year. The Japanese version links into Fujitsu's own tools, but C and C++ APIs have been added to the ICL version. ODBII includes interfaces to Intelligent Pad and ICL is also talking to Delft, Holland-based Westmount Technology BV about integrating its I-CASE object analysis and design tool with the database. Both products are scheduled for release sometime this year. Meanwhile, ICL finally started shipping its DAIS object-oriented development and integration environment last week (UX No 457). A PC development licence costs £5,000 - runtimes are £200. Unix versions are £30,000 and £1,600 respectively, and VME costs £60,000 and £6,000 respectively.

INTERGRAPH GETS UNIX-TO-NT FILE SHARING GOING

As well as launching three new single and dual 90MHz Pentium-based members in its TD technical desktop personal workstation family, Huntsville, Alabama-based Intergraph Corp has introduced a pair of long-awaited Network File System (NFS) programs for Windows NT, plus an X Windows system server, all developed jointly in a program with SunSelect. Intergraph says the new code allows full file sharing between NT and Unix workstations and networks. It includes a pair of programs, PC-NFS for Windows NT and DiskShare for Windows NT, both said to be multithreaded, kernel mode applications. PC-NFS enables NT workstations to access Unix, VMS and mainframes. DiskShare lets NFS clients access NT-based servers. The X windows program, dubbed eXalt for Windows NT allows Intel systems running NT to use X-based applications residing on a network. While the stuff is available to anybody who needs it Intergraph's compelling reason to have its own NFS software for NT is simply the fact that the vast majority of Intergraph customers are still in the Unix world, and of course Intergraph itself has staked a good part of its future on a port of virtually all of its offerings to NT. SunSelect's participation in the project also has interesting implications for the future, once the port of Windows NT to the Sparc architecture is complete. Price of the new Intergraph PC-NFS code is \$400, with an introductory price of \$200 until June 1. The eXalt code costs \$500 per copy.

SOLBOURNE ENDS SPARCSYSTEMS MANUFACTURE, FIRES 65%

After getting through considerable development funding, Matsushita Electric Industrial Co affiliate Solbourne Computer Inc, Longmont, Colorado has finally thrown in the towel on its Sparcstation- and Sparcserver-compatible business. It is also cutting its workforce by 65%. The Japanese firm provided two tranches of investment to Solbourne, the first about \$52m. Solbourne now intends to pursue its new plan of reselling Oracle Systems Corp financial software. It will continue providing service and support - from Grumman Corp's Systems Support Unit - to its installed customer base and will supply products to customers wanting to expand or upgrade their systems. It is also in talks with Sun Microsystems Inc on reselling Sun servers.

SPEC 1170, POSIX, XPG, MULTIPLE CLIENT SUPPORT - THE UNIXIFICATION OF AS/400?

By William Fellows and Tim Palmer

In the new version of OS/400 - 3.1- for AS/400 - see front page - SQL/400 now comes bundled, and instead of forcing users to write stored procedures for the database in a proprietary language like all the independent database vendors require, these can be written in any AS/400 language - the new Integrated Language Environment C launched last year, RPG/400 - and there is a new IBM Visual RPG coming in the Integrated Language Environment, or Cobol, also set for a facelift. Database input-output performance has also been improved. But the most dramatic changes are in the planned embracing of almost everything Unix. In the new 3.1 release of OS/400 native SNA support is three times faster, and TCP/IP support for personal computer clients - in a new Client Access bundled with OS/400, with support for Windows, Macintosh System, Unix and OS/2 clients - runs eight times faster, and is claimed to match SNA performance. A new 66MHz full 80486 co-processor board can be added to the new models to provide a full OS/2 LAN Server capability for client personal computers - OS/400 loads the server software and dedicates disks to the server. One day - second half 1995 is the current promise - OS/400 will be able to load NetWare on the board in the same way. IBM started out by holding off on any C compiler for the AS/400, then deliberately came out with a very poor one in an attempt to keep the Unix hordes at bay, but the company has now completed the volte face initiated with the new C and is actively wooing Unix developers to include AS/400 in their plans with a promise that OS/400 will eventually deliver Spec 1170 APIs in phases, basic Posix compatibility, OSF Distributed Computing Environment support, and X/Open Co Ltd XPG. In the future, Workplace OS will offer multiple personalities under OS/400 (including Taligent), so you will be able to have an OS/2 or Unix file system on the machine. This latest AS/400 software effort runs to some 3.5m lines of new code. Meanwhile, New Jersey firm Information Management Co is putting its implementation of Tuxedo up on the systems and IBM is working with SAP AG to convert SAP's R/3 application to the new boxes.

Nineteen become four

The thing that will matter most to users is of course price, and IBM has bitten the bullet with the new hardware and software: OS/400 pricing will be user-based, much separately-priced software will now be bundled, and with the new hardware, IBM is claiming a 20% performance improvement and a 40% price-performance improvement. The existing nineteen different software pricing groups are reduced to four. Users will be charged at one of these four levels according to their processor, plus an amount for each user. Processor group charges for RPG, Cobol and C are \$2,000 each at the low-end, \$18,000 on high-end systems. IBM says users will typically pay the same as they do now except at the low-end where there will be savings. Most of the new software - some 3.5m lines of code according to the company - ships in early versions on August 19th with general release set for the fourth quarter, though some, including Cobol and Multimedia Mail, is set for March 1995.

From 100MHz to 500MHz and beyond - eight-ways expected

On the hardware front, confusion reigns: for no explicable reason, IBM has replaced the old numbering system with an impenetrable new one. There are four series - 200, 300, 310 and 320. The processor board now becomes a Feature Card, each tagged with another impenetrable number. The 200 has three Feature Card options, the 300 has three, the 310 has two, the bigger being a two-way; the 320 has one, two and four-way Feature Cards, the last being a repackaged Model 97. True support for SCSI peripherals is still lacking. Packaging is important: it is cheaper for IBM and more compact for the user, and the machines will run off a 110V mains supply where their predecessors needed 220V. There have been four CPU changes since the AS/400's launch in 1988 - and no recompilations, according to general manager David Thomas. The new models use existing 100MHz, 64-bit architecture - CMOS at the low-end, BiCMOS on the larger systems - and all but B models are upgradable to the new ones - out next month - which in turn will be upgradable to the 64-bit PowerPC 620 RISC sometime around next summer. The systems have been designed to evolve into 400MHz to 500MHz units and could potentially accommodate 1GHz arrangements, according to IBM. The boxes support up to 1.5Gb RAM and 259Gb disk and 4,800 workstation clients. Up to seven AS/400s can be strung together. The new AS/400s start at \$9,000, and the top model, equivalent to an AS/400 Model F97, costs \$673,000-odd where the F97 had a list price of \$1.2m. IBM reckons 50% of the 260,000 AS/400s installed are doing file serving. It claims 32 patents out on the box and is beginning a \$30m ad campaign for the new models. R&D spend on the PowerPC effort has been some \$1.5bn. AS/400 revenues were down slightly over last year, and are between \$3.5bn and \$4.5bn, depending on which analysts you listen to. Profits are estimated at \$1.2bn on the line.

WHERE ARE IBM'S POWERPC PCs?

It was intriguing that - in echoes of John Akers and his exasperation a few years back at the non-appearance of Token Ring - that in a recent interview with *Der Spiegel*, Louis Gerstner should let slip his frustration over the fact that Apple Computer Inc had got to market with PowerPC-based machines before IBM Corp, which created the chip. So why are the IBM PowerPC personal computers so late? It can't be technology, because IBM's task in creating a desktop version of AIX for the machines was trivial compared with what Apple has achieved, so it would seem to be political, with arguments raging within IBM over how the thing should be priced, and what hot features should be bundled in the price. The delay strongly suggests that there is still someone - or a group - within IBM's topmost brass that doesn't believe in the new machines at all, and wants to ensure that they are fatally handicapped - as the mainframe people largely succeeded in doing when the AS/400 was poised to scale the heights a couple of years after its launch, and as the AS/400 people in turn have done to the RS/6000.

ORACLE INTEGRATES DCE SECURITY

Oracle Corp has announced it is integrating OSF's Distributed Computing Environment (DCE) security features with Oracle Secure Network Services, a new network data encryption product which provides information security across client/server environments. Secure Network Services, which works with the firm's SQL NET product, incorporates RC4, MD5 and Diffie-Hellman encryption technologies from the RSA Data Security standard, as well as the firm's own DCE Adapter. The DCE Adapter integrates elements of DCE's security and location transparency functions with Oracle's Oracle7 database, which will allow developers - operating in a DCE environment - to integrate authentication, authorisation and encryption capabilities of DCE with Oracle clients and servers. According to the company, this provides users accessing different Oracle servers in a distributed environment with a single log on facility. In addition, the DCE Adapter also provides authentication services for groups of users who have already been assigned to DCE's Security Registry by mapping those groups to database roles. In this way authorisation for classes of users and systems administrators can be managed from a single location whether they are database or DCE specific. Oracle Secure Network Services and DCE Adapter are both in beta test and are scheduled for release in the Autumn. The product works with Oracle7 and Trusted Oracle7. Support for other relational databases is provided via gateways. Meanwhile, Oracle has also unveiled ITSEC E3 and TCSEC C2 security certification for Oracle7 release 7.1, which is expected to ship in the next few months.

IONA RELEASES ORBIX 1.2

Iona Technology Ltd has a new version of its Orbix object request broker, which can dynamically load objects at run-time via its Object Loader function - this is said to make it easier to integrate Orbix applications with existing databases, from flat file to relational to object-oriented ones. The Interface Repository in version 1.2 now also operates as a dynamic browser, and is populated with all the objects or services that are available at runtime, which means a program can learn about new types and functions as they become available. Orbix 1.2 supports SunOS, Solaris, Silicon Graphics' Irix, and HP/UX and costs \$5,000. Runtime licences for Unix versions cost \$100 per seat, while the Windows NT version costs \$1,000.

HP EXCELS IN DESKTOP PERFORMANCE, DEC IN DESKSIDES, CRAY AND SGI IN SMP

BENCHpress Quarterly's latest SPEC performance benchmarks show that on the desktop, Hewlett-Packard Co's latest 125MHz HP 9000 7x5 (UX No 480) has clear SPECint92 and SPECfp92 leads over DEC's 3000/600 workstation, in second place. Then comes the 99MHz HP9000 7x5, ahead of Sun's new 60MHz SuperSparc-driven Sparcstation 20, Silicon Graphics Inc's Indy R4400 Indy, then its Indigo2, the 80MHz HP9000 7x5, DEC's 2000/500, 2000/400 and the IBM RS/6000 370/375. The first three boxes each offer over 100 SPECint92 and 150 SPECfp92 (201 SPECfp92 for the 125MHz HP machine). On desktide systems, HP's new compilers helped it increase its presence: the top eleven reads DEC 7000/610, 3000/800, 2100/A500MP, 4000/710, IBM RS/6000 590, DEC 3000/500X, HP9000 800/x60, 755/99, 800/x50, RS/6000 580H and SNI RM430/540. Cray Research Inc's 32-way Sparc SuperServer (with 64-way coming) and DEC's SMP OSF/1 implementation helped re-jig the symmetric multiprocessing SPECrate_int92 results (for those companies that perform testing). In 32, 24, 20 and 16-way implementations, the Cray SS6400 tops the list, in first, second, fourth and seventh spots respectively. Silicon Graphics Inc's Challenge XL using 32, 28, 24, 20 and 16 R4400 CPUs occupies third, fifth, sixth, eighth and ninth places. Sun's 20-way SparcCenter 2000 gets a look-in at 10th place, followed by HP's 12-way 9000 T5 Emerald at 11th. DEC's six-way 7000/660 makes the 14th spot - the new four-way AXP2100 A500MP Sable hits at 22nd. IBM has yet to publish PowerParallel or SMP RS/6000 results. HP should be able to step up its presence when the 125MHz PA 7150 makes into the Emerald servers. The newsletter's multiprocessor performance and scalability indicator, which considers a systems' overall efficiency for scaling processors, has Data General Corp out ahead, followed by DEC, HP and Sun.

ENCORE SETS FIRST ALPHA RISC-BASED REAL-TIME UNIX MACHINES FOR AUGUST

Encore Computer Corp announced its first foray into the Alpha RISC world, billing it as the next phase in its real-time computing strategy. The phase extends the Encore Infinity R/T family by incorporating Alpha AXP processor-based models and enhanced Reflective Memory communications capabilities. Encore will extend the Infinity R/T line to include new low-end and high-end models based on Digital Equipment Corp's Alpha AXP processor, with detailed announcements to be made on May 25 and volume shipments to start next quarter. The Open Reflective Memory technique will be used to connect multiple AXP processors, providing "unprecedented computing performance and scalability". The technique will also be used to couple Alpha AXP systems to existing Encore systems irrespective of processor type and to provide real-time coupling between any Encore system and systems from other vendors. Reflective Memory links processors in real time with data transfer speeds greater than 50M-bytes per second - and DEC has also licensed it.

SYBASE INTEGRATING DCE WITH OPEN CLIENT APIS

Sybase Inc says it is working on integrating OSF Distributed Computing Environment with Open Client, its client-based application programming interface, to provide enhanced desktop networking and distributed computing capabilities. Open Client currently comprises the API itself, for third party product integration with Sybase's database, SQLServer; a set of network protocol drivers which support TCP/IP, NetWare, DECnet and others; and its own network protocol, TDS (Tabular Data Streams), which is used to traffic information between SQLServer clients and servers. According to Sybase, DCE support will be added to TDS and it is currently developing a set of DCE drivers to support DCE security services, DCE timing functions and DCE remote procedure calls. All drivers will be available separately. Sybase is expected to officially announce DCE support in the August/September time frame. Meanwhile, database rival Informix says it is also working on integrating parts of DCE with On-Line, its relational database, for networking purposes only.

MICROMUSE LEAPFROGS TO NETCOOL 3

Micromuse Ltd has decided to leapfrog the development of NetCool One, its static configuration and asset management software (UX No 452), to come out with NetCool Three for systems and network management in the third quarter. NetCool One's hardware-based functionality will simply form a subset of NetCool Three. The London-based Sun reseller claims there was only a matter of three or four months development time between the two releases, and so decided to focus on managing applications dynamically, as that is where prospective customer interest lay. The ability to drag and drop an application from one machine to another will also be included at a later date, it adds. The firm reckons it can generate revenues of about £500,000 from NetCool in the first year alone on the back of interest shown in existing customer sites. It is currently also in the process of bundling a set of Sun NetManger utilities it developed internally for existing clients to create NetCool Utilities. Such utilities include the ability to link various copies of the application together to create one multi-user version, which means an action undertaken on one version of NetManager will register on all other copies, for example. The product should be available this quarter for about £5,000. Micromuse has also just started shipping LegacyWatch, a graphical software development tool that manages non-SNMP-based environments from SNMP-based systems via intelligent agents. LegacyWatch costs approximately £20,000, and the firm already claims to have generated £50,000 worth of sales from it. All of the above products run under Solaris 1 and 2, but the company is in discussions with other vendors about other ports. It expects to turn over between £12m and £13m this year, about 15% of which should come from mainland Europe. Micromuse is currently also exploring ways of getting into the US market via its US venture, Acronym.

AGGREGATE DEBUTS NETSHARE SDK

Minneapolis, Minnesota-based Aggregate Computing Inc has started shipping its NetShare Software Development Kit, which enables programmers to distribute and run application tasks across multiple networked Unix machines. NetShare comprises development tools and utilities, administrative tools and a distributed processing engine. Developers use the tools to create a set of directions for the NetShare manager, which identifies appropriate hosts and gives the processing work to the NetShare task manager. This sends the tasks to the hosts, executes them and returns the results to the original computer. The product runs on HP-UX, AIX, and Solaris linked via TCP/IP networks. Support will also follow for Digital Equipment Corp's OSF/1 and Data General Corp's DG/UX. The SDK costs \$20,000, while the target host software needed to deploy the application costs \$1,000 per computer. + 1 612 546 5579.

SUNSELECT DEBUTS PC-NFS 5.1

SunSelect has introduced version 5.1 of its PC-NFS personal computer-based connectivity solution which allows PC users to access data on Unix, VMS or IBM mainframes over TCP/IP from DOS or Windows. SunSelect says 5.1 can be installed in a single step and that the need to separate installation programs for Windows has been eliminated. It uses Dynamic Host Configuration Protocol for automatically configuring clients and supports Domain Name Service in addition to its NIS Network Information Service. SunSelect says PC-NFS 5.1 allows users to access Internet from individual PCs. It comes with a new interface for Windows Telnet and expanded printer support. Prices go from \$325 per user.

SALIX OFFERS HAS DOCUMENT MANAGER

Self-styled silicon prairie start-up, Salix Systems, Schiller Park, Illinois - the wholly owned subsidiary of Western Printing Machinery - has announced its DocStor document management system for Sun users priced at \$1,400 per concurrent user in a 25-user set-up (UX No 475). Using a Motif front-end DocStor allows all kinds of files to be accessed in the same way regardless of original medium, format, size or location and is claimed to recognise documents created in any application form - word processors, spreadsheets, databases, scanned, colour or mono images. Administrators can set DocStor to automatically distribute files across the network without having to NFS mount the sites. A text search system is optional. DocStor will go through resellers. +1 708 678 5600.

CLIENT-SERVER IS MORE COSTLY THAN THE MAINFRAME, SAYS GARTNER

Managing enterprise-level applications with client-server technology is not only more complicated but also substantially more expensive than through centralised computing, according to analyst the Gartner Group Inc. And the market is set to change rapidly over the next four years, says Gartner. Client-server middleware, rather than the mainframe data centre, will become the strategic foundation of enterprise computing architectures, and object orientation and message-based technologies will be at the centre of this change it reckons. According to Peter Schay, vice-president and service director of the Gartner Group, data processing managers are still underestimating the cost of client-server computing. "We do not believe that in general client-server is down-costing. Other forms of downsizing may be, but client-server is expensive," he said. "When you have personal computers on users' desks, on average a typical personal computer user spends half an hour per week as a part-time amateur systems manager - installing software, reconfiguring, back-ups - and that is extraordinarily expensive". Schay said he reckoned that a client-server environment generally costs around £40,000 per user over a five-year period. Key to client-server development, according to Gartner, will be object technology - provided data processing staff are sufficiently well-trained - and what Gartner calls message-based middleware. By this it means technologies for remote data management, enabling mobile users to connect with the host at intervals to update information. "It's still client-server because the application doesn't complete its work until the change has taken place," said Schay. This trend, he said, will limit the long-term usefulness of Remote Procedure Call technology. According to Gartner analyst Charlie Burns, another major trend with client-server is for user departments to put servers into data centres, looking for centralised management of their systems to save costs. "If you compare client-server with the classic mainframe system, we haven't found an environment where the mainframe costs more. The mainframe approach is always less expensive, but you get less for it," he says. "The bottom line expenses for organisations are going up, but they're hidden. But at some point the folks in accounting are going to wake up to this and then all hell breaks loose". Burns said that organisations are gradually cottoning on to the fact that client-server is not an answer to all ills. The US, as so often, took to the new technology before Europe did, and some of the problems are beginning to be publicised there. "As more and more of these facts come out, it should slow down the blind rush," Charlie Burns forecasts.

MOTOROLA LAUNCHES OWN POWERPC MICROCONTROLLER LINE

Motorola Inc's first solo contribution to the PowerPC family is the RMCU500 family of microcontrollers, designed for embedded control applications such as automotive engine control, cable television set-top boxes and computer peripherals. IBM Corp has given too few details of its 403GA PowerPC microcontroller for detailed comparisons to be made, but the two parts are aimed at some of the same markets. Motorola's first product is the RMCU505, a 32-bit microcontroller with a core architecture powered by a single-issue PowerPC CPU. It is rated at 25 MIPS and should go to 40 MIPS by the end of next year. Motorola is working with Kaleida Labs Inc in Mountain View, and Scientific-Atlanta Inc, Norcross, Georgia on development of next-generation digital home communications terminals based on the new line. The RMCU500 line uses a modular design methodology similar to the MC68300 and MC68HC16 families of microcontrollers and the proprietary Inter-Module Bus developed for the 68300 family will be added to the RMCU500 Family so that Motorola can mobilise its extensive libraries of peripheral circuits. The RMCU505 has an on-chip 4Kb instruction cache, which can be used as high-speed storage for program instructions and 4Kb of static RAM for storage of working variables. An on-board System Integration Unit enables integration with external memories, other CPUs and peripheral devices. It includes 12 programmable chip selects to simplify interface to external peripherals, an interrupt controller with 32 interrupt sources, and 16- and 32-bit programmable bus sizing. An on-chip, single- or double-precision floating point unit handles some kinds of graphic-intensive applications.

DEC "IS A SITTING TARGET AT \$2,500m"

When the function of a Wall Street stock analyst is seen to be to give the firm's sales force a story on which to sell shares rather than to be right about the fundamentals of a company, it is often a drawback to be too bright and rigorously analytical. Stephen Smith at PaineWebber Inc has for some time been a confirmed bear of IBM Corp, believing that superficial improvements mask still deep underlying weaknesses that still haven't been addressed. That doesn't do him much good when he puts out a bearish note and the wishful thinkers pay no notice and drive the share price up. Smith now says that Digital Equipment Corp shares are now so bombed out that the company is a glaring bid candidate. He has upgraded DEC to a buy from a neutral, saying it is vastly undervalued and at this price - the market capitalisation is a derisory \$2,500m and there must be people out there that reckon they could take more costs out of the business than incumbent management has done. "Either their stock goes up or they are (an acquisition target)," Smith said. "This is a \$13 billion company selling at a market cap less than Silicon Graphics Inc." He points out that the parts of DEC are separately worth more than its current price and that the cash flow from the company's services business alone is higher than its current stock price - the PC company and the disk drive company are each billion dollar-a-year businesses.

COMMODORE THROWS IN THE TOWEL

Home computer pioneer Commodore International Ltd has given up on the unequal struggle and has set in process an orderly liquidation of its assets. The final straw for the West Chester, Pennsylvania company - whose long-promised Unix Amiga desktop never really made it out after so many years of being previewed at shows - was poor sales of the Amiga CD32 video games machine, which sold poorly in Europe, where Commodore has been doing most of its business of late. The liquidation leaves a horde of orphaned Amiga users: a decade ago, the machine already offered many of the multimedia features that are only now becoming commonplace, but Commodore never won a critical mass of applications for it.

AT&T/NOVELL TEAM ON NETWARE CONNECT

In the next step in its campaign to achieve a vast expansion of the data it carries on its telephone network, AT&T Corp has teamed with Novell Inc to offer AT&T NetWare Connect Services, providing a more straightforward means for users to extend their NetWare local area networks over phone lines, sending and receiving data and facsimile messages and linking networks, and tie mobile users into their company network back at base. The new AT&T NetWare Connect Service will underpin the agreements with Xerox Corp on document transmission and with Lotus Development Corp on Notes. The service will support Novell's IPX and the Internet's TCP/IP protocols, and users will be able to connect through AT&T's InterSpan Frame Relay Service remote access through InterSpan Information Access Service with dial-up option, and via AT&T's EasyLink electronic mail system.

BT CLARIFIES STATUS OF VIDEO-ON-DEMAND

British Telecommunications Plc's technical trials for video on demand services, which went live in Ipswich, Suffolk, on March 1 (UX No 477), will continue until the winter, after which they will be followed by more widespread marketing trials. Some 70 BT engineers can now access old television programmes via Apple Computer Inc set-top boxes, hooked up to a 64 processor-based nCube Corp Model 10 massively parallel machine running Oracle Corp's Media Server. BT will make another open tender for vendors to supply it with kit for the marketing trials, and will provide about 2,500 people (UX No 471) with movies, TV programmes, and home shopping facilities. These trials will last for about one year.

CONTROL DATA HEADING FOR INDIA

Control Data Systems Inc, now largely a software and systems integration firm, is looking for a partner in India, and it is likely to go with DCM Data Products - an offshoot of the conglomerate that used to be called Delhi Cloth Mills; the unit has renamed itself DCM Data Systems, but two state bodies, Electronics Corp of India Ltd and Computer Maintenance Corp, one of the leftovers when IBM Corp pulled out of India in a huff in the late 1970s, are also seen as possibilities. DCM has a software unit based in the US, which works predominantly on projects for Control Data.

APPLE'S HIGH-END SERVERS FOR NEXT YEAR SWIM INTO FOCUS

Apple Computer Inc is hard at work on its second generation of PowerPC Macintoshes under the TNT code name for launch next year, and *MacWeek* now hears that they will be aimed at all power users, not just at audiovisual users, because Apple has discovered that many people buying its AV models have been doing so simply because they wanted the fastest Mac available, not because they were multimedia junkies. The paper hears that one will be designed for tasks such as mathematical modelling and handling complex relational databases, expected in the first quarter of next year, and the other as a graphics workstation arriving a few months later. Despite the superior performance, they are currently expected to use the existing 80MHz PowerPC 601. Both will use the Peripheral Component Interconnect for their expansion buses where the initial models use NuBus. The high-performance configuration will come with built-in video, but the graphics workstation model will not, although it will support a range of video boards. Apple is said to have submitted its vision of a PCI-based video board to several manufacturers and asked for bids for making the board under the Apple name. The company is working on application-specific integrated circuits to enhance performance, but it is not certain which will go onto the motherboard and which on the video boards. Chips include one to improve the rate at which the Mac can perform digital-to-analogue conversion to increase QuickTime encoding and decoding by perhaps 30% over the current software version. Another is expected to be dedicated to speeding most drawing tasks so that many operations, including menus popping down and simple colour animations will happen more quickly. The planned three-dimensional extension to QuickDraw is expected to get its own accelerator chip, with a private cache independent from the rest of the system for high-end, high-speed three-dimensional graphics manipulation. And they are tipped to have an internal Apple RISC Bus as well as Peripheral Component Interconnect, to link the CPU with caches and main memory; a new chip is said to be being designed to bridge the two buses and maintain performance.

IBM WINS SUPPORT FOR POWERPC IN CHINA DEAL

IBM Corp announced last week that China's electronics ministry had officially endorsed the PowerPC RISC architecture as part of a broad-brush agreement that could lead to investments of up to \$100m. A broad memorandum of understanding signed last Thursday in New York will also raise IBM's profile in China's telecommunications market. The deal commits the Ministry of Electronics Industry to introduce PowerPC technology and products in China and developing supporting software. The ministry noted that it had no similar agreement with Intel Corp - because all microcomputers in China already use Intel chips," a spokesman told *Reuters*. Under the memorandum, IBM becomes a "networking consultant" to the ministry on China's three "golden projects" - nationwide data networks for information exchange, credit card business and customs - and forms a networking joint venture. The agreement commits IBM to allocating \$100m in capital and project expenses over two years - the venture, with ministry-affiliated networking company Jitong Communications will alone require several million dollars of IBM capital, although details are still being worked out. China is required to contribute investment and expertise, particularly for developing Chinese-language software for IBM computer and networking products. There was no demand for any expansion of IBM's manufacturing ventures in China or for any new ones to be set up. IBM will establish a software development centre in Shanghai, developing applications for export and domestic use. It will also open computer centres in the major cities.

ACROBAT TO SUPPORT LOTUS NOTES

As expected (UX No 485), Adobe Systems Inc and Lotus Development Corp are extending their agreement, and the next version of Adobe Acrobat will support Lotus Notes/FX (field exchange), allowing Notes users to search, modify and print documents distributed in Adobe's Portable Document Format (PDF). Acrobat enables a document created by any application to be distributed in PDF. The PDF retains enough characteristics for a printout to look the same as an original. Meanwhile, Acrobat is now shipping on Sun Sparc systems. The three components, Reader, Distiller and Exchange, go from \$18 each per 1,000-up or \$300 for a single license and \$7,500 for two copies, respectively.

R&O SOFTWARETECHNIK OPENS IN UK

R&O Softwaretechnik GmbH set up a UK sales and support operation in Newbury, Berkshire last month to distribute its shrink-wrapped Rochade CASE tool repository and related products. Rochade is written in a mixture of C and C++, and runs under AIX, OS/2, and MVS, SCO Unix and HP-UX. End-users can access the repository via Windows, X Windows and Presentation Manager-based clients concurrently. The Munich, Germany-based firm is also working on Motif support. At the server end, users can dynamically view and manipulate the metadata Rochade contains via Rochade Graphic, and also have the option to layer the Autopilot object-oriented graphical user interface on top to give them a Windows-like front-end. Rochade simply appears as an icon on the screen because Autopilot is able to launch actual Windows applications. Version 1.2 of the interface, due out in the third quarter, will also include facilities for process management and lifecycle control. Rochade Bus, meanwhile, provides developers with tool interfaces via which they can integrate Advanced Visual Systems Inc products. The Rochade product set costs between £50,000 and £200,000. R&O has approximately 370 customers worldwide, and generated turnover of about \$8.5m last year, of which its US subsidiary, opened in 1992, generated \$2m. The company, majority-owned by AAA Bavarian Bank, also has a marketing agreement with KnowledgeWare Inc, whereby KnowledgeWare can sell Rochade to its existing customer base. R&O is also looking for other partners to sell into such vertical markets as finance, manufacturing and defence. + 44 635 581 111.

IBM REPLACES PC CHIEF WITH TYRO

Robert Corrigan, president of IBM Corp's Personal Computer Co is taking early retirement, apparently because he was unhappy at moves to reabsorb the semi-autonomous business into the mainstream of the company - and IBM has appointed a computer industry novice to replace him. The new man is Richard Thoman, who was brought in by Louis Gerstner five months ago as corporate senior vice-president in charge of both the Personal Computer Co and the Power Personal Systems Division. The switch makes it appear that the company will put more emphasis on PowerPC-based machines at the expense of iAPX-86 ones; there is also a suggestion that it will devote more effort to the low margin consumer end of the business at the expense of the high-end systems and servers that Corrigan had been pushing. Gerstner and chief financial officer Jerome York have been criticising profit levels at the Personal Computer Co. Thoman was president of RJR Nabisco's Nabisco International division, and is described as a marketing expert who has worked closely with Gerstner since the two were at American Express Co.

MICROSOFT, TI TO TEAM ON REPOSITORY

As indicated in a newsflash *Unigram* posted to its electronic subscribers last week - paper editions were already on the presses - Microsoft Corp has turned to Texas Instruments Inc for help with its repository strategy for component-based application development. The two companies would work together to design a repository to develop complex applications for Windows and Windows NT; no licensing fees are being paid or no equity investments are involved. Texas Instruments also said it would deliver its Information Engineering Facility for client/server for Windows NT in the third quarter.

LEBANESE UNIX MARKET LABOURS UNDER 98% SOFTWARE PIRACY RATES

Unix came to the Lebanon just three years ago via Beirut-based Information Management Ltd, the number two software distributor there. Although business is tough - Lebanon's software piracy rate is estimated at 98% - the company has picked up around 30 users, from banks and supermarkets to hospitals. The company sells Motorola Inc 88000 boxes running Informix and Ingres databases - Sybase support is expected to follow soon too. It also distributes Liant ViewScape; ICL point-of-sale systems; Insync PCs; and Mannesmann-Tally GmbH printers. Founded in 1981, Information Management has between 35 and 40 staff, and expects to generate about \$2m this year, about half of which will come from Unix hardware and software sales. The firm also says it is supplying about 20% of the systems (Unix) needed to hook Lebanese banks up to the Swiss Network world fund transfer service. Some 20 out of 78 banks in the region have joined the scheme so far.

uni gram X

The weekly information newsletter for the UNIX™ community worldwide

The gossips are writing Robert Palmer's obituary: their latest word is that the **Digital Equipment Corp** president's resignation letter is all ready and will be delivered as soon as a new helmsman has been found to take over his foundering charge.

Chips & Technologies Inc anticipates making announcements soon on Macintosh PowerPC products.

Motorola Inc says it is now sampling the low-end PowerPC 603 microprocessor and that the parts will cost \$160 for the 66MHz and \$199 for the 80MHz for 20,000-up orders. Volume is planned for next quarter.

Mark Hatch, who used to run C++ marketing for **ParcPlace Systems**, has left to form the **Alpha Business Group**. His new company will focus on providing independent side-by-side competitive analysis of Unix software products for users and vendors. +1 303 666 6300.

Bob Cramer, **Centerline's** VP of marketing, quietly slipped away last week to become president and CEO of **Software Emancipation Technology Inc**. The company's former president and CEO, Russian emigre Vladimir Geisberg, has become chairman and executive VP responsible for products and service.

Larry Warnock, **Uniplex Inc** veteran and vice president of sales and marketing, has jumped ship to go to California start-up **Documentum Inc** as director of market development reporting to marketing VP Robert Reid.

The **Santa Cruz Operation** and **HP** are both going with the Reflection X PC X server from **Walker Richer & Quinn** internally.

Open Systems World, which includes Fed Unix '94, is set for November 28-December 2 at the Washington Convention Center in DC.

San Diego, California-based **Andataco** has formed a new Networking Division under Stan Galkin, who has assumed the newly created position of director, networking technologies.

Oracle Corp chief Larry Ellison is going to deliver the keynote at Unix Expo in October.

Joel Appelbaum, one-time president of **Univel Inc**, the UnixWare joint venture between **Novell Inc** and **Unix System Labs**, has turned up at vice president and general manager of the Storage Systems Division of Micropolis.

Boston firm **Open Environment Corp** will have version 2.0 of its OEC Toolkit application out by the end of this quarter, which allows Visual Basic, PowerBuilder, Smalltalk, Cobol and C++ developers to build GUI clients for server applications. OEC has DCE interfaces to most databases. +1 617 562 0900.

The **ASK Group** has signed a deal with **NEC Corp** to help market the Ingres database and tools in Japan.

ICL Plc will this week announce ports of its TeamWare groupware and TeamOffice office automation software to **Novell Inc's** AppWare environment. The two firms will unveil other joint product plans and ICL will reiterate its intent to do a Sparc port of UnixWare (UX No 477): it'll take UnixWare when version 2.0 finally arrives.

NeoSoft Inc's Firewall Extensions security software is now being sold as an add-on to **Berkeley Software Design Inc's** BSD/386 Unix-like operating system for Intel-based computers for those users wanting to access the Internet. Firewall Extensions software costs \$995. NeoSoft: +1 713 684-5969.

Micro Focus Plc has put its Cobol development and compiler software up on **Silicon Graphics Inc's** Indigo desktops and Challenge SMP servers - prices go from \$1,250.

Folsom, California-based **Objective Systems Integrators** is offering version 3.2 of its Net-Expert network management system for **Sun** users which runs in conjunction with Sybase, Informix and Ingres - support for Oracle, IBM, HP, DEC, SGI and Tandem Unix kit will follow later in the year. +1 916 353 2400.

Process Software Corp is to begin offering **AGE Logic Inc's** PC-to-Unix application package, XoftWare/32 for Windows, costing from \$400.

Insiders say pricing models for CDE are collapsing. In one case, a particular vendor's licensing scheme, originally set at \$1m, has reportedly been slashed to \$100,000. Vendors are said to be learning fast they just can't sell this type of file management software at premium prices. It's difficult to see CDE's \$30m development ever being recouped.

The **Maui High Performance Computing Center** in Hawaii is installing an 80-node **IBM PowerParallel SP2** which will go up to 400 CPUs later this year. It is IBM's largest PowerParallel win so far.

IBM Corp's CICS transaction processing monitor will be up under **Hewlett-Packard Co's** HP-UX and **Digital Equipment Corp's** OSF/1 on Alpha AXP hardware later in the year.

Siemens-Nixdorf Informationssysteme AG's marketing manager Andy Smith has left to take on the newly created position of UK marketing director at **Informix Software Inc**.

Rosemont, Illinois-based **Covia Technologies Inc** released version 3 of its Communications Integrator message-based distributed computing software at Network and Interop 94 last week. The new release supports various mainframe environments as well as HP/UX and AIX. +1 708 518 4122.

The **HP PA-RISC** server that'll host the anticipated native **Novell Inc** NetWare 4 implementation due in the second half is dubbed Piranha. The uniprocessor box will accommodate 512Mb RAM, 124Gb disk and go to 300 tps, HP claims.

Redmond, Washington-based **Open Computing Security Group** has changed its name to **CyberSafe Corp** - its OCSG/Kerebos security software is now dubbed Challenger, and is up on Solaris 2.3 and Windows NT. +1 206 883 8721.

Graphical applications generator editor **Apic Systemes SA** says it has decided not only to change the name of its graphical language Apic, but to introduce an entirely new product line. It will launch a graphical application development environment in September.

Andrew Allison's *Inside The New Computer Industry* notes that of the 91,000 Unix licences sold by **SunSoft Inc** last quarter, 8,500 were Interactive Unix (down 23% over last time), 2,000 were Solaris-on-Intel (down 33%), 13,000 were non-SMCC Sparc platforms (flat) with third party licences accounting for some 16% of SunSoft's total. The Fujitsu/ICL Sparc Unixes don't count

Novell Inc has set up a new Enterprise Solutions Division to work with third party channels to help users plan, design and integrate local area and enterprise networks. EDS is expected to devote much of its time and resources to integrating Unix with these networks.

Oracle Corp and **nCube Corp** are getting so close these days they're even sharing executives: Craig Ramsey, VP US commercial sales at Oracle has gone over to become senior VP worldwide sales at the Foster City, California-based massively parallel builder, replacing Jerry Clay who becomes VP strategic partnerships and projects.

An expanded meeting of **X/Open Co Ltd's** desktop working group was still underway as we went to press: the standards group has about 20 firms round a table in California trying to agree on ways of defining common elements of the desktop of the future and meeting requirements for the desktop interface such as those as laid out by users at its New Orleans gathering in March (UX No 486). As well as the COSE (now OSF) mob, reportedly Apple, Taligent and Microsoft were amongst those present.

Apparently **Sun's** secretive **First Person** unit has moved to the old **DEC** research and development offices on Hamilton Avenue, Palo Alto, where DEC designed and built the Mips-based workstations it once touted as Sun killers before replacing the chip with its own Alpha processor. This was also the site where DEC helped set up the Hamilton Group aka the **Open Software Foundation**.

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IBM CRANKS RS/6000 LINE - STILL SMP SHY

IBM Corp's RISC System/6000 division is readying its next slew of workstations and servers for introduction on May 24th - but there is no new AIX release to go with them, we're to understand. The Model 41W workstation uses an 80MHz PowerPC 601, comes with from 16Mb to 256Mb RAM, 540Mb to 3Gb disk, 2 x 2 slots, 2 disk bays, new GXT150M graphics accelerator, 17" or 20" screen, reaching an estimated 74 SPECint92 and 85 SPECfp92. It sits above the existing 50MHz PowerPC 601 25W machine and below the 355 Power system. A mini-tower server version, the C10, is fitted with SCSI 2, floppy drive, CD-ROM, 3 MCA slots, two media and two disk bays. It hits the same SPEC performance marks and is estimated at 125 TPC-A and 355 TPC-C. It sits above the PowerPC 601 model 250 server and below the 340H. Above the existing top-end 370 desktop RS/6000 server come new 380 and 390s, both driven by Power2-L2 CPUs - Power2s with secondary cache. The 380 is a 59MHz affair with 128Kb data cache/32Kb instruction cache and 512/1024 secondary cache. With 32Mb to 512Mb RAM, 4Gb disk, SCSI 2, CD-ROM, four MCA slots, two disk and two media bays. Performance is slated at 91 SPECint92, 151 SPECfp92, 185 TPC-A and 554 TPC-C. The 390 is a 67MHz version with the same configuration, estimated at 103 SPECint92, 172 SPECfp92, 220 TPC-A and 620 TPC-C. Workstation versions have been seen in product schedules as the 38T and 39T. A new top-end desktide, the 59H, uses a 67MHz Power2-L2, although a 71.5MHz chip was originally slated for this model. It comes with 64Mb to 2Gb RAM, 4Gb to 12Gb disk, 20MBps SCSI 2, seven slots, four disk and two media bays. New rack-mounts, R10, R20 and R24, will feature one-, two- and four-CPU configurations of 71.5MHz Power2-L2s, on uni- or dual-processor motherboards. Rack-mount technology is available in modules as add-in drawers. The 71.5MHz part offers 128Kb/32Kb data/instruction cache and 1024 secondary cache. Main memory goes from 128Mb to 2Gb, disk from 4Gb to 44G. The box has four disk drawers and one media drawer, and single CPU performance is rated at 120 SPECint92, 245 SPECfp92, and at up to 300 TPC-A and 800 TPC-C. The rack-mount drawers can be strung together with IBM's high availability cluster multiprocessing software. The new systems lack the fully SMP-enabled AIX (UX No 484) - users will have to make do with AIX 3.2.5 until the long-awaited AIX 4.1 iteration arrives. Prices aren't fixed yet. It's understood the Power2-L2s won't provide a leg-up to the PowerPC 604. New graphics options expected include the GXT150M and GXT175M cards and GXT1000 - there will be a host of new RAID, ATM and other connectivity options too.

HP RAISES MID-RANGE BAR

Hewlett-Packard Co is beefing-up the mid-range of its HP9000 Series 700 workstation line this week by introducing four new models, and gearing up for the two- and three-dimensional mechanical design market with new colour graphics subsystems. In raw performance terms, the new boxes rank below the top three performing Unix desktops - one DEC and two HP machines (UX No 486) - but still easily outgun Sun, IBM or SGI's best. Configured with the new graphics subsystems, HP claims it also out does market-leading graphics hardware from SGI, DEC and Sun. Two of the four workstations use a new 100MHz iteration of HP's 64-bit, bi-endian 7100LC PA-RISC, first featured in the low-end Geckos launched back in January (UX No 471). The 100MHz 715/100 is rated at 100.1 SPECint92, 137 SPECfp92 and starts at \$19,000. The 80MHz 715/80 performs at 83.5 SPECint92, 120.9 SPECfp92 and goes from \$13,000. The 64MHz 715/64 - HP's designated 3D entry-level machine - does 66.6 SPECint92 and 96.5 SPECfp92 and starts at \$10,000. Each comes with from 32Mb to 256Mb RAM, 4Gb disk, 17" or 20" colour monitor and is available now. The 100MHz part is also implemented in a Model 725 package - the 725/100 comes with up to 512Mb RAM and will be available in the third quarter. All the new EISA bus machines run HP-UX, now up to release 9.05, which includes the 3D X Windows PEX 5.1 runtime extension and come with up to 256Kb cache. *Details on page 5.*

PYRAMID EXPLORES LOWER REACHES OF THE NILE

Pyramid Technology Corp, San Jose, California, has re-packaged its R4400 Nile 150 server technology for the mid-range commercial SMP market in a new box, the Nile 100, which scales from two to eight CPUs and starts at \$155,000. The package of Nile 100 components, CPU, memory boards and I/O controllers, are tucked into one cabinet - the existing high-end Nile 150, which houses up to 16 processors, has separate CPU and expansion units. Pyramid says the 100 has been optimised for single-threaded and multiprocessor performance and uses the same 150MHz R4400 as the 150. A basic configuration comes with two CPUs, 64Mb RAM and a choice of disk for 32 users and up - Niles can accommodate up to 4Gb main memory. Extra storage and peripheral expansion cabinets, the same as those used in the 150, can be attached to provide up to 274Gb disk - wide SCSI, when it comes, will allow more to be added. The 150 starts as a 256Mb, 256 user system. The new Nile 100 will take over from Pyramid's existing R3000-based MIServer ES line, which comes in three models with from 2 to 24 CPUs and up to 1Gb RAM. The 100 comes with the same Unix SVR4-based DC/OSx operating system as the 150, which was launched before the 100 to avoid Nile competing directly with ES from the outset. *Details page 5.*

QUORUM ON THE BLOCK

Quorum Software Inc, the Mac-on-Unix house that came to market with such promise two years ago, is on the block, its venture capitalists impatient with its potential return on investment. The VCs showed their impatience a few weeks back when they brought in a professional management team installing Howard Earhart as president and chief executive and Chuck Dunker as chief financial officer and kicking existing CEO Sheldon Breiner upstairs as chairman. The new management trimmed staff in half, if consultants are counted, to the current count of 17. With its roster cut and cash drain stanchied, Quorum, which has never been profitable, is now ironically enough perhaps only a month away from breakeven, insiders say. Sales are reportedly satisfactory, even up. For this reason, it is reportedly not a fire sale. Management has been shopping Quorum technology around to all comers, apparently looking for the best deal, and it is possible it could go in pieces. The list of those reportedly approached is pretty exhaustive including Sun (because of Wabi), MainSoft, Apple, Microsoft, Echo Logic, Insignia and Locus. Of those Insignia and Locus may be further advanced. Software developers and OEMs including the recently signed Hewlett-Packard may reportedly be interested in buying out their Latitude royalty streams, a factor that may account for Quorum approaching breakeven. They are also regarded as potential buyers and Quorum suggests that DEC, IBM and Silicon Graphics are also on the list. Quorum, which estimates it lost a year because of legal tangles with Apple which scared off VCs at the time when it needed money most, believes its technology could double Apple's own Macintosh Application Environment performance. Microsoft is a possibility, if the price were cheap enough, because of the Latitude libraries. Quorum bundles the Mac versions of Microsoft's Word and Excel programs, the only stuff Quorum runs, under a special tie-up with Redmond. Quorum claims its competitors are Lotus, Wordperfect and Wingz.

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IBM STARTS TO PUSH ITS MQSERIES TRANSACTIONAL MESSAGING SYSTEM

After a surprisingly quiet launch last year, IBM Corp is stepping up the marketing push behind its MQSeries commercial messaging resource manager, a product it has developed in conjunction with New York-based Apertus Technologies Inc, which recently merged with the former Nynex company Systems Strategies Inc. The new platforms are HP/UX, SCO Unix, SunOS, UnixWare and AT&T GIS (NCR), and should be ready to ship in July. MQSeries, described by IBM as "the thinking man's TCP/IP", is one of a new breed of middleware products known as "transactional messaging" systems: based around a messaging and queuing function, these look after inter-application communications, ensuring that messages are placed in a queue and sent on with "assured delivery" to the target system. The queuing approach leads to a number of advantages, says IBM, shielding the applications programs from network complexity using a single applications programming interface, allowing a standard message format to be used for both on-line and batch messages and allowing the system to "trickle feed" data out onto a distributed system. Version 1 of the product is based on Systems Strategies' Easybridge Transact product line, but using IBM's formats and protocols. That version is now out on MVS/ESA, OS/400, VSE/ESA, DEC VMS, DOS, OS/2, Windows, AIX/6000, Tandem and Stratus environments. The new Unix ports will also be Version 1. Version 2, which has been developed by IBM's Hursley Labs near Winchester in the UK, is already on beta for MVS/ESA and OS/400 platforms. IBM says the product has the potential to save huge sums of money currently spent keeping middleware layers up to date and running, and has had interest from corporates in a wide range of market sectors. The Chicago Mercantile Exchange has already said it will standardise on the product by the end of 1994. ISV's, including Candle and Early Cloud Co are also building software to work with MQSeries. Competitors include Pipes from Peerlogic, Covia, based on Galileo's Apollo airline reservation system, DEC's Message Queuing systems and Novell Inc's Tuxedo/Q. There is also some overlap with IBM's own CICS system, although IBM classes CICS as an application server and "manager of resource managers." But IBM says it is working with its competitors in the Message-Oriented Middleware Association (members Apertus, Covia, DEC, IBM, Momentum and Peerlogic) on standards, and along with Novell Inc has submitted proposals to X/Open Co's proposed Common Messaging Interface standard.

...ADDS CICS CLIENT FOR SUN, FORMS CICS IMPLEMENTORS FORUM

IBM's Transaction Systems division, primarily centred on the Hursley Lab facility, is now a \$700m business, according to Mark Bradbury, manager, business strategy at Hursley. And with the total transaction processing market set at \$1.2bn, IBM is claiming a dominant 60% share. It's a profitable business with a 16% compound annual growth rate. CICS now has a 50,000 server license base worldwide, 36,000 of which are used on the 390 platform, which is eroding at a 1-2% rate (due to consolidation, says IBM). New platforms (mainly OS/2 and AS/400 at the moment, although CICS/6000 became available last September) should contribute \$50m revenues this year, and an expected \$150m next year. Last week IBM announced the availability of a Sun client for CICS - a server version is assumed to be on the way. And this week, IBM holds the inaugural meeting of the CICS Implementors Forum at Hursley: members include DEC, HP, Dresden Bank, Merrill Lynch, British Telecom and "other software houses" at Hursley. The industry-wide body will take control of the CICS application programming interfaces (which IBM published at the end of 1992) and should be able to influence the direction of any future changes. Competitors in the open transaction market have only a tiny percentage in comparison to CICS, says CICS business manager Steve Craggs, who predicts server licence levels will move into the thousands next year. In IBM's view there are three groups of competitors: CICS API supporters such as Unix and Micro Focus, whose customers are mostly already CICS users; non-CICS competitors such as Top-End and Tuxedo that have so far garnered few customers (Tuxedo is mostly used by AT&T itself); and the database vendors who claim that TP is integrated in with the database, but only through the use of proprietary extensions, such as Oracle's stored procedures. IBM's CICS/6000 is itself implemented using Transarc Corp's Encina toolkit, and Transarc has its own TP monitor, which IBM also sells. Craggs says that this is "a low-level Unix technical device", and not a mainstream commercial system.

VERSANT DEBUTS NEW ODBMS, HEADS FOR NETWORK MANAGEMENT

Object database house Versant Object Technology Inc, Menlo Park, California, has been re-grouping following the departure of its founder and CEO and its European chief who went off to form OpenObjects Inc back in January (UX No 471). Last week it introduced release 3.0 of its Versant ODBMS - object database management system - and began charting a new course towards network management, or the life beyond CAD as it puts it. The company claims Versant 3.0 is the first ODBMS that provides persistent storage of objects created by different C++ compilers. It cites the example of an object created in Microsoft Visual C++ running on a PC that can be transparently shared with objects created using CenterLine Software's ObjectCenter running on a workstation. Versant says it addresses byte ordering incompatibilities and the problem of different C++ generating objects in disparate forms. Typically, ODBMS vendors force customers to use the same compiler across different systems, Versant says. 3.0 includes full or incremental on-line backup. It is up on Sun platforms now, with IBM, HP, SGI, OS/2 and NeXTStep 486 support due this quarter. Windows and Windows NT versions are in beta. Prices go from \$5,000 to \$10,000 per seat. Versant has garnered a further \$4.5m in a fourth round of venture funding, bringing its capitalisation to \$21m. An IPO isn't planned for the near-term as profits aren't stable enough yet, says president and CEO David Banks, on board from Cadre Technologies. He says Versant turned profitable in the second half of 1993, claiming an 180% growth in license revenue - it has some 5,000 licensees now. It'll spend the \$4.5m developing more fault-tolerant, network management and event notification enhancements, and will incorporate ODMG specifications by the first quarter of next year. Versant's \$2.6m Volkswagen/Euro Marketing Systems project is going into first beta stage. It currently tops the University of Wisconsin's 007 object performance benchmark tests and has partnered with UniSQL Inc for SQL and ODBC access to Versant. It believes ODBMS vendors can never hope to capture legacy MIS or OLTP markets going head-on, and sees the network management paradigm - especially in the telecommunications sector - as a much closer relation to object technology.

SOFTWARE AG HAS NEW DIMENSION TOOL

Software AG has debuted Natural New Dimension, an integrated visual programming tool for procedural developers to build event-driven graphical applications. The product comprises two elements. The Event Server is a program written in the company's Natural fourth generation language, which stores building-block code or routines, developed using its Natural Construct applications generator. The Event Server resides on either a personal computer client, Unix server or mainframe. The New Dimension front-end sits on a client machine, and provides developers with a graphical representation of their application. Users draw graphical objects such as buttons on this icon, and click on the buttons to activate Event Server routines. Software AG claims applications developed using the product can communicate with virtually any legacy database or application through a system of remote procedure calls. The Darmstadt, Germany-based firm says Natural New Dimension runs under Windows, OS/2, Macintosh, Motif or OpenLook. It will be available in the third quarter, costing £1,500 for a development licence and £500 for a run-time licence.

NOVELL" COMMERCIALISING LINUX"

PC Week and other sources believe Novell Inc's USL is using Linux, a Unix SVR4 clone - which is available over the Internet as freeware - to develop Expose, a graphical 32bit operating system that runs MS-DOS, Windows, NetWare and Unix applications. They say Novell started taking an interest in Linux about nine months ago and reckon Expose is already in beta, with product details expected by the end of May or early June. The product is expected to compete head-to-head with Microsoft Corp's Chicago, and will apparently conform to Spec 1170 by the end of 1995. Linux runs on Intel Corp 80386-based hardware and above, and was developed by a Finnish programmer, Linus Torvalds. It has been enhanced by Torvalds and others via Internet over the past couple of years. Its utilities come from the Free Software Foundation's GNU and Linux is available under a GNU Public Licence. Novell and USL both deny the product exists.

PLANETARY STATUS WITHDRAWN IN NEW SUNSOFT QUADRANT

As reported, the realignment of the Sun Microsystems Inc planets following the joining of Sun Technology Enterprises with SunSoft Inc will take effect after the end of the company's financial year - the end of June (UX No 485). One organisation, SunSoft, will embrace all the former software and STE units and all planet names will be phased out by then. SunPics - Sun's hardware and software printer arm - will be divided between SunSoft and SMCC, details of which are due by the end of the month. The result will be a single worldwide sales, support and service organisation for the entire SunSoft product line; a single applications and market development organisation; a number of independent business units that will focus on developing, marketing and supporting specific software technologies; and finance, billing, corporate development, planning, operations and corporate communications support organisations. SunSoft boss Ed Zander's will have direct reports from four areas. First is a worldwide field operations unit for sales, support, service, marketing and channels headed by VP Dave Walker. Mary Anderson is named as director of a second report - applications and market development with responsibility for the Catalyst ISV programme, ISV engineering, technology "evangelism," SunSoft Press and CDware, plus a corporate communications group responsible for all public relations, advertising, sales promotion, tradeshow, marketing services and events. The third set of reports are independent business units, while the fourth are responsible for the development, marketing and support of specific software core competencies such as Solaris, networking, developer products, enterprise management products and PC desktop integration products. Solaris product definition, marketing, positioning, release, testing and localisation plus specific Sparc x86 and PowerPC engineering and support is headed by VP and general manager, Janpieter Scheerder. The Interactive Unix group reports to this group. Jim Billmaier will run networking products, with responsibility for wide-area networks (ONC+/NFS, DCE, X.25, X.400, X.500), PC LAN networking (PC-NFS, Solarnet, Netware, etc.) and IBM (3270, SNA, etc)/DEC connectivity. Developer products include SparcWorks and ProWorks, TeamWare, Workshop, languages and development kits. The group is run by VP and general manager, Jon Kannegaard. Enterprise management products - SunNet Manager, system administration technology and commercial data centre products (high availability, back-up, etc.) will be headed by former SunConnect boss, now VP and general manager, Denis Yaro in Grenoble, France. SunSelect boss Dave Power is to run the PC desktop integration unit as VP and general manager. Products include Wabi, Mac WABI, MAC emulation and DOS technologies. Steve Mackay will head a further report - software technology development - responsible for delivering core Solaris components, including the operating system, windows, graphics etc, based on requirements from the independent business units. The group will also develop and market the core OS, CDE, ToolTalk, DOE and Live! for the worldwide field operation. Mackay's organisation will incubate new business units being grown for multimedia and object - SunSolutions and ShowMe will report to it.

SUN ANSWERS CRITICS ON WALL STREET

Sun Microsystems Inc may have some work to do to communicate its message more effectively to sections of Wall Street, but it took exception to a fairly negative piece which ran in *The Wall Street Journal* last week. The corporate focus appeared to conclude that Sun hasn't anything much to offer investors. The paper interviewed Scott McNealy, Bill Raduchel, Jay Puri, Mike Lehman, Ed Zander, Phil Samper, Bill Joy and Andy Bechtolsheim and although Sun admits most of the facts are basically accurate, it has taken exception to some of the points raised and says the views of some Sun customers WSJ spoke to were taken out of context. In defining its business performance, Sun says the piece failed to mention its healthy balance sheet, cost controls and revenue per employee. After 12 years, it has grown to become the 7th largest systems company in the US - only Compaq has done better, it believes. Responding to operating system and software issues raised, it says 7,500 applications are shipping on Solaris 1.x with 900 being ported; 2,600 up on Solaris 2.x with a further 2,000 coming; and 175 running on Solaris x86 with 800 more in the works. It points to 1.6 million Solaris licenses with 350,000 new licenses a year, and says the fastest growing part of the Solaris business is servers, all of which require Solaris 2. It believes SunSoft is already through the software transition that others, like HP and IBM on SMP still have to make. On desktops it says WSJ didn't compare apples with apple: it agrees with the DEC and SGI comparisons, but not the HP or Intel price/performance comparisons.

ICL AND NOVELL INK DEVELOPMENT DEAL FOR UNIXWARE 2.0 ON SPARC AND MORE

As expected (UX No 486), ICL Plc and Novell Inc last week formally entered into a three-pronged development and marketing agreement. First, ICL officially confirmed it is developing a Sparc version of UnixWare 2.0, Novell's multiprocessing version of SVR4.2, for its new TeamServer and SuperServer range of machines (UX No 477) - it will have the right to sell shrinkwrapped binary versions of UnixWare for Sparc to customers and OEMs, but not source code. The port is set for release in the first half of 1995. ICL also affirmed that UnixWare 2.0 for Sparc and Intel will replace its own DRS/NX implementation of Unix SVR4 on its new systems, when available. Despite the amount of research and development time and money that ICL has put into DRS/NX, the firm says it decided on the move when it chose to upgrade to SVR4.2 this time last year. In preparation, it stripped out certain functionality and now sells it as an option in the form of the ManageWare suite of middleware. This sits above DRS/NX, and includes an high availability manager, backup and print services. ICL also intends to sell ManageWare as an option for UnixWare 2.0, Windows NT, and SCO Unix. It says the move to UnixWare was driven both by price - UnixWare sells for \$180 a copy, with volume discounts of up to 60% - and the need for brand awareness, especially important now that Fujitsu is selling TeamServer and SuperServers in the US and Japan, where ICL and DRS/NX aren't known. No one is making much of a return on operating systems any more anyway, it adds. The company will also position UnixWare as an application server for the large installed base of PC LANs running NetWare that it inherited from Nokia Data. Meanwhile, ICL will release a multi-threaded version of DRS/NX - described as UnixWare 2.0 without NetWare protocols - next month as an interim measure, and will continue to support DRS/6000 users, although a UnixWare port to the machines will follow in time.

Red boxed

Under the second phase of the agreement, ICL is also developing a NetWare Loadable Module version of its TeamOffice groupware, which will run on NetWare 3.x and 4.x. This will be out by late summer. A subsequent release, due later in the year, will be integrated with Novell's MHS message transport protocol and packaged as a Novell Red Box product. This will be sold through Novell distribution channels in Europe - other local deals may follow. A third version of TeamOffice is also scheduled for NetWare 4, with directory synchronisation for NetWare Directory Services, while yet another release will support the AppWare environment. Third, ICL and Novell will jointly add X.400 protocols to NetWare and UnixWare 2.0. This will mean users can exchange messages between Novell's MHS message transport systems and X.400 mail systems. The two companies will also work on making NDS interoperate with X.500 mail systems, and the products will be rolled out over the next 12 months.

TATUNG OFFERS SPARC- STATION 5 COMPATIBLE

Tatung Science & Technology Inc, Milpitas, California is sticking close to Sun Microsystems Inc, last week introducing its Sparcstation 5-compatible CompStation II-385 running an 85MHz microSparc II, with 16Mb RAM, 14" colour screen, three Sbus slots, 520Mb disk and Solaris 1.1.1B (until SunSoft offers Solaris 2.3 to the cloners) at \$4,750. Options include up to 256MB RAM, other monitor sizes, various graphics accelerators and 4Gb disk. The Tatung system comes in a Sparcstation 2 footprint for easy upgrading, the company says. +1 408 383 0988.

UNISYS MULLS EMS INVOLVEMENT

Unisys is debating whether to participate in the beta program for Enterprise Messaging Server, with the balance of executive opinion now said to be pretty heavily weighted toward spending the money needed for the program. Unisys isn't talking about just an internal test, which wouldn't cost very much, but rather looking at an extensive program which would include setting up training centres and what-not for potential customers who would also participate. Such a program would be more than slightly competitive with the one planned by arch-rival AT&T Global Information Systems.

UNIDATA STRIKES OUT FOR COBOL BUSINESS

Realising that there's not too much business left to squeeze out of the nichey Pick and Prime Information markets, Denver, Colorado-based Unidata Inc is setting out its nested relational database stall in the wider Cobol world. Version 3.2 of its UniData database has been re-architected to include interface and compiler technology developed in conjunction with Acucobol Inc, San Diego, California, that allows legacy applications written in Acucobol-85 to migrate to the UniData database. Under UniData 3.2 the firm says ported applications and their associated data are immediately available to the range of 4GL development tools and environments UniData supports. Unidata Cobol85 Direct Connect is included in release 3.2, which costs from \$450 to \$600 per seat on Unix or VMS, with Windows clients also supported. (Although it's not mentioned, a similar deal with Cobol language market leader Micro Focus Plc would help it get really serious.) The privately-held company, which expects to have done around \$20m business in its year to the end of June, is aiming the new product at mid-range system users in small and medium size businesses up to and above the \$500m mark, saying it'll target mainframe users with a further iteration of its system next year. UniData 3.2 - which includes UniSQL and UniQuery - supports on-line back-up, automatic file recovery, files of up to 256Gb and comes with its own transaction management system.

Thumbs-up for NT

Other Unidata products include Wintegrate, from London firm Impact Business Systems for adding a Windows front-end to character-based applications; UniBasic, CallC, CallBasix and SB+ 3GL and 4GL development tools; Sybase Open Server/Open Client connectivity marketed as UniServer and UniDesktop; USAM and udt Monitor system admin and management tools and various database gateways. ODBC connectivity and support for Windows clients across its full product range is also promised. UniData claims an installed base of 3,000 sites and 150,000 users. It sells 20% direct, the rest through some 200 VARs and resellers. Towards the end of last year Unidata said it would likely only port its nested brand of relational database technology to Windows NT if its VARs proved favourable to the idea and if Microsoft Corp were to support OSF Distributed Computing Environment DCE. It got the thumbs-up from its resellers and although Microsoft is only supporting the DCE RPC, Unidata is pushing ahead with a Windows NT Advanced Server port that it expects to complete by the end of the first half of next year. Meanwhile, anticipated DCE and Transarc Corp Encina ports to UniData using Transarc code won't be finished anywhere near as soon as this summer, as envisaged - both developments are taking a back-seat. The company doesn't yet offer either two-phase commit or replication technology for true distributed functionality, but it is all set to head down the replication route, according to VP marketing Alan Snell. If DCE were a truly multivendor network interoperability standard (meaning implemented by Microsoft, we presume) two-phase commit would predominate, he argues. Because it's not, replication technologies are likely to win-out, he believes.

IBM SALES RECAST BY SECTOR TO PRESENT ONE FACE TO CLIENT

IBM Corp has set in train a comprehensive restructuring of its worldwide sales force, switching from a geographic and product line to an industry-by-industry segmentation. The new structure establishes 14 different industry sectors, including communications, finance, health, banking, retail, travel, insurance and manufacturing, with 12 being represented in each of IBM's existing global marketing divisions - North America; Latin America; Europe, Middle East & Africa; and Asia-Pacific. The travel and petroleum sectors will be global operations. The switch is not expected to lead to much upheaval for sales personnel, simply that a specialist in a particular sector will report to a boss who may be half way across the country or region rather than to a branch manager within the same geographic area. In Europe, country chiefs, who were given an additional sector specialisation a couple of years ago, are likely to see their power diminished. IBM is expected to fill half the 14 top posts with people recently hired from firms in the computer consultancy field.

APPLE TO LICENSE MAC CLONEMAKERS, SEEKS PARTNER FOR E-WORLD

Apple Computer Inc is looking for outside investors to become part-owners of its embryonic on-line service, has very restricted plans to license others to make Macintoshes - but only outside the US, and is cutting back at its Personal Interactive Electronics division, home to the Newton. These items emerged from a briefing for analysts staged by chief executive Michael Spindler; the *San Jose Mercury News* and *MacWeek* persuaded one or two of the assembly to spill the beans anonymously. Spindler said that Apple will permit other companies to manufacture and sell their own versions of Macintoshes within six months to a year, but under strict guidelines and only outside the US. The first licensees will be in Europe and the Far East, starting with the Power Macintosh line. The first will likely be in Asia and will be a very large company. Clones of the 68000-based Macintosh line will probably appear first in Europe. Apple will insist on the machines meeting particular technical specifications - and will not allow their makers to sell them outside a particular region. Spindler also pledged to pull the company out of any market where it could not hold either first or second place, but he denied that Apple would sell the PIE division outright, or that the e-World on-line service is to be scrapped. Temporary division head Joseph Graziano, Apple's chief financial officer, intends to cut the number of people assigned to it, and cut back funding to the division sharply - and will discontinue projects not directly related to either of the unit's main products. As a result, Apple won't introduce more Newtons for about a year, Spindler said - first it must break even, by the end of the year. He acknowledged approaching potential investor companies in e-World, which is set to go on-line later this year, but declined to name them.

NT WINS POSIX ACCREDITATION

Windows NT 3.1 and its mate NT Advanced Server have been quietly certified Posix-compliant after government experts took an unexplained eight months to complete a review that normally takes no more than three. No problems were found with NT's Posix subsystem and Microsoft insiders were at a loss to explain the delay. Only Intel and MIPS platforms have been certified so far, but Microsoft thinks that the Alpha certification it also applied for, is being held up only by paperwork. Microsoft didn't bugle its success, offering an uncharacteristic and time-sensitive rationale - it claimed it didn't want to irritate companies where NT plays second fiddle to Unix by making it appear that a new Microsoft-led push was underway to displace Unix in federal contract bids. In fact NT has already been bid on those Posix contracts based on an opinion letter Microsoft got last August saying it would eventually be certified. The importance of these government contracts was underscored last week when Microsoft said it has toted up some \$500 million in government business already won by NT-based bids.

KALEIDA MUST CUT COSTS AND FINISH SCRIPT-X

IBM Corp and Apple Computer Inc, both now in cash-conserving mode, have been warning their Kaleida Labs Inc multimedia joint venture for some time that the palmy days were over, and now the boom has fallen. The board reportedly decided to cut back Kaleida's activities in a conference call on May 4, and has ordered the company to drop everything until the Script-X multimedia scripting language is complete; 25 of the 125 employees are expected to go, and the budget will be halved. Projects at the company such as software for television set-top decoders - a joint venture with Scientific Atlanta Inc and Motorola Inc using PowerPC - goes on the back burner until ScriptX is delivered, Apple said.

IMP LAUNCHES DUAL PROCESSOR FAULT-TOLERANT SPARC MACHINE

Consett, County Durham-headquartered fault-tolerant Unix systems specialist Integrated Micro Products Plc, which just went public on Nasdaq, has introduced the FT-Sparc, a fault-tolerant Unix computer system aimed at intelligent network and value-added services support in the telecommunications market. The offering is built around the SuperSparc microprocessor and SunSoft Inc's Solaris operating system, and features two processors executing identical instruction streams in synchronisation. It will be available in the fourth quarter.

HP EXTENDS GRAPHICS OPTIONS FOR NEW WORKSTATIONS...

The new graphics subsystems Hewlett-Packard Co has to go along with its new workstations - see front page - are the HCRX-8 at \$2,500, the \$4,000 HCRX-24, the \$5,500 HCRX-8Z and HCRX-24Z at \$7,000. The first two are single-board eight and 24-plane units, the HCRX-8 is designed for 2D and X-Windows processing, the HCRX-24 for low-end 3D vector performance. The second two, with Z buffering, are intended for accelerated surface and solid rendering - the HCRX-8Z is a low-cost solution. All sit below HP's high-end HCRX-48Z graphics solution and above the standard low-end 8-plane 2D accelerator. The 8-plane subsystems also use HP's so-called Colour Recovery or "smart dithering" technology, which it says allows up to 8m colours to be displayed simultaneously. There are a variety of upgrade paths to the new workstations and subsystems. 715/33 users can upgrade to the 715/64 - 715/50 and 715/75 users to the 715/100. Model 725/50 and 725/75 users will be offered 100MHz 7100LC board upgrades in the third quarter.

...BRAGS ABOUT ITS DATAQUEST NUMBERS

HP points to new Dataquest figures which show it has 27.3% of the \$1,750m Unix mechanical design market in revenue terms, followed by Sun with 23.1%, IBM with 22.1%, SGI 15.3%, DEC 10% and Intergraph 2.1%. According to the Dataquest numbers HP also recently surpassed Sun as number one Unix vendor in terms of revenue - 19.5% of a \$19,700m market against Sun's 18.2%, IBM's 11.8%, DEC's 5.5%, SGI's 5.5% and 39.4% other. HP claims its share of the overall Unix workstation market increased by 3.8% in 1993 over 1992, compared with Sun's 0.3% decline, IBM's -1.8%, DEC's -0.9%, SGI's 2% gain and others -2.8%. HP's workstation line now spans the Model 712/60 and 712/80, the four new models, the 725/50 and 725/75; the 735/99 and 735/125, the 755/99 and 755/125 (desksides) and 735CL clustered system. HP's marks down the competition in a series of SPEC and graphics performance and price comparisons: it says the HP 715/64 "neutralises" SGI's Indy R4600; the 715/100 CRX48Z "obsoletes" the SGI Indigo2 Extreme, the 715/64 HCRX-8Z "outmanoeuvres" Sun's SS5, the HP 715/100 HCRX-8Z "embarrasses" Sun's SS20/61, whilst the 715/100 HCRX-8Z "supersedes" IBM's 375.

PARCPLACE SEES POINT-AND-CLICK RELATIONAL-TO-OBJECT BRIDGE FOR OLTP

As expected (UX No 484), Sunnyvale, California-based ParcPlace Systems Inc will this week roll-out a new version 2.0 of its flagship VisualWorks SmallTalk application development environment. The environment sports a Database Application Creator (DAC), which the company says allows developers to create basic database applications without any SmallTalk or SQL programming. The DAC includes an ObjectLens, claimed to allow relational data types to be viewed and manipulated as objects. The company says object classes are automatically created from existing relational tables and tables created from existing object classes. Initially VisualWorks 2.0 supports Oracle and Sybase databases - ODBC and DB2 gateways are planned. A Visual Data Modeler in DAC creates the map used by ObjectLens which shows visually how relational data and objects are linked. The map is stored in a data model and not in the database itself. Applications are linked to the model, rather than the database directly, so changes to the model can be made in one place rather than in many places in the application. It also allows databases to be switched without having to re-write applications, ParcPlace says. It's also offering reusable DataForms as part of DAC, objects built from customisable templates it says can create, retrieve, update and delete relational data. DataForms can be used standalone, within an application or as the basis of more complex applications. With VisualWorks 2.0 ParcPlace now supports Windows NT and says the new version offers binary portability across Unix, Windows, OS/2 and Macintosh implementations. ParcPlace reckons the new release can compete with market leaders like PowerSoft Corp's PowerBuilder environment. The software is \$3,000 on Windows, NT, Macintosh and OS/2 - \$5,000 on Sun, IBM, HP and Sequent Unix from the third quarter. Oracle and Sybase database connects are \$500. ParcPlace Object Support customers can order free upgrades from now until the software ships, other upgrades are \$1,000. VisualWorks is already incorporated in HP's SmallTalk 2.0 environment, DEC is doing its own port to OSF/1 and NT on Alpha and links to its Common Object Model. Object Design is still working on a VisualWorks interface to ObjectStore. ParcPlace will supply connections to IBM's SOM/DSOM Corba technology by year-end, by which time it'll also have links to the SunSoft Distributed Objects Everywhere ORB. In the next VisualWorks releases, ParcPlace will be targeting legacy application users moving to client/server - especially MIS and OLTP environments - with an environment it says will make SmallTalk application development much easier for programmers used to Cobol than them having to learn C++. VisualWorks users will also be able to create applications that can access data in CICS environments. It's also working on native host support - currently its Windows and other clients are still emulations.

PYRAMID MIS SERVER USERS MARKED DOWN FOR THE NILE

Pyramid Technology Corp is targeting its base of MIS ES server users as primary Nile 100 customers - see front page - all new orders are for Niles in any case. The Nile technology - which the company claims to have shipped into more than 100 sites - already accounts for half Pyramid's current revenue (\$46.5m last quarter) and will make up the bulk by next quarter. It hopes the 100 will fit the fastest-growing part of the commercial SMP market, mid-range systems, starting at \$155,000 to \$350,000 where Sequent, IBM, HP and AT&T GIS are competitors. Pyramid has been expanding its direct sales force in the face of declining OEM income, which was down to 30.2% of revenue last quarter from 43.1% in the same period last year. Although it still counts Sharp Corp and Hyundai Electronic Co as OEMs, the relationship with Ing C Olivetti & Co SpA is fading as the Italian firm moves to Alpha. It's negotiating with ICL Plc, which resells the Nile 150, to take the 100 as well - Siemens Nixdorf Informationssysteme AG takes Pyramid's Unix. The Nile line will upgrade to the 200MHz R4400 when it arrives, next generations will use T5. Sooner, Niles will be fitted with high-end backplanes using Pyramid's forthcoming high-speed, highly-scalable interconnect bus technology, Meshine - the company says Nile disk subsystems are already Meshine-ready. Specifically, it is working on a subsystem for backup, disk management, and distributed RAID - the backplane will process parallel queries and do back-end OLTP, off-loading work from the central bus system. Meshine, due later this year, is expected to accommodate hundreds of CPUs and will feature in a new massively parallel system Pyramid is working on as well as in SMP offerings. The company has no plans to offer Sparc-based technology despite its close ties with Fujitsu Ltd's ICL which is working with Pyramid on a single-image high-end database system combining its Sparc-based MPP Goldrush system with Nile. At the low-end, Pyramid is reselling SNI Mips-based RM workstations into accounts as a Nile front-end, especially those running SAP AG R/3. It also has a new agreement with Prism Solutions Inc on data warehousing.

ASPEN, CARRERA HAVE 275MHZ ALPHAS

Although Digital Equipment Corp has yet to announce system plans for its 275MHz Alpha processor, both Carrerra Computers Inc and Aspen Systems Inc have committed to developing workstations based around the new chip. Carrerra Computers is building the Cobra AXP 275 tower desktop, with 64Mb of RAM and a 2Gb hard disk. This product will ship in the autumn, starting at \$13,900 minus a monitor. Aspen's Alpine machines, meanwhile, will have 16Mb of RAM, up to 512Mb of main memory, 1Gb of disk, and a 17" colour monitor. They will run OSF/1, OpenVMS and Windows NT, and be available to OEMs as either a motherboard or complete system in the fourth quarter, costing between \$6,000 and \$7,000.

CLOCK CHIPPING: POWER MAC USERS LEARN TO OVER-REV THEIR ENGINES

It didn't take long for Power Macintosh users to try and find ways to make their machines go faster, and one of the most popular topics in the various PowerPC- and Macintosh-related Usenet newsgroups this last few weeks has been 'clock chipping'. Put simply, this is a technique for replacing the Power Mac's oscillator clock, which controls the processor's speed. The advantage of this is you can end up with a Power Macintosh 6100 running at 80MHz, rather than 60MHz. The disadvantage is that your machine may melt and it invalidates all manufacturers' warranties. Nonetheless, a number of brave souls have been reporting considerable success on the Internet, and a couple of US companies, KS Labs Inc of Reynoldsburg, Ohio and Output Enablers Inc of Berkeley, California, have developed commercial kits that provide the necessary components.

FUJITSU LAUNCHES ITS FIRST HYPERSPARC SERVERS IN JAPAN

By Anita Byrnes

On May 11, Fujitsu Ltd announced two types of servers in the DS/90 7000 series, which are based on the hyperSparc chip from its Ross Technologies unit earlier this week - Ross and Fujitsu jointly announced 0.5 micron triple-layer CMOS microprocessor last week (UX No 486). They expect to have 80MHz, 90MHz and 100MHz samples shipping in June and entering volume production from the third quarter. The high-performance desktop server models 7450H and 7550H have performance of 98 SPECint92 and 122.5 SPECfp92, the world's highest performance desktop servers, claims Fujitsu. A 110MHz hyperSparc due for release soon will also be incorporated in a new model in the range. The DS/90 7960 high-end server can incorporate up to 20 CPUs and achieves (again!) the world's highest performance transaction processing speed of 2,000 tps.

New software additions included improvements such as easier installation, the ability to start up from a personal computer and the linking to data in a personal computer local network. In addition, a new version of Fujitsu's relational database, RDB/7000 was announced to provide an even simpler database for small and medium-sized companies, and Sybase was added to the existing list of Oracle and Informix available for the DS/90 series. PowerMedia, a software package that supports connections to facsimile, telephone, images and voice, is supported via the ODBII object database. The operating system on the DS/90 series, UXP/DS, is compliant with the Sparc Compliance Definition version 2, enabling use of common binaries between Japanese applications running on the DS/90 7000 series and those for Solaris. The DS/90 7450H is from \$15,480, while the DS/90 7960, with eight CPUs is priced from \$564,800. Fujitsu and its affiliate PFU expect to sell 35,000 of the units in the next two years. To date sales of the DS/90 series total 11,000 machines, most of them sold by Fujitsu.

Sparclite

Fujitsu Ltd has launched a top-end chip in its Sparclite series of microprocessors. The MB86934 32-bit RISC chip is designed for embedded use in multimedia devices, including printers, copiers, scanners and X-terminals and robots and communications equipment. The chip was developed from the Sparc architecture specification by Fujitsu VLSI in Aichi, Japan, and the US subsidiary Fujitsu Microelectronics Inc. Fujitsu says the Sparclite series supports direct vectorisation of the data because of its floating point unit combined with circuit control mechanisms such as First-In, First-Out buffers and DMAC Direct Memory Access Controller, and thus is suitable for games and graphic processing devices. The chip is fabricated in a 0.5 micron CMOS process. Sample shipments have begun, with volume in November this year, and Fujitsu aims to make 20,000 of the parts a year.

...Fujitsu mobilises ICL's Openframework...

Fujitsu has launched a new service involving the planning and proposal of open systems. Called "Scope/openframework", the service offers the possibility of building systems using the latest technology, in multi-vendor environments, at minimal cost, says Fujitsu. The department running the service will grow from 20 people to 100 over the next three years. The service is based on subsidiary ICL's Plc Openframework methodology, which is widely used in Australia and Singapore, as well as in Europe. The "Scope/openframework" service is part of the Scope series of consulting services, through which Fujitsu hopes to earn \$19m over the next three years.

...PFU helps out with Japan's first Sparc notebook

Fujitsu Ltd and its PFU Ltd affiliate have launched Japan's first domestically developed workstation compatible with Sun Microsystems Inc workstations. The S-4/Leia Unix notebook workstation is the size of an A4 page, has 1Gb of disk, and a 1,024 by 768 high resolution thin-film transistor colour screen; it weighs 7 lbs 12 oz and incorporates a Leia Point device instead of a mouse, as well as a palm rest. The price of the unit is about \$12,300, and Fujitsu includes it in its general sales forecast for the S-series of which it hopes to sell 50,000 units in the next two years.

...sealing closer ties with Sun, Solaris-only strategy as Unix takes over from mainframes

Fujitsu Ltd and SunSoft Inc have announced a common application binary interface for Japanese applications development on Sparc systems. This will enable programs developed on Fujitsu's DS-Server based UXP/DS operating system to run unchanged under Solaris 2.x. Fujitsu is already using the interface on the DS/90 7000 series, while SunSoft will support the interface in its next release of Solaris, due this year. The common specification is in accordance with the Sparc Compliance Definition. Fujitsu and Sun Microsystems, which as

reported, announced their expanded strategic relationship in Tokyo on April 26, began discussions on the matter last August, said Dr Bill Raduchel, Sun vice-president of corporate planning and development. The two companies announced the framework of a relationship under which they will extend their collaboration to a wide range of areas, including but not limited to the ones announced. Four basic agreements were signed: a master agreement that sets out the mechanics of the relationship and commits the companies to research and development collaboration in the field of Sparc chips; an interface cross-licence agreement under which the two companies have agreed to share any new interface technology (such as multimedia and Japanese language interface) and not to develop any technology that is anti-compatibility; a patent licence agreement that commits the companies to a broad and royalty-free exchange of patent rights in hardware, software and related technologies; and an extended OEM relationship under which Fujitsu hopes to expand the sale of workstations to the business as well as the engineering market. Sun says that this is the largest reseller agreement in its history.

More than just good friends

To date, the two companies have had a commercial relationship based on Fujitsu's role as one of the manufacturers and suppliers of the Sparc chip and its OEM purchase of the Sun workstations for sale in Japan. The S-family workstations and the DS-servers Fujitsu procures from ICL Plc form a growing part of its computer business - in which the share of mainframes will decline this year to 30% from around 40% of total information systems group revenue. The DS-series grew by 200%, while the S-family (Sun) workstations grew by 140% to 150% last financial year. Fujitsu rejected the suggestion that it might be considering standardising on Solaris Unix, saying that it planned to continue its dual operating system strategy offering its own UX-PDS on the DS-server, and Solaris on the client workstation. Interoperability will be achieved through a common application programming interface, said Mikio Ohtsuki, Fujitsu senior vice-president. Other areas for potential collaboration include multiprocessor systems - or "modestly parallel" systems, according to Raduchel.

PALMER'S EXPLANATION TO STAFF

Explaining the company's painful fall from grace last quarter, Digital Equipment Corp CEO Robert Palmer told employees that the \$183m arose because "for some specific products, demand actually exceeded forecasts by such an amount that we did not have sufficient ability to ship and we missed revenue opportunities," while some product areas had "unacceptable" levels of discounting. In workstations, the company initially had a product forecast of about 15,000 units. But in January, that increased to about 19,000 "and by the time the quarter closed, we had orders for 21,000 units," he said. There was also more pricing pressure than expected on Consulting and Multi-vendor Consulting Services contracts especially in the renewal and new business areas, and DEC "incorrectly predicted" how much customers would shift contracts to per-event consulting. 30% of the disks shipped in the quarter did not turn into revenue, but ended up in its "pipeline." DEC currently does only about \$150,000 per employee where its leading competitors do \$300,000 per employee.

"CHIP MARKET HEADS FOR \$100,000m"

The worldwide semiconductor market will reach \$100,000m this year, reckons Dataquest. By next year, says the market researcher, microcomponent parts will overtake memory chips as the dominant semiconductor product. Asia-Pacific and the rest of the world will have 28% of the market by 1998, with China the largest consumer in the region. North America is expected to make up 34.7% of the total market in 1998. While the North American and Asia-Pacific regions will continue their growth of the past few years, Japan and Europe will grow more slowly. Japan will be hard hit as electronic manufacturing migrates to other nations in the region.

SCO NAMES FORMER NCR MANAGER AS CFO

Santa Cruz Operation Inc has completed its executive search for a chief financial officer, bringing in 21-year NCR Corp veteran Alok Mohan as senior VP operations and CFO. Mohan, who's been consulting for SCO over the last three months, is expected to free-up CEO Lars Turndal's time so he can concentrate on markets and products. Mohan will be in charge of finance and business planning and is expected to bring SCO's operations more into focus by controlling expenses and planning investment. He's also expected to provide some much-needed tuning to SCO's strategic direction. At NCR Mohan was VP and general manager of the workstation products division, overseeing the unit whilst it doubled its revenues from \$500m to \$1,000m between 1990 and 1993.

EDS RETAINS SANTA CRUZ AS SERVER OPERATING SYSTEM VENDOR

EDS Europe's Technical Products Division has retained Santa Cruz Operation Inc as a supplier of server operating systems for certain of its "important, trans-European information system projects." Under the accord, the Technical Products Division of the Electronic Data Systems Corp subsidiary has already taken 1,000 licenses to Santa Cruz's Open Server Enterprise. "The need to develop an evolutionary client/server system, operating on a range of different systems exploiting the considerable power of Pentium, without as well overcharging slower systems, constitutes an absolute priority," said David Eakin, managing director of Technical Products Division for Europe, in a statement. "Santa Cruz Open Server enables us to attain this objective." Santa Cruz also announced Santa Cruz Global Access (UX No 477), a "Windows friendly" server that enables users to access business applications on "information highways" such as Internet. SCO says it is the first to commercialise the Mosaic multimedia application from the National Supercomputing Center at the University of Illinois. The hypertext application enables users to navigate the libraries of public and private information available through Internet. Global Access can be used on Windows-based personal computers, thanks to the Wintif technology developed by Santa Cruz's subsidiary IXI Ltd in the UK. Using IXI's X.desktop and Motif technologies, SCO says it will soon convert Global Access functionality to Digital Equipment Corp, Hewlett-Packard Co, IBM Corp and Sun Microsystems Inc RISC systems.

SGI FOUNDER SETS UP MOSAIC COMMS TO EXPLOIT INTERNET GRAPHICAL INTERFACE

The new company set up by James Clark, the founder and former chairman of Silicon Graphics Inc, is Mosaic Communications Corp, formed in Mountain View, California with six programmers that helped to create the Mosaic graphical interface for navigating the Internet at the National Center for Supercomputing Applications at the University of Illinois. Mosaic is designed to make it easy for users to find information about specific topics on the Internet's thousands of databases by applying hypertext technology, which links the separate databases with key words or phrases. Mosaic has been provided free to users of the Internet, and the University of Illinois says that about 250,000 copies of Mosaic have been downloaded, and as many as 1m people use it. Mosaic Communications plans to develop a commercial version of Mosaic, but Dow Jones & Co reports that many companies are seeking licenses to develop commercial versions of Mosaic, or are developing their own copies of the concept, and Illinois has already licensed Spry Inc, Seattle; Santa Cruz Operation Inc (see above) and Quarterdeck Office Systems Inc in Santa Monica, and is in negotiations with many others.

COMPAQ STYMIES POWERPC GOSSIP

Compaq Computer Corp is fed up with all the gossip that it might be considering a diversification into PowerPC-based machines, telling *Electronic News* that "it's not on our road-map at all: it says it is doing due diligence on PowerPC machines in the labs but has absolutely no plans to market anything. It sees no need to switch from iAPX-86 architecture for the desktop or notebook, and if it were to move to RISC in servers, the PowerPC is by no means the only RISC game in Houston - it gives the impression that a return to the Mips Technologies Inc architecture would be equally likely in that event. It sees PowerPC as far from complete, agrees that separate reference designs from Apple Computer Inc and IBM Corp are a source of confusion - and no, it has no plans to buy a license to System 7.

NEXT SHIPS ALPHA VERSION OF ENTERPRISE OBJECTS FRAMEWORK

NeXT Computer Inc has started shipping alpha versions of its Enterprise Objects Framework (UX No 478), which is claimed to make it easier for developers and end-users to access relational databases. The product includes a development tool, BusinessModeller, which enables users to read and write data from relational tables to objects using point-and-click techniques, and to specify the business processes for accessing and using that data. It will run under NeXTStep and Portable Distributed Objects (UX No 459) and be announced at the NeXTStep developers conference in June, along with the latest version of NeXTStep and version 2.0 of PDO. PDO 2.0 incorporates NeXT's C++ compiler and a NeXTStep-compatible version of the Free Software Foundation's GNUmake, and will support Hewlett-Packard Co's HP-UX and SunSoft's SunOS and Solaris. Support for Digital Equipment Corp's OSF/1 is also planned by the autumn, and Data General Corp is said to be working on its own port. NeXT is also expected to provide details of its OpenStep specification (UX No 464) at the developers conference.

PAGEAHEAD OFFERS CLIENT-SERVER DATABASE CONNECTIVITY

Seattle, Washington-based PageAhead Software Corp has a new client/server database connectivity tool it says allows developers to turn Unix applications into ODBC-enabled client/server applications without re-engineering data. Simba/Engine C/S, which has client and server components, can access proprietary, non-SQL data on Unix platforms, the company claims. SimbaClient (an ODBC driver) packages ODBC SQL calls from a Windows application and sends them on to SimbaEngine on the Unix server, which sends processed results back to the client. SimbaEngine is up on AIX, SCO and Solaris, with other Unix ports scheduled - Mac and OS/2 SimbaClients will follow the initial Windows offering. Prices go from \$12,500. +1 206 441 0340.

3DLABS TARGETS GLINT GRAPHICS PROCESSOR ATPC MULTIMEDIA MARKET

3DLabs Ltd, formerly known as Du Pont Pixel (UX No 483), will target its GLiNT 300SX three-dimensional graphics processor at the PC multimedia market. The chip has 1m transistors and 250,000 gates - the aim is to cut silicon by September. GLiNT will be available by January 1995. The Egham, Surrey-based Du Pont management buyback estimates it'll generate \$70m revenues a year. GLiNT cost \$20m to develop - the firm says its talking to most of the major vendors, including Apple Computer Inc about taking it.

EDIAS TAKES FORCE-5 TO US

European value-added distributor Edias Software GmbH, Frankfurt, has recently set-up in Prescott, Arizona, to market Force-5, which it describes as a development environment for creating applications that are portable across operating systems, databases and interfaces. Force-5 originates from the Netherlands firm of the same name, and is based on work that started as Force-3 and Force-4. The developer uses graphical tools to put applications together rather than writing code as such. The company says Force-5 uses object techniques - generating its own P-code - to create applications which can, for example, be developed under Windows and run without modification on Unix under Motif, or built upon Informix and deployed on Oracle. Force-5 supports Windows, OS/2 Presentation Manager and Motif or Open Look on SCO Unix, Unix System V, SunOS, Solaris, AIX and HP-UX - Sybase, Oracle, Informix, Ingres and FairCom databases. A Windows evaluation kit which comes with SQL back-end is \$90 - development systems are from \$2,500 plus \$100 run-times. Edias isn't sure how a predominantly non-US piece of software will go down in North America, and isn't making a big deal about Force-5's lineage. The company, which distributes and supports SCO, JSB, Century Software and other application software across Europe is part of the World Buying Group, a band of distributors whose mission is to hunt-down new software products for its members to market in Europe, the US, Australia and elsewhere. Force-5 is now jointly-owned by Edias and San Juan, Puerto Rico-based firm, Engineering Support Systems (ESS). The two firms contracted Force-5 to bring the environment to product-readiness. Edias will sell and support Force-5 in the US, Europe and other countries, ESS will distribute the package in Central and South America. The Prescott site has four staff. +1 602 771 2878.

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Motorola Computer Group has signed a worldwide deal for **IXI Ltd's X.desktop** on its 88000 servers.

Aries Research Inc says it'll offer the new 80MHz to 110MHz **Ross Technology Hyper-Sparcs** in its Marixx workstations as soon as the parts become available.

Lotus Development Corp's AmiPro 3.0 is now up on HP-UX under Motif from \$500: AIX and Solaris versions are expected in the third quarter.

Waltham, Massachusetts-based **IRI Software Inc's DataServer Analyzer** sales and marketing software is now up on **DEC's Alpha AXP OSF/1**. +1 603 436 6690.

Autodesk Inc's AutoCAD designer is up on **Sun** workstations starting at \$1,500

RS/6000 OEM Bull is expected to debut the latest RS/6000s as its DPX/20 Set 4b line.

Micro Focus Plc has put its Cobol development and compiler software up on **Silicon Graphics Inc's Indigo** desktops and Challenge SMP servers - prices go from \$1,250. Its Cobol v3.2 is now also up on SCO Unix: optimised for Pentium and 80486 systems it is priced at from \$1,250.

Folsom, California-based **Objective Systems Integrators** is offering version 3.2 of its Net-Expert network management system for Sun users which runs in conjunction with Sybase, Informix and Ingres - support for Oracle, IBM, HP, DEC, SGI and Tandem Unix kit will follow later in the year. +1 916 353 2400.

Tadpole Technology Plc is now offering a version of its SparcBook 2 portable with two 520Mb disks: with 16Mb RAM, a 1Gb version is \$14,500 - SparcBook 2 upgrades are \$3,000.

Boole & Babbage is offering version 3.1 of its Command/Post fault management system with new terminal emulators and APIs at from \$60,000.

Process Software Corp is to begin offering **AGE Logic Inc's** PC-to-Unix application package, XoftWare/32 for Windows, at from \$400.

Data General Corp is putting **Cogent Information Systems Inc's** financial software up on AViiONs: Sybase System 10 components SA Companion, SQL Monitor and SQL Debug are now available on AViiON - Replication Server, now in beta, is slated for the third quarter.

Seattle, Washington-based **FourGen Software Inc** has opened an office in Singapore to serve the Asia/Pacific region.

Infinity Software Inc, Mountain View, California, has signed French integrator **Axime SA**, Paris, to distribute its Montage financial software in Europe. Axime: +33 1 4009 3610.

Sun Microsystems Inc has opened an office in Midrand, South Africa, midway between Johannesburg and Pretoria.

Boole & Babbage Inc, Sunnyvale, California has a letter of intent to acquire **Synet A/S**, an Oslo, Norway-based provider of system administration software for distributed client-server environments in a deal worth \$4.1m in cash plus contingent payments based on product performance; its sales force will begin distributing Synet's products immediately. Product development will remain in Oslo.

UK software and services house **Logica Plc** is to market the **Isis Distributed Systems Inc** network application development toolset to London trading room dealers and is readying its own suite of software using the environment.

London-based **Parsys Ltd's** Inmos T9000 transputer-based massively parallel systems are to be sold by Wigan, Lancashire-based **Sension Advanced Computing**, which is opening for business in Portland, Oregon, this month. Parsys +44 81 579 8683. Sension +44 942 620 033

SunSoft Inc is paying Indian firm **BFL Software Ltd**, New Delhi, \$380,000 to develop new device drivers for Solaris: BFL has a host of development contracts from IT firms in the West.

UK firm **Admiral Software Plc** is distributing Oracle and Sybase utilities from California-based firms **DataTools Inc** and **Management Information Technology Inc**.

Nihon Sun Technology Enterprises has a Japanese language version of the **SunPro** Workshop development toolset for C, C++ or Fortran.

In conjunction with **Digital Sound Corp**, **Unisys Corp** has launched **NAP VoiceSource** Unix, a set of Unix-based mid-range message processing systems. NAP VoiceSource Unix includes a Unix-based system, speech recognition or hands-free operations, and speech applications such as Voice Mail, Voice Forms, Fax Messaging, and Call Processing/Audiotex. It is interoperable with other Network Applications Platform systems.

It would be very uncharacteristic of the Japanese company, and does not seem likely, but *Infoworld* columnist Robert Cringely suggests that **NEC Corp**, yet to find a way to sell its own **Mips Technologies Inc** RISC boxes in satisfying numbers, would like to buy the only company that has really pulled the trick, **Silicon Graphics Inc**, if the share price ever lapses into a decline.

When **Apple Computer Inc** entered the Japanese market in 1977, recalls the *Los Angeles Times* fondly, its name recognition was so low and management co-ordination so poor that its first shipment of Apples was met by a refrigerated truck...

Diversified Andataco Inc, the San Diego firm that bought the **Liken Mac-under-Unix** emulator signed a value-added reseller pact with **Cray Research Inc** to remarket its Superserver 6400 with its own storage.

Ann Arbor, Michigan-based **Cleo Communications Inc** has announced its **Linkix SNA/Token Ring** software, said to provide Systems Network Architecture communications for Unix systems in Token Ring local networks. According to Cleo, its product works with Token Ring adaptors (not included with the offering) to provide multi-user Systems Network Architecture links for iAPX-86-based computers running Santa Cruz Unix or UnixWare. The offering will list from \$1,800.

Motorola Inc says its RISC Microprocessor Division plans to implement its PowerPC microprocessor compilers for **Apple Computer Inc's** Power Macintosh computers, making the C, C++ and Fortran compilers fully compatible with Apple's Macintosh Programmers' Workshop development environment; it will begin accepting orders in July for the products, which start at \$350.

Novell says 20% of its total revenues are now derived from Unix, including connectivity products and source licence royalties. It expects 80% of UnixWare sales to be server installs (UnixWare Advanced Server), the other 20%, UnixWare Personal Edition clients or standalones.

UnixWare and NetWare are due to converge by 1997 appearing as two personalities sitting on top of a microkernel. Both operating systems will eventually be object-oriented, and **USL** is already designing object-oriented application development tools. However, **USL** has focused its development work on the Chorus microkernel, while the NetWare group has thus far concentrated its NetWare efforts on Mach. **Novell** says it's still evaluating which technology best fits its needs and may even take the best of both. Meanwhile, it adds that the work being done by members of **Chorus' Stream** project (UX No 486) will be fed back into the **UnixWare Technology Group** (UX No 476).

X/Open Co Ltd will have system software suites for testing Spec 1170-conformance in place by the middle of the fourth quarter, and application test suites ready by the first quarter of 1995.

It seems that interest in Linux - see page 2 - is rising - two computer scientist students at Bowdoin College in Brunswick, Maine, Charlton Wilbur and Jem Lewis, are now developing a version of the SVR4 clone to run on Apple's Power Macintosh machines. They expect to have a relatively bug-free OS out by August, and will make it publically available. Although it won't initially be binary-compatible with Linux, the ultimate aim is to make the two systems source-compatible.

SCO is set to make an announcement today (Monday), thought to be a strategic marketing alliance with AT&T GIS (NCR).

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HITACHI HANDS-DOWN A BLUEPRINT FOR THE FUTURE

There has been a suspicion that there was more than met the eye in the IBM Corp-Hitachi Ltd announcement on April 27 (UX No 485), and last week the Japanese giant stepped into the breach, handing down a statement of direction on the technology exchange alliance it's struck, effectively a blueprint describing how it'll be betting most of its future business on IBM-derived technologies. However, as well as taking Power/PowerPC and CMOS mainframe technologies from IBM, Hitachi believes there will likely be significant traffic the other way - including the hybrid Summit-follow-on it's designing (*see page 2*) and maybe a parallelised OSF/1 Mach AD kernel. The alliance is also the take-off point for Hitachi's open systems makeover that's been long-gestating internally, and the way Hitachi Data Systems Ltd tells it, there seems little that's precluded from the deal. Importantly, it says, the deal will allow it to re-direct much of the \$5,110m it currently spends on R&D every year. It warns us to expect much more from the agreement than has so far been made public and expects a further round of IBM announcements based upon the agreement over the next quarter. In typical fashion, IBM refused to comment on any parts of Hitachi's statement.

...HAS RIGHTS TO RS/6000s, PLANS 200MHz POWER CHIP-SET, POWERPC SYSTEMS AND MORE...

We understand the alliance gives Hitachi rights to re-badge and market IBM's RS/6000 AIX line as well as future products, to resell the SP2 PowerParallels, manufacture Power architecture chips, develop its own implementations and more - most of which, it says, hasn't been decided yet. The parent company has already said it will offer SP2 PowerParallels in Japan - HDS is evaluating it for sale elsewhere, but says it'll add its own middleware and database software if it takes that route. In part, it depends on whether customers can wait for a line of parallel systems Hitachi itself plans for 1996. They will come with up to 128 nodes and use an Hitachi implementation of the Power CPU, running at around the 200MHz mark and doing up to 400 MFLOPS peak on each processor. Running a parallelised version of Hitachi's HI-OSF/1 operating system they'll start at around \$250,000. Further out, for the market below \$200,000, Hitachi plans PowerPC-based SMP servers with up to eight (or 16) processors that will use PowerPC 620s or whatever PowerPCs are around at that time. The servers will run HI-OSF/1, though where required, users will be able to toggle into Windows NT. Native NT and other HI-OSF/1 systems are seen in the plan, possibly desktop workstations too, though Hitachi doesn't consider HI-OSF/1 appropriate below the \$10,000 barrier. HDS says it hasn't decided whether it'll take RS/6000 technology direct to fulfil any of these requirements. Under Hitachi's existing affiliation with Hewlett-Packard Co, it already manufactures Precision Architecture RISCs and offers PA-RISC-based workstations and a massively parallel system in Japan. Although HDS promises API compatibility across PA and Power/PowerPC platforms - it is keen to play down the architecture issues - it is unclear whether the MPP PA systems will see the light of day outside Japan or whether there will be any further PA-based products. Indeed the HP relationship looks like being the net loser in the new alignment.

...SEES IBM AS SUITABLE CUSTOMER FOR PARALLEL MACH AD

Hitachi's HI-OSF/1 Unix uses the Mach AD microkernel and is being enhanced for parallelism. SPEC 1170 compliance, API compatibility across all HI-OSF/1 systems and ABI compatibility for software developed for AIX on Power is also promised, along with a common application environment, tools and other functions from Osiris, its collection of HI-OSF/1-based middleware, networking and application technologies already up on some of its mainframes. Osiris includes HI-OSF/1, C and Fortran compilers, DCE, Network File System servers (using dual-channel attached and Etherneted Sun Sparc systems as network co-processors), hierarchical storage management, database servers and OLTP. This week it'll add support for Epoch backup and storage and the Veritas file system. It plans C++ and Cobol support and is evaluating code generation technologies that will enable parallel applications to be developed on workstations. Token Ring, FDDI, X.25, ATM, ISDN 100baseT, SMDS and Frame Relay are also in its plans. Hitachi will extend Osiris support to most of its mainframe and RISC platforms and may add CICS to the environment as well, although it is developing its own CICS alternative called Btran. Moreover, HDS thinks it highly likely IBM will become a customer for its parallel Mach AD microkernel because although parts of AIX went to make up OSF/1, the AIX kernel remains essentially a uniprocessor affair. Where this would leave the SMP extensions to the AIX Groupe Bull and IBM are working on is unclear.

SCO NOT FOUND A BUYER, YET

Although Santa Cruz Operation Inc executives were on hand last week to try and dampen speculation that they've been hawking to potential buyers - and we've heard SunSoft, Novell and even CA mentioned in dispatches that go back many months - our sources indicate that as recently as last month the same executives were over at SunSoft trying to shop the operation. The fact that reports of talks between the two firms are now so widespread isn't really surprising given that SCO's apparently been making similar approaches at regular intervals for the last 18 months or so. So, how come it's still independent? SCO's problem, said our source, is that it owns no technology and has an installed base that won't grow any bigger. Founders are also reportedly looking for between \$12 and \$15 a share, whilst the company is trading at between \$5 and \$6 currently. Now at the right price, they say... *SCO's Unix technology buyout, new systems management suite, see page 3.*

UNIX IS A REGISTERED TRADEMARK OF X/OPEN

X/Open Co Ltd and Novell Inc have finally executed the Unix trademark contract: as from now, the correct trademark reference is "UNIX is a registered trademark licensed exclusively by X/Open Company Ltd." Users that can demonstrate compliance with Spec 1170, due in the third quarter, will be able to by-line their software and manuals, "branded X/Open Unix." X/Open will produce a catalogue of Unix vendors and issue certificates of proof.

XHIBITION94

CORPORATE DEVELOPMENT CONFERENCE

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FEATURING:

KEYNOTE

Alvin Toffler, author of *FutureShock*
- Wednesday June 22 @ 9 am

PLENARY

Timothy Leary, leading influencer of the futurist movement
- Thursday June 23 @ 1 pm

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IBM "MAY OEM" HITACHI'S NEXT GENERATION MONOLITHIC MAINFRAME

Working through its statement of direction last week - see front page - Hitachi admitted it is quietly confident IBM Corp will announce within the next three months that it will take Hitachi's next generation monolithic mainframe processor on an OEM basis. In addition to taking IBM's new CMOS 390 processors in single and parallel processor configurations (UX No 485), Hitachi is developing a Summit series follow-on machine it is calling the S/390 Classic that will employ a Hitachi-designed CPU with bipolar ECL and CMOS techniques implemented on the same chip, going to 60 mainframe MIPS per CPU. HDS says the machine - which it claims is much less than two years away - will offer twice the performance of the current Hitachi Data Systems GX 8000 uniprocessor. The single image system will support up to 16 CPUs and run MVS and Hitachi's HI-OSF/1 Unix, though it's also seen as a migration route for non-MVS customers (VM, VSE and TPF) up to a Parallel Sysplex environment. HDS says the new CPU will be significantly cheaper to manufacture than existing mainframe parts. It'll continue to sell its GX6000 series for a while - it hasn't sold EX systems for some time. It is easy to justify the need for a new generation of mainframe, it says. It points to the likes of the UK's Barclay's Bank Plc, which has told HDS it would take 11 years to re-write its 3,000-odd mainframe-based backroom applications for client/server.

OBJECTS WILL PROVIDE TIGHTER INTEGRATION FOR NOVELL

Novell Inc will clarify its object technology strategy next month, introducing new products and modifying old ones to integrate NetWare, AppWare, and the OpenDoc compound-document architecture more tightly, reports *PC Week*. Novell's overall object strategy is reportedly two-pronged. OpenDoc will be used to build document and data-centric applications, while the AppWare Bus will be used to build more complicated, process-centric applications. Both OpenDoc and the AppWare Bus assemble applications from components, while the AppWare components, AppWare Loadable Modules, incorporate application logic rather than documents or data. Novell intends to build a NetWare Loadable Module that enables the OpenDoc storage model to interact with the NetWare file system - NetWare's file system will recognise files stored with Bento, OpenDoc's object-oriented storage model. One potential benefit of this link would be to give NetWare users the ability to search OpenDoc files based on content - something that NetWare's file system does not yet allow. Novell will also reportedly re-engineer the AppWare Bus, which coordinates communication between ALMs, to fit IBM's System Object Model, the language and platform neutral architecture that underlies OpenDoc. This will give developers a means of linking programs written for the different architectures. Meanwhile, Novell also plans to combine Borland's Object Windows Library with AppWare Foundation to enable developers to build cross-platform applications and OpenDoc parts - Novell and Apple announced they would jointly market Object Windows Library for the AppWare C++ framework last week at the Apple Worldwide Developers Conference. The aim is to provide developers with C++-based cross-platform development libraries so they can develop applications for multiple environments, including Microsoft Windows, Apple Macintosh, UnixWare, SunOS, HP-UX, OS/2, Windows NT, Chicago and AIX, from a single source code base. ObjectWindows for AppWare Foundation will also support OpenDoc, and Novell's recent acquisition, WordPerfect, is said to be developing technology called Seamless OLE, which lets OpenDoc interoperate with OLE. An ObjectWindows for AppWare Early Experience Program is scheduled to begin summer of 1994.

SUN RUSHES OUT NEW SPARCSTATION 5 MODELS TO MEET DEMAND

Sun Microsystems Computer Corp last week rushed out new 85MHz models in its Sparcstation 5 family only two months after the original machines were introduced - and when the 85MHz version of the microSparc II was only sampling. The new models are a response to unexpected demand for high-end models. It added an 85MHz system with a 17" colour monitor, TurboGX graphics, 32Mb memory and 1.05Gb disk for \$9,600; a 70MHz system with 20" colour monitor, TurboGX graphics, 32Mb memory and 535Mb disk for \$9,545; an 85MHz system with 17" colour monitor, TurboGXplus graphics, 32Mb of memory and a 1.05Gb disk for \$11,600; and a 70MHz system with 20" colour monitor, TurboGXplus, 32Mb and 535Mb for \$11,545.

NEW 64-BIT RISC POWERS LATEST MODELS OF FUJITSU K-SERIES

As well as its new DS/90 HyperSparc-based servers (UX No 487), Fujitsu Ltd also previewed a complete new range of models in its proprietary K-series of minicomputers. The new models are designed to provide more power - through a new proprietary 64-bit RISC chip - while at the same time maintaining software compatibility with the installed base, which stands at around 547,500 units. The K-series was launched in 1984 and runs a lot of Japanese packages for applications in local government and general business processing. The new models have a 30 times performance boost for programs written in C, says Fujitsu; other new functionality provides connectivity with the DS/90 Unix series for dual server configurations, and possible connectivity to multimedia network systems in conjunction with facsimile and character recognition devices. The K6000 series start at \$27,880 and Fujitsu expects to sell around 113,000 over the next two years. Underlining the trend towards Unix servers replacing the proprietary minicomputers, Fujitsu has converted the remaining two modules of its best-selling SuperCapsel K-series business package for the DS/90 series. A sales information and a personnel information system are added to the Accounting and Salary modules already up on the DS/90 7000s. Fujitsu looks to sell 1,000 copies over three years.

INTENSE COMPETITION CHIPS AWAY AT PROFIT GROWTH FOR HEWLETT-PACKARD

Hewlett-Packard Co has reported second quarter net profit up 17.6% at \$408.0m on turnover that rose 22.7% at \$6,254m. At the mid-term, net profit rose by 27.6% to \$776.0m on turnover that climbed 23.4% at \$11,936m. Net earnings per share rose 13% to \$1.56 in the quarter, 24% to \$2.98 in the half. The figures show HP is still storming ahead, with orders in its fiscal second quarter to April 30 up 19%, compared with 18% in the first quarter, but the sales mix and competitive pressures started to gnaw away at profit growth. Orders were up 19% at \$6,400m, but was slewed towards lower-margin products - there was strong demand for personal computers and DeskJet printers. Order growth for the older LaserJet printers was modest in line with expectations, it said. Orders for the crucial Unix-based systems and servers continued to grow but total workstation orders actually declined. Demand for consulting services and for its network management software was "excellent". Test and measurement orders rose 16% and orders for communications and personal computer board test equipment also rose. US orders outpaced the rest of the world, rising 25% to \$2,900m, orders from outside the US rising 13% to \$3,500m but a rise in cost of goods sold to 62.2% from 58.8% a year ago was reflected in slowing profit growth: this was attributed to competitive pricing pressure and a shift toward products with higher costs of sales. It said it still faces intense competition and a mixed economic environment worldwide. In other businesses, HP said demand for components products increased 32%, driven by order growth in diodes, transistors and fibre optic components. US sales rose 26% to \$5,300m, sales in the rest of the world were up 22% on last year to \$6,600m.

HDS OFFERS X TERMS FOR IBM MAINFRAME MARKET

King of Prussia, Pennsylvania-based Human Designed Systems Inc has added a line of X terminals designed specifically for IBM Corp environments which include Token Ring support, 3270 emulation, full motion video, teleconferencing over Token Ring or Ethernet and a PCMCIA slot. HDS says its ViewStation TR series can connect Token Ring, Ethernet and PPP networks simultaneously, includes 3270 emulation for IBM mainframe connectivity, DEC VT320 emulation, Motif 1.2 and OpenLook 3.0 and HDSperx X applications, with a range of additional options. It says users can convert their own applications to run locally inside the X terminal with Human Designed's Developer kit, which enables users to cross-compile applications on an RS/6000 or Sun workstation. Users could write Motif applications and run them on an IBM 390 without having X Window there. The chip, not identified, is presumably the same Intel Corp 80960 used in the other ViewStations. Prices go from \$1,400 with 14" monochrome screen to \$3,700 with 19" Trinitron colour screen. +1 610 277 8300.

SCO BUYS OUT SOME UNIX TECHNOLOGY LICENCES FROM NOVELL...

Quietly and without fanfare, the Santa Cruz Operation Inc has used some of its spare cash to buy out some Unix technology licences from Novell Inc, the one's it's been paying for directly, including development tools and other, unspecified pieces of code. IPX/SPX protocols are already paid in full. This doesn't include SCO's Unix OS licence - to pre-SVR4 technology - which it gets secondhand from the deal its equity holder Microsoft Corp has with Novell. Microsoft, apparently the proud holder of a comparatively unencumbered Unix licence, is unlikely to buyout its licence à la SunSoft Inc, which like other SVR4 licence holders was being kept to what have been described as "onerous" licensing terms. Indeed terms of the SVR4 binary licence agreement are the main reason SCO never went that route. OEM and resale restrictions demanded by volume Unix licensing and pricing terms would have been unbearable, it observes. It would have meant, for example, that if SCO had sold a Unix SVR4 implementation on to say Compaq Computer Corp, and then Compaq had found a bug and fixed it, SCO would have been in breach of contract. On kernel issues, SCO simply doesn't have the licensing restrictions that Sun faced, it says.

...READIES EASY-USE SYSTEMS MANAGEMENT...

New CFO and VP operations Alok Mohan, a former NCR workstation general manager, certainly seem to have shaken some life into SCO's strategic vision in the three months he's been there. Santa Cruz Operation Inc executives, including president and CEO Lars Turndal and VP and chief technology officer Doug Michels, last week steeled themselves to outline a long-term plan that will see the company refocus its efforts in three markets: small-to-medium sized business market, branch automation - including replication and mobile computing servers - and point-of-sale systems. Servers rather than desktops. As well as Windows-friendly, reliability, availability and serviceability, SMP and database technologies, SCO will be adding easy-to-use systems management to its armoury. In the next release of its OS technologies - it says between three and nine months off - SCO will add what it describes as an object-based "idiot-proof" distributed systems management environment for performing basic tasks like distributing software or updates to multiple sites and administering print resources. Its intent is to interoperate, not to compete with other network and system managers. It enables its technology to be managed, for example, by SNMP managers like OpenView. That is relatively easy as SNMP is well defined. Less easy is the plan to co-exist with whatever the current crop of systems management efforts throw up. X/Open's working group has already standardised on at least part of the Tivoli environment - OSF and former COSE efforts are less well understood; perhaps even in conflict according to some accounts. That's why SCO is keeping its people on those committees, it says, indeed it still chairs the COSE working group in that area.

...SEALS AT&T GIS PACT AND HOISTS IDC NUMBERS

Using IDC figures to bolster its claim that it really is the only visible player in the Unix-on-Intel space, SCO last week cemented its expanding relationship with AT&T GIS, signing a worldwide marketing, support and technology exchange agreement with the former NCR unit. AT&T has sold some 20,000-odd SCO-based servers since 1992 and SCO believes its OpenServer Unix products will now be offered as AT&T GIS' standard platform for small and medium sized business. SCO has licensed AT&T's Disk Array Plus RAID 5 software for use in future products and is apparently eyeing other kinds of gateway technology too. AT&T GIS, already a SCO partner of sorts, was particularly keen on SCO's Internet bundle, we hear. It'll now become the largest OEM for SCO subsidiary IXI Ltd's Win-tif technology - it already takes X.desktop. SCO's favourite IDC charts show it holding 33% of the worldwide Unix server market, with AIX at 8%, HP-UX 5%, UnixWare 2%, Solaris 1%, NeXTStep 1% and others - about 30 firms with less than 1% including AT&T GIS, Unisys, DEC, SNI, ICL, Olivetti, Bull, Hitachi, Sony - at 48%. Its plan is to work for the signatures of the 48%. According to its figures it outsells UnixWare on Intel by 15 to 1 and NeXTStep by 153 to 1; Solaris by 10 to 1, HP-UX by 6 to 1 and AIX by 4 to 1. The IDC figures show it with 91% of the Unix servers/hosts shipped on Intel boxes. Against ships of other "advanced operating systems" defined by IDC as typically 32-bit, portable, multitasking, unbundled and multiprocessing, SCO shows at 14% against NetWare with 44%, other Unixes with 21%, OS/2 8%, AIX 4%, NT 4%, HP-UX 2%, Solaris 1%, and UnixWare and NeXTStep less than 1%. Unix server/host ships totalled 468,000 last year IDC says, with NetWare at 476,000, OS/2 90,000 and NT server 40,000. It predicts 380,000 Unix host system software ships this year - 186,000 servers - 52,500 NT server ships and 561,000 NetWare 3.x server ships. It reckons that will rise to 420,000 and

261,000; 90,000 and 595,000 respectively by next year and 510,000 and 392,000; 260,000 and 612,000 by 1997. IDC's six-month outlook has SCO holding a "current solid position in small hosts, future vulnerability;" NT "momentum slowed, Chicago positioning issues;" NetWare "relatively strong momentum;" UnixWare "big disappointment, positioning problems with NetWare;" IBM "potential OS/2, AIX confusion with Workplace OS;" and SunSoft "Solaris/Sparc solid but Solaris/Intel has gone nowhere."

COMPUTER ASSOCIATES TO PAY \$311m FOR ASK GROUP

Ask Group Inc doesn't look too long for this world in its present form, we wrote in February, noting that Computer Associates International Inc was by far the most likely company to want to buy it. Last week it happened, with the definitive agreement to acquire Ask for \$13.25 a share cash, valuing the company at some \$311m. As we pointed out earlier this year when the shares were trading at only \$8.375, the company looked like a bargain with over \$400m in annual sales, and that a bid of only \$13 to \$14 a share would enable the two largest shareholders, who bought at about \$10.75 a share, to wash their faces (UX No 474): yes indeed, Electronic Data Systems Corp and Hewlett-Packard Co, Ask's two largest shareholders, have agreed to tender their shares, which together represent 27% of the total. Ask has amended its shareholder rights plan so the acquisition can be completed triggering the poison pill. The most important part of Ask these days is its Ingres relational database subsidiary, which has been having a tough time of it in the market, and Computer Associates was seen as the only one likely to be interested in buying it because there is a common code base to Ingres and the CA/Universe product; Ingres's other rivals were doing too well wooing its customers away to want the hassle of buying it. Ask's original core product is the ManMan manufacturing suite, now offered as ManMan/X for Unix; the company also offers SIM/400 manufacturing software for the AS/400.

COMMON OBJECT MODEL SPECs DUE

Digital Equipment Corp and Microsoft Corp are expected to publish specifications for their Common Object Model in the next couple of weeks (UX No 470). COM will enable DEC ObjectBroker users to access and encapsulate objects in the Microsoft Object Linking and Embedding world and vice versa. It will comprise a set of application programming interfaces, and detail the underlying communications protocols that enable ObjectBroker and OLE to make common calls - these are essentially DCE RPCs with added functionality. Meanwhile, DEC will release version 2.5 of its ObjectBroker (UX No 474) object request broker next month. This will provide an external gateway to OLE and enable ObjectBroker applications to access data held in OLE applications. Version 3.0, which should be available by the end of the year, will implement COM fully.

WIPRO TO DO CHORUS EXTENSIONS IN BANGALORE

France's Chorus Systems SA and India's Wipro Infotech Ltd have signed a three-year agreement to cooperate on microkernel technology. A research and development lab, poetically called Symphony for Chorus, will be set up in Bangalore, India staffed and managed by Wipro to do extensions to the system. Both companies are investing in the operation. A core team has been trained at Chorus in France and US for six months as well as by Chorus personnel in India. The Symphony team will be involved in R&D projects relative to the Indian and international markets. Chorus says the relationship could deepen in time. Wipro will also market the system to local customers and do service support.

OBJECT NEWS ROUNDUP

By Cath Everett

ExperSoft Corp set up a UK subsidiary two weeks ago with the help of venture capital funding from Philip Hill, now chairman of the ~~Bagshot, Surrey-based division, Graham McAulister, and Stuart Dunlop~~, now director of technology - the three previously helped **KnowledgeWare Inc** and **Bachman Information Systems Inc** move to the UK. ExperSoft Ltd has seven staff and expects to generate revenues of between £750,000 and £1m in its first 15 months of operations. The firm will also appoint a couple of value-added resellers over the next couple of weeks, and hopes to establish an office in the Benelux and another in Scandinavia in the next two to three months.

NeXT Computer Inc is now shipping beta versions of its NeXTStep operating system and its NeXTStep Developer development environment for Hewlett-Packard Co HP 9000 Series 700 workstations. Release 3.2 of NeXTStep will be available in the summer, and HP says it will pre-load the software for large accounts. The two also intend to broaden out their Object Enterprise alliance to cover not just the financial services market, but also telecommunications.

Austin, Texas-based **Pencom Systems Inc** has a new X11R5 version of its co-Xist software, which enables NeXTStep-for-Intel users to run X Windows-based Unix applications. Co-Xist 3.2 starts at \$200.

Micro Focus Plc has a new Object Cobol Option application development environment for Microsoft's Windows and OS/2, which it will sell as an add-on to its Cobol Workbench version 3.2. Object Cobol Option enables object and procedural code to co-exist and co-operate, and debugs code at source level - users process syntax with a Cobol compiler, not a pre-processor. The product conforms to the latest ANSI object-oriented Cobol standard snapshot and will ship in June. A 32bit version is scheduled to follow. No pricing.

IBM Corp's Personal Software Products division has a **Microsoft Corp** Windows-compatible version of its SOMobjects Developer Toolkit. SOMobjects integrates Big Blue's System Object Model and Distributed System Object Model, and the Windows version supports C, C++, Visual C++ as well as Symantec, Borland and Watcom's versions of C and C++. It also includes bindings for DEC and Microsoft's Common Object Model, which means that SOM objects can interoperate with OLE 2.0. Pricing has not yet been decided. Symantec Corp will incorporate it in its version of C++; Intelligent Environments Inc is to integrate it into its Application Manager programming tools; Netlinks Technologies's ORBitize distributed object CASE tool for OS/2 and Windows will support it (UX No 470); and Easel Corp will integrate it into Enfin GUI builder and Synchrony tool for designing, assembling and reusing objects.

Easel Corp is shipping version 4.0 of its Enfin O-O development environment for OS/2 and Windows. Enhancements include a new SQL Editor, support for Oracle stored procedures, and a new EHLAPPI interface that supports all compliant 3270 emulators. Windows and OS/2 versions cost £3,500 and £5,200 respectively for the SQL Edition, and £7,800 and £8,500 respectively for the Corporate Edition.

John Wiley & Sons has just published "Real-Time Object-Oriented Modelling", by Brian Selic and Garth Gullekson of Kanata, Canada-based **ObjecTime Ltd** as well as Paul Ward, co-developer of the Ward-Mellor real-time method. It costs \$4495. +416 675 3580.

London-based **DST Clarke & Tilley** is using **Neuron Data Inc's** Open Interface Elements graphical user interface builder to provide all of its asset management systems with a consistent front-end no matter what the underlying environment. DST is also using the Palo Alto, California-based firm's C/S Elements data access facility in its application development. Terms of the deal were not disclosed.

Quebec, Canada-based **Visual Edge Software Ltd** has a new object-oriented Cross-Platform Toolset that enables developers to create graphical user interfaces for Motif and Microsoft Windows environments using pre-built and custom objects based on native toolkit controls. Users then recompile and link the code with each environment's library of objects using third party widgets, Windows controls and class libraries. The initial version of the Cross-Platform Toolset runs under SunOS 4.1.3 and Windows 3.1, but support for AIX, Solaris, Windows NT, Macintosh, and OS/2 will follow. A single user licence costs £1,150 until June 1, £1,750 after that. Maidenhead, Berkshire-based **Protek Ltd** is the firm's sole UK distributor.

Version 2.0 of **NeXT Computer Inc's** Portable Distributed Objects software will be available under DEC's OSF/1 in mid-1994.

Addison-Wesley Publishing Co has published NeXT Computer Inc's NeXTStep Database Kit Concepts: Release 3, which outlines the inner workings of the latest version of the NeXTStep environment. It costs £24.95. + 617 944 3700, ask for Lisa Roth Blackman.

IDG and the **Object Management Group** will host Object World in San Francisco from July 25-29 at the Moscone Convention Center.

Montage Software Inc has started an "Engines for Innovation Research Grant Program" for universities worldwide. From May, computer science departments can apply to take up to five free licenses for Montage's object database. The Oakland, California-based firm's aim is to encourage them to develop data management applications that include data such as video, audio and imaging technology. +1 510 652 8000 - speak to Amy Fenstermaker.

The Network Management Forum has launched a new global on-line bulletin board service, free-of-charge to anyone on the Internet, to define and help co-ordinate the use of Managed Object and Object Ensemble within the industry. The bulletin board comprises two elements: an e-mail exploder list for open discussion of requirements, developer and user issues, feedback and data related to object/ensemble development and use; and a filestore containing object and ensemble definitions and their related documentation as well as summary information of both completed work and work in progress. To access exploder list : nmf-objects@thumper.bellcore.com. To access filestore: access/pub/forum/objects@thumper.bellcore.com.

Manchester, England-based **K2 Software Developments Ltd** is now distributing Martin Marietta Corp's Advanced Concepts Center's Object Modelling Tool in the UK. OMTTool is a graphical tool for analysing and designing object models for applications, programs and databases using the Object Modelling Technique. It runs under Microsoft Corp's Windows 3.1 and costs £1,000. + 44 61 77 78 118.

ADB SA, formerly Intellitic International SA, Saint Quentin en Yvelines, France, has released version 2.3 of its Matisse database management system. Enhancements include embedded SQL with OQL extensions, and additional API functionality. The new release runs on SunOS 4.1.3, Solaris 2.3, HP-UX, VAX, VMX, and KSR series parallel machines. Microsoft's Windows and Apple's Macintosh clients will be supported in the summer. +33 130 14 34 40.

Data Access Corp is shipping version 3.04 of its DataFlex object-oriented application development environment and relational database management system. This now supports IBM's RS/6000 and ICL's DRS/6000, among other Unix environments such as Solaris and HP-UX. + 44 923 242 222.

Several object vendors are starting to move as regards releasing OpenDOC software development kits. **Apple** started shipping its version a couple of weeks ago, **WordPerfect's** is expected any day now and **IBM's** is almost ready too.

IBM Corp has started reselling Redditch, Worcestershire-based **JBA International Plc's** Guidelines I C++ application development tool for the AS/400 worldwide. + 44 789 400 212.

Corvallis, Oregon-based **Rogue Wave Software Inc** has a new memory management library module, Heap.H++. Heap.h++ is optimised for virtual memory execution environments, and is said to make C and C++ programs run from 30% faster. It supports Solaris, SunOS, HP-UX, AIX, Irix, DG-UX and Intel SVR4, and costs £850.

NeXT Computer Inc boasts three new applications running under its NeXTStep object-oriented operating system on Intel and Motorola-based hardware. San Diego, California-based **Pages Software Inc** has started shipping its new document and presentation builder software, Pages by Pages, for £425; and **Sarrus Software** has released version 1.1 of its Pencil Me group scheduling package for £230, and version 3.1 of its SBook diary management tool for £160.

SOLARIS KERNEL ON POWERPC TO DEMO AT COMDEX...

IBM Corp will be showing what there is of the native port of Solaris on its Power Personal Systems Division's PowerPC 601 desktop at Comdex this week. The Power Personal division ~~doesn't have its own showfloor space but will hitch a ride with the~~ IBM Microelectronics people. With the Solaris kernel now up and running on a PowerPC Reference Platform (PREP)-compliant 66MHz machine, IBM says SunSoft Inc engineers in Los Angeles are ahead of schedule on the port. The Solaris file system, comms, Open Look and CDE have yet to make the transition. Details of the the anticipated IBM/SunSoft OEM agreement (UX No 482) - like who owns the resulting source code - are still hung-up with lawyers however, and the two are shy of discussing the business arrangements until the contract is inked. Allow for the fact there are two different organisations within IBM and at least two others outside concerned, IBM advises. The deal is not necessarily specific to the Power Personal crowd either, rather it's bound to the architecture - 601, 603 and 604 ports are envisaged under the agreement. Indeed the technology could even be made available on other IBM PREP-compliant machines (currently there are none apart from the Power Personals), though it's hard to envisage the RS/6000 division, even if it had PREP machines being able to bypass Donna Van Fleet's AIX operation for Solaris. The two will do joint marketing, service and support, and plan an ISV campaign to get Solaris 2.x and x86 applications up on Solaris for PowerPC. SunSoft, it is understood, will offer the same source to other PowerPC-builders and is keen to synchronise the release with its next versions of Solaris Sparc and x86. Beta versions are expected in the fourth quarter with the start of an ISV campaign - general availability is still slated for the first half of 1995.

...Power Personals await "critical mass" of operating systems

When these PCI-based Power Personals will be released and what they'll run on day one isn't IBM's favourite topic of conversation. The general idea is to sell the systems pre-loaded and to offer common service and support for all the operating systems. We've already seen the hardware - the three prospective boxes were on show at UniForum back in March (UX No 482). We know AIX, OS/2, WorkplaceOS, Taligent, Windows, Windows NT and Solaris are due and that SCO Unix, possibly NeXTStep and others may follow too (not all from the outset of course). The problem is political. Assuming reports that OS/2 won't make it to PowerPC until the first quarter of next year are correct, and that a Windows NT port will be done sooner, the struggle is between those who would wait for OS/2 before launching and those keen the press on with what's available sooner. The party line is that the boxes will debut once a "critical mass" - ie three or four - of the five main operating systems are available; by year-end it believes. IBM admits it could easily announce Power Personal AIX systems now if it wanted to get something out immediately, but that's not the gameplan.

WHITE CROSS UNVEILS NEW WX9020 PARALLEL DATABASE SERVER

White Cross Systems Ltd will unveil an enhanced version of its IDS/9010 parallel database server, the WX9020, at DB/Expo this week. The 9020 has a larger cabinet than its predecessor, holding up to 48 T425 processors - there are six to a board and each has 16Mb of memory - and the system is claimed to be more fault-tolerant - it has N+1 redundancy built in and does not crash should one part of the system fail. Each cabinet comes with 6Gb of RAM, and provides 30Gb of disk storage, although the Bracknell, Berkshire-based firm will introduce a new disk controller later in the year. This will store up to 120Gb by supporting twice the number of disks of the previous model and providing disk compression capabilities. However, users can also connect different 9020 cabinets together via fibre optic links, and the White Cross Relational Database Software will still provide them with a single system image. The 9020 is targeted at such markets as retail, finance, insurance and telecommunications, where customers need to make complex queries to large amounts of data. It will start shipping in July, starting at \$700,000 or £150,000.

FORTE SETS ORB STRATEGY...

Development tools firm Forte Software Inc has developed its own CORBA-compliant Object Request Broker as part of an enterprise-wide object-based client/server application development system. The Oakland, California-based company will release the ~~product of the same name in July. It is based on Forte's applica-~~tion partitioning concept, under which an application is divided into services which run on disparate platforms. The system, which uses high level business objects, is compliant with DEC's Object-Broker, under a special relationship between the two, although version 2.0 of the system, due in the first quarter next year, will be compatible with other ORBs; the company hinted at IBM's SOM/DSOM as one. Forte doesn't sit on the CORBA 2 committee because of "lack of time" according to President and CEO Martin Sprinzen, who also pointed to a performance advantage in using an in-house ORB. He didn't rule out using another ORB when CORBA 2.0 gets ratified, though. Sprinzen says that many of the 30 beta test sites are already acting as ISVs, developing application specific objects for the system, and named Centrefile as one. The system will also be made to link with Houston, Texas-based Protosoft Inc's Paradigm Plus object-oriented software engineering tool, in an announcement which will be made in the next month. Users of Forte, which will have a five or six figure price tag, will get a 4GL screen editor, class libraries, a debugger and an object repository. There will also be a performance monitor.

...TAKES OBJECTIVITY FOR REPOSITORY

Forte will also announce at DB/Expo this week that it is adopting Objectivity Inc's Objectivity/DB database as its repository for the Forte Open Application Environment.

LARRY LYTLE HEADS UTG UNIXWARE FAN CLUB

The UnixWare Technology Group, UnixWare's new cheering section, last week said from Japan that it has named Larry Lytle as its president and CEO and Michael Dortch as its VP of marketing following its incorporation as a not-for-profit company in Delaware. Lytle, who had been one of the original organisers of the Open Software Foundation, was previously senior director for end-user relations at Novell Inc and had been with Unix System Labs before its acquisition by Novell. Dortch was senior writer for *Communications Week*. Concurrently with the appointments, Stratus Computer Inc, Amdahl Corp and Tandem Computers Inc joined UTG and expectations are that Hewlett-Packard Co in its turn will also belly up to the bar. If it does, it will be the first of the OSF founders to make the leap to what used to be considered "the other side." Stratus is a sponsor member and gets a board seat. Other members currently include AT&T GIS, Chorus Systems, Fujitsu, Sony, Mitsubishi/Apricot, NEC, Olivetti, UniSoft and Unisys as well as Novell itself. UTG will spend the next six weeks or so developing plans and charters for itself which it will take to its board for sanction by the end of June. Its exact role will be better defined at that point. Similar to Unix International, it will have technical task forces to help define product requirements and cooperative marketing programs for research, multi-vendor demonstrations, educational seminars, trade shows and promotional activities. Efforts to recruit new members from along technology providers, integrators and ISVs will also be set in motion. If Novell is lucky, UTG will add focus to what has become a very fuzzy situation for Unix per se, not to speak of UnixWare, which can hardly be regarded as a player at this point. Its latest release however may move it along. UTG will be based in USL's old quarters in Summit, New Jersey.

AT&T GIS SIGNS FOR TIVOLI

AT&T Global Information Solutions has cut a deal with Tivoli Systems Inc for the Austin, Texas firm's distributed management software. Tivoli Management Environment 2.0 and Tivoli's management applications are going up on AT&T GIS (NCR) System 3000s from the fourth quarter - the first TME port to Intel-based computers. The company says TME's Enterprise Console can receive, group and prioritise alerts from AT&T's StarSentry management system.

OMRON EXPLAINS HOW IT IS MAKING A SUCCESS OUT OF THE FORMER NIPPON DATA GENERAL

It's now three years since Omron Corp surprised the industry in Japan with the decision to purchase, in its entirety, and for \$45m, the Japanese subsidiary of Data General Corp. In the subsequent re-structuring of its acquisition, Omron decided to keep the name of Data General in the new corporate branding, in order to reassure customers that Omron, which had its own line of proprietary computers, did not plan a total change of strategy and product line for the business. Omron Data General says it is now ahead of schedule in its three-year restructuring plan, breaking even in the year to March 1994 and looking to a profit in the one just started. *Anita Byrnes* spoke with Tatsuro Ichihara, Omron Data General president, who gave her some of the inside story.

Supermate

Omron Corp, headquartered in Kyoto, is a low profile \$4,450m a year company: 65% of its revenue stems from control components such as relay switch timer devices, the remaining 35% is from systems of one sort or another: the variety is quite astounding. Aside from its most consumer-oriented range of health maintenance devices such as blood pressure monitors and thermometers, most of its systems revenue is from factory automation systems, office and retail automation, and devices such as electronic funds transfer systems and the automated "ticket wickets" that are being installed in many railway stations in Japan (Omron has 50% of the automated ticket wicket business in Tokyo). Omron Data General represented less than 10% of the total revenue of Omron, with sales of \$85m in fiscal 1993, growing to \$100m last fiscal. The company aims to continue its growth rate of 30% per annum and aims for revenues of \$130m as well as a net profit, in the fiscal year just started. Omron's foray into the workstation business begun over 10 years ago, with the development of a Motorola Inc 68000-based workstation called Supermate for internal use.

Keep the character

After a few years of technological advance with consequent effect on workstation prices, the decision to manufacture for in-house use looked less practicable, and Ichihara was sent on a mission to approach the yet-to-be-restructured Data General about the possibility of OEM sales. According to Mr Ichihara, Ed de Castro had no intention of buying outside, and the interview lasted a mere 10 minutes. Ironically, four years ago, Omron was approached by an American bank on behalf of Data General, which wanted to sell its Japanese operation. The decision to acquire surprised many at that time, and in fact there was much speculation about the aims of Omron's acquisition - whether in fact the motive was to gain a source of trained systems people, in order to increase its systems and networking capabilities for its own businesses. Even Mr Ichihara says that Omron was not entirely clear in its aim of purchase, but that after the acquisition, the existing customers and employees resisted change and it was decided to keep the character of the business intact.

Custom

Omron Data General has four major business units: Business Systems, Engineering Systems, Open Business Systems and Customer Service. The Business Systems unit sells document control and other business-related systems and represents 65% of the total revenue, while the Engineering Systems unit's technical solutions represent 30% of the business. The Open Business division's mission is to sell primarily OEM products into multivendor environments - currently, these are primarily Data General products, including RAID disks and tape arrays. Its strength, according to its president, stems from its position as a minor player in the computer business - transparent communications has been demanded right from the start. In fact, he says, it is easier to connect Omron Data General products to IBM mainframes than for IBM to connect its own proprietary mid-range systems and workstations to its mainframes. Nippon Telegraph & Telephone Corp is a major client: the Japanese phone giant is in the midst of a systems development contract called Custom, moving its telephone contract reservation and billing systems from the proprietary DIPS mainframes developed especially for NTT from the 1970s by the major Japanese computer companies, to client server systems. Omron Data General is currently the sole supplier of server systems to it, although in subsequent rounds of procurement, other vendors will be considered. For Omron Data General the value of the contract is \$300m, spread over several years. This year, revenues from the Custom contract will be in the region of \$50m and the company is supplying a combination of

high- and medium-end AViiON servers with RAID disk arrays, which it will link to mainframe hosts, also procured under open contract from three companies including IBM.

Focus

Omron Data General wants to focus on systems provision - it has no interest in being an applications provider. In an attempt to add a business software offering, at the end of last year it signed an exclusive distributor agreement for the "enterpriseware" product onGO from UK company Uniplex Ltd. Despite a corporate culture in Japan that has not encouraged the growth of electronic mail systems - according to Ichihara, there are only three or four companies that really need such systems in Japan - Ichihara's doubts about the suitability of this product were overcome by customer interest in Business Process Re-engineering. He hopes that Omron can use onGO to spearhead the re-engineering movement in Japan, a move that he recognises may have some risk since imported concepts such as Management and Strategic Information Systems have not necessarily succeeded in Japan. Development of onGO is still under way in co-operation with Omron Data General, with announcement of the first version due next month and the completed version available next spring. Omron Data General will be looking for new channels, including systems integrators, through which to sell the product. Already three or four end users are ready to sign up, he says, and the product certainly has potential for a company such as NTT. In future, Ichihara hopes to achieve the same high name-brand recognition for Omron Data General products - based on their high-availability, high-redundancy features - as Data General has achieved for its products in the US. It has also just begun using Omron channels for sales - for example the retail systems division of Omron which previously used other manufacturers' cluster controllers, has now switched to use AViiONs. The company can take advantage of its Luna workstation manufacturing capabilities in Japan - a division that nonetheless contains only 40 of Omron Data General's 500 employees - to add value to its standard product. It is this ability to add value which, says Ichihara, distinguishes it from companies such as Sun Microsystems and Hewlett-Packard, which despite, perhaps because of, superior price-performance, are either unwilling or unable to answer the special requests of their Japanese customers.

Still exists

Regarding the likely move away from Motorola's 88100 chip, Mr Ichihara says he relies on the judgement of Tom West, Data General vice-president, for design of products such as AViiONs, but his preference is for a chip, such as Motorola or Intel Corp's that - unlike Sparc or Alpha - is used in fields other than workstations, in other words has synergy for use within other divisions of Omron. While there are no longer any mutual financial holdings, there is a strong technical relationship between parent and former child - under the Co-operative Technological Agreement, both sides have free access to each other's computer and networking technology. Nippon Data General still exists as a company, just four people in an office inside Omron Data General, who are devoting themselves to the creation of new OEM relationships - such as a recently signed deal with Sun distributor Nippon Steel Corp, for CLARiiON RAID disks. However, president Ichihara believes that Data General has been burned by its experience in the Japanese market and will rather have Omron as a distributor than attempt to re-enter the market. It is still not clear how quickly Japan can or will adopt open systems, but Mr Ichihara believes that for the next five to 10 years, installing and running multivendor computer environments will need high-reliability hardware and some expertise in networking and office automation software. Omron Data General is ready to provide that manufacturing and systems building expertise.

X/OPEN FORMS DESKTOP GROUPS FOR USER DESCRIPTION SERVICE AND CDE

The first meeting of X/Open Co Ltd's new expanded desktop working group in Santa Clara, California, a couple of weeks ago (UX No 486) resulted in the drawing up of a broad workplan for the ~~next couple of years and the formation of two working sub-groups.~~ One will prepare the Common Desktop Environment specifications for fast-tracking by the fourth quarter, while the other aims to establish standards that will make it easier for users to navigate desktop applications and facilitate inter-communication between those applications. This unit will start developing a generic method for documenting a framework or desktop "User Service Description" from July. Some 25 organisations attended the meeting, including non-X/Open members such as Network Computing Devices, the X Consortium, Independence Technologies, and Globetrotter Software. Apple, Taligent and Microsoft were also present. They were each invited to express their views on the issues they felt needed to be addressed most urgently, such as how appropriate is the BSI code of practice to security, and how applicable is the CDE style guide to users outside the Unix world. The working group, provisionally called the Desktop+ Group, also discussed the need for an interface that will enable other devices, such as touchscreens, notepads, set-top boxes and virtual reality machines, to be incorporated too, so that users can access any data without having to worry about incompatible systems, applications or stored information. This issue will not be addressed for the time being, however, as it would make the scope of the project too broad. The Desktop+ Group also started drafting a revised work programme description, which will be published as part of the "X/Open Technical Programme", detailing all of the organisation's planned projects. Its role is to act as a steering group to co-ordinate and ensure that specific work programmes are in place, and its aim is to work with and adopt the work of other groups inside and outside of X/Open. The organisation hopes to establish dialogue with such bodies as the Interactive Media Association, internal RTG groups, and the Japanese COSE special interest group on issues like internationalisation and Japanisation. Specific working sub-groups will be set up, as required, to lay down specifications. The Desktop+ Group is scheduled to meet another three times this year, and is intended to respond to the requirements laid down by the Desktop Requirements Group - this is due to meet again in Stockholm in a couple of weeks time, and will discuss such issues as, what exactly is meant by the term "cross-platform interoperability".

HEWLETT-PACKARD PUTS A COMPANY NEWS SERVER ON THE WORLDWIDE WEB

In a subtle piece of advertising on the Internet, Hewlett-Packard Co has installed a four-workstation information server on the network to provide up-to-the-minute news on the company's workstations and business servers in an interactive, "visually exciting" format. Access to "HP's World of Workstations and Servers" is available to Internet users or browsers worldwide. The information server, part of the Worldwide Web, is accessible via the Mosaic graphical user interface developed by the National Center for Supercomputing Applications, and comprises four Series 700 Model 735 workstations installed at the University of Illinois at Urbana-Champaign. The information is connected via hypertext links, and links to the company's corporate server, which enables users to access information about its other products and services. Meantime Oracle Corp says its Oracle Media Server software is now up on Hewlett-Packard Co's Interactive Video Server. Pacific Telesis Group Inc's Pacific Telesis Video Services unit is to use the Interactive Video Server - which is built around a video transfer engine - in a California trial.

TRANSARC TO OFFER ENCINA UNDER POWERBUILDER

Transarc Corp is offering an Encina for Windows interface to PowerBuilder. The interface, EncinaBuilder, enables developers to build Encina OLTP applications using PowerSoft Corp's PowerBuilder GUI and tools. The interface is built upon Gradient Technology's PC-DCE (UX No 480). The EncinaBuilder SDK will go from \$1,000 - PowerBuilder Enterprise is \$3,400 - and will be marketed by both firms but distributed by Transarc. EncinaBuilder will coincide with the release of Encina for Windows in the second half.

TADPOLE WINS DEC FOR AN ALPHA-BASED NOTEBOOK LINE...

Tadpole Technology Plc has now added Digital Equipment Corp and its Alpha AXP to its list of RISC conquests, and is to develop the first portable notebook workstation to run Windows NT as well ~~as Unix. DEC will help the Cambridge, UK company to develop a~~ notebook computer based on the Alpha AXP DECchip 21066. Apparently, Tadpole won't be using DEC's 21066 Lean laptop as a starting point, a system DEC first only intended as a product demonstration device (UX No 480). When the thing started drawing significant interest, DEC turned it over to Tadpole to productise it. Tadpole won its spurs with its Sparcbook family and has also developed a PowerPC 601-based N40 notebook for IBM Corp. That drains the battery in only 40 minutes, so Tadpole is working on a version using the low power consumption PowerPC 603 part.

...ACCOMPANIES FIRST HALF LOSS WITH CASH CALL FOR £6.8m

Tadpole Technology Plc, the Cambridge, UK manufacturer of RISC-based notebook computers and systems continues to walk on water as far as the investment community is concerned. The company, which reported a pre-tax loss of £1.3m, for the six months to March 31, announced a fund-raising exercise, as it had warned earlier it would do - and the shares danced for joy. The company is seeking to raise £6.8m of new money net of expenses with a placing and open offer of 2.75m new shares. The discount is modest - the price is 260 pence against a price that was 284.5 pence on the day - but looks rather better after the shares took off on the news. The new shares have been initially placed with employees and institutional investors. The money will fund the group's anticipated working capital and capital expenditure needs for, what chief executive, George Grey calls "the significant increase in business levels" caused by the new Sparcbook 3 and the RS/6000 Model N40 notebook workstation for IBM Corp, both available since March. The Sparcbook differs from earlier versions as it will "have a two to three year product life because it is upgradable", and hence "user investment will be protected". Tadpole regards the six-month period as one of investment of effort and resources in the future success of the group. The company is buoyant about the future, "with an intention to do significantly better than last year", which saw pre-tax profits of GBP749,000. It has started the second half of the financial year with orders of GBP7.4m up 44% on the same time last year. Grey expects the firm's DEC Alpha-based notebooks, which are currently in development (see above), to contribute to Tadpole's 1995 fiscal year. The combined effect of all this news was to move Tadpole shares up 30 pence to around 312 pence, for Grey, "recognition that Tadpole is on track for the rest of the year".

AMDAHL HAS A+ PERFORMANCE MEASUREMENT FOR UTS AND SOLARIS

As anticipated (UX No 483), Amdahl Corp has added a couple of new models to its A+ middleware suite of performance measurement modules, and integrated them with its Enterprise File Manager turnkey data management software. A+User Access is a backup management facility, based on Network Systems Corp's User-Access product. It incorporates Central Archive Management, automatically backs up heterogeneous desktops and servers to central hosts running Solaris or Amdahl's own UTS operating system, and enables users to restore individual files. Backups can be scheduled and controlled either centrally or locally. A+User Access can also be integrated with a new distributed version of Amdahl's A+UniTree hierarchical storage manager for Solaris. A+UniTree distributes storage management functions across local disk servers and central tape servers - frequently accessed data is stored on LAN-based servers to provide rapid data access to client systems, while less frequently-used data is moved across a backbone network for storage on tapes that are attached to a central server. The company claims A+UniTree can manage more than 100m files of about 2Gb each on tape. Enterprise File Manager will ship for Solaris 2.3 from June 17, but A+User Access and A+UniTree will also be available on UTS. The two products cost about \$100,000 each for 10,000 users.

uni gram X

The weekly information newsletter for the UNIX™ community worldwide

Unisys Corp has asked George Moore to temporarily fill the post of VP marketing at its Unix Systems Group, the slot vacated when Joe Brown jumped to **Auspex Systems**. Moore is still VP, alternate channels, however. Meanwhile, Hugh Lynch, who is president of all sections of Unisys' Computer Systems Group, will retire next month, replaced by Alan Lutz, who has worked on the telecommunications side at **Northern Telecom**, **ITT**, **Sanders Associates** and the **Kassandra Group** technology and product consulting firm, where he was president.

And former deputy president of Unisys' computer systems group, Frank Brandenburg, has been made president of the company's client/server systems unit in San Jose, California, with worldwide responsibility for development and marketing the company's Unix, NT, CTOS and PC hardware and associated software and services.

Dave Sandel, **Unix International's** erstwhile marketing VP, has gone to **Information Builders Inc** as general manager of its Unix Division taking over from Carl Rosenberg, who has left the company.

Indicative of the direction **DEC** is going in, one of its followers, *DEC Professional* magazine is said to be losing readership hand-over-fist.

Digital Equipment Corp's Component OEM Group will roll out its OEMbedded First Program at Comdex/Spring this week, which will give OEMs access to Alpha technology at a number of integration levels.

ICL Plc will join the **Sun-Fujitsu** pact in the next couple of weeks, and is expected to offer certain interconnect interfaces to enhance the Sparc roadmap. It is also likely to help the two firms with packaging issues.

Inmos Ltd is expected to start making its delayed 30MHz T9000 transputers generally available in July. A 40MHz version should materialise by the end of the year.

Sybase Inc and **Novell Inc** are bundling the Sybase NetWare Loadable Module with NetWare, to produce a product similar to OracleWare, comprising the **Oracle NLM** and NetWare (UX No 464), according to *PC Week*. The core of future Sybase products, it hears, will be based on Logical SQL - object extensions that enable users to access and store multiple data types. The EnterpriseMomentum object-oriented repository and application modelling framework (UX No 452) will act as a transparent interface to a layer of metafile code that gives applications transparent access to different types of servers.

Concurrent Computer Corp will launch a raft of new software on June 6, including version 7 of its Real-Time Unix operating system, otherwise known as SVR4.2MP with real-time extensions (UX No 459).

This week at DB/Expo, **Amdahl Corp** will launch the new off-load database server it developed with **Oracle**, **nCube** and **Information Builders** (UX No 481). This first implementation will hook into the mainframe-based data centre, but a Unix version will follow later in the year.

IBM Corp's CICS transaction processing monitor will be up under **Hewlett-Packard Co's** HP-UX and **Digital Equipment Corp's** OSF/1 on Alpha AXP hardware later this year. This CICS, of course, bears more resemblance to Encina than to mainframe 370 CICS.

Pure Software Inc, Sunnyvale, California, is putting its Quantify C and C++ performance development system up on **HP** workstations.

IBM Corp reminds us that the TPC figures we got on its anticipated RS/6000s are, of course, estimates (UX No 487) - it has been the case for some time that only officially audited and TPC-approved figures can be bandied around in product performance descriptions.

Recent research undertaken for the five largest New York banks revealed that transferring money by mainframe is twice as expensive as by alternative open systems.

SCO is hanging on for a cut-price CDE licence from **SunSoft Inc**.

HP's Open View Network Node Manager, SNMP Platform and Developer Kit, and Distributed Management Platform and Developer Kit will ship for Solaris 2.3 on Sun IPX, 2, 10, LX and SparcClassic workstations, running Ingres SQL this week. Prices stay the same.

Now owned by its employees, London-based Unix porting and testing house **UniSoft Ltd** says it has just finished the ABI verification test suite for **Novell Inc** Unix Systems Group's SVR4.0 and SVR4.2 on Intel and Mips architectures. It promises some hot new stuff soon.

Around 20% of **OSF's** 300 staff are expected to leave following the re-org - some as soon as this month. Most will be software engineers.

PowerSoft Corp is rumoured to be developing an HP-UX version of its PowerBuilder application development environment.

X/Open Co Ltd says it's bullish about the prospect of signing up enough developers in the next few weeks to get its API porting and testing initiative off the runway.

Business Object Inc, Cupertino, California, has installed Robert Verhecke from **NetFrame Systems Inc** as its new CFO.

Market researcher **Summit Strategies** notes that a recent CIMI survey shows **Novell's** strategic influence among customers to have declined almost 50% in the last year.

Perot Systems Corp has teamed with **NeXT**, in its first strategic technology deal in five years, to develop business solutions based on NeXTStep. It'll also be part of OpenStep, NeXT's tie-up with **SunSoft** and **Solaris**. Ross Perot, if you remember, invested in NeXT. +1 214 383 5600.

DEC will add support for X Windows terminals and PCs running X emulators in a new version of its LAT protocol and Windows World at Comdex today. It will also add Pyramid, Sequent, SGI, Solaris and Unisys support to its PrintServer software.

Laid side-by-side, the component documents of the **Hitachi Ltd-IBM Corp** deal measured 15ft.

The list of applications earmarked for Wabi 2.0 "certification" by **SunSelect** now includes: **Microsoft** Excel 5.0 (or 4.0), Word for Windows 6.0 (or 2.0), PowerPoint 4.0 (or 3.0), Project 3.0, Windows 3.1.1 (or 3.1), Mail 3.2 and Access 1.1; **Lotus** 1-2-3 for Windows 4.01 (or 1.1), AmiPro 3.01 (or 3.0), Approach 2.1, Freelance Graphics 2.01, Organizer 1.1, cc:Mail 2.0 and Notes Client 3.0; **Borland** Paradox for Windows 4.5 (or V1.0) and Quattro Pro For Windows 5.0 (or V1.0); **WordPerfect** for Windows 6.0 (or 5.2); **Harvard Graphics** for Windows 2.0 (or 1.0); **CorelDraw** 4.0 (or 3.0b); **Aldus** PageMaker 5.0 (or 4.0); **Procomm** Plus for Windows 1.02 (or 1.0); and **Intuit** Quicken 3.0. Others may be added, the company says.

Openservice SJI Inc, now trading as **Openservice Inc**, Albany, New York, has added AIX 3.2.5, Solaris 2.x and SunOS 4.13 support to its Systemwatch AI-L artificial intelligence system. +1 518 465 1400.

Siemens Nixdorf Informationssysteme AG will have a 100MHz Mips R4600 box at Comdex, running Unix and NT. Desktop RM200s will start at \$4,845, servers at \$7,350.

VisionWare is up to XVision 5.1, the latest revision of its PC X Server, which enables Windows and NT users to simultaneously display and use Unix or VMS host-based applications via X Windows. It claims the stuff is the fastest PC X Server out. New features include a 32-bit font compiler, program manager icons and improved graphics speed optimisation. It costs \$495 for a single user license; \$95 to upgrade.

The **Petrotechnical Open Software Corp** has elected Bill Bartz as its new president and CEO to replace Dan Turner, who is retiring. Bartz was in charge of all US data centres and worldwide sites as general manager of computer operations at **Chevron Information Technology Co**. He's joined by Clark Allen, who's been promoted from Manager of Development to COO. Allen will be responsible for daily operations and the technical components of POSC. +1 713 784 1880.

Novell Inc is reportedly de-emphasizing OSF's Distributed Computing Environment in favour of the network services provided by its own NetWare 4 system. The idea is to offer "comparable" (and interoperable) services, it says. Novell argues DCE provides the same services on different platforms, not interoperability specifically.

Although **HDS** says it hasn't yet decided whether to delve into the RS/6000 catalogue or to manufacture Power chips, it has certainly staked out a Power/PowerPC future. It admits it is hedging its bets and is backing Power/PowerPC, CMOS S390 and Intel Corp as likely survivors in the chip wars. HDS believes Mips and Alpha won't make it, is quiet on Sparc (which it uses in its Osiris network co-processors), and rather lamely offers that PA "may make it." Like us, the firm is still waiting for **IBM** to give the Power and PowerPC processors a single brandname, which is bound to cause even more confusion on the marketplace (UX No 484). It has heard the names PowerParallel and plain Power as possibilities.

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IBM TO OFFER SOLARIS, MAYBE NT AND MORE, ON SOME RS/6000s

IBM Corp marked the launch of its new RS/6000s with a significant change in operating system strategy last week. Over time, IBM plans to do the once-unthinkable and provide some models in its formerly AIX Unix-only line pre-loaded with either SunSoft Inc's Solaris, Windows NT, OS/2 or Taligent, indeed any of the operating systems that are to feature on its Power Personal systems. It's reasonable to assume, argues Jeff Mason, assistant general manager, worldwide marketing at IBM's RS/6000 Division, that once customers can buy client systems (Power Personals) running Solaris, NT and the like, then they are going to want the same operating systems on servers (RS/6000s). In any case, IBM says, once the operating systems are ported to the PowerPC 601 Power Personals, it'll be relatively easy to get them up on the PowerPC-based RS/6000s. Presumably, the slide over to Power, on which PowerPC is based, would be relatively simple, although conventional RS/6000s are MCA-based, while the PowerPC uses the PCI bus. Choosing their words carefully, IBMers made it clear that Donna Van Fleet's AIX remains the "strategic operating system choice:" it runs across the PowerPC and Power models. The unexpected move is part of what the RS/6000 division says is a plan to leverage off the Power Personal servers and develop new channels for low-cost distribution. Solaris will be a SunSoft offering Mason says, which IBM won't price list, though it will pre-load it. IBM anticipates the NT port will be a Motorola Inc and Microsoft Corp effort, though knowledge of what is afoot appears sharply restricted and even higher-ups inside Motorola say they don't know what is going on. IBM suggests the move will be limited at least initially to the RS/6000 division's lower-end PowerPC-based servers - see inside - which now fall under the partial hegemony of IBM's Power Personal Systems Division on the client side of the company. No time frames were given and it remained unclear at press time whether the operating systems will eventually inch on to IBM's larger RS/6000s, currently based on the proprietary Power architecture from which the PowerPC chips are derived. The RS/6000 division's grudging acceptance of Solaris on its machines will surprise close observers. Officials at its sister unit, Power Personal Systems, the PowerPC contingent, have steadfastly assumed the division would never put Solaris, or NT for that matter, on its boxes.

MIC WORKS ON NETWORK MANAGEMENT REPOSITORY SPEC

The Management Integration Consortium (MIC), which had its charter accepted at its first meeting on May 5 (UX No 483), has established three working groups and expects to publish draft specifications of its work by August. The working groups are looking at data integration, event management, and configuration and asset management in the network management arena - work on systems management is scheduled to follow at a later date. The data integration group has some 34-odd members, including Hewlett-Packard Co, IBM Corp and Sun Microsystems Inc, which are devising a database metaschema, or rules for displaying data in a way that enables different applications to share and exchange it. The MIC is currently talking to the Network Management Forum (NMF) about integrating this common repository with NMF's Open Management Edge (OME) specification, and hopes to submit it to X/Open via the NMF. It is also talking to the Open Software Foundation about making the repository into a product. OME was born out of the Action team for the Integration of Management Systems (AIMS) working group, comprising such members as IBM, Cray Communications, Network Managers, and Pontis Consulting. It is essentially a high-level application programming interface or "edge" that can be added to any shrink-wrapped application to enable it to communicate with other OME-compliant applications. This means developers can encapsulate data from a given application and post it, via an object request broker (ORB), to the "edge" of another application - it doesn't matter what calls are made or received as the "edge" simply neutralises them. AIMS has developed a lightweight ORB itself, but says any CORBA-compliant ORB would do the job as would the Open Software Foundation's Distributed Management Environment ORB - its own is not CORBA-compliant because, the group says, it doesn't need that much functionality to do such a simple task. The ORB was developed primarily by Pontis, and the source code is expected to be publically available in the next few weeks. AIMS hopes to have OME approved as part of NMF's Omnipoint project, but the specification has yet to be ratified - NMF is waiting to see what type of response it gets. The group also says it submitted OME to X/Open's systems management group a couple of weeks ago, but was turned down. X/Open, meanwhile, declares it is still considering the specification, and is prevented from taking it up immediately only because of bandwidth issues, especially as the organisation has a busy schedule laid out for the rest of the year. It also believes OME would need to be augmented with interoperability components to realise its benefits, as simply providing a portability interface alone is not enough.

IBM'S POWER3 BECOMES POWERPC 630

A little-known pact between IBM and Motorola will give Motorola the same kind of marketing and manufacturing rights to an upcoming IBM-designed Power3 dual-chip unit that it has for the PowerPC. In an action that is bound to cause confusion, the Power 3 is being re-labeled the PowerPC 630. Indeed it's thought the name change marks the first indication of a move towards using a single family name for Power and PowerPC (UX Nos 484, 488). An IBM spokesman claimed the Power 3, despite its name and apparent heredity, "is a PowerPC chip". Previous information has suggested that Power 3 machines are not expected for another year and will find their way also into PowerParallel SP3s. The Power3 will straddle the multi-chip arrangement of previous Power generations in which processing functions are separated onto different chips, with PowerPC, an integrated unit. Apparently all processing functions will reside on a single chip in Power3, with cache and a cache controller on a separate piece of silicon. It's being positioned as the heir to the forthcoming 64-bit 620, the high-performance PowerPC unit slated for symmetric multiprocessing environments that hasn't made first silicon yet. PowerPC 630 will be a higher-performing, 64-bit affair, though whether it'll run Power instructions is unclear. According to IBM it won't be the last of the Power lineage either. A clearly marked roadmap is promised for the Autumn. There were seven new servers and four workstations announced last week in the largest overhaul of the RS/6000 line for a long time, a mix of PowerPC, Power2 and Power2 second-level cache systems. See pages 4 and 5 for details.

XHIBITION 94

CORPORATE DEVELOPMENT CONFERENCE

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JUNE 20-24

FEATURING:

KEYNOTE

Alvin Toffler, author of FutureShock
- Wednesday June 22 @ 9 am

PLENARY

Timothy Leary, leading influencer of
the futurist movement
- Thursday June 23 @ 1 pm

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WORKFLOW MANAGEMENT COALITION HAS STANDARDS REFERENCE MODEL

The Workflow Management Coalition has now developed a Workflow Reference Model, an infrastructure on which it will base the standards governing the interoperability and co-existence of workflow products across the enterprise, and with external applications. The proposed standards fall into five categories. Process definition import and export will outline a command set of process definition parameters, which are laid down by the tools that developers or end-users use to define a workflow. Process interoperability standards will enable compliant workflow products to co-exist and share responsibility for managing a workflow. Tool invocation standards will provide for the initiation of an external tool such as e-mail or document retrieval. A workflow application programming interface will offer a standard way of presenting the work needed to be done by a process or end-user. Finally, Status and Management standards will define ways of collecting and storing certain key audit-based data about a workflow, and its efficiency. The Coalition, set up in September last year, now boasts 71 members, including Hewlett-Packard, Microsoft Corp, Digital Equipment and Excalibur Technologies Inc.

AMDAHL LAUNCHES XPLOER 2000 SERVER AT \$1m AND UP

Amdahl Corp last week launched the first products in its Xplorer 2000 series of parallel processing database servers conceived in response to IBM Corp's parallel query server and put together with the help of Oracle Corp, nCube Inc and Information Builders Inc. It also introduced new consulting and support services to help users adapt the technology to new and existing database applications. The Xplorer 2000 line currently consists of the Model 50 and Model 100: the boxes are nCube massively parallel systems running Oracle7 and uses Information Builders EDA/SQL access software. The Xplorer 2000 servers can be configured as System/390 channel-attached database offload processors for DB2 dynamic SQL queries with support for up to eight concurrent channels. It can also be accessed via SQL calls from client/server environments, via Ethernet or an FDDI backbone network. The Model 50 comes with 32 to 64 processor nodes and 10Gb to 80Gb disk. Processor nodes can be added in 16-node increments and disk in 10Gb increments. The Model 100 has 64 to 512 processor nodes and 48Gb to 1.176Tb. First deliveries are planned for the fourth quarter, and prices start at \$1m. Enhancements planned for first half 1995 include support for Escon channels and RAID technology; enhanced back-up and restore features and processes; system management facilities; and bulk loading.

HP TARGETS X TERMINALS AT SUN USERS

Hewlett-Packard Co has released its first X terminals aimed specifically at the Sun Microsystems Inc workstation and server market. The new Aptrex family comprises six models, which support SparcServers and SparcStations running SunOS 4.1.3 and Solaris 2.3 as well as OpenLook Window Manager and Motif Window Manager local clients. The X terminals are based on Intel Corp's i960 RISC processor, include 4Mb of RAM, two SIMM slots that are expandable to 68Mb, and support built-in ThinLan and 10BaseT for local area network connections. They also support Sun monitors, and come with Sun Type 5 workstation keyboards. The entry level monochrome 19M has a 19" screen, 1,024 by 786 resolution, is rated at 91,000 Xstones, and costs \$1,595. The colour terminals, meanwhile, range from the 15C, which has a 15" monitor, 1,024 by 786 resolution, performs at 104,000 Xstones and costs \$1,650, to the 20Cs. This has a 20" screen, 1,280 by 1,024 resolution, 8Mb of RAM, and performs at 125,000 Xstones. It costs \$3,350. The Aptrex range is available now, only from HP's direct marketing organisation.

AT&T GIS HAS EISA-BASED SYSTEM 3000s

AT&T Global Information Systems - aka NCR- has added the first entry-level models of its new EISA-based desktop family to the System 3000 family of Unix machines. The uniprocessor AT&T 3406 desktop and AT&T 3416 deskside server are based on 60MHz Pentiums, and run UnixWare Personal Edition 1.1, Santa Cruz Operation Inc Unix 3.0, Microsoft Corp's Windows NT Advanced Server 3.1, and Novell Inc's NetWare 3.12 and 4.01. They are upgradeable to the Pentium 90 processor, and will be followed by Pentium 90-based machines within the next four months. The new machines are available now and range from £2,500 to £8,500 in the UK.

UNIFACE UNVEILS NEW MODULAR APPLICATION ENVIRONMENT

Uniface, now a wholly owned division of Compuware (UX No 479), has introduced the latest incarnation of its application development environment for client/server environments, Uniface Six. The product, which updates and extends the firm's previous 3-schema architecture, now features a new modular-based look and feel. Uniface Six comprises five key features: a repository; an application model manager; a rapid application builder; a deployment manager; and developer services. At the heart of the software is a central object-oriented repository, which is able to store definitions of objects types, such as fields, tables, screen objects and trigger procedures. The repository is database independent and can be stored in a database of customer choice, including DEC's Rdb, Sybase, Oracle, Ingres, Informix, all flavours of DB/2, Progress, ISAM and text files. A new graphic editor allows developers to define, modify and update information in the repository, as well as other Uniface Six components. Interfacing the repository is the application model manager, which creates the data model, defines the tools needed for application development, entity relationships and the restraints of the system. The rapid application builder is GUI-based and supports a variety of environments including Windows, Mac, OS/2, Motif, character cell and IBM's WorkplaceOS. It also extends support for graphical controls (widgets) with a set of open widget interfaces for third party customisation. Uniface and its partners plan to release widget libraries for specific vertical markets, including petrochemical, manufacturing and financial. The deployment manager is a completely new component and it is responsible for connectivity, distribution of applications between clients and servers, and integration. It includes IBM DRDA and Microsoft ODBC drivers for database access and TCP/IP and LANManager network drivers for communication. For distribution, it has a distributed computing manager, which integrates OSF DCE remote procedure calls and transaction processing monitors, such as Tuxedo, Encina and CICS. Other enhancements include developer services, which provides new version control support. This allows users to maintain the history of updates, reserve data, and carry out inventory checks on applications. Uniface Six is beta test now and will begin to ship by September.

STUDENTS PORTING LINUX TO POWERMAC

Two computer science students at Bowdoin College in Brunswick, Maine, USA are porting the free Linux Unix clone to the Power Macintosh. Linux is a Posix-type Unix, originally written for 386/486-based PCs by Swedish programmer Linus Torvalds with the assistance of a loosely-knit team working across the Internet. It is freely distributable under the same terms as the GNU Unix. Charlton Wilbur and Jem Lewis began laying plans to developing a freeware Unix on the Power Macintosh platform in January and say that they hope to have a stable kernel running on the Power Mac by the end of August, together with the basic Unix utilities (cd, ls, cp, mv, gcc, emacs, vi, and bash). Until then, they want to keep the project tightly controlled, but once it is running relatively bug-free, they say that it will be freely available for Alpha testing and for others to help develop device drivers etc. The new version of Linux for PowerPC cannot hope to be binary compatible with Intel Linux, however the pair say that they are striving to maintain source code compatibility between the two versions, so that a small amount of source tweaking and a re-compile is all that is necessary to run existing Linux applications. They say that they are currently beginning to do some of the kernel design and coding, and are beginning to port gcc. In a posting to comp.linux.announce, they said that they would appreciate not being inundated with e-mail requests at the moment. We'll keep you posted on developments.

MONTAGE TO "MAKE BLOBS OBSOLETE"

Oakland, California firm Montage Software Inc has announced version 2.0 of its Montage Server object database, with new ports to DEC Alpha and Silicon Graphics platforms. 2.0 can support up to 16m tables, has enhanced searching, provides for custom management of large objects and has an optimised query system. It is priced from \$2,000 on Solaris, SunOS, Alpha and SGI systems from the end of June. New add-in modules are DataBlade, claimed to allow the database to identify data types and accommodate new ones, and 3D Spatial DataBlade which supports 3D data types. They "make BLOBS obsolete," claims Montage. Prices start at \$400 and \$1,000 respectively from the third quarter. +1 510 652 8000.

HP PLANS PROPRIETARY FUTURE FOR NETVIEW/6000, JUNE 14 OPENVIEW LAUNCH

Ticked at the way IBM Corp director of enterprise management platforms Sanjiv Ahuja cut the apron strings to Hewlett-Packard Co's network management environment (UX No 484), HP OpenView programme manager Gordon MacKinney observes that whatever IBM can muster to stir into its NetView/6000 pot, it's still based on the 18-month-old version 3.2 of OpenView. MacKinney points to the 31 enhancements to OpenView 3.3 that IBM has missed out on and the stuff that will feature in the upcoming version 4.0. He says IBM's environment is unable to distinguish between events coming from different types of systems, so that administrator can't tell if a fault is being reported by a PC that's crashed running a game or a crucial database server which has gone down. In breaking from its reliance on OpenView code as the basis of NetView/6000, MacKinney believes IBM is trying to establish a proprietary code base and will have to spend an increasing amount of time on the difficult job of designing applications to support proprietary IBM environments. He denies NetView/6000 is ahead of what HP can offer and points to big user wins like Alcatel and Siemens Nixdorf and the Legent OEM deal. HP has set June 14 as the day it'll unfurl the next phase of OpenView technology.

HDS ADDS FUNCTIONALITY TO OSIRIS

As expected (UX No 488), Hitachi Data Systems Ltd, Santa Clara, California, has enhanced its Osiris mainframe open systems environment, adding Hitachi EpochServ-M - adapted from the Epoch Inc hierarchical storage management and backup system - Hitachi Veritas Volume Manager and Visual Administrator. A new release 1.1 of the HI-OSF/1-M operating system includes a range of additional reliability, availability and serviceability features plus further Unix SVR4 functionality. New also is the availability of Oracle7 on Siris, OpenVision's OpenV*Event Manager and Software Clearing House's Reelmanager for tape management. Further database and network management enhancements are due.

ENCORE DEBUTS FIRST REAL-TIME ALPHA-BASED INFINITYS

As expected (UX No 486), Encore Computer Corp last week added its first Digital Equipment Corp 150MHz Alpha 21064-based machines to the Infinity R/T range of real-time Unix servers, but will follow these up with two further models over the next two to three months. The Infinity Model 300, which incorporates eight CPUs and runs OSF/1 - the rest of Encore's boxes run SVR3.2, although the Fort Lauderdale, Florida-based firm says it will upgrade to SVR4.2 in the next few months - is being positioned as both a database and applications server for such applications as flight simulation, data acquisition and control and real-time video processing. The company claims, however, that its machines offer a performance increase of between 5% and 10% over equivalent DEC machines due to the addition of an Intel Corp i960 input-output co-processor that sits on a separate board. The Model 300s come in both deskside and rack-mounted versions, and a standard configuration of 64Mb of memory, 1Gb of SCSI-2 disk, and a 4Gb DAT tape drive. They will ship in the third quarter, costing \$59,950. The next two models on the market will be less expensive, entry-level machines, based on 100MHz and 150MHz versions of the Alpha, but will not include the co-processor. By the end of the year though, we can expect to see another Infinity R/T based on the 275MHz Alpha, and this will have a co-processor.

SNI DEBUTS ORION-BASED RM200

Siemens Nixdorf Informationssysteme AG introduced its 100MHz Mips R4600-based RM200 client and server systems for Unix and Microsoft Corp Windows NT (UX No 474) at Comdex last week. The machines have a SVGA graphic subsystem with 2Mb of memory, and run Sinix 5.4. OEM customers also have the option to simply buy RM200 system boards, which fit into standard personal computer housings. Prices start at \$4,845 for a RM200 business workstation with 16Mb of RAM, 520Mb of hard disk drive, and a 15" VGA monitor. Prices for the work group server version, with 32Mb of RAM, 1 Gb disk and EISA bus, start at \$7,344. First shipments are scheduled for July.

HEWLETT, MOTOROLA EYE META iAPX-86 FOR THEIR RISCs

It seems International Meta Systems Inc was not simply whistling in the dark when it said that it hoped that RISC-makers would license its iAPX-86 emulator circuitry and use it as a standard cell to embed on their RISC microprocessors. US *PC Week* hears that both Hewlett-Packard Co and Motorola Inc may take the bait, although none of the three acknowledged the discussions. The interest of Motorola is a little surprising, as it implies that IBM Corp will be keeping the PowerPC 615, the one that is planned to have IBM's own iAPX-86 design embedded with the PowerPC RISC, to itself. As reported, the Torrance, California company's technology uses on-chip logic to translate iAPX-86 instructions into RISC instructions on the fly, and the claim is that adding it to the Precision Architecture RISC and PowerPC would enable Windows to run at Pentium speeds. The paper hears that Mips Technologies Inc has a team working on a separate effort to add an iAPX-86 emulation to its R4000 RISC line.

SYBASE AIMS FIRST GAIN VIDEO PRODUCTS AT BUSINESS

Sybase Inc tried to push Oracle Corp out of the spotlight at the DB Expo exhibition yesterday, launching its own video server and client products aimed at the business market. The company unveiled two products, attacking the client and server ends of the market. The client product, called Gain Interplay, is a lightweight graphical front-end based on technology from Sybase's Gain multimedia acquisition. It is designed to be used by OEM customers on customised products for business users, and Sybase is already in discussion with AT&T Corp, Hewlett-Packard Co, Digital Equipment Corp, Intel Corp, IBM Corp and Sun Microsystems Inc. The server product is called the Intermedia Server, and will include a meta repository to provide access to disparate information sources. Sybase is targeting the products purely at the business market initially, saying that the consumer market "has potential, but doesn't exist yet". John Spiers, European marketing director at Sybase, added that "Oracle has been talking about the video-on-demand market, but that is much too simplistic". He said that eventually, business-oriented video-on-demand would filter down into the consumer market to provide on-line utilities billing, ticket ordering and the like, but for the time being it will concentrate on connecting businesses. Meanwhile the company consolidated its software engineering base, launching a Windows NT-based version of its Gain Momentum product. This tool is the only component of the Momentum tool set that is actually shipping; Sybase's Build Momentum graphical application development tool, which was meant to have shipped in the first quarter, is still in beta test, while Enterprise Momentum, its object-oriented repository, won't enter beta until the fourth quarter. The firm is still unclear on its object methodology; while the Enterprise repository is under way, the method by which objects will communicate is unclear, and Spiers would make no comment on Object Request Broker technology, other than to admit a need for an object meta-database - this would be developed in-house, he said.

TOSHIBA HAS 200MHz MIPS R4400

Toshiba America Electronic Components Inc is now shipping its 200MHz version of the Mips Technologies Inc R4400 microprocessor, saying it was the first to get a 200MHz part to Mips for certification. The new chip is fabricated in 0.3 micron CMOS and has a die size of 134 square millimetres integrating 2.3m transistors, and based on Mips' new Application Benchmark Suite of real-time 32-bit Windows NT applications, it performs up to three times faster than the fastest available Pentium processor, the P54C at 90MHz. It has 16Kb instruction and 16Kb data cache, and comes in three versions, all 3.3V. The R4400PC supports primary cache for desktop and high-performance embedded control work. The R4400SC supports primary and secondary cache for workstations and servers. The R4400MC adds multiprocessing support. Samples June, volume in third quarter at \$1,600, \$1,950 and \$2,150 respectively for 10,000 or more.

IBM MIXING AND MATCHING POWER AND POWERPC IN NEW RS/6000 LINE-UP

By William Fellows

In addition to the products IBM Corp was less keen to talk about (*see front page*), it has also - as widely previewed on these pages - overhauled its RS/6000 line with a mix of seven new server and four workstation configurations based upon PowerPC 601 and enhanced Power2 processor architectures, and has added new graphics subsystems, communications and AIX functionality.

Low-end

At the low-end, the models 41T and 41W workstations (with and without monitor respectively) use an 80MHz PowerPC 601 with 32Kb cache standard and are rated at 78 SPECint92, 90 SPECfp92 and 13.3 Xmark93 - or 88, 98 and 14.2 respectively with 0.5Mb second-level cache. They come 16Mb to 256Mb RAM, 540Mb to 3Gb disk, SCSI 2, two full slots and two half-height slots. The 41T and 41W without level-two cache cost from \$12,100 and \$10,900 respectively - or \$13,600 and \$12,400 with. Both will ship in June.

IBM is especially proud of its new C10 - compact - PowerPC 601 desktop server running at 80MHz. It's rated at 78 SPECint92, 90 SPECfp92 and 404 TPC-C - 88, 98 and 485 respectively with 1Mb secondary cache. It comes with 16Mb to 256Mb RAM, 1Gb to 4Gb disk and three MCA slots. It's available in June at \$12,800 without cache, from \$15,800 with. Like the other PowerPC models, the CW10 is binary compatible with Power systems.

Mid-range

59MHz Power2-driven offerings are available as a workstation - 3AT - or server - 380. They come with from 32Mb to 512Mb RAM, 1Gb to 4Gb disk, three and four slots respectively and are rated at 99 SPECint92 and 187 SPECfp92. The 3AT costs from \$24,800, the 380 is \$24,200 this month.

The 3BT workstation and 390 server use a new Power2 implementation with second-level cache running at 67MHz. They're rated at 109 SPECint92 and 202 SPECfp92 - 114 and 205 respectively with 1Mb secondary cache (which overhauls Hewlett-Packard's top-performing 7x5/125 workstation by one SPECfp92 mark, but is still a distant second on SPECint92). IBM says the 390 will do 768 TPC-C without cache and 901 with. With 32Mb to 512Mb RAM, 1Gb to 4Gb disk, three and four slots respectively, they start at \$28,300 and \$28,200 respectively without cache from June. With 1Mb cache the 3BT workstation is \$32,300, the 390 server is \$32,200, both from August.

High-end

IBM describes the new 59H server, which tops-out the 5xx line, as the highest performing desktide uniprocessor server in the industry. It uses a 66MHz Power2 with 1Mb secondary cache and is rated at 122 SPECint92 and 250 SPECfp92, going to 1122 TPC-C. It comes with 64Mb to 2Gb RAM, 4Gb to 12Gb disk and seven slots. It costs from \$74,500, and will ship in June.

At the top-end of the line, rackmounts are offered as individual processor "drawers" or building blocks for the first time. The R10 is little different from the existing model 970B, running a 50MHz Power chip. It goes to 57 SPECint92 and 99 SPECfp92, with 128Mb to 1,024Mb RAM, 1Gb to 4Gb disk and eight slots, and will cost \$41,100 from June. The R20 fits in the same form factor, but uses a 66MHz Power2 with 1Mb of secondary cache. It performs at 122 SPECint93 and 250 SPECfp92, has from 128Mb to 2Gb RAM, 1Gb to 4Gb disk and eight slots. It costs \$67,100 from June. The R24, which lives in a bigger housing than the other two, runs a 71.5MHz Power2 with 2Mb secondary cache. It performs at 134 SPECint92 and 273 SPECfp92, 1,458 SPECnfs_/A93 operations per second and 357 TPC-A running Sybase. It also provides from 128Mb to 2Gb RAM, 4Gb to 8Gb disk and has 15 slots. It costs from \$98,100, and will be available in July. The rackmounts are housed in R00 - the rack/cabinet and can be strung together with High Availability Cluster Multiprocessing/6000 software.

What's in a name?

The PowerPC and Power CPU architectures are moving towards a single nomenclature - PowerPC - which is going to make it difficult to distinguish between the single chip PowerPC and the multichip Power lines. Meanwhile, the RS/6000 line is being divided-up into client and server technologies sitting on different sides of the company. And the model numbers - they need a decoding system all of their own. This is the reasoning IBM provides. To distinguish between microprocessor flavours in the line, it says all PowerPC-based machines will now begin with a letter - the C 10 for example. (Except the rackmounts, currently the 9xx line, will from now on be designated with an R - R10, R20 etc). The first number of the model name describes the physical size of the unit: 2 for small desktops through 3 and 4 for bigger systems, 5 for bigger desksides, to 9 for the rackmounts. The second digit or alphanumeric refers to the relative processor power of the model within its packaging arrangement, so the 580 is less powerful than the 590, the 3AT less powerful than the 3BT etc. Third digits or alphanumerics indicate, for example, that a T comes with a tube (monitor); W - without, as in 41W and 41T.

Graphics Power includes new E&S Freedom system

IBM is offering four new graphics accelerators across the RS/6000 line. First is a GXT150L upgrade of its existing GXT150 2D unit. It sits directly on the PowerPC 601 bus in the new Model 41T and 41W workstations and doesn't require a Micro Channel slot. The 8-bit device performs at a claimed 35% advantage over the existing system and costs \$1,700. A Micro Channel version is \$2,200, both in June. The anticipated 24-bit Z buffering, 112-bit plane GXT1000 accelerator comes in three flavours and is designed for OpenGL, Pex, Phigs, and IBM GL 3.2 3D graphics processing. The 001 costs \$25,000, performs at 60 PLBsurf93 and 79 PLBwire93 and is due by the end of the year. The 002, with additional rasterisers does 138 PLBsurf93 and 85 PLBwire93 and costs \$29,000 from June. IBM's AG Advanced Graphics system which adds 178 bit planes and 5 PLBsurf93 to the 002 and supports larger texture maps is \$6,650 from June. The most interesting of the announcements is IBM's decision to carry Evans & Sutherland Corp's graphics subsystem, calling it the Freedom Series 6000. It includes a new high-end module not yet available on the Sun Sparc systems that E&S currently supports, which perform at up to 3.5m vectors per second compared to the existing 3m modules. Existing E&S subsystems are available as the 6000 001 and 002, and are \$65,000 and \$83,000 respectively. New 003 level technology is \$101,000. All take a single MCA slot, and are available from this month. It's E&S's first deal with IBM.

AIX enhancements - DB2/6000 2.0 in beta.

All the new systems run the existing AIX 3.2.5 - servers prices are with a two-user licence - tweaked enough to have been touted by some IBM partners as 3.2.5.1 in early spec sheets; thankfully IBM balked at this naming scheme. New is an enhanced file storage facility which doesn't now require special server software. FSF/6000 supports RS/6000s and SunSoft Inc Solaris 2.2 clients in any NFS environment. FSF keeps important and often used files on the client and puts other files away on the server - all transparent from the user. It costs from \$150. Version 4 of Legato Systems Inc's NetWorker backup software is now up under AIX starting at \$2,000. RS/6000 users accessing System/370 or /390 applications over SNA or TCP/IP can now do so from the AIXwindows 1.2.4 GUI with new AIX 3270 Host Connectivity Program/6000 1.3.2, from \$1,200. AIX 5080 Emulation Program/6000 1.1 provides enhanced RS/6000 access to S/370 and S/390 CAD/CAM applications, from \$2,500. There's a new pricing and licensing structure for AIX/600 under HACMP, and version 2 of DB2/6000 is now in beta, which includes DRDA, IBM's distributed relational database architecture model - see opposite.

"DB2" on HP, Sun - maybe NT too?

In the midst of the announcements IBM made last week, there are also versions of the DB2/6000 relational database for Hewlett-Packard Co's HP 9000 family and the Sun Microsystems Inc's Solaris Open Environment, the first DB2 offerings for non-IBM systems. These new members of the DB2 family are functionally equivalent to the DB2/6000 relational database offering on the IBM AIX system. DB2, for the HP 9000 series 700 and 800 workstations and servers running HP-UX Version 9.0, will be available in June. Sun workstations and servers running Sun's Solaris V2.3 operating system will have to wait until September at the earliest. Versions 2 of DB2/2 and DB2/6000 were also announced, available October, offering support for text, speech and image data objects, reducing access time to data with the SQL optimiser, and increasing operational capacity by enabling the division of the database into "tablespaces". The new version includes the Distributed Relational Database Architecture Application Server capability, enabling DB2/MVS, DB2/400 and DB2/VM host applications to access data located in DB/2 and DB2/6000 databases while the Data Replication products can replicate from multiple sources including DB2, DB2/400, IMS, and VSAM into DB2/2 and DB2/6000 databases. The DB2 version 2 will support Distributed Computing Environment, Open Data Base Connectivity and Apple's Data Access Language. As for DB2 for Windows NT, software business manager Dave Pullin says "DB2 development is well under way" and "when NT sells we will be on that platform".

Parallel DB2 for RS/6000

There was also a demo of IBM's new parallel relational database, Database2 Parallel Edition for AIX, to act in harness with Powerparallel SP2. It promises to optimise the parallelism of IBM's hardware, reducing response time for complex queries and supporting more transactions. The parallel DB2 will make the RS/6000 a much more attractive product for high-end users needing to process tens to hundreds of Gigabytes of data, and were wary of capacity limitations of the RS/6000, IBM claims. DB2 Parallel Edition claims linear scalability to 64 nodes: a 32-node Powerparallel system with the parallel DB2 performed queries against a 15Mb database in under 13 minutes, and doubling the number of nodes and Gb added only a 2% increase in response time, IBM says.

Communications

There are also a bunch of new communications options for the line. The 7319 Model 100 Fibre Channel Switch 16/266 comes with from eight to 16 optical I/O ports at 266Mbps per second which will rise, IBM says, to 1 Gigabit per second. It provides links for nodes up to 2km apart. The Fibre Channel Adapter requires one MCA slot in the Power-based 300, 500, 900 and Rxx RS/6000s and supports MCA bus speeds up to 80Mbps. The Switch is \$29,500, the adapter \$6,400, both from the end of July.

The 7318 serial communications network server - models P10 and S20 - are re-configured, re-packaged and IBM-manufactured versions of Corollary Inc's Connection Station terminal server and multiporter technology. The housing has been re-designed and the software ported to AIX. The things provide 16 serial and two parallel ports - the S20 comes with TCP/IP and Kerebos V.5 security (which Corollary got from its Lachman Technologies deal). Both can detect network failures and switch to standby Ethernet interfaces. They come with 3270 emulation connectivity, presumably for migration from CICS. The idea of the terminal server is to be able to soak up lots of users without taking up lots of MCA slots. IBM will be offering two versions of the software - IBM opted not to take Corollary's SCO Unix support software. The P10 is \$2,450, the S20 is \$3,450, both from June. Corollary thinks the IBM deal could as much as double its bottom line to \$20m.

There are two new Ethernet terminal adapters for up to 256 and 2048 sessions at \$4,500 and \$7,500 respectively. Last is the S/390 Escon Channel Emulator Adapter for attaching RS/6000s or PowerParallels to S/390 tape subsystems which needs two MCA slots - it costs \$17,500. An NFS network co-processor for RS/6000s, the 4727NC starting at \$6,000 comes from Dallas-based Interphase Corp: it is the third member of Intephase's Network CoProcessor line, after the original VMEbus one and a new SBus one.

Power bites

Don't expect any new TPC-A numbers from IBM: it's moving exclusively to the complex OLTP TPC-C performance suite.

Current RS/6000 server prices are cut by up to 25%.

The existing Model 25T workstation has been upgraded to an 80MHz PowerPC 610.

The new 3xx, 5xx and Rxx systems supersede some existing models - the 9xx rackmounts are upgradeable to the R series. The 59H, Rxx and other Power2 desksides are touted as SMP-ready: as we thought, symmetric multiprocessing is now expected sometime in the second half, along with a new AIX 4 SMP release.

Other new stuff announced includes SCSI-2 fast/wide adapters in two versions, the 7134 high density SCSI subsystem, the 7204 external disk drive model 315, RAID storage and tape drive enhancements.

IBM says software up on Power-based RS/6000s will run on the Power2 boxes unchanged, but concedes recompilation with its latest XL compilers is required for additional performance.

The new systems are aimed squarely at the latest offerings from HP, Sun and DEC, especially HP and Sun's graphics workstations and commercial servers, and at DEC's highly-visible and as-yet unchallenged advertising campaign for Alpha servers. Although IBM's newest workstations don't overtake most HP raw performance numbers, IBM says its got HP and Sun licked on graphics performance and price when its new graphics subsystems are hooked-in.

IBM reckons 55% of RS/6000 sales are now new business wins, 36% competitive replacements (including legacy systems) 19% all new. IBM mainframe, RT and other migrations account for 14%, migration from other RS/6000s is 26%, other is 5%. It claims strong first quarter growth and is aiming for 1-2 weeks delivery schedules.

As it starts to get serious about commercial use rather than technical accounts, IBM will soon begin to detail turnkey PowerParallel SP2 solutions running DB2 Parallel Edition for AIX as PowerQuery for the SP2. The database currently runs across 64 CPUs.

IBM INTEGRATES SEARCHMANAGER WITH EXCALIBUR TEXT RETRIEVAL TOOL

IBM's Software Solutions Division is integrating its SearchManager text retrieval software with Excalibur Technologies Inc's Text Recognition Server (TRS) fuzzy logic text search tool. TRS is part of the McLean, Virginia-based firm's XRS Recognition Software family, and enables users to undertake content-based indexing, recognition and retrieval of text data in heterogeneous environments. IBM will sell, distribute and market the resultant product for AIX and OS/2 workstations. Meanwhile, Excalibur will make TRS and its new Text Recognition Library (TRL) product generally available in the fourth quarter under AIX, Solaris, HP-UX, and OSF/1. TRL is a C-callable library for programmers wanting to either include indexing and text-retrieval capabilities into their applications, or develop their own text retrieval server for specialised applications. Searches can be conducted using words, keywords, phrases, synonyms, nested Boolean expressions and concepts, and natural language. A 100 user TRS licence costs \$625 and a 100 user TRL licence costs \$325. TRS will also be available as a NetWare Loadable Module in early 1995, costing \$435 for a 100 user licence. + 1 619 625 790.

IBM, APPLE, SCIENTIFIC ALLY ON INFOBAHN

IBM already finds that it is having to play catch-up in the multimedia world, and announced last week that it is working with Apple Computer Inc and Scientific Atlanta on a blueprint for an open on-line architecture aimed at interactive multimedia services using Kaleida Labs Inc's ScriptX scripting language, Apple's OpenDoc and IBM's System and Distributed System Object Model on PowerPC. *PC Week* hears that Kaleida is considering more lay-offs, and that Scientific Atlanta may absorb the development effort and staff. IBM is also forming a unit to pursue the business of linking cable television and telephone lines with interactive networks, the *Wall Street Journal* reported.

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Developers interested in discussing Wine, a free-ware **Microsoft Corp** Windows API emulator that will enable Windows binaries to run under any **Intel Corp** 80386-based Unix running X, should check out comp.emulators.ms-windows.wine forum on the net. Wine is said to translate all Windows API calls into Xlib calls, and therefore run in 32bit mode.

French C++ tools specialist **Ilog SA** has developed a CORBA-compliant Object Request Broker that supports both Unix and Microsoft Corp Windows environments and will announce it mid-June. The Paris-based firm, which has changed the end of its fiscal year from December 31 to June 1 in line with its US operation, is due to release its financial results in July.

The **Open Document Management API Consortium**, formed only last month, has drawn up the specification for a new software standard enabling document management systems to integrate seamlessly with desktop applications. This is due to be ratified at the next ODMA meeting on June 27 at **Novell's** headquarters in Provo, Utah. **WordPerfect** will provide ODMA development files, including the ODMA connection manager DLL middleware that routes API calls between applications and document management systems, free of charge. Around 14 vendors were involved in defining the specification, including **Documentum**, **Adobe**, **Andersen Consulting**, and **Xerox's XSoft** division. +1 801 226 6000 - Keith Clarke.

We've heard talk that **Sun's First Person** unit is working on two projects - Oak and Green, though there's the possibility that Sun is indulging in leak management by using multiple names for the same set-top box project.

Former **Andataco** technical director John Cornelius, who formed Carlsbad, California-based Unix VAR **Lighthouse Technology** is pillaging his former company for executives: he's tapped **Andataco's** Michael Sedlmayer as CFO, Richard Mussman as VP operations. +1 619 431 8288.

Integrix Inc has a stackable SBus expansion centre that it will debut at SunWorld '94 between June 14 and 16 in San Francisco. The SEC1000 uses the Newbury Park, California firm's SWS10 SuperSparc 10 system with an SEC160 SBus expander and RAID. It'll go for \$10,000.

François Stieger has been named senior VP Middle East and Africa at **OpenVision Inc**. He has jumped over from **Sybase Inc**. Formerly Stieger built up **Oracle** from zero to a serious power where he was responsible for South and Central Europe. Stieger re-joins his former Oracle boss Geoff Squire at OpenVision.

DEC is reportedly working on a next-generation Alpha chip, as yet unnamed but a descendant of the 21064, that promises to offer a SPECint92 rating of 270 and a SPECfp92 of 450. The firm will have a 300MHz Alpha processor that does four instructions per clock cycle by next year.

Our sister publication *Client Server News* believes **Mips Technologies** is working on an Orion module that will fit in a Pentium socket. The unnamed module, one of two on the drawing board at Mips, is meant to upgrade Pentium machines by accommodating both the pre-existing Pentium chip and the Orion (R4600 silicon).

Reko Mogi, technical translator at **IXI Ltd's** Japanese partner **Tomen**, did a better than expected job proclaiming the UK company's peace and love technology strategy to local IXI users: **IXI** boss Ray Anderson, who was visiting Tomen at the time, was so bowled over he's marrying Reko on June 4.

Sun Microsystems Inc is supplying 5,000 workstations, 100 servers and systems integration to discount stockbroker **Charles Schwab Corp** unit **Charles Schwab and Co Inc**, and **Amdahl Corp** will act as systems integrator and the prime contractor for service and support.

Anglo-French **Sema Group Plc** has a Unix version of its Pleiades management software for the **AT&T Corp Global Information Solutions** 3000 line of single and multiprocessors.

The word is that **IBM Personal Computer Co's** iAPX-86-based server business is to be dumped unceremoniously into the RS/6000 business.

ICL Plc is porting four modules of its TeamOffice groupware product to **Sun Microsystems Inc's** Solaris operating systems. The TeamForum bulletin board conferencing package, TeamLibrary document management application, TeamCalendar group and resource scheduling module, and TeamMail e-mail software will be available from the third quarter, and support Microsoft Corp Windows clients. A five user licence for all four modules will cost \$425.

IBM Corp's DB2 database will be available under **Hewlett-Packard Co's** HP-UX from June 24, costing between \$2,000 for two concurrent users to \$149,000 for 256 concurrent users. A Solaris version for both Sparc and Intel-based hardware is due to go into beta in July and is scheduled to ship on April 1 1995. A client version is expected to ship next month under MS-DOS, Windows, AIX, OS/2, HP/UX, SunOS and Solaris - the HP-UX version supports all of the above environments too, except Solaris. IBM will sell and support both products.

Servio Corp unveiled version 4.0 of its GemStone object management database system at DB/Expo last week. The product links to Smalltalk transparently, supports applications written in C or C++ and includes tools for integrating legacy data. It also now has a shared memory architecture, supports transaction processing, has improved concurrency and input-output capabilities. Gemstone 4.0 is scheduled for release in June, starting at \$20,000 for a four user development licence. +1 503 629 8383.

Cambex Corp has signed up five European distributors to resell and support its Certainty Series storage products for the IBM RS/6000 market. These are London-based **Bridge Technology Ltd**; Paris, France-based **Computer Memories and Peripherals** and **Dickens Data**; Frankfurt, Germany-based **PSP** and Tuebingen, Germany-based **Xeltec**. +1 617 890 6000.

Hewlett-Packard Co finished its **Microsoft Corp** Windows NT port a month ago, according to *PC Week*, but, the magazine adds, fears about cannibalising Unix sales and the slow uptake of NT means it's been shelved for the moment.

ICL Plc will ship its SuperServer family (UX No 477) at the end of the month.

Sun Microsystems has gone to **Red Brick Systems Inc** for its Red Brick Warehouse data warehousing solution, which it will market on Solaris.

In Japan, **Nihon Sun Microsystems KK's** SunIntegration unit is supplying consulting services and tools to help Sun reseller Nippon Steel Corp in its downsizing programme.

GBC Technologies Inc, Berlin, New Jersey has acquired Unix distributor **Xecute Inc**.

Minneapolis firm **Itasca Systems Inc** takes us to task for believing **Versant Object Technology Inc's** claim to have the first ODBMS for persistent storage of objects created under different C++ compilers (UX No 487): Itasca Distributed ODBMS has supported the capability for over two years the company claims. +1 612 851 3155.

Hewlett-Packard has debuted version G.0 of its Allbase/SQL database, which includes ODBC APIs and enhanced Sybase compatibility - a Progress 4GL port's in beta - prices start at \$2,300.

Fulcrum Technologies Inc, Ottawa, Canada, is offering version 2.0 of its SearchServer text search engine with ODBC support at from \$700. NT and Mac versions follow. +1 613 238 1761.

Unisys Corp is putting Tuxedo up on NT Advanced Server. Unisys believes it is the first vendor to commit itself universally to X/Open's Distributed Transaction Processing standard and will put XA interface hooks in its A Series and 2200 mainframes by year's end. Its DOS and CTOS boxes can already act as Tuxedo clients.

Products and services of Sparc-compatible and Unix repair shop **Pinnacle Data Systems Inc**, Columbus, Ohio, are being carried by Arrow Electronics Inc, Melville, New York. One-time HyperSparc would-be, Pinnacle now has SuperSparc workstations, graphics cards and other upgrade solutions and is working on its own DataGuard RAID solutions. +1 614 487 1150.

Auspex Systems Inc will launch a new range of network servers worldwide on June 8. Meanwhile, the Santa Clara, California-based firm has awarded **AT&T Global Information Solutions** a three-year \$1.8m contract to provide warranty service and maintenance to Auspex customers.

Visigenic Software Inc is developing a new version of its V/Forms development toolkit to enable **MicroFocus Plc** Cobol developers to build graphical, transaction-oriented database applications in Cobol. The product is due by the third quarter.

IBM Corp wasn't best pleased to hear **Hitachi Data Systems Ltd** let slip that it thinks Big Blue could be stepping up for its next generation hybrid ECL/CMOS mainframes (UX No 488). Officially it's saying there's no such plan and that in any case it would be outside the terms of their April 27 agreement. The two companies, it says, are continuing to discuss areas of cooperation and both have the right under the agreement to propose additional relationships. In any case, IBM believes it will be making money out of the agreement whatever may follow. Unofficially it's believed the HDS line cut too close to the bone and we heard IBM was seeking a clarification from the firm. We asked, and were told by a spokesperson there's no HDS clarification planned.

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INTEL'S PLANS FOR P6, P7 CHIPS BEGIN TO TAKE SHAPE

A few pieces of intelligence on Intel Corp's developing plans for the P6 and P7 microprocessors have been gleaned by *US PC Week* and *MacWeek*, and the former believes the company now plans to have the P6 in servers and workstations by the end of next year. But the Pentium is not intended to fade away: the company is shrinking the die size in the hope of being able to set clocks well in excess of 200MHz against 100MHz maximum now, and envisages producing a range of Pentiums in massive volumes and pricing them low enough for entry-level systems. P6-based machines should offer two to eight times the power of current Pentium servers. The P6 is expected to come as a two-chip module, the second chip being 256Kb of high-speed cache, and to include enhanced multiprocessing logic, based on Intel's Multiprocessing Specification, enabling manufacturers to mass-produce standard system boards supporting as many as four P6 CPUs. The first P6 is expected to be clocked at 133MHz, and to be fabricated in the 0.6 micron process now used for the fastest Pentiums, delivering an integer SPEC rating of 200 or more. It will later move the P6 to a new 0.4-micron process to raise the clock speed. Intel wants to optimise its 0.6-micron process to yield 120MHz Pentium chips in volume by the second quarter of 1995 and 133MHz chips by the third quarter, before going to 150MHz using the 0.4 micron process. Meantime, *MacWeek* hears that the P7 will be a full RISC processor that emulates iAPX-86 instructions in hardware to deliver at least Pentium-level performance - but it will need to be more. In technical briefings, Intel is said to have described where it can already identify fixed-length, RISC-like instructions and variable-length complex instructions, separating them for execution within the Pentium and P6 processors. The key problem Intel faces with that strategy will be to get people to write to the native RISC mode - already it is having difficulty getting software developers to exploit advances in the Pentium architecture, and even the 80486, over the 80386. Intel, refusing to comment on the specifics of future Intel microprocessors, asserted to the paper "Emulation in hardware and software will not be part of the Intel architecture in the foreseeable generations".

X/OPEN LOOKS AT AUSPEX, EPOCH'S STORAGE MANAGEMENT API

Auspex Systems Inc has implemented a Unix storage-management API that has not even been ratified by X/Open or by its own industry consortium, the Data Management Interface Group. The Unix file server company is using the API, which was jointly developed by itself and storage software developer Epoch Systems Inc, to support the latest version of Epoch's storage management application, Enterprise Backup 2.0. The API is designed to be used as a standard interface between Unix and storage hardware and software systems. It is based on proven mainframe-based technology, and is currently being examined by the 45 company-strong DMIG, which was founded in January last year by Epoch, Auspex and E Systems Inc. Although the DMIG is not part of an X/Open subcommittee, it is a member of the organisation and X/Open has said it will look at any DMIG proposal should it gain enough critical mass to be accepted, although as yet it has not been X/Open approved. The Auspex operating system consists of SunOs running over a proprietary kernel; the API will run on the firm's file processor, which is a Sparc or 68030 chip. This processor also shares application processing with the host processor in the Auspex server. Sun, IBM and Silicon Graphics (an Auspex OEM) are the most active members of DMIG and are also looking at the API, although none have signed up yet. Ross Garber, director of strategic planning at Auspex and chairman of the DMIG, said that although the standard had not yet been ratified, "Auspex customers need not worry", as the API would not be substantially different, and if anything only a small software upgrade would be needed. "It's a case of you say tomaty-to, I say tomato", he concluded.

PYRAMID FORMS JOINT VENTURE COMPANY WITH FUJITSU DOWN UNDER

Pyramid Technology Corp and the ICL Plc-Fujitsu Ltd axis are getting even closer, if that is possible without Fujitsu actually buying Pyramid for ICL: Pyramid Technology Australia Pty Ltd has formed a joint venture with Fujitsu Australia Ltd, called Pyramid Data Center Systems, which will market the Nile series of scalable enterprise servers to large companies wanting to downsize from mainframes. It will offer the Niles with complementary ICL and Fujitsu hardware and mainframe communications software. Fujitsu Australia embraces both the Fujitsu and ICL Australia businesses and is 80% owned by Fujitsu Ltd, 20% by ICL. ICL and Pyramid have announced a series of technology and marketing alliances over the past few months (UX Nos 472, 480).

LACHMAN CHANGES HANDS AGAIN

Well, folks, he's done it again. The redoubtable Ron Lachman has sold Lachman Technology Inc, this time to Legent Corporation for 500,000 shares in Legent, a little nest egg that Lachman figures will earn the firm \$15m. Lachman, who goes along with the acquisition, says that the storage side of the company, as represented by its Open Storage Manager, a client/server-based hierarchical management product family, will probably be integrated with similar Legent products over time. But he expects its OEM-oriented TCP/IP and NFS networking interests to continue to go their own way, remaining operationally independent and perhaps even retaining the Lachman moniker. Legent said it intends to provide an end-user version of Lachman's Open Storage Manager, now sold to OEMs and integrators, early next year. Lachman, who was also instrumental in bringing Wabi into existence, first sold Lachman Associates, the precursor of Lachman Technology, to Interactive Systems Corp - which was itself owned by Eastman Kodak. Kodak sold off the Unix system piece to SunSoft, but then around Christmas 1992, Lachman bought back the old Lachman Associates and turned it into Lachman Technology (UX No 418). Kodak unloaded what was left to Canada-based SHL Systemhouse. At the time, Lachman quipped he had set a new executive benchmark of transactions per year (TPY), having sold Interactive to SunSoft, Wabi-originator Praxis to SunSelect, and what was left of Interactive to Systemhouse. He also, of course, bought back Lachman too. Reports indicate Lachman Technology hasn't been doing that well of late, although its press release describes it as an \$8m company.

XHIBITION 94

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KEYNOTE

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- Wednesday June 22 @ 9 am

PLENARY

Timothy Leary, leading influencer of the futurist movement
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AIX PERSONALITY FOR WORKPLACE OS IN EARLY STAGES

A Workplace OS-hosted version of IBM's AIX is still in "the emergence phase", according to Donna Van Fleet, the company's ~~divisional director of RISC System Software. Currently, AIX is~~ resolutely monolithic, but Van Fleet recently set up a small team of less than ten researchers to examine how to move the operating system to a microkernel-based implementation. "The issue has only ever been when, not if the move is made" says Van Fleet, but currently the need to develop the new system is balanced by the question of how a microkernel would benefit existing AIX users. The eventual aim for Workplace OS has been to produce an operating system with multiple personalities, but so far only an OS/2 personality is even close. A major hurdle in the way of producing an AIX personality is that of byte-ordering, or 'endianness'. While OS/2 and WPOS is Little Endian, AIX is Big Endian. Supporting both OS/2 and AIX personalities simultaneously would require a layer of emulation software to switch byte ordering on the fly. Currently this emulation process is regarded as ruinously expensive in processing power terms, but Van Fleet is confident the problem can be cracked - eventually. "The Bi-Endian problem is one that is well known and we have IBM Fellows working on this category of problem" she says. To be named an IBM Fellow is the highest level of achievement a researcher can be awarded. How will the microkernel AIX be delivered and when? "This is still jello" she says forthrightly. As AIX already runs on PowerPC Van Fleet is not rushing the process, "but I do want to introduce objects and I want to use the reusable code [Personality Neutral Services and Taligent Frameworks]". In summary, the changes in AIX will be evolutionary, rather than revolutionary, so don't expect an AIX personality any time soon, "during 1995 and 1996 you will begin to see features being added" says Van Fleet. It seems that 'OS/2 for the PowerPC' will remain an apt name for Workplace OS for some time to come.

IBM REVEALS SOME GIZMOS IN THE POWER PERSONAL PLAN

IBM Corp has been holding a series of briefings for users on its PowerPC chip and all its works, majoring on the forthcoming machines from the Power Personal Systems division, giving the impression that launch of these is only weeks off. The company remains studiously vague on what will be standard and what will be optional, and just how much of what is in the plan will appear in the first iterations. The line-up appears to be a Professional Desktop using the 601 chip, and an Executive Desktop and a notebook using the 603. They will include both Peripheral Component Interconnect and AT buses, and all will include PCMCIA plug-in card slots. The planned CD-ROM drive does appear to be standard. Among the novelties in the plan for next year are a pen-enabled touch screen for at least one of the desktops that will use a radio link to the computer rather than a cable, so that users can take their screens into meetings while remaining in touch with the computer back on their desks - no word on the range. The intelligent agent concept will initially be fronted by a character called Charlie, a white, middle class male face that will appear on the screen and issue reminders and respond to commands to fetch things - but in a later version, users will be able to scan in the face of their choice, so that you can have your mother remind you to back up before you shut down. Discrete word, and, later, continuous speech dictation will be built in - the IBM Personal Typing System. For the laptop, there will be a version with Canon Inc's bubblejet printer built in - already available in some Thinkpads. On the PowerPC RISC, IBM says the wafer fabrication facility in Burlington, Vermont will cost \$100m to equip, and the development budget on the RISC is \$500m a year.

HYUNDAI SHOWS IT CAN DO POWERPC BOX

We thought we had mopped up all the companies that were displaying PowerPC-based machines at the Cebit trade show, but we missed Hyundai Electronics Corp. Lurking on the Hyundai stand was a PReP-compliant machine, which was on display, according to a spokesman "to show that we can do it". The South Korean says that it does not have any definite plans to go commercial with the machine as yet - "we need to find out whether there is a market for it, and whether we can get a good supply of PowerPC chips."

IBM SOFTWARE TEAMS ARE ORDERED TO BACK WORKPLACE

The effective replacement of Systems Application Architecture - which addressed the software front end - with the new Workplace ~~strategy, which addresses the back end by building on a common~~ kernel for the likes of OS/400, AIX and OS/2 - is causing big upheavals in IBM Corp's software development operations. According to the *New York Times*, IBM has appointed Peter Schneider as vice-president in charge of co-ordinating the development of the Workplace client-server software strategy and for making sure it is implemented in the software in all divisions. A key aim is to reduce the estimated \$1,000m a year IBM spends in developing its various lines of operating software. The use of a common kernel in future releases of OS/400, AIX and OS/2 will make it a little easier to implement the operating systems for new chip architectures - ironically something rather less vital for IBM now that it is standardising on the PowerPC RISC.

AIX NETVIEW HUB MANAGEMENT PROGRAM/6000 EXPANDS LAN MANAGEMENT

The upgraded IBM AIX NetView Hub Management Program/6000 1.3 provides access to all the new functions from the management station of a hub local network. The new version expands the management of local networks with IBM 8260 Multiprotocol Intelligent Switching Hubs and IBM 8250 Multiprotocol Intelligent Hubs. The new graphics and forms provide maximum efficiency for the everyday network control operations, IBM claims. The IHMP/6000 1.3 operates with AIX 3.2 and AIX NetView/6000 2.1 on RS/6000. The IHMP/6000 1.3 offers a new tool known as the Port Database designed to help the user maintain and cross-reference critical information about the network and in so doing improve the process of problem determination and fault management in a network. Network problems and error correlation are simplified by association to the Internet Protocol or Media Access Control address, the physical ports on the hubs, the user name, cable identification, and any other user-defined information the operator wants to record. The package is out in July but no prices were given.

CALLPATH CALLCOORDINATOR/2 NOW INTERFACES TO WINDOWS VERSION

The launch of the upgraded IBM CallPath CallCoordinator/2 2.0, an inbound-outbound call management system that links telephones and workstations with host computers, will give users the option of interfacing with the IBM CallCoordinator for Windows product. The new version can be used with the new CallPath Server/2 and the AIX CallPath Server/6000 or CallPath/2 when connected to an IBM SwitchServer/2. Applications written for previous versions, which worked with the CallPath/2 will be fully compatible with CallPath Server/2 and AIX CallPath Server/6000. Enhancements to previous versions include data forwarding on a ring-no-answer call scenario, an alpha search directory function capability for outbound dialing and enhanced communications options through Novell Inc Network Protocols. Version 2.0 can also interface with a variety of telephone switching systems include AT&T Corp Definity, Northern Telecom Ltd, Rolm, Aspect and L M Ericsson Telefon AB. The new model is a local network-based system which includes three separately priced software programs. Version 2.0 will retail at a price of \$600, Version 2.0 Server at \$8,400 and Version 2.0 Archive will be priced at \$8,600. Version 2.0, the base program on each agent workstation, provides advanced call management functions and merges speech and data with new or existing business applications. Version 2.0 Server is an optional server that provides the ability to co-ordinate speech and data transfers between users when calls are transferred to Automatic Call Distribution queues. Version 2.0 Archive is also an optional program which provides the function to collect and store call centre data. The upgraded system will be on general release from June 24; while adapted models for AT&T Definity and Northern Telecom PABXs will be available from October of this year.

IXI PLANS TO RELEASE VERSION 2.0 OF WINTIF IN AUTUMN

Cambridge, England-based SCO subsidiary IXI has leaked plans for the second version of its WinTif windows lookalike X desktop manager, due in the autumn. The firm, which launched the Development kit for version 1.0 in February, originally promised Object Linking and Embedding (OLE) functionality in a user version to ship in the summer. There will now be no new version until the autumn, and this will include only "partial OLE functionality" according to Ray Anderson, managing director of the firm. IXI will be taking advantage of the Internet, though, by including core code from the University of Illinois' Mosaic product, which has been licensed by SCO. This will allow X users to exchange information over the internet using WinTif residing on their servers according to IXI.

HP UNVEILS ITS FIRST VMEBUS SINGLE-BOARD COMPUTER

Hewlett-Packard Co will this week unveil its new VMEbus single board computer, the HP 9000 Series 700 Model 743, which it claims has the same functionality as an HP 9000 Series 700 workstation. The Model 743 is aimed at systems integrators and OEMs that supply real-time data acquisition systems to such markets as aerospace and defence, manufacturing, telecommunications, and research and medical. It can be installed in a custom enclosure, and comes in two configurations that run HP/UX - the 64MHz PA-7100LC RISC-based Model 743i/64 is said to perform at 67 SPECint92 and 99 SPECfp92; and the 100MHz PA-7100LC RISC-based Model 743i/100 is rated at 101 SPECint92 and 139SPECfp92. Both have on-board colour graphics capabilities, but two graphics displays can be supported by adding mezzanine graphics cards. They also have VME64 functionality, which provides through-put of between 33Mb and 44Mb per second for block transfers and between 9Mb and 13Mb per second for single transfers. The Model 743s come in single slot entry-level versions with up to 128Mb of ECC RAM and 256Kb of cache memory, and double slot versions, which enable customers to add different input-output options and increase memory to 256Mb. They are available now, starting at \$4,355. The Model 743rt, meanwhile, runs HP-RT, while customers can also go for a complete workstation based on the board, the HP 9000 Model 748i. This has an HP enclosure, can be rack-mounted, has four EISA expansion slots, eight VMEbus slots, and runs HP-UX version 9.05. The 743rt and the 748i will be available in the second half, but no pricing was available.

TALIGENT SHIPS APP ENVIRONMENT, PRE-BETA CODE FOR AIX TO CHOSEN FEW

Taligent Inc last week conference-called some folks to say it was shipping its application environment code to its investors: IBM, Apple and HP. The move was seen as giving the vapourware a little more credibility. Meanwhile, Taligent is also kicking off a PEEK or Partners Early Experience Kit Programme that will provide a select group of software developers with pre-beta Taligent code for AIX, documentation and training. It starts this week with a two-day briefing followed by week-long training sessions. Taligent figures 100 organisations including Fortune 1000 developers will participate in PEEK. It says the PEEK code, which comes with sample applications, provides about 80% of the frameworks planned for the Taligent Application Environment 1.0, enough to begin programming with. It also includes an early version of Taligent's People, Places and Things user interface metaphor. IBM, Apple and HP, who are coordinating marketing efforts with Taligent, are expected to begin their own productization and seeding.

SUNSOFT LICENCES LOTUS LEL FOR DOE EVALUATION

SunSoft Inc has agreed with Lotus Development Corp to licence the LEL Link, Embed and Launch-to-edit technology Lotus co-developed with Software Pundits Inc, Burlington, Massachusetts. Sun says it will evaluate the technology for future development efforts with respect to project DOE, Sun's Distributed Object Environment (UX No 482). LEL provides object linking and embedding functionality equivalent to that of Microsoft Corp's OLE 1.0, allowing users to create compound documents with data from different Unix applications. Sun already ships the technology as part of Lotus Notes 3.1. DOE, the first release of which is due in early 1995, uses OpenStep technology from NeXT Computer Inc and follows Object Management Group standards.

AUSPEX UNVEILS NEW NS 7000 FAMILY OF NFS SERVERS

As expected (UX No 489), Auspex Systems Inc will this week debut its new family of Unix Network File System servers, the NS 7000 NetServers. The range comprises two sub-groups, the entry-level Series 200, which is aimed at workgroups and small departments, and the high-end Series 500, which is targeted at enterprise-wide environments and supports up to 300 users. The Series 200 includes three models, the entry-level system base unit, which costs £65,000; the Model 210, which includes a base unit and one expansion cabinet for \$75,000; and the Model 220, which includes the base unit and two expansion cabinets for \$84,000. These range in capacity from 1.75Gb of disk storage to 61Gb, support up to 12 Ethernets and two FDDI or MLT3 connections. Each box incorporates three processor boards - a 55MHz Ross Technology Inc HyperSparc acts as the host processor, runs Solaris, and processes files; dual-CPU 40MHz Sparcs act as network processors and deal with input-output functions - they run Auspex's own Functional Multiprocessing Kernel; while a 40MHz Motorola Inc 68030 deals with disk storage. The network and storage processors are linked via a backplane, and can swap data from the network to disks and vice versa without needing to call on the resources of the host processor. The Series 500 machines, meanwhile, support 24 Ethernets, have two FDDI ports, five dual-Sparc network processors and 180Gb of storage capacity. The NS 7000 Model 500 base unit costs \$113,000, the Model 502, which comes with base unit and redundant power supplies costs \$138,000, the Model 510, which comes with the base unit and one expansion cabinet, costs \$145,000; and the Model 512, which comes with a base unit, expansion cabinet, and redundant power supplies for both, costs \$186,000. They will all be available after June 25, and all existing NetServers can be upgraded by simply swapping processor boards.

NOVELL WORKING ON LOW-COST SWITCHING DEVICE BASED ON LINUX

Linus Torvalds, developer of the Linux freeware Unix SVR4 clone, has confirmed Novell Inc is working on a project based on his operating system, which is code-named Corsaire, not Expose, as was previously thought (UX No 487). Novell is said to be developing a 32bit operating system based on Linux, which interfaces with DR-DOS and UnixWare, includes a Windows emulator and bridges to Mosaic. The firm declined to elaborate on Corsaire, saying it was simply experimental technology in the labs, and it had not yet decided whether to make it into a product or not. Torvalds also added that Novell is developing a new windows manager for Corsaire called Looking Glass. "I haven't seen it, but from what I know it's great, better than the Common Desktop Environment. It seems a solid product, and they will probably do some documentation. I don't think they will in any way try to compromise the copyright of the kernel itself because they'd be killed by the bad publicity", he declared.

PAGEAHEAD DEMOS SIMBAENGINE TOOL FOR MAKING UNIX APPS ODBC-ENABLED

Windows player PageAhead Software Corporation is demoing a piece of software called the SimbaEngine C/S, which it says will turn Unix applications into high-performance ODBC-enabled client/server applications without re-engineering the underlying data. PageAhead expects to ship the toolkit, which will add ODBC access to the data in Unix applications, at the end of Q3. It consists of two components, a client program and a server program. Off-the-shelf apps access the Unix data by making ODBC calls to the SimbaClient, a small Windows-based driver, the Seattle company explained. SimbaClient then packages and sends the ODBC SQL call to the Unix-based server component, the SimbaEngine, where the request is processed and the results sent back to the client computer. The program will be able to centrally administer rights granted to various tables, a task that previously had to be performed on individual client machines. The client, which will run on Windows, Macs and OS/2, is said to occupy less than half the space required by other client ODBC drivers. The SimbaEngine will support multiuser access, concurrency control, TP and security if those features are present in the Unix application. It will appear initially on SCO, AIX and Solaris with HP to follow.

HOW THE OBJECT MANAGEMENT GROUP'S CORBA MAY BE FAILING THE OBJECT-ORIENTED CAUSE - PART ONE

by Katy Ring

Back in 1991 the Object Management Group pulled off a bit of a coup by getting Hewlett-Packard Co, Sun Microsystems Inc, the then NCR Corp and Object Design Inc, Digital Equipment Corp and HyperDesk Corp to agree on a common specification for an object request broker. The object request broker technology approved by the Object Group goes by the acronym CORBA, Common Object Request Broker Architecture, and is the kernel at the centre of any distributed object management product that claims Object Group conformance. At the time the Object Group had cause to celebrate as it appeared to have headed off the development of a schism within the object community over the question of static versus dynamic binding in an object request broker. Such a schism could have proved as divisive to the object community as the Unix wars between Unix International and the Open Software Foundation have been in the Unix community. Static or early binding means that external references are resolved (ie there is a library look up) at the time code is compiled and linked and this provides added robustness as errors can be seen and dealt with when testing. Dynamic or late binding means that external references are resolved at runtime, calls are built and data is marshalled dynamically as opposed to being set in the binary code.

Unforeseen errors

This has the disadvantage of exposing the code to unforeseen errors but has the advantage of flexibility - dynamic binding enables new classes of objects to be introduced without the need to recompile. Three years ago the Object Group endorsed both approaches by making both of them part of CORBA. This was quite an achievement and at the time Object Group president Chris Stone attributed a large part of its success in creating Corba to the immaturity of the market - vendors did not have customer bases to protect. However, progress with Corba seems to have been extremely slow since that first agreement and there are now products on the market from vendors not involved with the initial CORBA negotiations and a great deal of marketing silence from vendors such as Sun, Hewlett-Packard and NCR.

lack of industry unification

It would seem that life is not a bowl of cherries in the object request broker community, why is this? Well, the first point to be clarified is that problems within the object request broker vendor community do not stem from a lack of market demand: since 1991 the vogue for client/server computing and distributed data has grown apace and this should be good news for the marketing and promotion of object request broker technology. More than ever you would think that such technology would be in increasing demand for evaluation and testing. And it is, but ironically CORBA seems to be paralysing the market with confusion and uncertainty. Indeed, some vendors say they prefer to go in to bid situations without referring to CORBA compliance because as soon as CORBA is mentioned, purchasing decisions get kicked upstairs to face questions about long term strategy, and the sale is interminably delayed. Whereas without mention of CORBA, firms are more likely to buy an object request broker to fulfil a current technical requirement. This all sounds horribly reminiscent of another software development technology that was designed from its inception to please as many vendors and customers as possible while safeguarding its own user base, which died an undignified death unable to fulfil its omnipotent aspirations. The MVS Repository - an apocryphal tale of a supergroup of vendors trusting in IBM to let them overcome their musical differences.

Vendor lock-in

Are the Object Management Group's efforts with CORBA in any way analogous to the drama of AD/Cycle? Of course not. After all, the point of the Object Group and the first CORBA specification was to catch the object request broker technology before it became entrenched in market politics and customer preferences. The Repository was a reactive strategy to a problem that existed precisely because software engineering products were already in the marketplace. CORBA was a pre-emptive strike to attempt to leapfrog vendor lock-in and jump-start the market for object technology. If anything the Object Group's problems may well stem from the fact that it started the "conformance" ball rolling a little too early. Nevertheless, there are troubling signs of parallels with the demise of IBM's MVS Repository strategy. For a start the Object Group is attempting to arbitrate between what are beginning to look like increasingly incompatible object request broker technologies built in C. C is a procedural language and while we are all *au fait* with the theory that suggests you can program in an object

oriented way with any language, in reality, why would you when C++ is available. Remember that a key reason why the Repository failed was because historically speaking technical participants were wedded to the relational storage model. But surely, I hear you cry, you cannot be suggesting that CORBA is based on inappropriate technology - after all how can that be when the Object Group was starting with a clean technical slate and helping to create a new market?

OMG roots

Well, the Object Management Group's roots lie with the Hewlett-Packard NewWave user group and Chris Stone himself came from Data General Corp, where he was working on what eventually became the HyperDesk DOMS product. In other words the Object Group's roots lie with the software research and development parts of the big US hardware manufacturers. When most of the object request broker products from such vendors were in their developmental infancy Unix and C was the place to be. However, just as the market for object request brokers is opening up, personal computers and C++ is where it's at, and as we still do not have a viable CORBA spec to work from that addresses naming conventions, persistence, security and interoperability issues, the Object Group's efforts are beginning to look a little feeble and Microsoft's chances of superseding CORBA with its own desktop agenda is looking stronger. The functional shortcomings of CORBA are to a large extent being addressed in the CORBA 2.0 spec to be decided at the end of July at Object World in San Francisco. Nevertheless, compliant products will lag behind (and as yet there is no testing suite) and many are concerned that the benefits that the Object Group can bestow on the nascent object request broker industry are being sacrificed to keep the large (predominantly hardware) vendors happy. In the meantime a handful of tiny players have object request broker products on the market written in C++ and view CORBA as a mixed blessing. They think that some measure of standardisation is helpful and believe, for example, that IDL Interface Definition Language is a highly marketable asset that the Object Management Group has donated to the industry.

Compiler wars

For this they are truly thankful, but... Is it really helpful for the Object Management Group to wade into the C++ compiler wars by becoming absorbed in a debate over how vendors are to implement their C++ bindings to IDL. After all, doesn't this rather presuppose that your product is written in C in the first place, while some people are beginning to wonder if a C-based object request broker is the right departure point for CORBA anyway. For example, isn't it because CORBA is C-based technology that there is such technical difficulty in implementing dynamic invocation in such a way that the problem of typesafe linkage within C++ is resolved while retaining backwards C compatibility? Why not take a working object request broker written in C++ as the departure point for CORBA 2.0? After all, the market is still very immature and it doesn't really make sense to base a whole new software technology on a compromise agreed between ailing hardware vendors, does it? Especially if the Object Management Group is going to get involved at the level of determining how C++ compilers are to be built.

SANTA CRUZ OPERATION TOP BRASS REVIEW GLOBAL PLANS...

Santa Cruz Operation Inc's Europe, Middle East and Africa division has been discussing its best-ever first half and reviewing its future, with president and chief executive Lars Turndal denying that it is talking to SunSoft Inc. Bernard Hulme, vice-president and managing director, said the division's revenues were up 11% in the second quarter, 18% in the first half. Both Hulme and Turndal stressed the company's role as a ~~Unix server supplier, rather than a low-end supplier of networked personal computers.~~ Hulme noted that it shipped 15,000 servers in France alone in 1993, worth some \$300m. Said Turndal, "Networked PCs is not the market we're focusing on; we sell some there, but we're stronger in Unix servers. Novell is strongly positioned [in networking]. I really don't know what it is that they fear from Microsoft." Furthermore, said Hulme, Santa Cruz clients are not all "small systems," as is sometimes believed. European users include the Norwegian Census Department, with 1,500 users on a pair of Compaq Computer Corp servers. There are over 100 users on a server at Sipa Press in France. As for other alliances or agreements, Turndal said, "We're not porting to the PowerPC today. Until I know that they've shipped 5m or 6m units, it's not of interest to us. They are calling us up every week to tell us what an interesting market it is, but we have to wait and see because there's the PowerPC, Alpha and Hewlett-Packard's RISC and the marketplace has to make up its mind. He added that Santa Cruz still has a RISC operating system "sitting on the shelf" from its days with the ACE consortium, and so wouldn't be caught off guard if the day comes that the market requires it. Turndal said the AT&T Global contract represents part of the company's strategy to grow into the part of the Unix market that is held by AT&T Global, Unisys and ICL. He also indicated that the company is working with ICL on some kind of agreement, and is working on initiatives in the area of global mobile access devices. "The issue is getting these mobile devices synched with the corporate computing backbone. We will make sure that we're playing in that game," he said. Wall Street keeps asking what it intends to do with its \$100m in cash, Turndal said. "It's very tempting to buy companies here and there, but they have to fit with our business. I'm very concerned with what to buy and when. Buying companies with extra cash is not necessarily a smart move.

...AS SUNSOFT'S SCHEERDER DENIES SCO TAKEOVER TALKS

At the UK Solaris Developers Conference, Janpieter Scheerder denied the persistent rumours that SunSoft Inc has been talking with The Santa Cruz Operation with a view to acquisition, although they have held regular meetings "as we do with everybody". He said that Solaris did not compete directly with SCO, and at the high-end SunSoft "has far outsold them". Scheerder claims SCO's product line competes more directly with SunSoft's Interactive Unix product, aimed mostly at developers and the character-based multi-user market. Interactive continues to use Unix V.3 source code, and Sun has no plans to merge it with the V.4 Solaris code base, although Scheerder promised Interactive users that SunSoft "would not leave them behind".

SOLARIS 2.4 SHOULD BE OUT BY AUGUST

Solaris 2.4, the version of Solaris which derives both Intel and Sparc versions from the same source tree - and from which the IBM PowerPC version will be derived - is on schedule for release this August, according to Janpieter Scheerder, vice president and general manager, Solaris product division. Scheerder told attendees at the UK Sunsoft developers conference that Sun had learned from the traumatic transition to Solaris 2.3, and that the new release would not come out until he was convinced it was ready. "We're viewing every program violation as a showstopper," he said.

LAW FIRM NOT ONLY ADVERTISES ON INTERNET, BUT SHOWS OTHERS HOW

Phoenix law firm Canter & Siegel, which caused outrage by advertising on the Internet last April, has added insult to injury by launching a service to help others do the same thing. The firm swamped over 6,000 electronic bulletin boards with a message offering help with the US Green Card lottery - and won itself \$50,000-worth of business. Now, it is offering a service called Cybersell, enabling other companies to do the same thing. It already has its first client, a maker of super-oxygenated water that claims health benefits. Canter & Siegel is charging \$500 for the service - pretty steep as it normally costs only around \$30 to get access and send a message to all Internet news groups. But the company claims few firms have the technical expertise to do this.

DEC'S ALPHA REJECTED AS BEING TOO RISKY IN BRITISH LOTTERY CAMELOT BID

GTECH, the systems integrator behind ICL's winning Camelot bid to run the British national lottery, has snubbed the Digital Equipment Corp Alpha chip at the back end because it wasn't sure that the chip would work. The West Greenwich, Rhode Island-based firm chose Alpha-ready DEC Vaxes for the back end, but Donald Stanford, senior vice president for GTECH, said that "We don't want to go live with Alpha processors because they are too new. We are risk-averse". He added that the firm wanted chips to be tried and tested for at least a year before it would consider them. The firm, which is using Open VMS on the Vaxes, chose not to use Unix for the system because it didn't think the operating system would be able to handle the 300,000 transactions per minute that it expects from an initial 10,000 terminals. 80% of the terminals will connect to the Vaxes over an X.25 network, while the rest, which will be in remote areas, will hook in using VSAT satellite links. There will be four VAXes to provide four levels of redundancy.

SALES OF APPLE POWERMACS SLOW DUE TO LACK OF NATIVE APPLICATIONS

Apple Computer Inc appears to have got into the classic bind with its new PowerPC-based Macintoshes: after the first flood of orders from the "must have the latest at once" crowd, lack of native applications is stalling Power Mac sales. US dealers contacted by *MacWeek* say, while people happy to settle for 68040-based Quadra 610s and 650s after the price cuts are finding the things in short supply because Apple is clearing the manufacturing space to make way for Power Macs. This perception has also been picked up by PaineWebber Inc analyst Michael Kwatinez who says "Several sources tell us that the PowerMac sales have slowed down on the sell through - they cited the thing that we have all been concerned about, the lack of native applications"; Apple responded "We generally don't give regular sales figure updates, although we are very pleased with the response to the PowerMac"; Apple previously disclosed in its second quarter that it shipped 145,000 PowerMac units by April 1.

NOVELL AND 3COM ANNOUNCE INTEROPERABILITY ALLIANCE

3Com Corp has announced a strategic partnership with Novell for the branch office market: the aim of the partnership is to provide enhanced interoperability in the areas of network management, routing and desktop technologies. Specifically, the alliance has three main aims: firstly, 3Com is to integrate its Transcend network management products with the NetWare Distributed Management Services environment - the aim being to provide centralised end-to-end management of branch networks from the NetWare Management System 2.0 console - with the new version due in Q4. To increase interoperability between the companies' products, 3Com is also to add support for the NetWare Link Services Protocol in its NETBuilder bridges and routers (also due in Q4), while for its part, Novell says it will incorporate the 3Com Boundary Routing system architecture in its NetWare MultiProtocol Router Plus products. No date for this was given. Finally, 3Com will incorporate Novell's Virtual Loadable Module technology within its AutoLink "plug-and-play" installation software, with the new release scheduled for October. To give customers peace of mind, 3Com says that it will continue using Novell Labs to test the new products, which will carry the "Yes, Tested and Approved" logo. No prices were given.

International Round Up

Sapiens International BV has had a class action complaint filed against it on behalf of all purchasers of common stock between February 7 and May 4. It is alleged the company issued false and misleading public statements about its operations and prospects that artificially inflated its share price in violation of the Securities Exchange Act of 1934. The complaint was filed in the US district court for the Southern District of the State of New York. Sapiens said the claims were "without merit" and plans to "vigorously defend any charges".

For anyone interested in understanding the guts of Unix SVR4, a senior support consultant at **Tandem Computers Europe Inc** and a senior consultant at **Tandem Computers Australia Pty** have written "The Magic Garden Explained: the Internals of Unix System V Release 4". The book is published by Hemel Hempstead, Hertfordshire-based Paramount Publishing International, and costs £24.95 or \$51.55.

London-based **Morse Group Plc** is reselling **OpenVision Inc's** OpenV*High Availability systems management software in the UK and Ireland. + 44 81 392 4044.

Information Resources Inc's UK subsidiary, **IRI Software**, has reorganised its management structure, promoting UK managing director Rod Whyte to executive VP for Europe, Africa, Middle East and India. Simon Rigden, former Client Services Director, takes over as UK md, and Carl Gritzchmaker has been brought in from **Pilot Software International** to look after the Maidenhead, Berkshire-based firm's international business development. + 44 628 411 037.

The University College London's Mullard Space Science Laboratory is using a **Digital Equipment Corp** Alpha AXP 3000 model 400 workstation to visualise stellar activity and evaluate unusual X-ray emissions from a binary star system, X1822-371. The primary star is larger than normal because it is surrounded by a large cloud of ionised material, and the team is working on theories to prove the cloud was formed by a tidal effect caused by the orbit of a secondary star.

Application development environment vendor **Inference Corp** has handed responsibility for all activities outside of the US to Inference Europe, and changed the subsidiary's name to **Inference International**. Europe's former managing director is now corporate VP of Inference International; former director of development, John Binns, has now moved to headquarters in Los Angeles as corporate VP of development; senior account manager, Paul Ayres, now becomes regional manager of the Middle East and Africa; and Steve Lacey has been promoted to UK field sales manager. +44 753 811 855.

Santa Clara, California-based **Auspex Systems Inc** has set up a technical support centre in Paris, France.

Crowthorne, Berkshire-based **Bradly Associates Ltd** is shipping version 4.0 of its GinoGraf graphics drawing tool and version 3.0 of its GinoSurf geographical contour and surface package for £950 each.

Hemel Hempstead, Hertfordshire-based **McDonnell Douglas Information Systems Plc** is porting its PRO-IV application generator to **Tandem Computer Corp's** Integrity Unix servers. McDonnell Douglas expects to sell the systems through its value-added reseller channels on completion of the project. + 44 442 274 313.

WordPerfect Corp and the **Open Document Architecture (ODA) Consortium** are hosting a two-day seminar from June 21-22 in Brussels to train developers on how to use ODA technology and integrate it into new and existing software. + 31 10 40 70 100 - ask for Henk Loman.

SAP AG has set up a new subsidiary in Brazil with **Origin Information Technology**, a SAP reseller. **SAP Brasilia LTDA** will sell and market R/3 in the country.

Pericom Software Plc is now providing users of its teem terminal emulators with an application programming interface to link their custom-built applications with both Unix and Microsoft Corp Windows environments. + 44 908 265 533.

The British Royal Navy has chosen **Informix Software Inc** as its preferred supplier of database and tools for seven years. Although financial terms of the deal were not disclosed, the contract does include support.

Motorola Inc's Computer Group has appointed Courtney Wang as vice president and director of operations for the Asia Pacific and Japan. Wang, formerly VP of **Wang Laboratories**, will report to Wayne Sennett, corporate VP and director of worldwide field operations. Meanwhile, the Group has also set up an office in Tempe, Arizona to deal with sales into Latin America, Australia and New Zealand. Ron Bishop, a 20-year Motorola veteran, has been appointed vice president and director of operations. + 602 438 3481.

NetWork Managers Ltd has withdrawn its NMC 6000 network management tool for IBM Corp RS/6000s from the market to concentrate on developing and marketing its Microsoft Corp Windows NT-based NMC 4000 product. The Guildford, Surrey-based firm says it has only sold the AIX-based product in the 10s, although it has shifted 2,500 SunOS-based versions.

St Gergue, Switzerland-based start-up **Soft & Net Distribution SA** hopes to start selling software over the Internet from the end of June. + 41 22 360 3100.

Matsushita Electric Industrial Co has a 32-bit Sparc-based microcontroller for the embedded market. The firm's first Sparc venture was an abortive 64-bit Sparc MPU engine project it began in 1990 with Solbourne, the US Sparc system vendor it bankrolled for a number of years.

Oracle Corp has set up in Moscow.

SLP Statistiques SA now has English language versions of its Statlab decision support and analysis tool and Geolab statistical and mapping package. Both run under Motif, Apple Macintosh and Microsoft Windows interfaces. + 331 45 15 26 60.

Open Systems Management Ltd has ported the new version - 1.5 - of its Double Vision remote systems administration and user support tool to **Data General's** AViiON and **AT&T GIS' (formerly NCR) Series 3000** machines. The product also has new remote control functionality, including the ability to record remote sessions for later analysis. It is available now and ranges from £495 to £995. + 44 734 770 333.

The Computer Management Group is providing consultancy and support for customers of **SAP AG's** R/3 human resource modules in the UK.

Siemens Nixdorf Informationssysteme AG has cut prices on its RM family of servers by about 40%.

Interactive Development Environments Inc has signed up **Nichimen Corp's** **Nichimen Data Systems** to develop a Japanese version of its Software through Pictures for the Object Modelling Technique product. Nichimen will also act as exclusive distributor in Japan.

The Princess Royal opened the **Imperial College London** and **Fujitsu Ltd's** jointly established Parallel Computing Centre in London on May 24. Fujitsu has lent an AP1000 parallel machine to the Centre and the two organisations will undertake research into parallel applications.

Siemens Nixdorf Informationssysteme AG's distributors are now reselling **Tektronix Inc's** X terminals in Europe. Meanwhile, Tektronix is offering **Sony Corp's** new 20" Trinitron monitor as an option for its high-end TekXpress XP350 Series X terminals, costing £3,990.

Hewlett-Packard Co value-added reseller **DCS Information Systems Ltd** is selling **Wang Laboratories Inc's** Open/image and Open/workflow software in the UK. + 44 908 210 510.

Unisys Corp has asked senior vice president and president of the Europe-Africa division, Malcolm Coster, to take on the role of chairman at its UK subsidiary, following the retirement of John Perry as UK chairman and managing director. The firm has yet to choose a new md.

Tandem UK is reselling **Information Builders** Focus Information Management products and EDA/SQL middleware to existing and new Tandem customers.

Users can now access **Software AG's** Adabas database via an **Apple Computer Inc** Newton personal digital assistant.

NOVELL'S 2ND QUARTER PROFITS RISE 30.4%, THANKS TO SUN UNIX BUY

Provo, Utah-based Novell Inc has reported net profits for Q2 ended April 30 of \$104.9m, up 30.4% from \$80m last time. However, the figures are skewed in its favour by an exceptional \$29.9m net gain on the sale of a paid-up Unix licence to Sun Microsystems Inc for \$81m, and associated expenses of \$35m. Turnover for the quarter rose 44.8%, up from \$281m for the same time last year, to \$406.6m. But, excluding the licence and associated costs, turnover increased a more modest 16% year-on-year to \$326m. Net earnings per share rose 27% in the quarter, up from \$0.26 last time to \$0.33. Excluding the Unix royalty though, net earnings would have been \$0.24, a 7% decline from Q2 1993. Net revenue by geography was spilt 50/50 between the US and non-US regions, excluding the Unix deal. US revenues grew 9% year-on-year, European 13%, Asia Pacific 52% and Latin America 72%. Collectively, Asia Pacific and Latin America now represent over 20% of turnover. At mid-term, net profit was up by 17.4%, from \$151m to \$177.7m on turnover that rose 32.7% at \$717.8m, up from \$541m last time. Net earnings per share for the half rose 16%, from \$0.49 last time to \$0.57. Novell said that it had now "weathered the difficult year-over-year financial comparisons", which followed "major technology investments in the second half of 1993" - an allusion to the acquisition of Unix System Laboratories Inc - and was now "positioned for more favourable comparisons during the last half of fiscal 1994." Novell also said that its accounts receivable figure dropped to 81 days from 88 days during the second fiscal quarter. It also said that sales of the NetWare 4.x series, introduced in March last year, rose sequentially, but were still under \$20m. The acquisition of Wordperfect Corp will close this month.

SILICON GRAPHICS, NINTENDO REPORT ON PROJECT REALITY PROGRESS

Silicon Graphics Inc and Nintendo Co Ltd have announced they will launch their jointly developed three-dimensional video games machine, Project Reality, built around a RISC microprocessor designed by the Mips Technologies Inc arm of Silicon Graphics, by the summer of 1995. "We're doing great with Nintendo. We intend to be out with that product next summer for the Christmas buying cycle," said Thomas Jermoluk, president and chief operating officer of Silicon Graphics at a Tokyo multimedia conference. "We have over 60 game developers already doing games for the launch." It is planned to go into arcades sometime before the end of this year and then shipped for home use next year. Target price for the home system in the US is under \$250. Jermoluk added that his company, Nintendo and an unspecified Toronto-based company will announce a related deal in a few days but declined to give further details of what this would involve.

DEVELOPERS TAKE TO OBJECT LANGUAGES

CenterLine Software Inc of Cambridge, Massachusetts has released the results of the European survey carried out on its behalf into the growth of object-oriented programming and the spread of the C++ programming language among European developers. Some 1,300 programmers and software developers were targeted and 170 replies were analysed. It was surprised to discover the actual take-up of object-oriented programming was 60% among respondents, with a third looking into object-oriented development and 5% not planning to. 50% of respondents are increasing their use of C++. Visual Basic was in use by 15% and Smalltalk, Lisp, Basic and Prolog were used by fewer than 9% each of respondents. Half of the development sites had a mix of Unix and personal computer installations, which surprised CenterLine, whose tools at present are all Unix-focussed. It will now be looking into the possibility of offering PC versions of its product lines. As for development tools, 43% are using visual programming tools and 20% are evaluating them, while analysis and design tools are in evaluation by 38% of the organisations, but no-one appears to be using them and only 4% were using an object request broker. Only 13% are using object-oriented databases and 28% are evaluating them, with 40% having no plans to even evaluate such databases. The results uncovered concern among users that despite their interest in object re-use there was insufficient software available to support this. CenterLine is planning to offer a new product in the autumn to address this market.

ORACLE EXPECTS SALES TO GROW BETWEEN 40% AND 50% IN THE YEAR AHEAD

"Oracle Corp expects sales of its database business to grow between 40% and 50% in its new fiscal year, as the new parallel database products come on stream and increase its market share", chief executive Larry Ellison told Dow Jones & Co. He reckons Oracle's database growth for the year ending in May 1995 should outstrip projected growth of 30% to 35% for the database industry as a whole - and it already has about 44% of the market, with 50% the target "in the next few years"; and in contrast to many other software companies, Oracle's profit margins will widen, he predicted - as the per-user price of its software declines, the size of installations is increasing, making each sale more profitable, Ellison said. At least four more contracts for Oracle Media Server will be announced soon, Ellison added - in addition to three telephone companies he would not name. Oracle will also announce its first contract with a major cable operator - some of them using a new media server designed by Hewlett-Packard Co instead of the nCube Corp machine. He sees Oracle doing about \$100m in multimedia database revenues this fiscal year to next May, and probably some \$300m in the following fiscal year.

DEC APPOINTS BERNHARD AUER AS VP OF PCs AS S&P REVIEWS ITS RATINGS

Digital Equipment Corp has plugged one gap in its top management by appointing Bernhard Auer as vice-president and general manager of the personal computer business, replacing Enrico Pesatori, who had been promoted to head the systems business unit and its worldwide sales and marketing operation. Auer had been running the European operations of the personal computer business unit for the past year - but the appointment was followed immediately by the resignation of chief financial officer William Steul, who will be succeeded by Vincent Mullarkey, who had been DEC's controller since 1992 and has longstanding ties to chief executive Robert Palmer. DEC insists that the departure had nothing to do with the memo warning that DEC was getting through cash at an alarming rate, but it may have had something to do with the fact that the third quarter loss came as such a surprise to people. Meanwhile, Standard & Poor's Corp reckon DEC is far from out of the woods, and has put its ratings on DEC's debt under review for possible downgrading. The triple-B senior debt, double-B-plus preferred stock and A-2 commercial paper are all under review for potential downgrade. Standard & Poor's began the review on April 25, due to continuing losses, heightened business risk, increased uncertainty about DEC's ability to restore profitability and expected significant cash restructuring charges.

KENDALL SQUARE UNVEILS PARALLEL OBJECT DEVELOPMENT ENVIRONMENT

Kendall Square Research Corp has unveiled a new object-oriented application development and execution environment, which runs on its massively parallel machines. The KSR/Object Development Environment is for large database management, real-time decision support based on those databases, and industrial, research and academic environments trying to manage or model large interrelated data sets such as geographic information systems. It supports C++, and users can compile their applications using Unix System Laboratories' CFront compiler and CBack, a C-to-C translator, which reduces compile and link times and object and executable sizes, and helps in debugging if a C++ source-level debugger is not available. However, Kendall Square has also enhanced its own KSR/Series Interactive Parallel/Serial Debugger to support C++ source code and its Performance Analysis tools, which match performance data with parallelism, mapping both program structure and computing resources. KSR/ODE also includes KSR Presto++, a "parallel sets" programming model and toolset that organises objects into groups and executes functions in parallel over all the groups. Parallel sets are implemented as a library of template container classes with both serial and parallel member functions. Pricing was not available.

ADB OFFERS NEW VERSION OF MATISSE

ADB Inc, formerly Object Databases, has started shipping version 2.3 of its Matisse database management system, which it says provides object-oriented modelling capabilities. The product supports Kendall Square Research Corp's KSR/Series, SunOS 4.1.3, Solaris 2.3, HP-UX, and DEC's VAX and VMS operating systems. Microsoft Corp Windows and Apple Computer Inc Macintosh versions will follow in the summer. Prices were not available.

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AT&T GIS has recruited Dennis Roberson to replace Tom Tang as VP, Computer Products and Systems. Tang retires later this month. Roberson, the **DECie** who was named chairman of the **Open Software Foundation** back at Uniforum when the consortium's reorganisation was announced, will keep that job.

The **Santa Cruz Operation** is using some **IDC** preliminary data collected in January on how the marketplace breaks down (UX No 488) rather more definitively than it ought. The figures are going to be changed and *Unigram* suggests **SCO's** remarks be taken with a grain of salt and that **IDC** clients check with the source.

The share class action suit against Islandia, New York-based **Computer Associates International Inc** has bitten the dust, after a judge threw out allegations that its officers engaged in federal securities fraud after the company's share price fell on July 12 1990, following preliminary announcement of results for the first quarter of fiscal 1991.

Sources have identified **Silicon Graphics Inc** as the "special customer" that a species of the **Mips** Orion chip, aka the R4600, code named the P2, is being run up for. The 3.3 volt widget, reportedly due to sample in the second half, is supposed to be worth 105 SPECint 92 and 75 MFLOPS.

Colorado-based **System Six Inc** says its Russian-built Unix-like operating system will start to ship soon as a full product. Its NFS and TCP/IP pieces are done but its X Windows stuff is still in beta. It expects first customers to come from places like Mexico, Australia and Lithuania.

The UltraSparc chip is due to tape out in July; SuperSparc II already has and first silicon is expected in a few weeks. **DEC** watchers are expecting it to move its binary code translators which move programs from Ultrix and VMS to OpenVMS and OSF/1 to Sparc. Apparently it's a one-way street so it won't be possible to move from **DEC** to Sparc, only from Sparc to **DEC**.

One of our Aussie watchers reports that **DEC** Australia has moved only a handful of Sables - at least that was the count a couple of weeks ago - over a month after they'd been released. It seems **DEC** is hiding its light under a bushel and not telling anyone it's got the stuff.

Unisys last week was packing up a 16-way configuration of one of its Pentium-based Scalable Parallel Processors to ship to **Oracle**. **Oracle's** Parallel Server will be the first commercial database that goes on the thing although the company's own Mapper 4GL, which includes a database, has been ported. **Unisys** wants the **Oracle** stuff to be ready for a beta run at the end of the year with first customer ships following in mid '95.

One of our spies has spotted **Novell** top brass at **Tatung** offices in Taiwan over the last few weeks trying to sell the company source code for its Intel machines. **Tatung**, a Sparc cloner that is apparently looking for an operating systems partner, wants to replace what is called MIT/UX, aka Made in Taiwan Unix.

According to a May 9 communique circulating inside **Sun Microsystems** and signed by **SunSoft** president Ed Zander and **SMCC** president Phil Samper, **SunPic**, the company's hardware and software printer arm, will be absorbed intact by **SMCC**, effective July 1, rather than carved up between them as previously planned (UX No 487). VP and general manager Lalita Tademly reportedly gets to keep all **SunPics** functions: engineering, operations, sales and marketing, reporting directly to Samper. It's unknown where the **SunPics** name will remain but they're positioning the product line as key to Sun's client/server plans.

Axil Workstation, the **Hyundai** unit, has been incorporated as a US company and its name changed to Axil Computer Inc. It's also moved from San Jose to larger quarters in Santa Clara, California, doubling its space.

Marlborough, Massachusetts-based fault-tolerant Unix systems specialist **Sequoia Systems Inc** now feels it's back on an even keel after its protracted trauma, and has hired two vice-presidents, Geoffrey Cluett and Neil McMullan, to help evaluate expansion opportunities: **Sequoia**, which supplies **Hewlett-Packard Co's** fault-tolerant HP 9000 Series 1200 Unix line, says it is exploring market and geographic expansion, product acquisitions and corporate alliances.

The **US Energy Dept** will spend \$25.2m to help US companies graduate to a new generation of supercomputers. The three-year initiative will match federal money with \$26.5m from 17 companies, including **Cray Research Inc**. The plan will help develop software for massively parallel supercomputers that is compatible with the current generation of vector-based supercomputers.

Cheryl Vedoe, vice-president and general manager of **Apple Computer Inc's** US K-12 Education Division, who quit a week or so ago, had been handling **Apple's** discussions with **Acer Group Inc** for an arrangement under which **Acer** will manufacture Power Mac clones for sale in Europe and the Far East, *MacWeek* reported.

Santa Cruz, California-based telephone headset manufacturer **Plantronics Inc** says it has formed a working relationship with **Intel Corp** and **Hewlett-Packard Co** to develop a computer audio input-output standard; the company says the aim is a head-set that will work under all circumstances in the Mac, **Microsoft Corp** and Unix workstation environments.

Microsoft Corp says even if **Novell Inc** engineers out all Xenix compatibility in its SVR4.x source code, it will still have to pay royalties as that was part of the deal with **AT&T** at the time.

Microsoft Corp says it will sign a new **Mainsoft Corp**-type license deal (UX No 479) in the next couple of weeks.

The **Open Software Foundation** has started shipping version 1.0 of its Distributed Management Environment Network Management Option, costing \$120,000 for source code if users want to sell binary products, or \$12,000 if they wish only to use it internally. **OSF** has also signed up Paris-based systems integrator, training and consultancy firm, **Sycomore SA**, to use and add value to **DCE**. + 331 41 26 46 46.

Digital Equipment Corp's second generation Alpha processor, EV5, will have a higher performance on-chip cache than existing Alphas and a four-way superscalar design, according to *InfoWorld*. It will initially run at less than 275MHz, but **DEC** will reportedly introduce a 330MHz version later, and plans a 600MHz implementation. However, the EV5 isn't expected to include new instructions for Windows emulation, which would enhance its appeal to the desktop market. It will apparently be demoed at Comdex in November, and is said to have a SPECint92 rating of 250 and a SPECfp mark of between 300 and 400.

Our sister publication *PowerPC News* is now available on the World Wide Web, so if you happen to have Mosaic, you can read it complete with full colour and graphics at: [Http://power.globalnews.com/](http://power.globalnews.com/). After only five issues, the publication now boasts more than 10,000 readers in over 35 countries.

Austin, Texas-based **Quadralay Corp's** Global Wide Help & Information System for adding on-line documentation and help to local or Internet-based applications of all kinds comes with an API and Mosaic-based viewer for a range of Unices. +1 512 346 9199.

Hewlett-Packard Co, which has up till now focussed on selling its PC servers and desktops via the master reseller channel, will reportedly authorise **Ingram Micro**, **Merisel** and **Tech Data Corp** to distribute its NetServer LM, LF and LC systems from September or October. The firm is also expected to enhance its server line with 100MHz Pentium-based multiprocessor NetServer LMs incorporating PCI local buses by late autumn.

Microsoft Corp is expected to implement a new version of OLE in both Daytona, which ships in the summer and Chicago, which should materialise by the end of the year. The move comes in response to developers' complaints that it takes too long to launch OLE, interoperability between 16bit and 32bit applications is poor, and it is not possible to move just one piece of a file. The new release of OLE will reportedly evolve into a distributed version that should appear in or before Cairo, and should include a facility, Logical Page Negotiation, which eliminates the need to import entire files when using OLE in Windows.

Distributed software start-up **Atrium Technologies Inc**, Austin, Texas, has garnered a further \$3.5m venture funding.

Sparc players are annoyed with **Sun Microsystems**, saying it's stalling the market. They claim it hasn't been able to deliver that el cheapo Sparcstation 5 box it announced for \$4k because it hasn't been able to get the monitor for it to work. It didn't interface properly with the frame buffer. As of 10 days ago, deliveries were being quoted at 90-120 days. Resellers claim **Sun** hasn't been in a hurry to fix the problem because it really doesn't want to because margins on the widget are so painfully thin. This way, buyers in a hurry have to start with a box costing \$11,395. However, the overall impact, they complain, has been to stifle purchasing of low-end Sparc boxes across-the-board.

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HP AND INTEL TO MERGE MICROPROCESSOR ARCHITECTURES

Rather than see the Precision Architecture RISC squeezed out in the battle for RISC design wins, Hewlett-Packard Co has decided to throw in its lot with the winner of the microprocessor race and merge its future 64-bit RISC architecture with that of Intel Corp - if the US regulatory authorities give it the nod. The two are joining forces to design and produce high-volume chips that will be needed for everything from mobile technologies, to PCs, workstations, servers and enterprise computing products by the end of the decade. The two say the new architecture, currently nameless, will offer backwards binary compatibility with both firms' current CPU families via compiler technology and their interim processor products - there are no indications of the new architecture's size, density, geometry or prospective power. Nevertheless it will host multiple operating systems natively, and the companies confirmed that the work that HP is doing on Very Long Instruction Word Trace compilers or "wide-word" technology inherited from the pioneering efforts of Multiflow Computers Inc will be a key part of the joint development effort. Specific details were sparse, but HP's director of computer systems marketing in Europe, Bernard Guidon, told *Unigram.X* that the two firms are now beginning the second stage of what's they've planned to be a three-part process. Already completed, according to Guidon, is a first stage in which the firms have designed technologies that'll feature in separate interim CPUs seen as stepping-stones between their current architectures and the new chip-set. In HP's case this is the PA-9000, a 64-bit part expected in the 1996/97 timeframe (UX No 467). The implication is that the P7, the first member of the iAPX-86 family planned to be primarily a RISC, will derive RISC techniques from PA and provide Intel with the leg-up to the new architecture.

Beyond RISC and CISC

The second phase, now underway, is the design and development of the new processor itself - described as "beyond RISC and CISC", which will come in multiple guises tailored for different sections of the market, including low-cost and lower performance implementations. Design of new semiconductor processes for the silicon, plus compiler and associated software development is also included in this phase. The third phase is getting the architecture into systems. HP and Intel partners like AT&T GIS and others are already vowing to follow the new path: the aim is to have system vendors delivering products by the end of the century. The fact that the partnership has already reached its second phase indicates the tie-up having existed in some form for many months, possibly as far back as last summer - HP had evaluated and rejected other architectures, it says. HP and Intel will be offering different implementations of the designs, though HP says it has no plans to enter the merchant market. The two have established an architectural control board to direct the overall effort, but won't say who's on it except that it comprises their top silicon, compiler and operating system technologists. A single design shop, aka PowerPC's Somerset isn't in the plan, and whether the resulting technology will be offered to HP's current PA OEMs like Hitachi, Samsung Electronics and Oki Electric still isn't clear, though HP says its PRO Precision Risc Organisation supporters club will have access to it.

Guidon believes the agreement changes everything as far as the hardware/chip market is concerned, and argues the industry will polarise around HP/Intel and to a lesser extent PowerPC. He doesn't see any room for Alpha, Mips or Sparc. The deal isn't necessarily exclusive and Guidon says they'd have to consider overtures from other players. He claimed the problem of how to merge the two disparate systems had been resolved by locking a group of engineers from both firms in a single building and telling them not to come out until they had solved it.

TFP OUT OF GATE AS R8000 AND INTO POWER CHALLENGE

Mips Technologies Inc and Toshiba Corp brought forward by a couple of weeks the announcement of the TFP version of the R-series RISC, which is now called the R8000 (UX No 485). The two-chip set - it has a superscalar integer and a dual floating point units - is rated at 310 SPECfp92, taking the record away from IBM Corp's Power RISC, and 108 SPECint92. Manufactured in 0.5 micron, three-layer metal CMOS technology it's the first implementation of the Mips IV instruction set and issues four instructions per clock cycle. Mips' parent Silicon Graphics Inc has been discussing the floating-point intensive, SMP-enabled TFP since April 1992 and it was originally expected by the end of 1993. The part is destined immediately for SGI's TFP-ready Power Challenge servers which have been awaiting the processor. The firm says a two-way with R8000 will do 449 double-precision 1000 x 1000 Linpack MFLOPS, 767 as a quad system and 1177 as an eight-way. Power Challenge servers go up to 16 CPUs. The partners now say that the chip, being fabricated by Toshiba Corp, is 24% more powerful than expected; likely price is \$2,000.

NEW FUJITSU SPARC EFFORT LIKELY "TO REPLACE HYPERSPARC AND HAL'S PM-1"

In the wake of the Sun Microsystems Inc-Fujitsu Ltd deal to coordinate their Sparc efforts and development of a single roadmap (UX No 485), *The Microprocessor Report* believes there will be no follow-ons to what it calls the HyperSparc-2, which is planned for the second quarter of 1995 at 150 SPECint92. Or for that matter to HaL Computer Ltd's PM-1 processor - the first time we've ever seen the mystery chip given a name - which is now expected to deliver 225 SPECint92 in the first quarter of next year (finally). Instead, the publication expects Fujitsu design teams will probably develop follow-ons to the Sun processors. It figures HyperSparc originator Ross Technology and HaL have spent about \$100m developing processors to compete with Sun's.

APPLE UNIX SERVERS "WILL DROP MACINTOSH APPLICATION SUPPORT"

Visitors to Apple's World Wide Developers conference last month say that the company was talking about two new servers due in the middle of 1995 which will run PowerOpen Unix, but will not include Macintosh Application Services. At least one of the two high-end servers is supposed to be a symmetrical multi-processing box. The two new arrivals are apparently dubbed Milky Way and Andromeda. Attendees talk of them having 6 PCI slots, 1MB secondary cache, and storage bays with hot swappable media. Apple is not commenting on the servers, but sources in Apple's server division last week added weight to the suggestion that the machines would not come with either Macintosh Application Services or the Macintosh Application environment. They point out users building a departmental Unix server are not likely to want to run Quark Xpress on it. What's envisaged is a large multiprocessor box running AIX. It sounds suspiciously like the IBM/Bull's Pegasus machine due out this autumn, though Apple UK's Steve Everhard told our sister publication *PowerPC News* that the company has no plans to take hardware products from third parties. "What ever we come up with will be Apple developed" he says, while acknowledging that the company is drawing on the expertise which Bull has made available to PowerOpen. Apple would not comment on reports from the conference that the existing AWS95 server is being phased out at the end of the year.

OLIVETTI AIMS FOR AN ITALIA ONLINE VENTURE, SYSTEMS ACROSS EUROPE

Ing C Olivetti & Co SpA is planning to replicate the America OnLine Inc bulletin board, electronic mail and database access service, initially in Italy, and later in other European countries, the company's vice-chairman of strategic alliances Elserino Piol told Reuter. It aims to have a controlling interest in Italia On-line, which it plans to launch next month, and to popularise the service, will initially offer free access. It will use a Windows interface, but Piol declined to elaborate on other partners or to give details of how it plans to distribute the access software. Other European countries are to be added after January 1995 and will involve establishing a new company with separate partners for each country, Piol added.

DEC SLASHES ALPHA AXP CHIP PRICES

Digital Equipment Corp is cutting prices of its Alpha AXP microprocessors by 10% to 31% effective July 3. It is also offering a 21064A-233MHz Alpha AXP to replace the 225MHz version at \$788 each for 5,000-up, 10% less than the slower 225MHz part; the 275MHz version is cut 25% to \$1,083 for 5,000-up. The 66MHz 21068 is cut 16% to \$186, the 166MHz 21066 is off 10% at \$347, the 166MHz 21064 is off 19% at \$404, and the 21064-200MHz is cut by 31% to \$544. The move reflects changes in market pricing, it says, not the implication that Alpha's not catching on.

AT&T ISTEEL, HP AND INFORMIX JOIN TO MARKET SALTUS MRP SOFTWARE

Redditch, Worcestershire-based AT&T Isteel Ltd has joined forces with Hewlett-Packard Co and Informix Corp to market the AT&T Corp division's new process manufacturing resource planning software, named Saltus. It is initially planned for the UK, but an AT&T Isteel spokesman says that the companies will be selling on the European continent before the end of this year, and in North America in 1995. The spokesman also said the partnership provides that any one of the three partners will be free to take the lead on making a sale. "We're going through training for our people on Hewlett-Packard and Informix and vice versa, but from a customer point of view, there will be continuity.

Vagaries of raw materials

A Hewlett-Packard customer will still deal with Hewlett-Packard," he said. In its market research for the multi-site, client-server architected product, which went into development at the end of 1992, AT&T Isteel has estimated that the Saltus product can save the process manufacturing industry up to £500 per year in reduced manufacturing costs. Bob Chambers, AT&T Isteel's channel marketing manager for Saltus, said that the software is specifically oriented to handle "recipes and formulas, with all of the vagaries of raw materials" required in process manufacturing. "Initially we have focused on process manufacturing because we believe that, if you have a good product for the process industry, it can be adapted to discrete manufacturing, and that is part of our longer term strategy," Chambers said. He also added that AT&T Isteel chose the process industry because it has historically been ill-served by applications providers. Developed using ANSI-standard C and the Jackson structured programming methodology, the Saltus system, Chambers says, will be available on IBM Corp AIX Unix systems in the third quarter and on Digital Equipment Corp's OSF/1 at a later, as yet unspecified date. Chambers says Saltus's orientation to process manufacturing makes it more complementary than competitive to the Manufacturing Requirements Planning software from the Waldorf-based German software giant SAP AG, with which Hewlett-Packard has close co-operation. Still, SAP's software is used in wide variety of manufacturing industries and, as AT&T Isteel adapts Saltus to discrete manufacturing, it will become more and more competitive with SAP's wildly popular package. In any case, Hewlett-Packard intends to remain neutral. Says Nigel Batterton, Hewlett-Packard UK's channel marketing manager: "Hewlett-Packard will not sell either SAP or Saltus. We don't sell applications software. We will go to market with Saltus as we do with SAP, do lead generation, make sales calls together and run the seminars. But we won't advocate either one or the other; it's not our business to be in manufacturing consulting. If a customer asks for a manufacturing software package, we would give them a list of the possibilities and it would then be up to them to choose." Batterton says that Hewlett-Packard would not make any strong technical distinctions between the two products. "They are both new generations, one built from scratch and the other built on top of R2. We're just trying to build a portfolio of 'best in class' solutions. SAP is a proven product. We believe Saltus will also be a successful product."

US ENERGY DEPT CHOOSES CRAY-LEAD GROUP FOR PARALLEL SOFTWARE DEVELOPMENT

The US Department of Energy's Los Alamos and Lawrence Livermore national laboratories launched a \$52m agreement with an industry group headed by Cray Research Inc to develop software to exploit massively parallel supercomputers. Cray and 15 other companies will work with the labs under the Industrial Computing Initiative, for which Uncle Sam is putting up half the money. Other participants are Aluminum Co of America Inc, Amoco Oil Co, Arete Associates, AT&T Corp's AT&T Bell Laboratories, Barea Inc, Biosym Technologies Inc, Boeing Co, Exxon Research & Engineering Co, Halliburton Co, General Motors Corp and its Hughes Aircraft unit, International Technology Corp, Olin Corp's Rocket Research Co, Schlumberger Ltd's Schlumberger-Doll Research, Thinking Machines Corp, and Xerox Corp. Cray said the programme includes 15 projects in the fields of environmental modelling, petroleum exploration, materials design, advanced manufacturing, and new massively parallel systems software; the company will contribute two 128-processor Cray T3D massively parallel systems on a cost-shared basis, one at each laboratory, which will be networked together for the development work.

ADVANCED MICRO DOUBLES PERFORMANCE WITH Am29040

Sunnyvale, California-based Advanced Micro Devices Inc has extended its Am29000 RISC microprocessor family with the Am29040, claiming that it provides a substantial increase in embedded system performance while reducing system costs. It enables embedded systems designers to use inexpensive dynamics, has a two-bus external architecture that decreases system glue logic and an eight-, 16- or 32-bit instruction interface. Programmable Bus Sizing technology gives designers the option of using either a 16- or 32-bit data interface. It includes an 8Kb instruction and 4Kb data cache on chip, has an integer multiplier in hardware and Scalable Clocking technology. It is claimed to deliver more than 65 Dhrystone MIPS, twice the performance of the Am29030 at the same bus frequency. With a 25MHz external bus, it is claimed to outperform the 40MHz 80960CF by up to 40%. It also has a fully static design and operates off 3V or 5V. It will be available in 33MHz, 40MHz and 50MHz operating frequencies and will begin sampling in September in a 145-pin grid array at \$83 each for 10,000-up. A 144-pin plastic quad flat pack version starts sampling in November at \$72 for 10,000-up.

NORTHERN TELECOM, HP TEAM ON CELLULAR PACKET DATA...

Northern Telecom Ltd and Hewlett-Packard Co announced last week that they are to join forces to explore the development of cellular digital packet data network systems for the 800MHz cellular market. They will use Hewlett-Packard's HP 9000 series 800 family of Precision Architecture RISC-based Unix computers with Northern Telecom's DMS-MTX digital cellular switching system and dual mode radio channel units to explore ways of offering integrated mobile cellular digital packet data systems for cellular service providers. The two say the next steps in their relationship include development of end-to-end systems for cellular providers, including infrastructure, administration and support for applications development.

..AS HP LAUNCHES SOLUTIONS INTEGRATION GROUP

Hewlett-Packard Co also duly announced that it had formed the Solutions Integration Group within its Computer Systems Organisation to focus on open, client-server computer consulting. It says its presence in the systems integration market took a leap forward in 1993 with business climbing to \$700m - it wants \$900m this year. The unit will concentrate on four vertical markets - automotive, telecommunications, process and discrete manufacturing, and government industries. It brings together the Professional Services Organisation, Telecommunications Systems Business Unit, Integrated Systems Division, Federal Computer Operation and the International Software Operation..

WORLD WIDE WEB BODY MOOTED

There's a move afoot to get a World Wide Web organisation going that'll maintain and document WWW specifications and oversee future developments to ensure different implementations remain compatible. Although WWW has an established database format and HyperText retrieval mechanisms, most of it is reportedly undocumented. W3O, as the prospective organisation is already being dubbed, would develop additional specifications where required for stuff like PC sharing, greater connectivity and extensions to the viewer, as well as documenting what's there already. As WWW becomes increasingly important commercially, talk is of establishing W3O as an X Consortium-type body that could be hosted at MIT in a similar fashion. Whether commercial organisations would participate or provide funding is still under discussion.

CANADIAN OFFERS SMP POWERPC ACCELERATORS

Toronto, Canada imaging firm ISG Technologies Inc is developing what it says are supercomputing-class hardware accelerators for graphical and imaging applications based upon the PowerPC 601 manufactured for Motorola Inc by IBM Corp. An entry-level Pulsus system with one board will come with eight 601s and 256Mb RAM going to 576 SPECfp92 and 432 SPECint92 - it'll scale to 32 CPUs. ISG says Pulsus runs Posix parallel threads and applications for it can be compiled on single CPU or SMP systems. The Pulsus SMP series is due in the fourth quarter and is aimed at providing high-performance for both computation and visualisation intensive tasks, such as seismology and medical applications. ISG offers a range of turnkey SMP systems for the medical industry. +1 905 672 2100.

SHOW OF SUPPORT FOR UNIX ON THE DESKTOP LEAVES APPLE UNMOVED

The subject of Unix on the desktop raised considerable passions at Apple's Worldwide Developer's Conference last month. One attendee at the workgroup products session told our sister publication *PowerPC News* "It got very heated... there was lots of angry shouting. You would have thought that you had stepped into the Senate." the debate in question, of course, concerned the lack of an Apple Unix on desktop Power Macintoshes. Following a boisterous debate delegates proposed a show of hands to indicate how many of the developers present would want Apple to support desktop Unix. John Conville, who chaired the session and who runs Apple's server platform development programme acknowledges that well over three quarters of those present raised their hands. Conville says he wasn't overly surprised by the response, but adds "this doesn't answer the business question". As one other Apple-er put it "if you had asked those guys how many will buy five copies, a lot fewer hands would have gone up". Conville says that word of the response has been relayed to those above him. The official line from Apple is still that the company continues to actively investigate whether Unix on the desktop is commercially viable: "it is an on-going investigation" says a spokesman. Technically, the port to the existing Power Macs would involve Apple in substantial development work. Moving the kernel should not be too difficult, it is the drivers, the I/O etc which causes the most difficulties. It is possible that the future generations of PCI-based Power Macintoshes will be more amenable to running Apple Unix, but in the meantime the company is still refusing to be pushed into a move which it sees as commercially unrewarding.

OMG SEEKS NEW SERVICES, INCLUDING SQL BINDINGS

The Object Management Group has issued a fourth RFP for object services: this time it's after Licensing, Properties and Query services to add to the eleven others it already has for its object framework standard. The Licensing service will be for developing and implementing software usage policy; object Properties are typed, named values, and are the dynamic equivalent of attributes, OMG says; the Query services is expected to enable the specification of language bindings to direct manipulation languages and to unnamed objectified SQL implementations of which there are already several. Letters of intent to submit are due by July 25. OMG is also now addressing security issues via a white paper its workgroup in that area has prepared +1 508 820 430 or +44 81 570 2182.

HARRIS OFFERS FIRST UNIX V.4, FIRST SECURE UNIX, ON IBM RS/6000

Harris Corp, which has committed to PowerPC RISC for future generations of its Night Hawk 88000-based real-time computers, is now offering Secure/Power Unix, an implementation of its Unix with security features, and is making it available on IBM Corp's RS/6000s as well as its own Night Hawks. The company claims Secure/Power Unix to be the first and only standards-based B2-level environment available for the RS/6000 and the only one targeted for compliance with the PowerOpen Environment. Harris notes that the offering is also the first Unix System V.4 for the RS/6000. It is also Posix-compliant and meets X/Open Co Ltd portability standards. It is based on System V.4.2 MP and its B2-level security capabilities as defined by the National Computer Security Centre is the highest level of security for a full Unix implementation. Control and protection of sensitive information is achieved through the use of data access controls, auditing and labelling. Available immediately from Harris and IBM Federal Systems, it is supported on the RS/6000 Models 220, 550 and 590, and Night Hawk 5000 Series with support for some PowerPC systems set for early 1995.

CONCURRENT ADDS THE VITAL SOFTWARE FOR NEW MAXION LINE

When Oceanport, New Jersey-based Concurrent Computer Corp announced its new Maxion line of 150MHz R4400 RISC-based multiprocessors last October there was little in the way of new software, but the company has now made good on that with the announcement of Concurrent RTU Real-Time Unix Version 7.0, claiming it to be the most technically advanced, globally available implementation of the Unix System V.4.2MP. It also added new ANSI C, C++, Fortran 77 and Real-Time Ada compilers; a Distributed Interactive Simulation network analysis toolkit; data acquisition products for open dynamic analysis solutions; and graphics applications interface software. Compliances include Posix 1003.1-1990 basic system call interface; Posix 1003.2 X/Open standard subset basic shell programming language, command line, and function interface; the Federal Information Processing Standards 151-1 and 151-2; and the X/Open Portability Guide Issue 4. Concurrent has also enhanced System V.4.2MP to implement the new IEEE POSIX 1003.1b, formerly 1003.4, real-time extensions; and the proposed IEEE POSIX 1003.1c, formerly 1003.4a, threads extensions. The new programming tools and compilers come out of Concurrent's agreement with Edinburgh Portable Compilers Ltd for C, C++ and Fortran 77; and with Verdix Corp for the Verdix Ada Development System. The Distributed Interactive Simulation Network Analysis Toolkit enables developers and managers of networks and systems to monitor and analyse network traffic within a simulation environment. The NPGL-X software enables two- and three-dimensional graphics applications developed with the Iris GL 4.0 application programming interface from Silicon Graphics Inc to run on the Maxion. No prices.

IBM WANTS 1956 ANTI-TRUST CONSENT DECREE VOIDED

IBM Corp is seeking to have overturned the 1956 anti-trust consent decree and subsequent amendments in 1963 and 1970, the *Wall Street Journal* reported. IBM is said to be arguing that times have changed radically over the past 38 years, that it no longer dominates the industry in the way that it did, and that terms of the decree unfairly handicap its ability to compete effectively. There is certain to be fierce opposition to any relaxation on the grounds that despite its less dominant position, its installed base is still enormous, and that IBM is still three times the size of the next biggest US computer manufacturer. In the computer services sector, IBM is constrained to operate any business as an arm's length subsidiary that has to buy any IBM equipment at full market price where competitors such as Electronic Data Systems Corp can twist IBM's arm, play it off against Hitachi Data Systems Ltd, where EDS has 20%, and get the best possible price. Maintenance and reseller firms have benefitted from the consent decree, and are also likely to contest any relaxation fiercely. When IBM takes a machine back from a customer, it is not permitted to resell it immediately, but is required to hold it for at least 60 days, and if it then sells it on to a broker, must do so at what it contends is an artificial price.

IN THE DEFENCE OF THE OBJECT MANAGEMENT GROUP'S CORBA

In response to last week's piece "How the Object Management Group's CORBA may be failing the object-oriented cause" (UX No 490), Alan Pope from Quantitative Data Systems Inc, Irvine, California replies on behalf of the OMG.

I am not attempting to answer the rhetorical title, the market can answer for itself. However, I see CORBA as some very key technology over the next few years and I strongly believe people need to be well informed about this technology. Therefore, I offer the following commentary.

Dynamic versus Static

Defining the difference between static and dynamic binding as the resolution of external reference by library lookup at compile or run-time is misleading. It ignores the fact that some dynamic library implementations do not attempt resolution until the reference is used. The distinctions between early and late binding, static and dynamic typing, and static and dynamic linking are not truly at issue. However, this definition sets the tone by being not quite correct and continues it by omission. It equates dynamic marshaling to the dynamic model (which is really a "dynamic invocation model" and not about binding). This omits the fact that dynamic marshaling is frequently desirable and done in a static invocation model. Since this definition is laid as groundwork for the paper to make statements about the DII (Dynamic Invocation Interface), I shall address that first. The sentence "a little research will reveal that ORBs built on a static model find it difficult to support this part of the spec [the DII] and where they have tried have hit real performance issues" might have been correct if one substituted *distasteful* for *difficult*. Static implementations frequently disdain dynamic implementations because they are typically slower in performance. It definitely is not difficult.

C and C++ Mapping

The DII is defined in IDL (Interface Definition Language). IDL borrows heavily from C++ and so by extension it is related to C. The statement "a large part of IDL is derived from C syntax" is very misleading since IDL is strongly typed. An IDL Compiler translates (it does not compile) IDL definitions into a language mapping. OMG first specified a C mapping and are hard at work on a C++ mapping. C is a static language, as is C++. So, by definition, if one were to run the DII Interface through the IDL compiler, one which generated a C mapping, the result is a static language representation (client stub/implementation skeleton) on which to implement. The only *difficult* part of such an implementation is in dynamically identifying parameters by their type (i.e., discovering what something is even though you have never seen it before). But this is easy in IDL because it pre-declares a dynamic type, called an *any*. The *any* type is an aggregate that includes a "blob" of some value (void * in the C mapping) and a TypeCode. The TypeCode is a type specification language, through which one can describe types. It describes the "blob". All implementations of the DII can use TypeCodes to interpret the type of parameters. One can implement the DII statically even though the DII embodies a mechanism for dynamic invocation.

Any contention between models was resolved by OMG when it formally declared that a standard should exist for the dynamic invocation model so that a DII was widely available and would appear identical to all CORBA clients. Vendors interested in a static invocation model did not originally believe the dynamic model required formal specification because they believed it would constrain the implementation and because a client implementor could easily do their own on an as-needed basis.

Leaving this topic we move on to the phrase "the OMG is attempting to arbitrate between what are beginning to look like increasingly incompatible ORB technologies built in C". Throughout the paper we see implications about ORBs written in C and why this is bad. But the conclusion I reach is that ORB technology has been misinterpreted. OMG specified a C mapping for IDL in Version 1.1 of the CORBA. OMG is in the process of specifying a C++ mapping for the 2.0 version of CORBA. The mapping does not dictate either the language used to implement an ORB nor the language used to implement an ORB client. ORBs in Smalltalk having clients written in FORTRAN are not precluded. If such implementations use only the current standard C mapping, then they would have to support a C language API. Most ORBs I have encountered are written in C++. The ORBs may or may not support the CORBA specified set of C APIs (though I think they all do). Most of these same vendors also

have IDL mappings other than C available. Most vendors have C++ mappings. There is also at least one Smalltalk mapping available commercially and I have heard about other language mappings.

There are a lot of negative statements about C, seemingly to advocate dropping C and adopting C++. In 1990 and early 1991 this was an interesting topic, but the C mapping was provided in order to support Legacy applications and platforms where C++ support or knowledge was scarce. OMG decided to publish a specification in 1991, knowing that delaying it until all hard problems were solved might delay the specification for years. The C++ mapping is coming. It was not and is not blocked by some Sun and HP rivalry. Sun and HP have been cooperating on C++ since the start. So has IBM. It did get delayed when one of the primary submitters of a C++ mapping (HyperDesk) decided that building ORBs was outside of their purview (my totally subjective interpretation) and so they dropped their submission. OMG is definitely not involved in compiler wars or politics surrounding the C++ language. OMG is involved with evaluating implementations of IDL to C++ mappings in order to make a recommendation.

The OMG's role

The paper also misrepresents OMG's role as a standards body until you get to the final paragraph. It indicates that OMG develops a standard and then vendors adopt and adapt. What is conveniently overlooked through most of the paper is that submissions to OMG are based on existing implementations. After discussion, a technical evaluation and recommendation is made and this recommendation is put to a vote before becoming part of the specification. The process is actually more elaborate but I believe this synopsis conveys the point. The specification follows the implementation and not the other way around. If no one has an implementation of an IDL to COBOL mapping, then a COBOL mapping is not made part of the specification. Simple, and it works. One of the cited deficiencies for CORBA is that it does not specify "naming conventions, persistence, security and interoperability". Based on this lack, we are told that "we still do not have a viable CORBA spec", OMG's strategy is called "feeble" and Microsoft's "desktop agenda" looks better in this light. These are interesting conclusions for an objective journalist. It is easy to name the things that are not in the CORBA 1.1 specification, the more interesting ones are all listed on the CORBA 2.0 agenda. Other omissions in the CORBA spec are those for which no implementation exists. Remember, OMG only adopts "available" technology. So how could they adopt an interoperability spec when no one knew how to solve the problem? Name the vendor that has solved the heterogeneous interoperability problem? The RFPs for 2.0 went out last year and are getting very close to a final recommendation.

On one hand OMG is chastised and it is stated "possibly the OMG should retreat from too strong an involvement in this debate and leave it up to ORB vendors how they bind IDL to C++". Here, the phrase "this debate" is the C++ mapping discussion (there is no "bind" issue). On the other hand OMG is scolded for not having included interoperability. Interoperability is more difficult if everyone does their own mappings. Not only that but software vendors that want to build ORB objects would lose the advantage of having compatible interfaces available regardless of the ORB.

A good portion of the paper criticizes ORB interoperability. OMG's approach was to specify CORBA as middleware. OMG specifically did not want to specify on-the-wire protocol. The whole philosophy behind an Interface as a contract between a client and a provider is to avoid constraining or exposing the way something is implemented. Different environments require different protocols. OMG does not dictate that vendors cannot use the same protocol. A single industrious vendor could build an ORB that spanned across all systems in all protocols and provided IDL mappings for all languages. However, if all of the interesting development does not happen on top of a single ORB, and it likely will not, there are a variety of tried and true mechanisms available that have already been developed and tested to bridge between incompatible systems. We use them every day and are none the worse for it, though it sometimes is a nuisance. OMG's agenda is what the software industry needs. If you chastise them, I am sure they would appreciate that it be for good reason.

Part II

Katy Ring stands by her original piece which ran last week and is preparing a reply for a future issue

TALIGENT SEEKS TO RALLY DEVELOPERS WITH PARTNERS EARLY EXPERIENCE KIT

Cupertino, California-based Taligent Inc, the joint venture formed by Apple Computer Inc and IBM Corp to develop and market Apple's Pink object-oriented operating environment project, may be under something of a cloud these days as IBM and Apple look for ways to cut costs, but the company is ploughing on with its programme and as expected (UX No 490), has announced its Partners Early Experience Kit, excruciatingly tagging it with the acronym PEEK. Some 100 favoured software developers will be getting Taligent code, documentation and training under the programme. ~~Taligent says it has also shipped an early reference release of its Taligent Application Environment application system to its investors Apple, IBM, and recent addition Hewlett-Packard Co.~~ Originally intending to create a full object-oriented operating system, Taligent has had its mission scaled back, although the company still hopes to evolve it into a full operating system if its owners allow it to do so.

Under the programme, developers will receive a pre-beta release of the Taligent Application Environment open, portable application system, described as an operating system-independent environment that acts as a foundation for application functionality and interoperability. The company says the Application Environment - TalAE - is built from a comprehensive set of object-oriented frameworks designed to deliver "dramatic" gains in developer productivity, new application innovation and a "rich new user experience" based on a Task-Centered Computing model. The Partners Kit programme includes delivery of the first TalAE code and header files; six one-week training classes offering hands-on training for developers to begin designing and developing Taligent applications; documentation and access to technical support; and a two-day communication session focusing on Taligent's market vision, product strategies and investor deployment plans for Taligent products. The Kit provides about 80 of the frameworks planned for TalAE version 1, and runs under IBM's AIX Unix. Frameworks cover applications - compound document frameworks, user interface frameworks, domain frameworks - international text, two- and three-dimensional graphics; and support - application services and distributed computing frameworks.

People, Places, Things

The Kit also includes an early version of the Taligent People, Places and Things user interface metaphor, which the company says extends current GUI metaphors by putting real-world-type functionality on the desktop. People is an integrated e-mail system that uses business card icons representing individuals or groups to send messages, and has a single mail collection point for all services in use. Places is essentially the distributed component, which will use sets of postcard icons to allow users to navigate a system. A postcard may take you to a door which will take you to another department where you can find the document you've been looking for, even if that is at a remote site. "Things" are icons for printers, fax machines or other devices, which are represented as they'd look in an office and perform all the functions you'd expect from their real-world relations. Taligent says it's on schedule to ship beta Taligent Application Environments by year-end, a 1.0 release in the first quarter of 1995 and the other components like the Taligent operating system by mid-1995. Currently only up on AIX, Taligent demonstrated a Windows NT port last week and plans OS/2, HP-UX and other implementations.

NEXGEN MICROSYSTEMS WINS IBM AS ITS SILICON FOUNDRY

Milpitas, California-based NexGen Microsystems Inc, where Compaq Computer Corp is an investor, has finally landed its foundry agreement with IBM Corp: IBM Microelectronics will fabricate the iAPX-86-compatible NexGen Nx586 processor and the Nx587 floating point co-processor and sell the parts to NexGen. It appears that at this stage at least, this is a foundry-only agreement: there is no word of IBM making the parts, or derivatives, for its own use. NexGen says it has been working closely with IBM for nearly two years to prepare the Nx586 family of processors for volume production. The Nx586 family of processors is claimed to be the first to combine 586-class performance with iAPX-86 binary software compatibility at a significantly lower price than Intel's Pentium processor. NexGen reckons its processors combine the five key performance elements also found in Pentium plus three major advances including NexGen's patented RISC86 microarchitecture; they will be fabricated in 0.5 micron CMOS.

TALIGENT USING TAKEFIVE SNIFF+ DEVELOPMENT ENVIRONMENT

PEEK and the reference release of the Taligent Application Environment are using a piece of code Taligent Inc has licensed from Austria, Salzburg firm TakeFive Software GmbH under a wide-ranging agreement. Taligent is using TakeFive's Sniff+ C and C++ software development environment - which grew out of a Union Bank of Switzerland object research and development project - to allow Taligent engineers, ISVs and corporate developers to be able to mix and match different Unix platforms, compilers, debuggers and editing tools in their efforts. It's one of a number of third party tools Taligent will offer to developers - its own tools are still under development. Taligent engineers are also using Sniff+ internally to develop the Taligent Application Environment and TakeFive is developing an optimised version for that purpose. Taligent will provide a customised version to its application developers, and has contracted TakeFive to extend Sniff+ to meet other customer requirements. The Taligent system, effectively a collection of class libraries now up to some 1m lines of code, isn't yet robust enough to be able to support the range of compilers and development platforms its programme envisions, and the company has gone to TakeFive and others for help. The two have been working on the deal for the past six months. Although TakeFive downplays the significance of the deal - it says its technology is only a small component of the Taligent system as a whole - Taligent is paying the company enough (something less than \$1m) to allow it to open for business in Cupertino, California where it has five staff under former Sun software marketing manager Ron Lang. TakeFive believes Sniff+ will ship to some 300 Taligent developers. Sniff+, a lightweight development environment according to TakeFive, can cope with the entire Taligent library set and provides a documentation browser too. Sniff+ is part of the Peek and is also available at from \$3,000 for a single floating license.

"SoftBench breaks"

Sniff+ started life in UBS's Ubilab research and development unit a couple of years ago as part of an object technology project. Rights to productise the software were acquired by the five founders of TakeFive. TakeFive says the stuff it's developed as Sniff+ enhancements for Taligent will begin to appear in future Sniff+ releases from the end of the year, when a major new revision is planned. TakeFive doesn't know how long the Taligent deal will go on, specifically whether Taligent will carry on using Sniff+ once its got its own tools ready. TakeFive wants to extend Sniff+'s use as a C-to-C++ object migration tool and has already integrated it with Pure Software Inc's Purify C and C++ code tester; it has an Object Design Inc technology development project in hand.

TakeFive plans to productise third party technology for inclusion in its next generation products. It wants to extend Sniff+ so that for example a 10-user team of developers on a LAN could all be using different compilers and tools. It'll be putting Sniff+ APIs and protocols into the public domain in an effort to win greater support, will add more browsers and will move to a Corba-compliant architecture over time. TakeFive says Hewlett-Packard Co's integrated SoftBench environment is its main competition. Ironically, TakeFive observes, Taligent couldn't use its shareholder's technology in favour of Sniff+ because SoftBench breaks down in large environments. TakeFive is up to 15 employees in Salzburg, 5 in Cupertino and a few out at Ubilab. It claims over 2,000 Sniff+ users, most of them in Europe. It's looking for distributors and expects to sign Admiral Software in the UK. TakeFive Europe: +43 662 457915. US: +1 408 777 1440.

NETLABS SETS DIMONS 3G 2.0

NetLabs Inc, Los Altos, California, is offering version 2.0 of its DiMONS 3G network management development environment which includes some new alarm management tools and the ability to create interfaces that support Informix applications, with other RDBMS links planned. \$25,000 buys the DiMONS 3G server; Event Manager for supporting SNMP trap management and OSI event services, logging and reporting; Transaction Monitor for ensuring the integrity of persistent data; an Object Manager; Data Manager; Poll and Transaction Monitor; and Common Network Model. +1 415 961 9500

CRAY IN SEARCH FOR NEW FUNDS

Seymour Cray's Colorado Springs, Colorado-based Cray Computer Corp has run out of money again, *Associated Press* reports, adding that officials are working to put together financing before the treasury runs dry this month. The company has failed to sell any of its Cray-3 supercomputers, and the company only remained solvent until now by making some cost-cutting moves in May to stay in business until the middle of the month. Without new cash, it will likely have to scale back operations or close. Cray Computer is now looking to the Cray-4 for its salvation: the machine is claimed to offer double the performance of the Cray-3 at half the price. A prototype of the Cray-4 is set for the end of the year.

TOSHIBA PAYS SEQUOIA \$1.5m

Toshiba Corp is still ploughing on with its three-year effort to develop a fault-tolerant Unix computer using Marlborough, Massachusetts-based Sequoia Systems Inc's software, but on the Sparc RISC, and it has paid \$1.5m to expand its technical licensing agreement with Sequoia. The new pact gives Toshiba additional rights to some patents and technology, and any new technologies patented as part of the development process will be cross-licensed between the two. Sequoia expects the Toshiba machine to be ready for marketing late next year.

NTT PICKS SGI AS MULTIMEDIA PARTNER

Silicon Graphics Inc has won Nippon Telegraph & Telephone Corp to its concept of interactive multimedia services, and the two are to develop hardware and software to provide video on demand, home shopping, long-distance education and remote medical consultations. Silicon Graphics won out because of its "overwhelming strength" in processing three-dimensional graphics. The agreement will combine the Japanese phone company's digital network technology with Silicon Graphics's video servers, three-dimensional graphics and television set-top decoder box ideas.

FIREFOX ADDS TO X.400 AND X.500 PORTFOLIO

Solihull-based Firefox has signed an agreement with Boldon James of Alsager, Staffordshire, under which it is to port Boldon James' X.400- and X.500-based messaging and directory services client software to NetWare and UnixWare. On the NetWare side, Firefox will port Boldon James' DOS and Windows software to NetWare, and provide integration with its own X.400 Message Transfer Agent (MTA) and X.500 directory implementations. The combined solution is intended to operate over OSI, IPX/SPX, or TCP/IP protocols, and to be scalable for either local or wide area networks, according to Firefox. For UnixWare, Firefox says that versions for connecting its X.400 MTA and X.500 implementations will be available for DOS and Windows for PCs, Unix character for directly attached workstations, Motif for Unix client workstations, and later this year, Macintosh clients; connections will be over OSI or TCP/IP protocols. The new integrated products will be marketed as part of Firefox's Messaging and Directory Services portfolio, with initial shipments scheduled for Q3 for UnixWare and Q4 for NetWare. There is no word yet on pricing.

NOVELL MULLS "CHICAGO KILLER"

Despite denials that the product exists, insiders at Novell Inc say that its Linux shrunkworks project (UX No 487) consists of about six people off-site and may turn into something or may not but it's certainly not imminent. Novell has visions of taking Finland's own Unix-like public-domain software, developing Expose, a DOS-Windows-NetWare-Unix-running 32-bit operating system and flooding the market with Chicago killers. Novell has apparently been demonstrating the stuff privately during shows.

UNIXWARE TECHNOLOGY GROUP TO ADDRESS SYSTEMS, NETWORK MANAGEMENT

The new Novell Inc-loving UnixWare Technology Group, the modern reprise of Unix International, whose first board meeting is set for the last three days of this month, figures it has to do something about systems and network management as well as establishing a cooperative relationship with database makers so the poor overworked things won't be so resistant to the idea of doing and support more ports. The carrot it'll be dangling is UnixWare's commonality. Its handful of members are also interested in multimedia, transaction systems and trusted systems and platforms to port to. Nothing of course will be cast in stone before the board meeting. Meanwhile, it's honing a list of 40 companies it will target as potential members.

NEW DAL FROM INDEPENDENCE

Independence Technologies Inc has unveiled version 1.5 of Apple Computer Inc's SQL-based Data Access Language - Apple handed the rights to DAL over to the Fremont, California-based firm in January (UX No 472). The middleware can now access 12 relational databases, including the latest releases of DEC's Rdb, Oracle, Sybase, Informix, IBM's DB2 and SQL/DS, and Ingres, and supports DEC's Alpha and PowerPC-based Apple Macs. DAL also now runs under SunOS, Solaris, HP-UX, AIX, OSF/1, and A/UX on the server side, and supports Microsoft's Windows and ODBC on the client side. Unix versions of release 1.5 will be rolled out during June and July, with prices ranging from \$4,000 to \$12,000 depending on the number of users. + 1 510 438 2000.

SMI ACQUIRES TERRALOGICS, DEBUTS ATLASMAP VIEWER

Strategic Mapping Inc, which sells pre-packaged demographic, geographic, and economic data files, has acquired Lowell, Massachusetts-based OLE mapping applications developer TerraLogics Inc for an undisclosed sum, and is now shipping an integrated version of their products. AtlasMap Viewer is an OLE 2.0-compatible library that enables data visualisation and geographic analysis capabilities to be embedded in the source code of off-the-shelf packages running under Unix, Microsoft Corp Windows and Apple Computer Inc's Macintosh. User-developed, SMI or third party data files can be embedded in an application, and users can display their data on digital maps by simply clicking a button. As a result, they can use AtlasMap Viewer to create simple presentations such as company sales performance by territory or graphically represent relationships such as demographic and product sales trends. The product also supports GUI builders from Gupta Corp and PowerSoft Corp. The data resides in the host application and AtlasMap Viewer is simply used for display purposes, although any edits are automatically saved back to the original file. Lotus Development Corp, Gupta Corp, and PowerSoft Corp have all agreed to incorporate TerraLogics' OLE mapping technology into their products and to resell it to their own customers.

EXCALIBUR MOVES OFFICES AS PART OF EUROPEAN EXPANSION PLAN

Excalibur Technologies Corp's European operation based in Windsor, Berkshire has moved to a new office in the same town as part of its strategy for the expansion of its distribution network in Europe. The operation has an annual turnover of \$1.5m and a customer base of 60 firms. The new release of the Excalibur EFS 3.5 document management and retrieval software due out in July adds broader capabilities such as handling the full European language set including umlauts and accents: for example, the UK operation has been able to pick up more business partnerships outside the UK. In the past three months Excalibur has appointed Espelsa of Spain, Inforware of Germany and Eurodoc of France as new distributors.

HP OFFERS ENHANCED NETWORK MANAGEMENT

Hewlett-Packard Co will this week strike back at some of IBM Corp's complaints about the HP OpenView network management environment, offering a slew of enhancements in the areas of print management, storage, operations control and desktop PC support. There's a new version 1.1 of OpenView OperationsCenter with intelligent agents that support AT&T GIS and Sun Solaris systems in addition to those that already exist for IBM, SunOS, Bull and HP systems. HP says 1.1 can receive and display alerts and messages even from nodes where there is no intelligent agent running. The company says it includes other new analysis and reporting tools and default message-handling templates. 1.1 runs atop OpenView SNMP Version 3.3. HP says it's redesigned OpenView OmniBack II backup and restore software and the OmniStorage hierarchical storage management module. OmniStorage can now use OmniBack II to backup applications managed by OmniStorage. Both are integrated with OperationsCenter. Administrators can configure and customise OmniBack II information like backup schedules from remote central sites to local systems. It can do on-line backups of Oracle Financials and SAP R/3 environments. HP OpenView Software Distributor, which distributes, configures and removes applications across networks now supports a range of PC-based environments, including NetWare, Windows MS-DOS and LAN Manager. Out in November, it's priced at from \$2,500. The company claims OpenView OpenSpool Version B.01 print administration software is simpler to configure and more scalable previous implementations, saying end-users will be able to send print requests to remote sites and monitor or cancel remote print jobs. OpenSpool B.01 is out in September at from \$2,300.

OPENVISION SYSTEMS MANAGEMENT TO MOVE ON TO NT

OpenVision, the Unix systems management start-up with the big bankroll, is getting its ducks in a row to plunge into the NT pond, according to our sister publication, *Client Server News*. The company is planning a two-phase two-product foray beginning in December with an NT Client Console. Its big push, however, will come next year when it moves the core applications in its suite over to Advanced Server and integrates them with Hermes. OpenVision says its customers are already "going nuts over this stuff" and claims that one of them, described only as a large manufacturing firm, has contractually committed to taking a thousand copies of the phase-two product despite the fact that it's still on the drawing board. OpenVision is currently planning only Intel versions of the stuff while watching PowerPC with keen interest and Alpha with one eye. Mips is not a consideration. The fact that NT is still not multiuser and only pre-emptively multitasking currently restricts OpenVision's NTAS development. It's hoping to get access to the necessary beta APIs in the fall. The initial NT Console product is not a straight port of any existing product but a rebuild of key pieces of OpenVision Unix products starting with the interface. It will be ported to Win32 and given a Windows look-and-feel that adopts the same visual layout as the Motif system. The company's intelligent agents will also move to NT. The Console will do event management, basic security administration, backup, client/server performance monitoring and scheduling of remote jobs. The Console will be able to "manage" NetWare, TCP/IP, LAN Manager and IBM LAN Server networks equipped with Unix, OS/2 and NT clients but the OpenVision apps must still reside on a Unix server. The more robust NT Advanced Server Management System, as phase two is currently called, is a different kettle of fish. Here, the apps will run on Advanced Server and NT will be a Unix peer. Besides the functionality of the Console, the system is supposed to provide hierarchical storage management, SecureMax for increased security auditing, database tools including a Defrag and Oracle archival capabilities and an enterprise-wide production scheduling system. It may be augmented with other workgroup apps. OpenVision conceives of it as both a rightsizing and upsizing tool, offering the ability to seamlessly deploy and manage applications and data across both Unix and NT-based systems transparently. The user benefits from being able to pick gear based on processor cost. OpenVision expects to sell the NTAS Management System as both a suite and as independent products. Pricing has not been finalised.

TUXEDO GROWTH "FUELLED BY IBM DOWNSIZERS"

Novell Inc's director of Tuxedo system product marketing, Ivan Ruzic, disagreed with IBM Hursley's view of the transaction processing market (UX No 487), particularly the sentence "non-CICS competitors such as Top-End and Tuxedo...have so far garnered few customers (Tuxedo is mostly used by AT&T itself)". This, he says, "is clearly not true. In fact, the Tuxedo business is approximately doubling each year - and has been since 1991. Further, we don't see this growth rate diminishing in the foreseeable future." According to Ruzic, much of this growth "has been fuelled by large organisations downsizing off proprietary mainframes (many of which seem to be blue in colour). The view that Tuxedo is predominantly used by AT&T is at least three or four years out of date, he says. Tuxedo is now available on 34 platforms (some proprietary), and Ruzic claims to have an installed base of over 4,500 production licences. "True, the installed base is not as impressive as CICS on the mainframe (we're fixing that too) but is several orders of magnitude greater than any other flavour of CICS (or any other open transaction manager for that matter.)" Versions for Windows NT Server and the AS/400 will be available "shortly", says Ruzic.

QUADRATRON UK BUYS UP SOURCE RIGHTS FROM US PARENT

Once the market leader in Unix office automation (UX No 153), Quadratron Systems Inc, Westlake Village, California, has sold the rights to further development and maintenance of its source code to its UK arm, Quadratron Systems (UK) Ltd of South London. Quadratron UK has been carrying out most of the work for the last two years, but now ownership of source code and rights have been transferred in what is described as "a major asset transfer." A holding company, Quadratron Systems International, is currently in the process of being set up with support from international Quadratron distributors. No further details were given. The US arm is expected to continue acting as an agent for the products, but to take no further part in its development. Quadratron introduced its Q Office product suite in the mid-1980s, aiming it at the OEM market. Companies such as Sperry (now Unisys), Nixdorf (now SNI) and Northern Telecom re-badged and re-configured the product as their own. Quadratron UK managing director David Johnston says that OEMs demanded a modular, configurable product, which stood the company in good stead over the ensuing years, opening up a demand for integration services that survived the market shift towards new generation software. Both Quadratron and arch-rivals Uniplex misjudged this shift towards PC productivity packages, GUIs and client-server, and both announced their own new generation products years before they were deliverable. Quadratron's Cliq was finally delivered at the tail-end of the 1980s - still character-based, but according to Johnston "pointing the way towards Windows, desktop-driven type of products". Quadratron is re-positioning Cliq as a niche product for integrating sets of tools, applications and databases together, combined with process automation and Quadratron's integration and consultancy services. Users include National Westminster Bank and the Abbey National. For the future, "Project Saturn" or Cliq 3 should emerge in alpha versions by the end of the year, with product sometime next year.

APPLE TSUNAMI POWER MAC FOR PUBLISHERS

Borrowing a code name popularised by Sun Microsystems Inc for quite another product, Apple Computer Inc is working on a Power tower Macintosh code-named Tsunami, tailored for the pre-press publishing market. *MacWeek* hears that the tower system will be in the January launch that is expected to see a total of five new models, all with Peripheral Component Interconnect replacing the NuBus in the first Power Macs. Tsunami will use a PowerPC 601, likely at 120MHz, have six PCI slots and no video circuitry on the logic board, the thinking being that users of publishing-intensive applications usually install their own graphics boards so should not be required to pay for circuitry they won't use.

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As expected (UX No 485): **Convex Computer Corp** has marked Tuesday to unveil the next iteration of its proprietary minisuper C series.

Tatung is readying an OEM-targeted PowerPC 601 prototype, promising 603 and 604 units in production in Q1 after sampling in the Autumn. The TPC-5510 601 machine will go into volume in Q4 and is reckoned to be the same box previewed earlier this year at CeBit. It will run AIX, NT, OS/2 and Solaris.

X/Open Co Ltd's Desktop Requirements Working Group is now focused primarily on services and interoperability rather than look and feel issues.

Europe is **DEC's** most important market, it says.

Systems integrator **GTECH** didn't tell us the whole story about the winning bid to run the UK's national lottery scheme last week (UX No 490): **DEC's** a tad upset because in fact seven Alpha AXP RISC systems will be used to monitor terminal activity across the network.

DEC's also due to overhaul its storage and OEM business strategy at the end of the month and says Europe is its most important market. The new 2100 Sable server is its hottest item, but if it's already sold out on them to the end of its fiscal year, shouldn't it be making more of them? Meanwhile, as other vendors increasingly pursue multiple "give 'em whatever they want" OS strategies, **DEC** says it'd be happy to have Solaris up on Alpha.

US CASE firm **McCabe & Associates** has opened for business in London, UK. +44 494 463233

Object-relational house **UniSQL Inc**, Austin, Texas, is offering Object Data Management Group-compliant interfaces for C++ and SmallTalk bindings on Unix at from \$1,600, with Windows support due next month.

Sunnyvale, California-based **Dawn Technologies Inc's** DawnTools class libraries for Common Desktop Environment (CDEM++) and ToolTalk (TT++) are now available for use with **Lucid Inc's** C++ Sparc compiler. DawnTools are up on Sun and HP systems and support for a range of other platforms is planned. Prices go from \$2,000. +1 408 737 6181

Tally Systems Corp, Hanover, New Hampshire, has a software licence manager which it says monitors licence compliance and can optimise a piece of software for local and LAN use. CentaMeter runs from Windows 3 and meters applications launched on a variety of PC LANs. Prices go from \$10 per 100 PCs. +1 603 643 1300

Sausalito, California-based **Sens8 Corp** has put version 2 of its WorldToolkit real-time graphics toolset up on **Evans & Sutherland's** Freedom Series 1000 and 3000 graphics accelerators for Sun Sparcstations. +1 415 331 6318.

HP/Intel - The reaction

Other RISC merchants were practically gleeful last week that Intel Corp has at long last finally "blinked," as Mips Technologies president Tom Whiteside put it. Intel, it believes, will be forced - particularly by Motorola, people are betting - to eat its words about how RISC is dead and how the Intel roadmap is far superior. Whiteside apparently believes that Mips, which is trying to import iAPX-86 compatibility into its chips, will somehow be able to essentially out-Intel Intel and produce more efficient x86 than Intel and HP combined.

Phil Pompa at Motorola Inc claimed the Intel-HP alliance wouldn't "slam any doors" in its face - at least immediately - or impact the PowerPC's business plan. Immediate response from the likes of Silicon Graphics Inc and DEC was to the effect that they think they're already implementing stuff that's way-out in the HP/Intel plans, and on concern about the cost. The only sure thing is that "chaos will still reign," observed DEC VP Unix and NT Willy Shih.

People received acknowledgement of the discontinuity as good news. Everybody is quick to admit that they need to learn more about what HP and Intel are talking about before they come to any conclusions, especially how they'll be handling stuff like endianness.

Albert Yu, VP and general manager of Intel's microprocessor group warned vendors, manufacturers and users of other flavours of CPU "if you think you had a future - you don't anymore."

We hear there are other technology alliances in the wings seeking to achieve similar things.

Expersoft Corp says it started talking to Taligent a few weeks ago about its XShell product acting as Taligent's ORB and asynchronous messaging system.

Network Appliance Corp has hired Auspex Systems' VP, North American sales Thomas Mendoza to fill a similar role.

We've known for sometime that Montage Software Inc, Oakland, California was going to have to change its name (UX No 465): it's chosen Illustra Information Technologies Inc and is re-naming its product accordingly.

Object oriented development environment vendor Forte Software Inc has set up its first subsidiary, Forte Software (UK) Ltd, in London, and appointed Steve Brenman as UK managing director. +44 81 528 9870.

Versailles-based O2 Technology SA has converted its O2 object-oriented database to run under NeXTstep for a US client in the financial market. It will be used to develop trading room management applications.

Unix distributor Access Graphics Inc, Boulder, Colorado, has stepped up to begin peddling Novell Inc's UnixWare and Unix connectivity software. +1 303 938 9333

Open Software Foundation will have Motif 2.0 ready for Xhibition (UX No 464): 2.0 has some new widgets, support for virtual screens and an environment for creating new widgets more easily. IXI Ltd will offer an implementation by year-end, though the emerging Common Desktop Environment standard interface uses Motif version 1.2.3.

Tivoli Systems Inc took its TME 2.0 tour to the UK last week in conjunction with its Maidenhead, Berkshire-based distributor Protek Ltd. The Austin, Texas firm claims some 70,000 licences of its framework and distributed management applications, of which there are now seven. The privately-held company claims it'll double its revenues to at least \$25m next year: 95% of revenue is from sales to end-users. It hasn't ventured its Windows NT strategy as far as OpenVision Inc yet, NT Advanced Server won't be supported until the next version.

Micro Focus Plc is to begin marketing a couple of new application development systems, using object technology from Santa Ana, California firm Digitaltalk Inc. The first includes Digitaltalk's Parts object toolset, the Parts Cobol wrapper - which wraps Micro Focus Cobol into reusable components - and Micro Focus' Cobol Workbench. The other features Parts Workbench, Smalltalk/V and Team/V; and Cobol Workbench.

There are plenty of alternative explanations for why Apple Computer Inc killed off its Houdini 80486 co-processor board, but one picked up by MacWeek is that because of unexpected demand, the company ran out of a critical complex ASIC, and getting a new supply would take at least 100 days - and a new version of Insignia Solutions Ltd's SoftWindows emulator claimed to provide Houdini-type performance is due.

If you can't beat them, join them: Waltham, Massachusetts-based Cambex Corp is a gadfly stinging IBM Corp with its Certainty Series plug-compatible RS/6000 disk arrays and drives, tape drives and add-on memory: in the past, IBM would go way out of its way to try to crush such interlopers, but in its new, realistic mood of resignation, it is taking the wiser course of agreeing to provide field service and support for Cambex Certainty Series.

Fujitsu Ltd and Hewlett-Packard Co have signed a broad software migration alliance under which 10 of Fujitsu's middleware products most widely used in business, including its Cobol 85, will be made available on Hewlett-Packard's HP 9000 family of Unix systems: the new versions were jointly developed by both companies and will be marketed as recommended products by both companies in the Japanese market; Hewlett-Packard will begin marketing Fujitsu's products worldwide.

What most of us have seen of the Taligent Inc environment at trade show previews and the like has been described to us by insiders as purely "Turkish software:" specially crafted for the audience.

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IBM "TO DROP" PREP-COMPLIANT BOXES INTO RS/6000 LINE...

It appears likely that IBM Corp's RS/6000 division will drop its PCI bus, PowerPC Reference Platform (PREP)-compliant machines running SunSoft Inc Solaris into its currently Micro Channel Architecture, AIX-only line. This will fulfill the requirement that it have an equivalent server solution to market alongside the Solaris client system its Power Personal division is readying (UX No 489). The machine(s) will need to be fitted with PCI bus externally, as well as internally - current RS/6000s use MCA/EISA data traffic systems. From the Power Personal division's point of view putting Solaris on such a box will be relatively simple. It's currently finalising the OEM arrangement with SunSoft that's been in the making for some months allowing it to market the Solaris port on its own PowerPC "clients," and says there'd be little effort to get the OS up on a PCI bus RS/6000 "server". Presumably the other operating systems Power Personal is readying, among them Windows NT, OS/2 and Taligent could follow just as easily too: it was assistant general manager for worldwide RS/6000 marketing Jeff Mason's desire for Solaris in the first place. And, as IBM will get rights to Solaris source code under the agreement - now expected to close around the end of the month - the company could, if it wished, put a Solaris implementation up on the MCA-based RS/6000s too. SunSoft certainly wouldn't have any bones about that. As you'd expect however, the situation is more complicated at Big Blue. The Power Personal division is all about hardware. It is putting all the software it can up on its boxes to make them more attractive. The RS/6000 unit, on the server side of the company, is still saddled with AIX. Only if AIX were spun out or otherwise disengaged from the hardware business model could it pursue the same kind of OS all-comers strategy, IBMers theorise.

...IBM READIES POWERPC PERSONAL ANNOUNCEMENT

At PC Expo next week IBM Power Personal Systems Division is expected to start indicating when its first PowerPC platforms, intended for the mainstream and poised against Intel, will be announced. The best guess right now is that it will be sometime around October and that the boxes will turn up initially sporting AIX, Windows NT and a cutdown version of OS/2 to appease the hard-liners inside the company who might otherwise hold them up.

INTEL PLANS COMMERCIAL ROLE FOR SUPERCOMPUTING TECHNOLOGIES

On June 26 at Intel's User Group conference in San Diego, California, Intel chief Andy Grove is expected to reveal plans to expand the role of technology developed at its Supercomputer Systems Division (SSD), previously a highly scientific unit that's only broken silence to reveal the latest GFLOPS numbers or conclude its August 1993 agreement with Unisys Corp (UX No 448). The division itself isn't expected to change fundamentally. The highly-focused \$90m unit is now number one in massively parallel (MPP) systems according to the counters - or highly scalable, as that crowd prefers these days - doesn't have a large sales force, or a commercial mission. However, Intel is expected to begin peddling unbundled SSD-developed subsystem technologies - like Paragon's 175Mbps interconnect mesh technology provided to Unisys - as building blocks for new breeds of scalable systems it expects to permeate the industry. Intel is wary of treading on its system partners' toes, and it's thought it'll let rest of the industry commercialise the stuff. It's already provided a taste of what could be achieved with the eight-way system it recently demo'd running Microsoft Corp's NT Tiger multimedia server software, which "could be offered OEM," it says. The company is also likely to indicate an evolution path for users of SSD's i860 RISC-based Paragon supercomputers who appear to have been left hanging, with no i860 follow-on in sight. Insiders say they will be offered the next generation of Intel's iAPX-86 series in some form as the basis of future systems, likely modified for floating-point performance, perhaps with attached i860s as a co-processor or in some other hybrid arrangement. SSD has also got dibs on the SPP Pentium systems coming out of its Unisys relationship, which Unisys will eventually offer with up to 128 CPUs when they ship mid-1995 at around \$10,000 per MIPS. SSD would pursue scientific markets, according to Unisys, which has already delivered sixteen-ways to software houses (UX No 490). Intel manufactures the boards, Unisys the Intel-developed mesh interconnect, Intel sub-assembles the backplane and interconnect system and Unisys puts the cabinets together. Unisys provides its own Distributed Communications Processor on the systems and its unclear whether Intel would use this technology in any OEM offerings.

ILOG TO MAKE SYBASE OBJECT-ORIENTED

Ilog Inc last week announced Ilog Server, a tool for building dynamic servers of C++ objects that is far more than it seems. By September, the French-based company intends to take the technology, which derives from an Esprit project that represents 150 man-years of effort, and attach it to the Sybase relational database making it object-oriented. The product, likely to be extended to other RDBMS as well, will be sold as an add-on to Ilog Server. Ilog fell heir to the Esprit work on interoperability and the sharing of objects across networks when it hired the Matra developers who were working on. Right now, however, Ilog Server, an extension of the SmallTalk Model View Controller, is targeted at C++ programmers who want to implement reactive object models in C++ that can be accessed simultaneously by multiple users. It promises to make object-oriented groupware a reality. An integration tool, it provides a client-oriented interface between an object server and multiple clients even in a Distributed Object Computing (DOC) environment. Problems arise in C++ systems development when several clients share the same information. With Ilog server each client has its own APIs and only has to be concerned with the objects it manipulates. Based on the concept of view coherence, Ilog Server offers a C++ preprocessor and a set of libraries with two types of services, Object Model classes and Object Server classes. The stuff is currently available on Unix workstations for \$5,000. Simultaneous with the Server, the company also announced Ilog Broker, a tool for extending C++ to transparently support DOC environments, which C++ does not traditionally support. It takes an approach similar to ExperSoft Corporation's XShell product. Ilog says C++ programmers can make any existing linked C++ applications distributed by minimally changing their header files. Its core technology utilizes the RPC protocol and can be used, Ilog said, to implement both C++ Object Request Brokers and transparent C++ support for CORBA/IDL apps. It can revamp existing C++ programs and develop peer-to-peer applications. It is available for Unix workstation for \$5,000.

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SUNSOFT OUTLINES REORG IN EUROPE

In Europe, the merger of the Sun Technology Enterprise planets with SunSoft and the formation of a common sales unit (UX No 485) is expected to result in some staff losses and the redeployment of others. Sun denied rumours that it had asked all its 140 European employees to reapply for their jobs and intended to axe up to 50% of them. The reorganisation should be complete by next week, and will see an expansion of the telemarketing team - about 15% of sales staff currently work here, but this will be increased to about 25% - and a decrease in direct representatives to major accounts from about 35% to 25%. Indirect sales will stay the same at around 50%. SunSoft expects some of its staff to go back to the US, others to leave of their own volition, and yet others to move sideways into newly created positions as "product drivers". These will essentially be specialised former sales staff, who will offer technical support to those salespeople that have kept their jobs.

SUN'S DRAM BLUES

Sun Microsystems Inc is suffering from DRAM shortages because its chief supplier Mitsubishi is having yield problems. Sun says the problem impacted systems availability back some weeks ago but feels it's getting a handle on the situation now. Wall Street, however, frets that it could drag down margins and revenues in Sun's end-of-the-year June quarter. Prices on the DRAM gray market are reportedly starting to rise and Sun is now charging extra for extra memory to bring them up to street prices. This move should cover it since the contracts it has with its multiple second sources reportedly lock its prices in.

DEC "TO FIRE MUCH OF SALES FORCE AND GO INDIRECT"

Digital Equipment Corp executives will this week float another of its frequent reorganisation plans, US reports say - and it will be a stunner for the demoralised sales force, since the paper hears that it will suffer an eviscerating lay-off. The plan will be presented to the board by Enrico Pesatori, head of DEC's Systems Business Unit and marketing and sales organisation, rather than chairman Robert Palmer, and according to *PC Week* calls for the creation of a holding company consisting of five business units, covering storage, multi-vendor services, personal computers, peripherals, and supplies and consulting. The plan, which still requires board approval, would involve a big switch away from direct sales, leading to the firing of "most of DEC's current sales force" and associated administrative workers. The immediate goal is said to be to lay off 7,000 employees, with another 20,000 going next year. The multi-vendor services group will be responsible for the VAX and Alpha systems business and will concentrate on high-end sales to specific Fortune 500 customers, the insider sources told the paper.

MITAC DISPLAYS POWERPC MACHINE AND SAYS IT HAS A US OEM LINED UP

Mitac International Corp of Taipei, Taiwan has been showing a PowerPC 601-based machine. The offering - exactly the same as that designed by the Taiwan New PC Consortium, and bearing the Consortium's logo on the motherboard - is said to be very close to production. Moreover Mitac says it has its first US OEM customer lined up. The company will not say who this customer is, but well-placed sources suggested that AT&T Global Information Solutions (previously NCR) is the interested party. AT&T GIS is already an OEM customer of Mitac's wares. In July of last year, the then NCR Corp said it would buy fully assembled personal computers from Taiwan for sale under the AT&T or NCR brand names in foreign markets. Mitac desktop and notebook computers were among those selected. However Sean Glynn, a product manager with AT&T GIS, denies categorically that the company was looking to take PowerPC products: "We are an Intel house straight up and down," he says. Whoever the buyer is, Mitac says first production is likely to be devoted to OEM customers. "We do not expect to mass produce this model under the Mitac brand-name this year," says one official. Despite this, the company plans to introduce a faster version of the machine at Comdex Fall, presumably using the 100MHz PowerPC 601.

MULTIFLOW'S TECHNOLOGY STILL LINGERS ON BEYOND THE GRAVE

In the wake of the new HP-Intel alliance, long-dead Multiflow Computer Inc is reaching out from beyond the grave to prove that its influence still lingers on. Multiflow turned up its toes in March of 1990 after a deal with DEC that might have prolonged its existence fell apart. A few months before, in December of 1989, Intel had licensed Multiflow's compiler technology. In March it was DEC's turn but that was the self-same quarter DEC turned in its very first loss ever. DEC reneged on Multiflow, Multiflow ran out of operating capital and hit the wall, DEC was able to come back later and license the same stuff more cheaply. To satisfy creditors, Multiflow's chief executive Don Eckblahl and chief financial officer Alan Donohue set up Technology Licensing Inc in Old Saybrook, Connecticut to manage Multiflow's intellectual property. It continues to license technology stemming from Multiflow's four patents on Very Long Instruction Word architecture and its Trace Scheduling C and Fortran compilers. Besides DEC and Intel, current licensees include HP, Fujitsu, Hitachi and NEC. The technology has reportedly been applied to supercomputers, workstations, PCs, DSPs and embedded processors. The rest of the Multiflow team scattered. Co-founder Josh Fisher went to HP where together with Bob Rau, founder of erstwhile Multiflow competitor Cydrome (UX No 128), he is believed to be key to HP's wide word efforts and its deal with Intel. Multiflow designers also went to Silicon Graphics where they have reportedly been instrumental on the TFP design, the high-end MIPS chip that just came out as the R8000 (UX No 491) and to Intel where they have been working on the infamous P6 chip, which Intel claimed recently is finished. Multiflow's former VP of engineering John Setel O'Donnell now runs Seattle-based Equator Technologies Inc, a consultancy helping companies use Multiflow technology. Multiflow built machines capable of 7, 14 and 28 operations per cycle. Unfortunately they were not object code-compatible, creating problems never resolved by the company. Perhaps the distinguishing feature of VLIW technology is the way it reduces on-chip complexity by pushing the work out into the compilers. Although HP, which initiated the alliance with Intel, waxed eloquent on VLIW techniques the end of last year when it was still on its own and envisioning its anticipated PA-9000 chip, it now declares that what it is building with Intel is not a VLIW chip but rather a descendant or evolution of VLIW coupled with technologies they haven't invented yet. But experts like O'Donnell reason that their first task must have been to address how different-width VLIW can run the same software. O'Donnell also contends that whatever they build might run both x86 and PA-RISC software but doubts its performance capabilities.

VMARK SOFTWARE CONSIDERS DIFFERENT BEACHHEADS FOR ITS RUSSIAN INVASION

VMark Software Inc is aiming to establish an office in Russia - probably a joint venture - in the next few months. VMark European managing director Sylain Pavlowski said the company had used a US consultant living in Moscow to handle the bureaucracy and was just awaiting a final OK from the US. VMark currently has a handful of working Pick-under-Unix Universe installations in Russia, including two hotels, two production companies and two banks, but the company only localised the package in December. Pavlowski said VMark was currently evaluating two options: either to localise western application packages or to recruit Russian distributors who could develop their own applications, and that the Natick company had yet to decide exactly where the emphasis should lie.

DEC SIGNS INSIGNIA TO DO SOFT WINDOWS VERSION FOR ALPHA AXP

Digital Equipment Corp has turned to Insignia Solutions Ltd for an iAPX-86 emulator for the Alpha AXP RISC family. DEC has signed Insignia to do a version of SoftWindows for the Alpha so that its users can run MS-DOS and Windows applications. It is claiming the same level of personal applications performance as users get on 80486 machines. MS-DOS 6.0 and Windows 3.1 are built in. It is being marketed by both companies, and will be ready for DEC Unix systems in mid-summer, OpenVMS by autumn.

ICL TO JOIN SUN-FUJITSU AXIS

ICL Plc expects to join the Sun Microsystems Inc-Fujitsu Ltd alliance in a few week's time, and will contribute to 64-bit Sparc development and other matters (UX No 484). ICL will bring its knowledge of the European market to the deal, and says it will contribute certain unnamed intellectual property rights. Meanwhile, Sun was unable to respond to enquiries about a Japanese newswire that landed here last week (sometimes unreliable in our experience), which has Sun and Fujitsu planning a November announcement about co-developing next-generation engineering workstations. Comline (sourcing the *Japan Industrial Journal*) positions this as the second installment of their April tie-up (UX No 484, and see above). Meantime, again in a few weeks, ICL will also disclose details of an OEM deal it has struck with one of the US firms it was courting on a US tour around UniForum time (UX No 481). The company says it also plans to implement a common PCI input-output bus across its Sparc and Intel-based TeamServer and SuperServer machines over the next couple of years. New 90MHz and 100MHz Pentium-based models and 60MHz SuperSparc-based boxes will follow later this year, followed by 133MHz and 155MHz Pentiums by the middle of next year, and P6-based systems in the second half of 1995. On the Sparc side, ICL will use the 64-bit HaL Computer Systems Ltd Sparc in workstations and servers built in collaboration with the Fujitsu clan. First machines will be uniprocessors and are touted as four times as powerful as current ICL uniprocessors. Release 1 of the HaL Sparc is slated as a multichip module with six chips on a single substrate, including one for memory management, two caches, and one CPU- it also has a whopping 25m transistors.

TATUNG ADDS SPARC 20-COMPATIBLES

Matching Sun Microsystems Inc step for step, Tatung Science & Technology, Milpitas, California, has added new Sparcstation 20-compatible systems in the form of the SuperCompStation and SuperCompServer 20. Two desktop and two servers versions of the uniprocessor use 50MHz and 60MHz SuperSparcs and will ship in July - SMP systems are due later in the year. The desktop 20A-50 is rated at 69 SPECint92 and 78 SPECfp92 and is priced at from \$12,500 with TurboGX graphics, 20" colour screen, 32Mb RAM and 520Mb disk. The 60MHz 20A-61 goes to 89 SPECint92 and 103 SPECfp92 with TurboGX graphics, 20" colour screen, 1Mb cache, 32Mb RAM and 1Gb disk. Both can accommodate 512Mb RAM and 4Gb disk. Server versions - 20A-50 and 20A-61 can take up to six hard drives and nine Sbus slots. The 50MHz server starts at \$12,500 with 32Mb RAM and from 1Gb to 12Gb disk.

HP TOPS-OFF X TERM LINES...

Hewlett-Packard Co is adding new high-end models to its entry-level Entria and Envizex workstation companion Intel Corp i960 RISC-based X terminal lines. The Entria line, introduced earlier this year and positioned as a terminal upgrade product for character-based systems - it has offers 3270 trade-up - is topped-off new 1280 x 1024 17" and 19" colour systems performing 133k Xstones. With 4Mb RAM, the 17Ch is \$3,900 - \$4,200 with 8Mb; they can accommodate up to 68Mb. The 19Ch with is \$4,400 with 4Mb memory - \$4,700 with 8Mb. In addition, the Entria models require HP's Enware X server software to run, a \$1,200 bundle, now at release 5.2 comprising X station software with new local features (\$700) and X terminal manager 1.0, a local Visual User Environment-based window manager (\$500, one copy required per customer site). The Envizex line, HP's high-end X terminal line, gets a 20" colour member, the 1280 x 1024 20CaS, going to 165k Xstones at from \$5,200 with 4Mb RAM, \$5,800 with 8Mb. It has an optional floppy drive, SCSI interface and audio kit.

...AS HDS OFFERS WINDOWS, MAC SUPPORT ON ULTRAS

King of Prussia, Philadelphia-based Human Designed Systems Inc will this week unveil new ViewStation Ultra X terminals which can run Windows and Mac applications locally from floppies if the host has Insignia Solutions Inc SoftWindows or Mac Application Environment. HDS says the i960-based X terminals offer 152,000 Xstones performance. The series comes with 8Mb standard and goes from \$1,800 for the 14" colour model to the \$3,600 19" monitor. +1 610 275 5739.

OSF FIRMS SEEK TO DOWNSCALE OVER-AMBITIOUS DCE PLAN

Firms involved in the reported Distributed Computing Environment 1.2 Pre-Structured Technology (PST) process over at Open Software Foundation are understood to be looking at ways they can downsize the already swollen project (UX No 485). The organisation's new charter ties new technology development under OSF auspices to funding pledged by participating companies. According to insiders, the DCE would-be's balked at the spreadsheets from their first run at the stuff and are now looking at paying for a reduced set of technologies. They're also trying to decide between IBM Corp and Hewlett-Packard Co as prime contractor on the project. Even so, the cost will not be less than the \$10m spent on doing DCE 1.1, it's reckoned. OSF was intending to describe its plans for DCE next month. Although OSF is now also home to COSE and the Common Desktop Environment initiative, its recent metamorphosis doesn't seem to have engendered a new sense of vision. What is OSF but DCE, and to a lesser extent CDE/Motif? It's a question some there have given up waiting for an answer to; and they warn OSF is in danger of losing some of the political goodwill it earned during the New OSF process, raising the spectre of DME. The New OSF needs to prove itself as a credible industry body and OSF chief David Tory especially needs a success: he remains more optimistic than some of his reports, we hear. One thing's for sure: it won't be OSF/1 that carries the organisation forward. Although OSF, good to its word, got OSF/1 1.3 out of the door last week (UX No 472), insiders admit OSF/1 has "no future" beyond the efforts of Ira Goldstein's Research Institute programme, observing that there's no real OSF/1 team any more, and that some of its former members are now finding jobs vacated by DCE engineers. In any case there's no will - let alone funding - to do any further OSF/1 development under the terms of the new charter, although OSF will continue to benefit from DEC's OSF/1 royalty stream until such time as the Maynarder hangs up that hat, buys it out or changes it unrecognisably. OSF says the Spec 1170-conformant release 1.3 microkernel retains some 97% of OSF/1 commands and libraries and Unix services. It has a new mechanism for gathering system performance information and a kernel interface for network device drivers.

CONVEX C4/XA OFFERS 1 GFLOPS FROM GaAs UNIPROCESSOR

As expected (UX No 485), Convex Computer Corp, Richardson, Texas, has announced its next-generation line of vector minisupercomputers, the C4/XA series, claiming it includes the fastest single-processor air-cooled computer built, with the Gallium Arsenide uniprocessor claimed to deliver over 1 GFLOPS at a \$750,000 base price with 250Mb RAM. A four-processor combination will cost up to \$2.7m with 2Gb RAM. The uniprocessor is about half the price of the C3 model it succeeds and can run up to six times faster, and the company hopes to upgrade most of its 1,300 C2 and C3 user sites to it. It says three are out already with users - it has some 1,300 C series customers and over 1,300 applications up on the line. The air-cooled CPU has 350,000 gate arrays and performs at a claimed 1.4 GFLOPS running ConvexOS 11.0 Unix. Although C4 and its predecessors use a totally different switching system to the company's massively parallel HP Precision Architecture RISC Exemplar system - which offers 4Gbps throughput compared with C4's 1.2Gbps - Convex plans to merge as much of the technology in the two systems as possible over time, aiming to make them as seamless as possible as far as users are concerned. The two systems already share compilers and C series applications will run on the Exemplar's SPP-UX, HP-UX-compatible operating system with a recompile. Nevertheless, Convex expects to continue iterating the GaAs line as long as customers demand it. Some are simply not ready for the move over to parallel architectures, the company says. They may be dependent on code from third party vendors that have no plans to parallelise their software, or have written their own custom software specifically for the C series environment. In any case, vector processing still has a place, the firm argues, because of its performance and suitability for certain types of applications, though MPP RISC technology is gradually closing the gap, it says. Exemplar, which is still in beta testing, is now up to 710 MFLOPS in Linpack 1000 x 1000 testing in an eight-way arrangement.

(PART II: YES, OMG IS FAILING THE MARKET WITH CORBA)

Over the past few weeks, Dr Katy Ring, the editor of our sister paper Software Futures, has provoked debate by raising the question of whether the Object Management Group is answering the needs of the object market (UX No 490). Alan Pope last week stated the case on behalf of the OMG, and Katy has stepped in again to back up her claims.

I personally find it very interesting that of all the (some very heated) responses to my article, nobody (aside from those ringing in support) appears remotely interested in addressing the central argument of the piece which concerns the marketing of CORBA. That silence itself might suggest that I am correct in thinking that the OMG has some serious problems to address in terms of communicating its message to the wider market.

OO backlash

But enough of the personal, lets get on to the professional task in hand, the rebuttal of the rebuttal. First and foremost my article was never intended to form part of that curious genre of IT journalese gaining prevalence in the US which is widely referred to as "the OO backlash" (and maybe the mighty wrath of the IT powers that be would be better directed at those writers and publications?) such as the recent lead article in Byte (see also July's Wired). I completely believe that the future of software development lies with OO technology and I also think that the success or failure of CORBA is of crucial significance in the take-up of that technology. It is because I believe CORBA to be of such central importance that I wrote the article in the first place. I also believe along with Alan Pope that people need to be well informed about this technology and its place in the "big picture".

And so to specifics: Alan says that by defining the difference between static and dynamic binding as the resolution of external reference by library look-up at compile or runtime I am misleading people. He goes on to cite the fact that some dynamic library implementations do not attempt resolution until the reference is used. As I understand it this is an optimisation option within the dynamic invocation method and although I can see that in the pedantic sense this challenges my definition I don't see that it really jeopardises it as a working definition for my readership (who on the whole are not at the bleeding edge of research, they simply have to buy and implement its results). However, for the greater good of clear, concise communication perhaps somebody could volunteer a better definition?

Alan Pope then goes on to say that it was careless of me to equate dynamic marshalling to the dynamic model as dynamic marshalling is frequently desirable and done in a static invocation model. Well yes and no: as I understand it dynamic marshalling is done by both static and dynamic binding as the static model has marshalling in the stub code but it is generated by the IDL compiler and fixed for each invocation. For example, in the Orbix product from Dublin-based Iona DII stubs are passed into a Named-Value list and their marshalling deferred until Request : : invoke is called, while static arguments are marshalled directly.

Difficult job

Alan then goes on to suggest that I have overstated the argument concerning the practicalities of implementing the OMG's Dynamic Invocation Interface (DII) for ORBs built on a static model. It seems that we are all in agreement that dynamic implementations are typically slower in performance as there is a large overhead involved in supporting DII. Steve Vinoski in the July-August '93 edition of the "C++ Report" concluded that "for an operation with no arguments and a void return type, the DII requires a minimum of two function calls, at least one of which may result in a RPC. There is also the overhead of the DII having to interpret the request, not to mention the bulky application code required to implement this series of steps. For most applications, especially those written in a compiled language like C++, it is far more efficient to make requests through static IDL stubs than through the DII."

Now this large overhead required to support DII involves a lot of coding to handle runtime interface parsing and type checking. This is not simply a "distasteful" job as Alan implies, some companies also find it a difficult one - particularly in terms of coding it in such a way that users do not create memory leaks. What is more, its difficulty can be language dependent, a fact that even the OMG's own CORBA spec can be inferred to hint at when it says: "The nature of the DII may vary substantially from one programming language to another."

C v C++ mapping

And so we arrive at the argument surrounding IDL, C and C++. Alan puts forward his view as follows: "OMG first specified a C mapping and are hard at work on a C++ mapping. C is a static language, as is C++. So, by definition, if one were to run the DII through the IDL compiler, one which generated a C mapping, the result is a static language representation on which to implement. The only 'difficult' part of such an implementation is in dynamically identifying parameters by their type. But this is easy in IDL because it pre-declares a dynamic type called an 'any'."

OK so we are agreed that C++ functions can have the same name but different parameters and it is only a small step from there to deduce that calling C programs from C++ is easier than calling C++ modules from C. It could also be argued that C is therefore an easier language in which to implement late binding and that if you go further down that path of reasoning then mapping between C and C++ is difficult. Which brings us back to my original question, which was why oh why was the first specified IDL mapping to C? And is this a sensible departure point for CORBA?

Extremely disappointed

Alan argues that the fact that the first specified IDL mapping is to C makes no difference because of the dynamic type 'any'. I beg to differ and I am not alone: Talking of the Orbix architecture Iona explains its compliance to CORBA and comments: "Although 'any' and 'TypeCode' only receive short descriptions in the CORBA specifications, their implementation is complex and comprises a major part of the runtime source code." HP's Steve Vinoski goes further in his company's "A Review of the IDL C++ Mapping Submissions" presented to the OMG where he says: "HP is extremely disappointed that the 'any' mapping that we presented to the other submitters during the attempts to negotiate a single merged mapping has been completely ignored and left out of the final submissions. During these negotiations, HP agreed to several changes to the 'any' mapping in order to accommodate the needs and wishes of some of the other submitters. Several submitters have since voiced the opinion that the HP 'any' mapping is a far better approach than what is described in either of the final C++ mapping submissions.

"In a nutshell, the HP 'any' mapping provides type safety. It prevents application developers from having to typecast void pointers and thus prevents runtime type errors. The added cost of this safety is minimal; indeed, it is no more costly than what a careful user must do to prevent runtime typecasting errors with the 'any' mappings proposed by the final submissions."

Elsewhere Vinoski clarifies HP's position regarding the C, C++ compatibility issue, explaining: "On the surface it appears that mapping object references to pointers in both C and C++ allows them to be freely exchanged between the two languages, but this is not the case. In fact, the ability to directly exchange C++ pointer-style object references with C would require non-trivial changes to CORBA 1.1 C language mapping." The opinion is expressed that "some would much rather create a workable C++ mapping than cripple it for the sake of dubious C interoperability."

Incompatible ORBs

Alan next brings us to my contention that "the OMG is attempting to arbitrate between what are beginning to look like increasingly incompatible ORB technologies built in C". In my defence I refer to the quote above and to Iona's contention that the C language binding in CORBA 1.1 is "cumbersome and not particularly easy to use."

OMG - JOCKEY FOR IBM SOM STABLE?

Alan is correct where he says that "the mapping does not dictate either the language used to implement an ORB nor the language used to implement an ORB client". However, it seems a common sense notion to presume that if a library is provided in C that its clients will also be written in C and to date CORBA specifies C functions not C++ functions. What is more, in its own specifications for CORBA the OMG appears to recognise that a C interface is not intuitive to an OO environment where it says: "The most natural mapping would be to model a call on an ORB object as the corresponding call in the particular language. However, this may not always be possible for languages where the type system or call mechanism is not powerful enough to handle ORB objects. In this case, multiple calls may be required. For example, in C, it is necessary to have a separate interface for dynamic construction of calls, since C does not permit discovery of new types at run-time."

Joke

To suggest, as Alan does, that I do not understand the OMG process of technology adoption has to be a joke since I spent a great deal of time watching the process for CORBA 1.0 and can reference previous articles to that effect. I am well aware that submissions to the OMG are based on existing implementations (though not necessarily commercially available implementations). So while I take his point that if "no one has an implementation of an IDL to Cobol mapping, then a Cobol mapping is not made a part of the specification", one of the main points of my article argued that we now do have C++ mappings but they do not operate very efficiently if they have to embrace the existing IDL C mapping.

I also mentioned in my article that the weaknesses of CORBA 1.1 are being addressed in CORBA 2.0 but argued that it is taking OMG too long to get version 2.0 out of the door. And I will not accept the argument that there are no ORB implementations offering functionality such as security and event handling because there are - DOME from OOT is one example that springs to mind.

Interoperability - the ticklish problem

Next we move on to the interoperability issue. Alan claims that as I am suggesting that vendors be given the freedom to map C++ to IDL as makes best sense for their product interoperability between ORBs would become more difficult. In fact I am puzzled by Alan's logic here since if the main issue for ORB interoperability is a standard mapping to a language then every ORB with an OMG approved C interface should interoperate and they don't. So why can't the OMG simply outline the IDL side of the mapping and leave vendors to decide how their use of C++ can reach it.

As for interoperability the OMG itself explains the problem in the CORBA spec: "In general, there is no single protocol that can meet everyone's needs, and there is no single means to interoperate between two different protocols. There are many environments in which multiple protocols coexist, and there are ways to bridge between environments that share no protocols. These same truths will hold for ORBs as well."

Well this is a ticklish problem isn't it? Noble though it is, Alan's suggestion that "a single industrious vendor could build an ORB that spanned across all systems in all protocols and provided IDL mappings for all languages" is unlikely to be realised and in the meantime we appear to be stuck with ORBs that cannot communicate meaningfully with each other. It is all very well to suggest that ORBs can communicate via RPCs or ISDN but at the end of the day then ORBs are talking to another system not to another ORB. To communicate properly ORBs must be able to pass object references to each other. In fact I think an awful lot of people would be shocked if they realised that CORBA 2.0 does not provide such interoperability. The market is looking to CORBA 2.0 to save it from vendor wars and without interoperability it fails to do this.

Shoot-out

So where does this leave the market? Well, would you believe it, we have a shoot out shaping up between IBM and Microsoft for de facto control of the market for ORBs. That is on one side we have the C/Unix/Old/ Big Business/ US Hardware Vendors versus the C++/PC/New/Small Business/ US Software Vendor. But don't take my word for it, go and see Object Magazine Feb '94 issue where David Taylor, a respected US spokesperson for object technology, says "within two months of the release of SOM 2.0, a partnership was announced among IBM, HP and SunSoft to make SOM the standard distribution medium for reusable objects. This announcement has triggered support from other vendors, so the possibility of a de facto standard for class distribution is definitely there." The only serious industry hold-out is Microsoft, which as usual is heading in an entirely different direction with its OLE-type features in Cairo..."

In my opinion the OMG stands a much greater chance of retaining its influence over the OO community if it stands up and says that backward compatibility between the C and C++ mappings is further delaying CORBA and so the decision has been taken to make a clean break. Otherwise the OMG and CORBA could become a tiny skirmish in the ongoing war between IBM and Microsoft.

So in conclusion I will answer my own rhetorical question. Yes the OMG is failing the market with CORBA because it cannot provide interoperability and therefore cannot insulate customers for OO technology from vendor wars. Its failure to capture Microsoft's attention on the one hand, or to act as an effective lobby for customers of OO technology on the other has left it in the untenable position of riding as the jockey for IBM's SOM stable. This summer the stakes are high for the OMG but everybody involved in this debate should remember that the odds were set by the marketplace and I am just commenting on the form.

TOWER DRIVES EIFFEL TO OO WITH RAFT OF THIRD PARTY DEALS

Austin, Texas-based Tower Technology Corp has been busy. Its implementation of the Eiffel programming environment, TowerEiffel, which comes with an Eiffel 3 compiler and also supports C, C++ and ObjectiveC, is up on NeXTStep 486 in addition to Sun and OS/2 platforms, priced at from \$1,300. A Motorola NeXTStep version will follow. Meanwhile, Booch Components, an object-oriented library previously only available for C++ and Ada is now up on Eiffel following a development effort by Tower and Rational Software Corp. Both firms are selling the components at from \$1,000. Tower has also teamed with the Mountain View, California division of Versailles firm O2 Technology Inc SA, France, to integrate the Tower development environment with O2's object database. The two will develop an Eiffel class library that provides direct access to O2 from Eiffel programs. Tower is also collaborating with Austin neighbour Pencom Software on developing NeXTStep-based object solutions. Tower - formed by the merger of Tower Associates and Rock Solid Software in 1992 - has signed new distributors in Germany (SIG Computer GmbH, Munich: +49 6472 2096), Ireland (Eiffel Ireland, Dublin +353 1282 3487), and the UK (Everything Eiffel, Wesham, +44 772 687 525). Other European and Far East outlets are being sought. Tower, which has some 35 customers of its Eiffel system, says there remain far more Eiffel users in Europe, but hopes that with the opening-up of the formerly proprietary language and performance enhancements, it'll appeal to users that want a more rigorous OO paradigm than that offered by C++. Tower's Eiffel compiler competitors are California firm ISE, SIG (also now a Tower distributor) and UK firm Eon. Indeed, ISE claims to have shipped over 500 copies of a Windows Eiffel implementation it's selling for \$50. The Eiffel community - around 5,000 licences have been sold in its five or six-year existence - is served by around 25 to 30 ISVs, distributors and integrators. O2 US: +1 415 969 2333. Tower: +1 512 452 9455.

INTERCON HAS TCP/CONNECT II FOR WINDOWS ACCESS TO UNIX, MAC, OPENVMS

Herndon, Virginia-based InterCon Systems Corp has announced TCP/Connect II for Windows, which is a TCP/IP communications offering that is said to give Windows users access to alien systems including Unix, Macintosh, OpenVMS and MVS systems, and other TCP/IP hosts. According to InterCon, the product includes Network File System client and server functionality, providing transparent access to files and storage devices located on the network. It will also enable users to exchange files, electronic mail messages and share network services, such as printing, with any system that supports the TCP/IP protocol, says the company. The product is implemented as a Microsoft Corp Windows Dynamic Link Library, enabling it to work with the Windows memory management facilities and run primarily in high memory. It is also said to support the Windows Sockets - WinSock - applications programming interface, which should enable users to add other utilities, protocols and applications. The software can run Windows applications and memory-resident MS-DOS applications. It is said to support Ethernet and Token Ring networks and network operating systems including Novell Inc NetWare 3.11, LAN Manager, Banyan Systems Inc Vines, Digital Communications Associates Inc 10-Net and DECnet and SLIP for wide area network connections. The product is shipping now and costs \$500.

OPENVISION ENHANCES DISTRIBUTED SERVICES

OpenVision Inc has given its OpenVSpooler print management software a new graphical interface: the package is \$3,200 with each systems agent at \$100. A new OpenVAccounting module allows users to track and account for use of resources across an organisation. It's priced at from \$10,000 - plus \$100 per agent. The Pleasanton, California-based company has also enhanced its OpenVNetBackup software with extended support for hierarchical storage management, which transparently moves less active files and data to storage to minimise backup transfers. It's added an enterprise extension, which can send files on to remote management applications for network-wide access. HSM extensions and enterprise extensions are bundled with OpenVNetBackup from \$20,000 and \$10,000 respectively.

SUN'S SUCCESS MEANS NEW PARTNERS MUST BRING SOMETHING GOOD TO PARTY

Sun Microsystems Inc has now notched up over 2,000 installations of its workstations and servers in the Commonwealth of Independent States, according to the company's local sales manager, Isaac Oak. Oak said most customers were coming from the aerospace and automobile and other heavy industries, and the banks, which he said were "buying like crazy". Sun currently has 20 resellers in the former Soviet Union and is recruiting at a rate of about one a month. Oak reported that business had increased sharply in the last 12 months and that the company was now interested in hearing only from partners that had specific vertical market application software to contribute.

WORDPERFECT SETS RUSSIAN OFFICE; OUTLINES OTHER EAST EUROPEAN PLANS

Wordperfect Corp is pressing ahead with plans to establish an office in Russia by the year end, despite the Novell Inc takeover, according to Michael "Corey" Freebairn, regional director of Africa, India, the Middle East and, currently, Eastern Europe. However he said that it remains "up in the air" as to whether the company would share its facilities with Novell or push ahead with its previous plan and open up offices independently in Russia, Hungary, the Czech and Slovak Republics, Romania and Bulgaria - where the firm is now working solely through distributors. Novell is also working to establish direct representation in the region. Poland, where it set up an office at the end of 1993, remains Wordperfect's biggest market according to Freebairn, with the Czech Republic and Russia (where software piracy is estimated at 98%) close behind. Freebairn has held discussions with the Business Software Alliance regarding the possibility of establishing a branch in Russia. Bob Clough, managing director of Microsoft Corp Russia, is understood to have agreed to chip in \$5,000 and the Alliance's European arm \$10,000, to get the ball rolling.

NEW NETWORK DECISION APPLICATIONS FROM MAKE SYSTEMS

Mountain View, California company Make Systems Inc has announced a new product line of network decision applications for enterprise networks. NetMaker XA, eXtensible Architecture, consists of an applications framework, task-specific tools, and tool-specific 'Plug-ins' to extend the functionality of the tools. The framework comprises a bundled Motif desktop environment from the IXI Ltd unit of Santa Cruz, California-headquartered Santa Cruz Operation Inc, and an object-oriented database on Burlington, Massachusetts-based Object Design Inc's ObjectStore, serving as an application development system for new tools and Plug-ins, says the company. According to Make, it is a client/server-configured system, enabling multiple authorised clients running X-server on any display device to access the system database server. NetMaker XA features an initial range of six data management and modelling tools.

Suite tools

For the decision applications side, Visualiser is a graphical data interpretation tool for managing network data; Interpreter, a traffic interpretation tool for analysing local network-wide area network communications; and Accountant, a financial modelling and accounting tool for collating and allocating network costs. For engineering tools, the range features Planner, a device-specific simulation tool for engineering network changes; Analyser, a modular problem identifier for proactive trouble-shooting; and Designer, an adaptive network designer for optimising enterprise networks. Each tool's functionality can be extended and specialised through 'Plug-ins'. Plug-in formats will be published by Make for use by third-party developers. The first of these comprise SNMP Discovery Plug-ins for Visualiser; Probe product interface plug-ins for Interpreter; a Router Device Library Pack Plug-in for Planner, to enable capacity planning for networks with Cisco Systems Inc, Wellfleet Communications Inc or other multi-protocol SNMP-based routers; and a Network Equipment Technologies Inc. IDNX Device Library Plug-in, which customises XA tools for Redwood, California-based Network Equipment Technologies's IDNX products. NetMaker XA tools are \$8,000 each for the Visualiser and Interpreter, \$11,000 each for the Accountant and Analyser, and \$17,000 for Planner and Designer. Plug-ins start from \$4,000, with the Router Device Library Pack listing for \$6,000; the NET Plug-in will list for \$9,000. All tools are available from June, except the Designer, which will ship in the fourth quarter. The system requires a Sun Microsystems Inc Sparcstation 10/40 file server running SunOS 4.1.2. And Make also announced that it is to convert its NetMaker XA line to run on the IBM Corp RS/6000, which should be ready any day now, it said.

FUJITSU AND HP MARKET MIS SOFTWARE

Fujitsu Ltd and Hewlett-Packard Co are to work together to market Fujitsu's Unix-based Exekit strategic information and management system: known in Japan as Manasus, and originally available on Fujitsu mainframes, the software was implemented for the DS-90 and S (for Sun) families of Unix machines last year, and according to Fujitsu has been well received. This is the first time that Fujitsu has planned to offer its own software to another line of Unix machines, but Hewlett-Packard's SoftBench middleware was converted for Fujitsu's machines last year; shipment began in December; Exekit will be available from around \$6,000 for a single-server-single-client implementation, and Fujitsu hopes to sell 500 systems in three years.

LSI LOGIC DOING CUSTOM VERSION OF MIPS RISC FOR SONY'S PLAYSTATION

Sony Corp last week revealed that LSI Logic Corp is the chip beneficiary of its ambitious plans to enter the games player market. Sony Computer Entertainment unveiled the CPU for its planned PlayStation CD-based home video game system, which it calls the PlayStation CPU. Sony credits the 0.5-micron silicon process and proprietary LSI Logic CoreWare approach to system-level design methodology for the claimed superiority of the chip. It is based on a 32-bit R-series RISC microprocessor core, but also integrates geometric graphics using a Sony-developed three-dimensional geometry engine, and high-resolution full-motion video from the MDEC decompression subsystem based on JPEG technology. Sony reckons the chip delivers 200 MIPS, and that aggregating the performance of the support processors means the PlayStation will deliver over 500 MIPS. The graphics engine is said to be capable of drawing up to 360,000 polygons a second.

MOTOROLA ADDS POWERPC 603, 604 SINGLE BOARD COMPUTERS

The Motorola Computer Group arm of Motorola Inc last week launched its first single-board VMEbus computers based on the ~~PowerPC. The MVME160x family of boards uses the 603 and 604~~ microprocessors and they are aimed primarily at high-end embedded monitoring and control applications. Users can choose a module with either a PowerPC 603 microprocessor clocked at 66MHz or a PowerPC 604 microprocessor operating at 100MHz, and the boards take 8Mb to 128Mb of memory; no prices or availability dates.

NEW iAPX-86 EMULATOR: "PENTIUM SPEED ON POWER MAC"

Lake Havasu City, Arizona - where the old London Bridge luxuriates in unaccustomed splendour across an artificial lake - is an unlikely location for a high technology company with a hot new product, but *PC Week* tracked down Utilities Unlimited International Inc, which claims to have an 80486 emulator for the PowerPC that will enable applications to run on a Power Macintosh 8100 at speeds exceeding current Pentium computers. The firm claims that the software, still unnamed, will offer full 80486 emulation, including the chip's memory management unit, and will need 1Mb memory to run - nothing special on a RISC. It is claimed to run MS-DOS, Windows, OS/2, Windows NT and iAPX-86 Unix. The company says the emulator achieves its performance by applying technologies developed for its Amiga-based Emplant line of Macintosh and 80486 emulators, and includes many functions that would normally be called from the Mac, which improves performance considerably. It claims its emulators are so clever that Insignia Solutions Ltd's SoftPC 286 emulator runs faster within the Emplant Mac emulator than it does running native on a Mac. Utilities Unlimited has also gone back to Basics and written all the code in assembly language, making it easier to fine-tune it. Planned for launch in the late summer, the emulator is expected to cost \$150 or so, but will include only Utilities Unlimited's rewrite of MS-DOS, so users will also have to buy Windows or whatever other operating system they want to run under the new emulator.

GLOBETROTTER OFFERS NEW LICENCE MANAGEMENT MODULES

Globetrotter Software Inc, Cupertino, California, has debuted the third generation of its Flexible Licence Manager software, Flexlm 3.x, plus new modules, Flexmeter and Flexwrap. Globetrotter says the latest Flexlm release enables ISVs to leave the task of generating software licence keys to distributors and resellers. Embedded in an application, Flexlm allows licence usage policies to be configured for groups of customers without changing application code. Flexmeter apparently counts and controls the number of times a program runs and records any other attributes an ISV wants to measure. Globetrotter says it secures the distribution of licence keys and metering of software using a hardware module attached to a serial port or comes as a software-only solution for applications that don't require such high security. Flexwrap, meanwhile, is designed to allow administrators to wrap Flexlm around applications that don't have an embedded licence manager to ensure a piece of software being used within its licence terms. Flexlm 3.x is from \$5,000 to \$13,800 depending on platform. Flexmeter is \$8,000 plus \$120 per optional hardware module. Flexwrap is \$1,000 for up to 100 licences. Flexlm developer Globetrotter secured all marketing rights to the software from Highland Software back in January. +1 408 255 5616.

VISIX EN FRANCE, SEEKS JAPANESE BOSS

As expected (UX No 470), Visix Software Inc has established an operation outside Paris in France as part of its planned commitment to establish direct operations around the world to sell and support its Galaxy Application Environment development environment. Former IDE staffer Olivier Cavrel joins as country manager with the task of selling Galaxy into French financial services, insurance and telecommunications markets. The Reston, Virginia company says it'll establish a German office within a year and has been casting around for a country head of a Japanese operation it plans to open there in 1995. A Kanji version of Galaxy is in beta. Meanwhile, James O'Leary has joined Visix as VP marketing from Software AG, a position it says it's been trying to fill for sometime. Visix is lauding the success of its UK operation, claiming the unit, headed by Jon Forrest, has won the last 14 evaluations where it's been pitched against rival Neuron Data Corp. Visix has got Stephen Foley from Cognos Software for VP North American sales.

CRAY USING LACHMAN SOFTWARE TO DEVELOP STORAGE MANAGEMENT...

Cray Research Inc has licensed Legent Corp's newly-acquired Open Storage Manager software which it'll use to develop a hierarchical storage management system combining the former Lachman Technology software with its own Data Migration Facility technology. It'll also distribute OSM 1.1 on Solaris for Legent.

... PUTS FORTRAN COMPILER UP ON SOLARIS

As expected (UX No 477), Cray Research Inc is to put its Fortran 90 CF90 compiler up on Solaris 2.3 on its SuperSparc-based SuperServers and Sun Microsystems Inc systems from August via its CraySoft software division. Other ports will follow. Cray has Visual Numerics Inc selling the Sparc version and developing interoperability between it and IMSL Fortran 90 libraries. Pricing is \$1,000 until the end of September when it goes to \$1,300. Meanwhile, Cray has signed Absoft Corp to develop and market iAPX-86 and PowerPC Mac versions of the compiler.

COROLLARY SMP CHIP SET IN SIGHT

Corollary is beginning to see the light at the end of the tunnel as far as work on its much-altered C-bus II project goes. Although it is not yet production-ready and needs another turn before it is shippable, Corollary has finally started to send working samples to key OEMs. The widgetry, started many months ago, was originally intended to offer OEMs a ready-made SMP platform using 50MHz 486 Intel chips and two off-the-shelf support chips. Well, technology's high watermark raced ahead of Corollary forcing the C-bus II to be recast. It's abiding purpose is still symmetric multiprocessing but by now it's using P54C chips, either the 90MHz or 100MHz varieties, and four support chips, two custom-made by Corollary: a one-chip memory controller and a C-bus II to PCI bridge chip. It will also provide a Cache Memory Bus Controller and two Data Path Exchange chips, as originally intended. Corollary will also supply, as it usually does, an MP-specific boot ROM and also the MP BIOS stuff that OEMs used to have to supply themselves thanks to an arrangement with Phoenix Technologies, or rather its recently acquired Quadtel arm, to produce PhoenixBIOS 4.0 support. Phoenix' work will supply PCI and Plug-and-Play support. Corollary president George White says C-bus II should be in pre-production by October. Although it will support the upcoming OS/2 MP, Solaris-on-Intel, UnixWare II, the SMP NetWare demo'd at Novell's Brain Share summit in April and SCO Unix, its primary application will be NT machines, Corollary says. The company, which says Daytona works on the chip set, expects the NT market to come into its own next year. Corollary has signed a handful of vendors to use the thing including Siemens Nixdorf, Olivetti and Hitachi. The European companies are likely to create systems that start at four processors. Hitachi, however, could start at eight though it remains to be seen whether the Japanese company sells any of the boxes outside Japan owing to poorly developed distribution channels. Corollary sees C-bus II machines ranging in price from \$10,000 to \$70,000 with SCO at the higher end. OS/2, Solaris and UnixWare, it feels, are more decorative than real.

ORACLE 7 7.1 THIS WEEK

In the wake of Oracle Corp's Oracle 7 Release 7.1 announcement this week, Sequent Computer Systems Inc is expected to provide details of the immediate availability of the parallel database server software on its Symmetry 5000 series commercial multiprocessors. Sequent has been showing the software in beta form for several months and says the Parallel Query and Parallel Backup/Restore Utility included in 7.1 works in conjunction with its own ptx/Backup software. Sequent says a Symmetry 5000 rigged with 22 66MHz Pentiums, 1Gb RAM and 326Gb disk achieved 1827.3 tpsB against the TPC-B benchmark suite - or \$1,500 per tpsB.

ARIES OFFERS SPARC 5 COMPATIBLES

Aries Research Inc has introduced its Sparcstation 5-compatible as the 85MHz Marixx MS/85: the microSparc II MS line will replace the Fremont, California company's existing Parrot Sparc line. MS/85 users will be able to upgrade to Sparcstation 20-compatible systems via a motherboard swap, the company says. The MS/85 with up to 256Mb RAM, three Sbus slots and support for two hard disks starts at \$3,800 and ships in the third quarter.

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Digital Equipment Corp International (Europe) says it is on target with planned cuts of 6,000 jobs by year-end and warns that industrial inaction by employees will not lead it to change these plans: earlier this month, a delegation of 350 DEC employees from several European countries demonstrated at the company's Geneva headquarters to complain about "chaotic management decisions," but the Digital Equipment European Works Council says that new chief - and long-time IBMer, the Works Council points out darkly, pulled out of an allegedly agreed meeting with the delegation "at the last minute"; the employees are demanding job sharing and an end to compulsory redundancies.

Inmos Ltd is expected to start making its delayed 30MHz T9000 transputers generally available next month; a 40MHz version should materialise by the end of the year.

Borland International Inc wants a marketing partner for its InterBase Unix server product, but does not intend to sell it; it also plans a Windows version of InterBase; chairman Philippe Kahn said he doesn't plan to sell the firm.

NetWork Managers Ltd says it has withdrawn its NMC 6000 network management tool for IBM Corp RS/6000s from the market because it wants to concentrate on developing and marketing its Microsoft Corp Windows NT-based NMC 4000 product. The Guildford, Surrey company reports that it has sold only tens of the AIX-based product although it has shifted some 2,500 copies of the SunOS-based version.

Sun Microsystems Computer Corp has a reseller agreement with financial software supplier ACT Financial Systems Ltd to offer Sun's entire Sparc-based workstation and servers.

Shares in Santa Clara, California-based **Veritas Software Corp** fell almost 40% at one point after the company said its third quarter will be hurt by its failure to reach a licensing agreement with IBM Corp's Workplace Operating System group. It had been in talks since early 1993 about licensing its storage management products to the group - "While we have been told we won the technical competition, IBM just informed us that they have decided to develop this technology internally," Veritas said.

Well, **Uniforum** still hasn't picked a management company for the show despite the fact there's only nine months left before show time. We understand it's a toss up between Unix Expo organisers Blenheim and Reed, which last we looked doesn't have anything in the computer space right now.

We think we're right about **Kendall Square's** planned PowerPC conversion. If the company lasts that long, observers say.

We understand **Hewlett-Packard Co** technology partner **Convex Computer Corp** has been working on the VLIW wide word technology that'll feature in the HP PA 9000 RISC and future HP/Intel merged architecture (UX No 491). Indeed, much of the work to meld the processor families into a post-RISC and CISC unit will be done in the compilers.

ICL Plc is porting Oracle Corp's Oracle Media Server to its Goldrush massively parallel database server for use in video on demand.

Frenchman Bernard Guidon is replacing Gary Eichhorn as general manager of **Hewlett-Packard Co's** workstation group. Guidon has run computer systems marketing Europe for two years, and is former head of the business server division. He reports to computer group boss Wim Roelandts. Eichhorn is moving laterally to head HP's Medical Products Group as VP and general manager, replacing Ben Holmes, who is retiring. Eichhorn reports to HP boss Lewis Platt.

Yes, **Unisys Corp**, like most of the other commercial Unix vendors is cheesed-off about Novell Inc's lack of understanding of enterprise computing requirements and the delay to UnixWare 2.0. However it's not actively pursuing a licence buyout aka Sun just yet. It's an option, it says, but a course of action a slew of vendors are considering.

ELSA GmbH, Aachen, Germany, will debut a NeXTStep version of its Winner 2000Pro graphics accelerator at NextWorld this week. It supports 1600 x 1200 resolution, 4Mb memory and costs from \$600: NT and OS/2 driver versions are also available, the company says. +1 415 815 7799.

At PC Expo this week, **Integrated Device Technology** is hoping to formally roll-out its 150MHz Mips Orion RISC previewed at Comdex: our sister publication *Client Server News* hears IDT is trying to ensure it had enough chips on hand to make the announcement. Apparently batches have been arriving regularly for test and burn in since Comdex, and it has some dozens already on hand and ready to ship out. It doesn't want to plunge in, though, until it can fill a backlog of requests for samples approaching 100.

Expect to hear about a Windows version of NetView/6000 this week, plus an SNA Manage and, LAN support for the **IBM Corp** network manager, along with enhanced performance, distribution and workload management.

Elan Computer Group, Mountain View, California, has a new reporting tool for monitoring and managing the use of networked applications: SoftWatch is priced at from \$800 per ten users. +1 415 964 2200.

Ing C Olivetti & Co SpA is OEMing Stallion Technologies' 8-to-64-way EasyStation serial connectivity subsystem for its forthcoming Intel-based SNX network server line.

Following Unix-on-Clipper, Solaris 1 and 2, Windows 3.1, HP/UX and DOS, **Intergraph Corp's** MicroStation 5 is now up on Alpha under NT: a Power Mac port is due this year, with NT on PowerPC not far behind. It's also promised to have Microstation on the RS/6000 under Unix and is eyeing IBM's recent decision to hire Motorola to put NT on the RS/6000. There's no demand for a Mips version, the company says.

After much concern about **Novell Inc's** distributed computing plans, and whether it would sacrifice DCE development on UnixWare in favour of its competing NetWare Directory Services system - it will maintain interoperability between the two - the company has reportedly decided to farm-out development of DCE for UnixWare to Marlborough, Massachusetts-based PC-DCE house **Gradient Technologies Inc**. Gradient will apparently develop an implementation of DCE 1.03 for UnixWare by the end of the year and by mid-1995 plans a DCE gateway for NetWare allowing DCE clients to access a NetWare server through a UnixWare server. It is also readying a native NetWare DCE implementation, though Novell will continue to push NDS via a number of other implementations it has subcontracted.

Following a re-org of **IBM's** WorkplaceOS engineering team, the AS/400 Rochester unit is now responsible for developing an enterprise server running Taligent.

X/Open Co Ltd's user council and board has apparently decided not to include Motif and X Windows specifications in Unix Spec 1170: X/Open is currently reviewing its vendor and customer integration strategies.

Kubota Pacific Corp, Santa Clara, California, has changed its name to Kubota Graphics Corp to more accurately reflect its 3D graphics and imaging business, it says.

According to US reports, **Mobius Computer Corp**, the Unix-on-Intel OEM and Sparc cloner may soon be moving to PowerPC.

IBM Corp has licensed Hewlett-Packard Co's OpenMail messaging system for the RS/6000.

Silicon Graphics Inc reckons delivery of Power Challenge servers with the Toshiba-manufactured TFP R8000 is around three months behind schedule, with two- and four-way systems now in beta. Systems with up to 18 CPUs are scheduled. Challenge server users, with up to 36 R4400s, and Onyx graphics supercomputer users - both share the Power Challenge backplane - will be able to upgrade to the R8000, says SGI. SGI has Irix 6.0 out of the stalls for TFP, an upgraded version of its 64-bit Unix.

Do you reckon that **Nintendo Co** is finished in the games player business? Do you believe that **Sony Corp** will become a force in games machines when it exploits its vast movie and music catalogues to create a stream of fascinating new ones? If you answer no and yes to those two questions, do you suppose it is rank stupidity or purblind ignorance that has people saying that the **Mips Technologies Inc** RISC is finished in the wake of the **Hewlett-Packard Co-Intel Corp** agreement - because both Nintendo's 64-bit and Sony's 32-bit players will use Mips RISC cores, which suggests that by 1996 or 1997, the R-series may well have the largest installed base of any 32-bit or 64-bit RISC processor on the market - and the royalty paid on each sale should be quite enough to meet the cost of keeping the design competitive.

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SILICON GRAPHICS WINS AT&T AS VIDEO SERVER PARTNER

Silicon Graphics Inc always seemed to be among the best-placed of the smaller companies gearing up to fight the multimedia wars - its got a game-plan as long as your arm - and last week the company won a giant leg-up when AT&T Corp announced that it would be forming a joint venture company with the Mountain View high-performance graphics workstation king. The venture, Interactive Digital Solutions, is equally owned by AT&T's Network Systems unit and Silicon Graphics, and its mission is to develop large-scale, interactive video server systems for telephone company networks and cable television systems. It will develop software to integrate SGI's Mips RISC-based media server and system software with key elements of public networks, including such AT&T products as high-speed switches, synchronous transport, broadband access systems and network operations systems. No financial terms were disclosed but the agreement is an enormous boost to SGI's ambitions because AT&T has already been given big multimedia video-on-demand network systems integration contracts by the Pacific Bell subsidiary of Pacific Telesis Group Inc, Bell Atlantic Corp, Southern New England Telephone Co and Southwestern Bell Corp. SGI is already in the driving seat at Time Warner Inc's interactive cable television network trial in Orlando, Florida, where it is supplying servers and other equipment, and is also to equip Nippon Telegraph & Telephone Corp's video trials. Electronic Data Systems has also signed to sell SGI servers. AT&T plans to install a string of video servers in its long-distance network as part of its planned transmission service for telephone and cable companies. AT&T Network Switching systems president Dan Stanzione - also chairman of IDS - says the venture will represent the largest investment made in interactive technologies so far: revenue is between eighteen months and two years away. The value of the alliance - which was mooted in several other forms than a joint venture during the negotiations - to SGI, was immediately apparent as its share price climbed 14% on the announcement. AT&T's capital outlay on hardware alone is between \$3,000m-\$4,000m a-year, Stanzione reckoned. The unit won't develop or market television set-top devices - seen as the gateways into homes - like those SGI is currently developing for Time Warner, though it will provide interoperability with set-tops and may develop operating system technologies for them. Its stuff will also be separate from mechanisms that'll be used to get data in and out of the server. SGI and AT&T envisage cable companies buying the media server, system software and integration services that'll sit on top of transmission systems and interact with set-tops. One question is where the venture leaves AT&T's internal server development: last year, it was talking about a video server that as well as using optical or magnetic disk would use a vast box of memory chips as cache to store complete movies when viewers request them, tied to one of its NCR unit's application processors. AT&T says its Global Information Solutions (NCR) division, having decided to focus on six market segments (UX No 484), will stick to them and won't be doing interactive technologies. IDS will be based at SGI's Mountain View, California building for now, staffed with SGI, AT&T and new hires. Former SGI VP media systems division, James Barton, is IDS' president and general manager.

HP OUTLINES ORB-PLUS OBJECT ENVIRONMENT

Hewlett-Packard Co reckons that within two or three years it should be ready with an object environment known internally as ORB-Plus. It will comprise a CORBA-compliant object request broker written in C and C++ that is similar to its existing Distributed Object Management Facility system except it is based on DCE protocols. A layer of basic object services will sit on top of DOMF to deal with functions like naming and lifecycle. On top of these will sit two further sets of higher-level frameworks: the first will come from Taligent Inc and be written in C++; the second are derived from HP's Distributed SmallTalk environment. This currently consists of a SmallTalk implementation of DOMF plus basic object services. These will be discarded in ORB-Plus, but the Distributed Application Architecture, which dictates how objects are glued together, will be retained, as will existing Motif and Windows GUIs and development tools. Distributed SmallTalk was developed using ParcPlace Systems Inc VisualWorks application builder, which will mean VisualWorks tools work with it. HP is now also selling and supporting other third party tools and is calling its entire object product portfolio, "The Open Object Shop". These products include PowerSoft Corp's PowerBuilder graphical user interface builder and Hitachi Ltd's ObjectIQ application development environment. The firm also plans to offer Hitachi's new Object Reuser when that is released at ObjectWorld in San Francisco next month. Object Reuser browses between ObjectIQ objects and C++ objects using Hypertext via automatically generated indexes.

NOVELL SAYS NOORDA STAYS PUT

Novell Inc says its chief Ray Noorda, is upset by what it says are the unfounded press reports that have him giving up his seat as chairman of the board because he turned 70 on Sunday June 19 or because the WordPerfect Corp deal closes this week. It says he is "absolutely not stepping down" for the foreseeable future and, even if he does eventually, he plans to take a board seat. Noorda is the company's largest single shareholder. The company, which has sent internal memos to its staff trying to correct what it called false impressions left by the swat of press reports, says Noorda feels he fulfilled his pledge to retire by the time he was 70 by turning over the posts of president and CEO to Bob Frankenberg some weeks ago. The company also denied reports that Novell executive VP John Edwards would become president after Frankenberg becomes chairman or that there would be a massive reorganisation and layoffs now that Frankenberg has his hand on the tiller. But, reports on the outside says that such a reorganisation is in the works and that details could emerge as soon as this week.

INFORMIX READIES NEWERA (AKA 4GL++), FOR JULY

Informix Software Inc will launch its first object-oriented application development tools at its user conference in Florida at the end of July. Formerly known as 4GL++ (UX No 461), the tools will marketed as NewEra, and will run on a range of environments, including Unix, Microsoft Corp's Windows NT, Apple Computer Inc's Macintosh and OS/2. They will have a Windows-based front-end based on technology supplied by last year's acquisition Intellicorp, will offer code reusability, and come with a set of sockets into which third party class libraries can be plugged. A porting kit will also be included, and NewEra is likely to provide workgroup capabilities like version control. The product will be available from the end of July and will cost about the same as Informix's existing development tools.

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IBM LAUNCHES RAFT OF NETWORK MANAGEMENT, COMMS SOFTWARE

As expected (UX No 492), IBM Corp last week made a "boatload" of network management and communications software announcements. They included NetView Distribution Manager for AIX release 1.1, which provides new functionality for controlling distribution and installation of software to TCP/IP-connected AIX, OS/2, HP-UX and Windows systems. It offers RS/6000 server-to-server communication for the first time; provides Remote Change Control on servers, other nodes and clients from different domains from a central RS/6000; can re-direct software installation based upon distributed file systems; supports up to 400 change control clients per server and has an enhanced GUI, IBM says. It can work with NetView/DM/MVS 5 to control software distribution from an MVS system. Out by the end of the month, NetView DM/6000 is priced at \$900 for the base system plus from \$300 per client or less depending on the number of clients. NetView Distribution Management Agent for Windows provides Change Control Client services for Windows in TCP/IP networks. The network is controlled by an RS/6000 with NetView Distribution Manager/6000 - the Windows option supports installation of Windows and software. DM for Windows accepts the DM/6000 Administrator to change software used in the host and updates the central database. Alternatively, a Change Control Client user, with the appropriate authority, can install and maintain workstation software as and when changes are requested. Users can also distribute or collect data across the network. The NetView DM/6000-supported CC Domain can comprise Windows client workstations only or a mixture of OS/2, AIX/6000, Windows and HP-UX client workstations. DM for Windows on PCs with IBM TCP/IP for DOS Version 2.1 is \$120 from the end of the month.

Multiple domains

Also new is a Windows implementation of NetView which ships from the end of July priced at from \$1,900. It provides, IBM says, SNMP management from Windows, including integrated fault, performance and configuration monitoring for all SNMP devices from workstations to hubs, routers, bridges and switches. IBM says Ethernet and Token Ring LANs can be managed by a single NetView for Windows. IBM will bundle base-level applications with the software and offer others as device-specific add-on options. NetView for Windows also runs London-based Network Manager Inc's management applications. SNA Manager/6000 also featured in the announcement. The software allows SNA-based systems to be managed from NetView/6000 by linking NetView and NetView/6000. IBM says it works with the NetView/6000 GUI tools, can manage multiple domains from a single point, and allows large networks to be managed by several different operators. One-time charges go from \$15,000 to \$75,000 from mid-July. Other new offerings include a new job scheduler for AIX which comes with a manager that runs on one RS/6000 node scheduling tasks via agents that run on all nodes and feedback completed job information, and a user interface from which jobs can be defined and monitored which can run on the same or different node to the manager. Out in July, the manager is \$4,000 - agents start at \$985 each up to 10 per node. IBM is also readying LAN Network Manager for AIX, which works with NetView/6000 to provide SNMP management of LAN networks, the company says. LAN topologies are integrated into NetView/6000 topology displays, it provides a common format for graphical interface displays and supplies LAN alarm information to the NetView/6000 event log. LNM for AIX starts at \$13,700 from October.

LEGENT OFFERS NEW MANAGEMENT MODULES

Legent Corp has put together a new XPE (Cross Platform Environment) module for managing performance, capacity, cost and service levels resources across an organisation's distributed systems called Paramount/XP. It includes capacity, financial, service and query & reporting applications, plus Paramount/XP-Performance, Hewlett-Packard Co-developed performance and resource management tools that have been available since last September. Prices start at \$11,000 per management node on HP-UX, AIX, SunOS and Solaris with MVS, VM, VSE, VMS and Tandem versions to follow.

VANTIVE HAS NEW UNIX HELP DESK

The Vantive Corp, Mountain View, California, has introduced version 3.0 of its high-performance Unix help desk software suite, and is moving the software to NT Advanced Server. Indeed, sources say the company, where Informix founder Roger Sippl is an investor, is ~~demo'ing version 3.0 stuff, using SQL Server and Windows 3.1~~ clients, up in Redmond hoping Microsoft will take it up internally. Its competition is said to be Clarify Software, another dedicated Unix house, which has also ported to NT. Vantive is hoping to be able to support 2,500 concurrent users on a single Unix client/server system consisting of one or more servers lashed together by the end of 1995. Vantive 3.0 has a new application that allows customers to enter the service remotely to process their own requests - logging trouble, resolving problems and checking the status of open cases; a replication system for sharing information between sites; enhanced connectivity tools for linking with pagers, fax and e-mail; and more links to third party applications. Up on Sybase and Oracle on Sun, IBM and HP servers with Mac, Windows or workstations clients. Vantive 3.0 is \$55,000 for a 10-user licence. Vantive has persuaded Novell Inc to use its software for a worldwide customer support system it's setting up. Vantive passed a Novell test proving it could handle 19,000 calls in 12 hours on a system of 380 PCs, one Unix server and a Sybase database. In real life, however, it's only required to handle 6,000-8,000 calls a day spread over 400 user accounts. +1 415 691 1500.

HIPPO GOES BELLY-UP

University of Utah spin-out Hippo Software Inc, the little company with the Unix commands and libraries that are supposed to help developers write NT and Unix programs that are source code-compatible is selling off its inventory and withdrawing its Hippix software from the market reportedly due to a funds crisis, reports our sister publication *ClieNT Server News*. Support ends June 30. The company said it spent its resources on an earlier version that ran on OS/2 and did not sell well. Although the NT version sold better, it said, Hippo apparently did not have the money to promote it. Hippo is selling off copies of the package, developed by the university's Center for Software Science, for \$50. Originally it was priced at \$240. As recently as spring Comdex, DEC said it expected to experiment with an Alpha version of the stuff to help in porting Polycenter to NT. Hippix was considered a competitor of NuTcracker from Datafocus and Portage from Consensus. Its commands included most of the IEEE Posix 1003.2 and 1003.2a draft standards like the famous Unix awk, grep, sh and vi. Its libraries offered most of the Posix 1003.1 System API.

LOCUS OFFERS NEW PC-INTERFACE, AIMED SQUARELY AT SUNSELECT PC-NFS

Locus Computing Corp, Inglewood, California, is now offering PC-Interface 5.0 and PC-Interface Plus 2.0 versions of its PC-to-Unix connectivity services, pitching them against SunSelect's PC-NFS 5.1. PC-Interface provides access to NFS-mounted files on Unix, AFS, DFS/DCE file systems and Kerebos servers. New support includes a Windows-based File Transfer Protocol implementation, local and organisation-wide Internet e-mail via Qualcomm Software's Eudora, NetWare and Windows for WorkGroups co-existence and enhanced desktop Windows support. PC-Interface incorporates Century Software Inc's TinyTerm 2.0 terminal emulation access software for running Unix applications on PCs. It's bundled with AIX, Unix SVR4, SCO and Unisys platforms and is available for most other Unix implementations priced at from \$280. PC-Interface Plus 2.0, with bundled e-mail, terminal emulation and file transfer is from \$450, compared, Locus says with the \$750 you'd have to spend with SunSelect to get the same services in PC-NFS 5.1 (\$100 base package, \$325 single-user licence, \$200 advanced Telnet, \$130 Select Mail).

X CONSORTIUM AND X INDUSTRY ASSOCIATION MERGE

As predicted (UX No 486), the X Consortium will, following expected approval by its board and members, merge its technical development and marketing efforts with those of the X Industry Association. The new organisation will continue under the auspices of the X Consortium, to develop and promote the X Window System. XIA was formed in 1992 by vendor interests a couple of years ago which felt X Consortium (back then still part of MIT) wasn't able to market X Windows effectively enough to the industry, but never really found its way or achieved much momentum.

FEDS TO ISSUE INTERNET RFP

This week, the US Federal Government's National Institute for Standards and Technology will issue its request for proposal for parties interested in promoting software commerce over the Internet (UX No 485). The Object Management Group intends to submit its plans for an Information Broker service, "a kind of stock exchange for objects", in conjunction with Connect Inc. Connect will provide the OMG with a hook into the Internet, on-line billing software and the like. The OMG will provide the business plan, a list of customers and will put together a sales force.

HITACHI DEBUTS PA-RISC-BASED PARALLEL MAINFRAME FOR THE TECHNICAL MARKET

Hitachi has released its first parallel mainframe for commercial release, finally pandering to Japan's neglected research and technical market. The SR2001 machine is based on Hewlett Packard's PA-RISC processor, accommodating up to 128 of them. Designed to support client/server systems, the machine runs on Hitachi's Mach-based HI-UX/MPP Unix, front-ended by Motif. Using Parasoft Corp's Express parallel support system rebadged as ParallelWare, the unit can achieve 23 gigaflops floating point speed. The machine, which can be ordered now but won't ship until next March, starts at 70m yen for an 8 processor configuration. Hitachi is developing a PowerPC-based parallel computer, adding its own enhancements to the chip to get a 1 teraflop speed. That machine could be here by 1996.

POWEROPEN MOVES HOME, POLISHES ABI, BUT THE SHOW'S STILL A NO SHOW

The PowerOpen Association is quitting its Boston HQ for a new site in Cupertino, California. The East coast was obviously too far from the action, but its new home is just around the corner from Apple Computer. Association President Tom Mace is adamant that the move will not mark any reduction in the Association's size - some staff are leaving, rather than follow their jobs, but new staff will be taken on, he says. Meanwhile, the likelihood that the Association's developers conference will take place this year appears to be slipping. Mace says the event is still being worked on and that he is in conversation with a "couple of major trade show providers", however PowerOpen doesn't intend to rush things - "we don't know whether it will be this year or next year", he admits. Meanwhile, the middle of July should see the next release of the PowerOpen ABI and API, now nearing completion. Developers will not see any major changes, according to Mace, however he does say that the Association is striving to make the interfaces more open, by incorporating some extra, internationally agreed, standard interfaces into its work. The Association has already received the first release of its conformance test suite which should go into beta this summer.

HP AND INTEL MUST BEWARE OF GHOSTS PAST

The *Microprocessor Report* notes that Intel Corp and Hewlett-Packard Co have to be careful not to saddle their proposed postRISC chip down with too much baggage from the past. Otherwise, when competitors introduce their own next-generation architectures, Intel will again find itself the performance laggard and will have dragged HP down as well. The publication believes the P7 will be the first of the postRISC chips, delaying its appearance until 1998. It also bets that whatever Intel and HP come up with will be virtually unclonable. It imagines other vendors may define postRISC architectures to compete but figures they'd have to team up to take on the like of HP/Intel and IBM Corp, Motorola Inc and Apple Computer Inc. DEC, it reckons, now in the midst of the CISC-to-RISC transition, will find it most difficult to change architecture again so soon and imagines that of all the companies affected by the announcement surely the PowerPC alliance must be the most distraught at the thought of Intel not hitting the wall with iAPX-86, not suffering the move to RISC, but leapfrogging to a new architecture and leaving the PowerPC boys holding the RISC bag.

PRO SETS NEW CONFORMANCE TARGETS

Although now cast in the shadow of Hewlett-Packard Co's agreement with Intel Corp, HP's Precision Architecture RISC supporters club, PRO, the Precision Risc Organisation, is gamefully talking-up a new conformance programme that'll allow applications to run across the range of PA hardware, without mentioning the planned PA-iAPX-86 meld. The new programme includes APIs, ABIs, test and verification tools and a branding programme. It's APIs are based upon Spec 1170 and certification is expected to begin in the fourth quarter.

ICL, FUJITSU ANNOUNCE THEIR OBJECT ALLIANCE

ICL Plc and Fujitsu Ltd last week duly announced their strategic collaboration to offer advanced multimedia software products based on object technology to the worldwide market (UX No 486). ICL is taking Fujitsu's IntelligentPad and its ODB-II object database, and the two are also working together on Graphicspower/Windows. IntelligentPad enables users of all technical abilities to create and customise multimedia applications, and Graphicspower is a family of tools to support quick and easy development of interactive graphics for end user applications. The English-language versions of the products were unveiled at the Object World show in London last week.

NEXT WINS DEC FOR NEXTSTEP...

Clawing back any credibility after the debacle of its withdrawal from the hardware manufacturing business looked a well-nigh impossible challenge for Steve Jobs and his NeXT Computer Inc, but the Redwood City, California company begins to look as if it could achieve it. The company has already won Hewlett-Packard Co and Sun Microsystems Inc as licensees. Now it has announced Digital Equipment Corp as a licensee for the platform-independent OpenStep implementation of NeXTStep on its OSF/1-based Alpha RISC machines. DEC will integrate OpenStep with ObjectBroker - the basis of its Common Object Model, Object Request Broker - which is up on Windows, NT, MAC, OSF/1, Ultrix, SunOS, HP-UX and AIX and will allow any object managed by ObjectBroker to interact with NeXTStep objects. Sun plans to use OpenStep - the NeXTStep implementation that isn't tied to NeXT's Mach microkernel operating system - as the front-end for its Solaris Distributed Object Environment, which will become the standard version of the operating system. Hewlett-Packard will bundle a native 3.2 version of the object-oriented operating environment with its PA RISC workstations - actually a port of the NeXT/Intel code - for users that ask for it from August, saying existing NeXTStep applications will be source-code compatible with the PA RISC implementation. The NeXTStep Developer development environment will ship at the same time. NeXTStep and the development system will be priced at from \$800 and \$3,000 respectively. Version 2.0 of NeXT's Portable Distributed Objects network-enabled framework is now slated to go into beta during the fourth quarter - it's already testing on Sun and HP servers. Version 1.0 is already up on HP-UX. SunOS and Solaris versions will ship in August, with OSF/1 by the end of the year. Prices will go from \$2,500 to \$10,000 per server. NeXT also unveiled its Enterprise Object Framework, a workbench and toolset it says will bring some of the functionality of object-oriented programming to database application development. The idea is to enable customers to create reusable objects that use data stored in conventional relational databases, but at the same time are independent of them. In beta now, the software will ship in the fourth quarter at from \$300. Also new is NetInfo Editions for Servers for distributed network administration using NeXTStep. The company also previewed version 3.3 of NeXTStep, which it says contains some 1,000 enhancements over previous versions especially in areas of interoperability with Intel PCs, network-wide use, scalability and e-mail. It'll be offered with SoftPC from Insignia Solutions Ltd to enable users to run MS-DOS and Windows applications under NeXTStep. Release 3.3 is out in the fourth quarter starting at \$800 with upgrades starting at \$200. SoftPC 4.0 for NeXTStep/Intel is \$250 from July under NeXTStep 3.3 - upgrades are from \$70. NeXTTime 1.0, which allows users to play movie files is available for NeXTStep at from \$100. It supports Apple's QuickTime and Cinepak compression.

...AS CANON ADDS OBJECT.STATION

Meantime Canon Computer Systems Inc in Costa Mesa, California has launched the Canon Object.station 41 workstation, built around the Intel Corp 80486DX4/100 chip, which it says is built from the ground up to optimise NeXTStep. The new Object.station uses a proprietary Canon video subsystem that speeds video throughput at NeXTStep's native resolution while maintaining compatibility with the major video standards used on other personal computers. The object.station includes NeXTStep 3.2 pre-installed and a demonstration version. Out now, it costs \$6,500 configured. Steve Jobs expects NeXT to move into steady profit with software sales of \$50m this year, \$8m in the first quarter, an expected \$10m in the current quarter - actually down on the \$11m from software in second quarter 1993. But he says NeXT is winning large corporate customers at 50 to 70 a quarter.

ILLUSTRA PURSUES FINANCIAL SERVICES INDUSTRY WITH TIME-SERIES TECHNOLOGIES

Now operating as Illustra Information Technologies Inc, the Oakland, California-based object/relational house last week unveiled a new set of technologies and marketing alliances geared toward the financial services market. For the 1992 start-up, Wall Street business will be its fourth market focus, following healthcare/medical, earth sciences and government intelligence - where it has a dozen users in each segment - and ~~telecomms, where it has three users. The new focus is based upon release 2.0 of its object/relational database model and new TimeSeries DataBlade modules (data type libraries), (UX No 489).~~ Illustra's idea is to make available time-series data (corporate financial reporting, stock prices, bond yields etc recorded in seconds, minutes, days or weeks over long periods of time) and other information such as images, text and video, via its building block enquiry and calculation modules, along with support for other database gateways, third party 4GLs and applications. Illustra puts the data - historical sets of numbers, plus the associated information such as scanned news documents, video clips plus whatever real-time feeds are required - up on trading room screens via Illustra Object Knowledge and Project Editor using a variety of graphical display devices. They allow the user to navigate through the data in all of its forms in various presentations to whatever degree of definition is required via a kind of flight simulator that provides birds-eye and worms-eye views ("no form in sight," the company boasts). Developers can write applications in C++ instead of using the Object Knowledge shell as long as key Object Knowledge components are embedded in the application, using Liant Software's C++/Views, Rogue Wave Software's tools.h++ or Lucid C++ under Motif. Illustra also supports Unify Corp's Vision 4GL - VisualBasic and PowerBuilder are coming with ODBC promised by the end of the year.

Targeting Sybase

Illustra argues that up until now, developing applications for this purpose has been costly and complex, because of the limitation of traditional relational databases which it says can't efficiently store and manipulate time-series data. Illustra says Sybase Inc, the most prevalent database company in the financial services market, promised time-series analysis facilities for its database as far back as 1986 but didn't deliver it. Illustra offers TimeSeries DataBlade modules (designed, it says, in conjunction with some of the leading industry players) that support a variety of data types, including images and video. Time-series type stores the sequences of time-stamped data - a calendar provides access to the time-series for updating, analysis and display. Illustra performs time-series calculations as objects and says it leverages the advantages of standard ad-hoc and user-extensible relational database-type queries. The advantage of its object/relational model, it claims, is that one module can perform calculations that would require two, three or more conventional SQL statements on Sybase. TimeSeries DataBlade will be out in the third quarter on SunOS, SGI and DEC Alpha platforms at from \$1,500. Illustra's financial stuff runs on Unix servers and Windows clients. It says it has got the 25,000-odd Sun Microsystems Inc systems out at the financial houses in its sights. Illustra's database is a commercialised version of a seven-year-old Berkeley project. Capitalised at \$12m, it says it'll be a year before it decides where it'll get future funding, but expects to stick the Ingres model over Sybase (in the \$20m region, rather than \$70m). There are more DataBlades coming and it's currently thinking about a Windows NTAS version.

Teknekron and other third parties

Illustra has also signed with Sybase financial services integrator Fusion Systems Group, New York, and TriTeal Corp, San Diego, California, and will develop a Teknekron Information Bus Interface DataBlade for the eponymous Palo Alto, California firm Teknekron Software Systems' financial analysis mechanism. The interface will allow users to capture real-time news and market data from TIB system in the Illustra database. Meanwhile, MathSoft's, Seattle, Washington-based StatSci division is linking its S-Pus data analysis software to Illustra and Visible Decisions Inc, Toronto, Canada, will put its financial services visualisation technology up on the database. Illustra has also kicked-off an ISV program to get applications, tools or third-party DataBlade modules up on its database. An Illustra Developers Kit is from \$3,500. The Illustra server is now also up on Cray Research Inc Sparc Superservers.

Object wrappers "too inefficient"

Illustra says it'll never do persistent C++ aka the object database vendors, or fully relational or OLTP-type stuff. It criticises ODBMS vendors for failing to adopt an SQL-89-compliant query language - OO is too tightly-bound to C++ for its purposes - and relational vendors for being too difficult to manipulate. The market wants SQL-89 compliant technology because it's used to working with it. Illustra says it'll support SQL Access Group's emerging SQL-3, but believes the market will force SQL-3 and the Object Data Management Group's access mechanism together over time. Other ways of addressing the problem of accessing, analysing and presenting the huge amounts of financial data - time-series, text, video and image - such as putting object wrappers on Sybase, which is widely used in the financial community, are simply too inefficient, the company says. Illustra chief technical officer, Michael Stonebreaker - one of the original Ingres developers - is also sceptical of Ilog's plans to objectify Sybase (UX No 492). Object wrappers or simulation are simply not efficient enough - especially in financial markets - and will severely impair performance, he says. In any case, he believes Sybase is already well into re-writing its database along object lines.

TEKNEKRON AND DESKTOP INTEGRATE NEWS FEEDS FOR TRADING ROOMS...

Meanwhile, Teknekron Software Systems and Desktop Data Inc are to integrate their software for Unix and Windows for trading rooms. Teknekron MarketSheet manipulates and displays real-time information. NewsEdge from Desktop Data monitors news feeds and matches stories against the interest profiles of individual users. Integration will start with simple connectivity - more intimate links are expected. Both firms will market and support the solution.

...AS APPLIX BUILDS BRIDGES TO FINANCIAL SOFTWARE HOUSES

Teknekron is now also reselling a version of Applix Inc's real-time spreadsheet to its TIB customers. Indeed Applix is going after the financial data providers in a big way. It has also won Reuters America Inc for its software. Reuters will market Applix spreadsheets and an Applix-developed link to the Reuters Triarch 2000 data distribution software. Meanwhile, New York firm Tech Hackers Inc is porting its financial analysis spreadsheet add-in functions to the Applix system. Another New York firm serving Wall Street, Market Vision Inc, is creating a link between Applix and its financial information feed, whilst Missouri firm Bridge Information Systems Inc and Applix are to develop the Bridge Data Exchange financial software to run on Unix using Applix Real Time as the user interface. Micrognosis Inc, Westborough, Massachusetts has also signed to resell and support Applix software worldwide.

WORKGROUP BRINGS FLAGSHIP CA-CLIPPER-FOR-UNIX TO US

WorkGroup Solutions Inc, Aurora, Colorado, is hoping to bring the pricing and business model of PC software to Unix with version 4.3 of Munich, Germany-based Multisoft GmbH's FlagShip 4.3 implementation of the CA-Clipper 4GL for Unix. According to WSI president Mark Bolzern, one line of the Xbase system - it has a data engine and development environment - can create up to 100 lines of C code. WSI will sell FlagShip for between \$990 to \$5,700 depending on Unix platform platform - compared to the tens of thousands of dollars a conventional Unix 4GL may cost; and there's no royalty charge for re-distributing applications written using FlagShip and no runtime fees. FlagShip can compile DOS/Clipper code on to Unix and can share files between Clipper/DOS and Unix systems as far as operating system (in)compatibility allows, says Bolzern. FlagShip can use Unix database engines by linking Oracle, Sybase, Informix or other APIs into FlagShip hooks. Soon, however, WSI will offer new Replaceable Database Drivers that'll link applications automatically right into SQL-based or any other data engines. WSI claims FlagShip, a seven-year-old European development from Multisoft, will have more object-oriented functionality than most other languages with the exception of SmallTalk, once AppSolutions Inc brings its CA-Clipper-based Class(y) object system to FlagShip. WSI is now trying to convince Champion Business Software Inc to allow its popular Champion PC accounting package to go up under FlagShip. The firm has told WSI it can only offer Champion on FlagShip, but only under another name. FlagShip is also compatible with dBASE III and FoxBase Plus - WSI is working on dBASE IV and FoxPro code compatibility now. WSI has 12 employees, six developers each in the US and six at Multisoft's operation, just a couple of them sales folks too. Computer Associates Inc recommends FlagShip to customers that want a Unix version of its Clipper 4GL. WSI claims there are some 2,000 FlagShip users worldwide.

IBM: "WE DROPPED THE BALL ON UNIX"

In a stream of *mea culpas*, IBM Corp's chief strategist James Cannavino told a Securities Industry Association conference in New York last week, where many of the attendees were IBM customers, ~~that IBM has made "poor business decisions in the past - we~~ dropped the ball on Unix, on database, and we failed to capitalise on the client/server distributed computing solutions. And while I can really assure you that we can lose those bad habits, it is really important to note one thing - despite our past difficulties, the vast majority of you have maintained some loyalty to IBM and we value that partnership." He called the chip alliance between Hewlett-Packard Co and Intel Corp a challenging force in the computer industry, and suggested that it was a "tremendously powerful endorsement of the Power architecture - I think they are searching for a way to match that pace. They are both very good companies, and so I view it as a substantial challenge in the industry, but we are going to go straight forward." He also said he expected PowerPC to play a big role in interactive television, particularly set-top boxes, as well as a broad range of other industries such as automotive and machine tools - if it doesn't crack it in cars, something will be very wrong, because Ford Motor Co is committed to using the chip as the control centre in all its future vehicles.

OSF MOTIF 2.0, WITH NEW TRAITS

As expected, the Open Software Foundation debuted Motif 2.0 at Xhibition last week which includes an enhanced menu system, 64-bit support, new data data transfer model, virtual screen support, new workspace management functions, expanded internationalisation and new APIs. There's also an extended widget development system called Traits which allows behaviour built into one widget to be shared amongst different widgets whether there is a hierarchical relationship between them or not. OSF/Motif 2.0 source with full distribution rights is \$15,000. Object code is from \$40.

ORACLE CLAIMS BIG ADVANCES IN ORACLE7 7.1; REPLICATION LAGS...

The second release of Oracle Corp's Oracle7 relational database for multiprocessor machines is now available, and the Redwood Shores, California company claims it introduces the industry's first "Parallel Everything" architecture, which adds parallel query, parallel index, parallel load, parallel back-up and parallel recovery to Oracle7's existing parallel transaction processing capabilities. The company claims that Oracle7 7.1 running on a 20-processor Unix computer processed a 5m row, 1Gb table 15 times faster than on the single processor system, cutting database query time to 10 minutes from 150 minutes. The same parallel query run on a massively parallel machine with 100 processors ran nearly 80 times faster than a single CPU query. As anticipated (UX No 484), a fully functional version of Oracle's long-awaited replication system - dubbed Symmetric Replication - won't be generally available until the first quarter of next year as a maintenance release, although beta testing began last month. From July, users can get a primary site version of the module, which enables the same (replicated) instances of a piece of data which might reside on different systems in separate copies of the database to be updated from a single point. A dynamic capability, allowing the primary point of control to move between different systems, and update anywhere, enabling any site to update data at anytime is what's now expected for the first quarter. Pricing for Oracle7 7.1 with Parallel Everything begins at \$5,440 for an eight-user licence.

...AS INFORMIX PREVIEWS ONLINE DYNAMIC SERVER 8.0

Hoping to steal some of Oracle's thunder, Informix Software Inc says its parallel database query technology, implemented as Informix-OnLine Dynamic Server 7.0 will be up on eleven SMP platforms from September: AT&T GIS, Data General, DEC, HP, IBM, Motorola, Pyramid, SNI, Sun and Unisys. It's already up on Sequent SMP systems. The database query technology is part of Informix's multithreaded Dynamic Scalable Architecture which will be enhanced in OnLine Dynamic server 8.0 due to test from the end of the year and be available by mid-1995 for clustered and massively parallel systems.

ObjectWorld UK Roundup

The next major release of Iona Technology Ltd's Orbix object request broker, due in the October/November timeframe - a bug-fix release is due in July - will include support for the Tuxedo transaction processing monitor and the Stratus Computer Isis unit's database messaging system (UX No 484). It will also have an Microsoft Corp OLE server integrated with an Orbix client, so that any OLE-conformant application will be able to speak to an object with IDL interfaces. The Dublin, Ireland-based company has just released a beta version of Orbix that runs on Windows 3.1, and this product is expected to ship in September.

Object-oriented database vendor Object Design Inc has started-up a new Certified ObjectStore Systems Integrator Programme to provide systems integrators with training and support when using ObjectStore. The Boston, Massachusetts-based firm has signed up the Parallax Group, PA Consulting US and UK.

Corvallis, Oregon-based Rogue Wave Software Inc will this week open a Design Center in New York to provide customers with training, application consulting and product support.

The SAS Institute Inc demo'd eight new class libraries for its Business Object Library at ObjectWorld, which will be available with release 6.10 of the SAS System, scheduled to ship in September. The new class libraries are: a Multi-Dimensional Data Viewer; an Organisation Chart for graphically displaying organisational data; a Table with a Horizontal Bar Chart to present tabular data on graphical displays; Expanding Reports, which provides a data overview and enables drill-down to any layer of detail; a Grouped Bar Chart Report, which means users can display different data sets so they can view trends and comparisons clearly; Multi-Column Report and Multi-Column Report with Graphic Display to summarise data as tables and graphics; and Tabular Reporting, which provides tabular reports at multiple summary levels.

ParcPlace Systems UK Ltd has moved offices from Winchester, Hampshire, to larger premises in Farnham, Surrey, and has started running in-house training courses on VisualWorks, Smalltalk, and its own Object Behaviour Analysis and Design Methodology. Meanwhile, Jason Ayers has joined the company from IBM as Senior Technical Consultant to distributors in Northern Europe, while Marie-Pierre Grilhot has moved from the Paris office as UK sales liaison officer. + 44 252 719 100.

Planning Sciences Plc has released version 1.7 of its Gentium executive information system, which is now said to support more than 100 simultaneous users. Security has been enhanced to enable users to either transfer their own security permission between workgroups or inherit a pre-set level of security. The GUI has also been improved to enable end-users to make ad hoc changes to rows and columns and to customise reports on the spot. + 44 81 879 3828.

Integrated Computer Solutions Inc has signed Scientific Computers Ltd to distribute its suite of graphical user interface development tools in the UK. + 44 293 403 636.

Poplin Software and Systems Inc's System Architect computer-aided software engineering tool now supports the Rumbaugh Object Modelling Technique. The firm has also upgraded support for methodologies developed by Grady Booch; Peter Coad and Ed Yourdon; and Sally Shlaer and Stephen Mellor. The product is available now and costs £1,350 for a standalone version, and £1,795 for a network version; it is distributed by Real Techniques & Methods Ltd in the UK. +44 926 450 858.

Hypersoft Europe Ltd is distributing digital signal processing specialist High Field Technology's nNet++ class library for modelling and optimisation applications based on neural network-based models in the UK. nNet++ uses a proprietary back-propagation network training algorithm that supports automatic training and dynamically adjusted training rates. It automatically scales model data and orders training data independently. + 44 273 834 596.

Siemens Nixdorf Informationssysteme AG is now distributing Kista, Sweden-based firm Objectory AB's eponymous object-oriented computer-aided software engineering and modelling tools, which are based on the Jacobson methodology. SNI will focus on marketing the product to organisations in the pharmaceutical, financial, retail, and government markets.

Versailles-based O2 Technology SA has converted its eponymous object-oriented database to run under NeXT Computer Inc's NeXTStep environment for a US client in the financial market. O2 is to be used to develop trading room management applications.

THE BEST DIGITAL RUMOURS

DEC headquarters in Maynard, once fondly known as "The Mill" has rapidly deteriorated into "The Rumour Mill" over the last few weeks thanks to the overwhelming sound of silence emanating from on high. As a service to the industry and a courtesy to posterity, our friends at *Illuminata* have tried to gather the printable ones in one place for public comment. Our own personal favourite, other than the one that had CEO Bob Palmer and his number two Enrico Pesatori tussling like schoolboys over some dispute or other, alleged that DEC was prepared to send Palmer back to semiconductors and perhaps spin the business out together with a Japanese firm (Mitsubishi, its Alpha second source, maybe?) and another company. We were drawn to this one because earlier in the week we heard tales of how DEC and Siemens Nixdorf, which has reportedly been told it has two years to get its IT business back into profit, were revisiting talks they had some two or three years ago when they were using the "M" word. Other than that here's a summary of, and commentary on, the best DEC rumours *Illuminata's* Terry Shannon and Jonathan Eunice have heard in the past week or two. Some...uh...strain credulity. Other seem highly likely, if not certain. Pick your favourites, invent some new ones, and pass them around - everyone else does.

10. Various rumours too outlandish, too implausible, or just plain too specious to warrant serious discussion. [Numerous sources]

When it comes to DEC-specific fish stories, sources within the computer industry can hardly be described as pikers. We've heard all the big ones, but doubt very seriously that Ken Olsen will return to rescue Digital from its desperate plight. Or that Palmer is in fact a space alien from Altair-IV. Or that Boy Billionaire Bill wants to move to Maynard.

9. Digital will sell business units. [Numerous sources]

Almost certainly true. Which will go, however, depends on which are seen as least strategic, and on which bring the highest prices. We've heard that DEC is looking for at least \$5bn cash from unit sales. Buyers are hoping, of course, for just the opposite—good stuff at low prices.

StorageWorks (read Avastor) - Sounds like a done deal. Company executives have spoken publicly on the possibility. While StorageWorks has become a profitable business, it's not ready to flood the company with cash. Indeed, its development will require significant ongoing R&D and manufacturing investments to stay abreast of a very competitive market. DEC can't afford the luxury of funding such "discretionary" activities.

Networks and Communications - Although Network World has rumoured negotiations with Bell Atlantic or a similar firm, we remain somewhat sceptical given that the included technology is considered one of the firm's core competencies. On the other hand, those in dire straits must resort to drastic measures. It's called triage.

Customer Services - While Palmer recently indicated that downsizing in the service organisation has been modest at best, a wholesale divestiture would not be implausible. By acquiring Digital's service business, a General Electric, EDS, or other suitor could provide sorely-needed cash and continued employment to erstwhile Digital employees.

8. DEC will split into five business units, each with its own president and sales force, under the aegis of a holding company. [PC Week, June 13]
Just like Akers wanted to do with IBM, and McNealy's done with Sun, eh? As Mr. Palmer told us last month, "trying to disaggregate Digital from a big mushball is extraordinarily difficult." The company clearly needs its managers, from the bottom to the top, to take responsibility for their own success or failure. While not fans of rigid hierarchies, we're for any reorganisation that enables and encourages such responsibility. If autonomous units do that, so much the better.

We are unimpressed with change for change's sake, however. Before lurching ahead, DEC should examine how helpful or lasting IBM's and Sun's autonomous units have been. (Hint: mixed results at best, followed by even more reshuffling.) Separate sales forces, in particular, strike us as a problem waiting to happen.

Whatever form the upcoming reorganisation takes, it represents Palmer's last chance to be known as the Great Disaggregator.

7. Digital will dramatically reduce its software portfolio. Negotiations are under way for the sale of Rdb, and DEC is looking for foster homes for the lion's share of its applications software.. [Various sources]

Likely. If you happen to own that grey coffee mug emblazoned "Digital is a Software Company," you now have a collector's item. Digital's ambitions to become a holistic software purveyor began melting away with the dissolution of David Stone's The New Software Group and the recent departure of groupware VP Dennis Roberson. Those ambitions will vanish completely as DEC finds other willing buyers.

As for Rdb, it could go even though DEC raked in an estimated \$120M in Rdb sales last year, and even though it expects to do even better this year. Neither DEC's new-found affection for Oracle, nor its reliance on Oracle technology for its forthcoming Unix database cluster bode well for Rdb's continued tenure. Might CA be interested? Just a thought.

6. MCI will take a 15% equity position. The buying of DEC's Greater Boston network represents a screen for a larger operation. [Anonymous]
DEC recently agreed to sell its Greater Boston fibre network to MCI. Can a Friends and Family programme for AXP systems be far behind?

Though Digital had ~\$1.25bn cash in the bank as of April 15, it will need over \$1B to downsize. A strategic investment by a friendly partner would be quite handy. For its part, MCI (among many other firms) could use a technology partner for the coming multimedia superhighway.

On the other hand, Mr. Palmer has been described to us as a control freak who would only consider surrendering a significant portion of Digital if put on a rack and tortured. Regardless of how true this assessment, the sale of operations and assets seems to be the primary cash-generation strategy at this point.

5. Digital's sales force will be drastically cut. As many as 1,200 salespeople will be cashiered by the end of the fiscal year. Ultimately, Digital will service only its top 550 accounts via the direct sales model. Each Digital business unit will be assigned a New Business Development Manager whose task is find new customers. [Various sources]

The details may differ, but these general outlines are likely. Digital must turn to indirect sales channels as margins tighten. It has been sending clear messages regarding its intentions to rely heavily on channel partners, but it remains far behind its peers in implementing such a strategy.

4. Digital will replace OpenVMS with Windows NT. [Competitors]

No way, Jose! First and foremost, Digital does not harbour a death wish. Dropping OpenVMS would simply kill the company. The continued allegiance of the OpenVMS installed base is an absolute prerequisite to the firm's continued status as a first-tier vendor. Second, it will be several years before the Windows NT applications portfolio reaches critical mass, especially as ISVs port to AXP after Intel, and soon, after PowerPC. Finally, it will likely be some years before most commercial customers will fully bet their businesses on NT as they do on OpenVMS.

3. Digital's headcount will be slashed, perhaps to as few as 52,000 employees. [Anonymous]

Yes to slashing; unknown to 52K. Palmer has suggested cutbacks of ~20,000 employees (beyond the ~7,000 or more already expected to go this financial quarter), which would leave ~65,000 warm bodies.

How fast this can occur is anyone's guess. Palmer has stressed the need for deliberate action (read: slower than anyone on the outside wants to hear), but the pace may be hastened by the threat of one job cut in particular, not to mention the disastrous morale caused by installment-plan downsizing. Painful as it will be to lose roughly a quarter of the firm, it has become a necessity if the rest of the company is to have a future. If it's to be done, best it be done quickly.

2. Digital will file for Chapter 11 bankruptcy protection. [Competition]

Puleeze!!!...DEC has its share of troubles, and then some—but let's keep them in perspective, OK? With over a billion dollars in the bank (at least until the firm discloses its fourth quarter restructuring charges), and given the wholesale disgrace the company would experience as a result, Digital seems pretty darn unlikely to pull a "Gimme Shelter" ploy.

1. And the No1 rumour is...Bob is toast. [Gee, who isn't saying this?]

Wrong tense. "Bob will be toast" is the proper conjugation, conditional of course on the acceptance and viability of his forthcoming reorganisation. Mr. Palmer has indicated that the Board expects and demands profitability by financial year-end, which presumably gives him a few more quarters to improve results or die trying. Results, however, will not improve unless and until customers and partners trust the company's business prospects and directions. For all intents and purposes, the July reorganisation becomes Palmer's Last Stand. Bob is not toast yet, but his office is getting hotter, and he does seem to have a pretty nice tan.

WILL INTEL SSD'S SECOND WAVE WASH?

In what's being seen as a second wave for the unit, Intel Corp is preparing to take some of its Supercomputing Systems Division's technologies to market (UX No 492), but there remains a question mark over the future of its first-wave Paragon supercomputer, and ~~quite how it'll be able to bundle up separate SSD technologies~~ that were designed to work together. Whilst SSD, in Beaverton, Oregon, has always had a high level of US government DARPA funding, which it has spent on some long-term, deep science development, and most often sold back to defence research labs and establishments, the market for high-end scientific supercomputers has topped-out, according to scalable system watcher Smaby Group Inc. Insiders believe it was the appointment of former Cray executive Ed Masi as an Intel first officer - president of SSD - a couple of years ago that saved the unit's life. Intel argues its been quietly perfecting the technologies that competitors like Cray Research, Convex Computer and Kendall Square have had to press, sometimes hastily, into commercial service as quickly as possible. However, whether there is or will be a market for scalable commercial systems large enough to support the existing set, let alone the likes of IBM, Intel or its partners too, remains in question. Certainly the vendors are doing what they can to talk just such a market into existence, however their dogmatic pursuit of triumph at the benchmark table may be misplaced, as recent studies suggest that users interested in the kinds of technologies care less about raw performance than of the price/performance benefits - ie not at any cost. Between two and four times better price performance than existing systems is reportedly a median requirement. The scalable crowd is also still very much hung up on the componentry of their architectures, of one interconnect system versus another, stuff that's likely to become much less important all indicators say.

PARSYTEC HAS TRAM MODULE COMBINING POWERPC WITH T425 TRANSPUTER

Parsytec GmbH is taking a second stab at the industrial and embedded controller market with a PowerPC design using the TRAM module design originally designed by Inmos International Ltd for Transputer use. Previously the German, Aachen-based company, best known for its massively parallel computers, attacked the market with a proprietary design of board, which failed to garner much support. Substantial third party support already exists for the TRAM architecture. The module combines a PowerPC 601 processor with a T425 Transputer, which is used to provide high-speed links between neighbouring TRAMs. TRAMs sit on an AT bus or VMEbus backplane. The company says that the modules are aimed at input-output and processor-intensive applications where a lot of real-time information from multiple sources needs to be processed quickly. The company gave no indication of prices.

BOLT, BERANEK SEEKS TO BUILD BIG NEW BUSINESS ON INTERNET

In a striking diversification, Cambridge, Massachusetts-based Bolt, Beranek & Newman Inc is to acquire the Internet services provider for Silicon Valley, the Barnet Bay Area Regional Research Network, from Stanford University. Bolt, Beranek declined to disclose terms of the deal or annual revenue of Barnet, but the business has Stanford, Apple Computer Inc and Hewlett-Packard Co among its customers. The company has also cut by more than half the price it charges businesses for access to the World Wide Web on the New England access provider it acquired last year from the Massachusetts Institute of Technology, Nearnnet. The access fee was cut to \$3,950 from \$8,450, but annual fees, starting at \$7,600, are unchanged. Customers of Nearnnet include the Massachusetts Institute, Lotus Development Corp, Harvard University and individual access provider Delphi Services Inc. The company is going back to its roots in a big way with the acquisitions because it built and operated the pioneering Arpanet for the Defense Advanced Research Projects Agency. IBM Corp alumnus George Conrades, now president and chief executive of Bolt, Beranek said "Combining two of the premier regional Internet Services is an important milestone toward our goal of becoming the leading provider of high-quality, value-added Internet services US-wide." Nearnnet's revenue is currently about \$5m a year, and Barnet's is less.

TRINZIC DEBUTS OBJECTPRO DEVELOPMENT TOOL, ORB TO COME

Applications development firm Trinzic has introduced ObjectPro, a high-end client/server application development tool, which will evolve into a distributed application tool over the next year. Trinzic ~~has also joined the throng of companies developing their own ORBs~~ its unnamed request broker will appear in roughly a year. The object-oriented ObjectPro, which will sit in between its existing applications development environments, the high-end AjonDS and the lower-end Forest & Trees, which it gained when it acquired Channel Computing in April last year. ObjectPro is designed to mesh conventional database query functionality with client-resident logic, to produce applications such as in-field insurance policy pricing, credit-checking and discount optimised sales ordering. To ship in August, the ODBC-compatible tool will include an object repository and will encompass object-oriented features such as encapsulation, polymorphism and inheritance. The product, which needs 4Mb of RAM to run, will only be available on Windows clients. Future versions will work with existing ORBs and eventually Trinzic's own to put objects on the server too, enabling distributed application development and putting Trinzic on a competitive footing with Forte Software Inc. Trinzic's ORB will be CORBA-compliant, according to marketing manager Peter Chargin, who added that Trinzic is partnering with Texas Instruments over its development of an object meta repository with Microsoft. Progress on the TI/Microsoft repository was "disappointing", he said. "They're still looking for partners like Trinzic to find out what they want to be included in the repository specification".

IBM ADDS FIRST CYRIX CHIPS TO ITS MERCHANT BLUE LIGHTNING LINE

IBM last week added the first Cyrix Corp-designed parts to its Blue Lightning family of iAPX-86-compatible microprocessors, and the parts will be its first chip-level merchant microprocessors in the family - up to now, it has sold the chips mounted on tiny circuit boards to adhere to the letter - but not the spirit - of the agreement with Intel Corp under which it makes the things. The first are the Blue Lightning DX2 in 25MHz/50MHz and 33MHz/66MHz versions at 5V and 3V at \$195 and \$239 respectively for 1,000-up, and a 40MHz/80MHz version at 3V, at \$295 for 1,000-up. They are sampling now with 5Vs available in volume in August, 3Vs to follow in September.

BLYTH SOFTWARE ADDRESSES PRODUCTIVITY WITH OMNIS 7 3

Blyth Software Inc of Foster City, California has announced version 3 of its Omnis 7 client/server application development environment. Its new features include a built-in version control for developers, which takes the form of an application repository that enables multiple developers to work together on separate systems, thus sharing the workload across various developers and reducing the cycle time. The Change Management feature sends the piece of upgraded software that the end user needs to run an application so that the user does not have to load it himself, which increases communication between the developer and the end-user. It has an SQL Form Builder that is a template-driven prototyping tool for automating application development, reducing development time; and an interactive graphing tool that provides the end-user with graphing detail that minimises developer code. The new version supports supports Power Macintosh, OS/2, Windows NT, HP-UX, Sun Microsystems Inc Solaris and IBM Corp AIX Unices in addition to Windows and Apple Computer Inc Macintosh. Omnis & Portable Client-Server Enterprise Kit for Windows and Macintosh is available now at £4,000 per developer and for that it can be deployed to any number of end-users.

ATRIA UNVEILS CLEARCASE TOOL

Massachusetts-based software firm Atria Software Inc has launched a software configuration management tool for Unix-based systems. The company said that the product, called Clearcase Multisite, automatically supports parallel development and software reuse across geographically distributed project teams. It allows software engineers in separate locations to co-develop and share software as efficiently as those in one office, according to Atria. It will support large and small software project teams across networked and non-networked sites. It will ship in the third quarter of this year, costing \$1,500 for the first concurrent user licence.

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Digital Equipment Corp is to offer the Mosaic navigation tool for the Internet with all its computers, after licensing the software from Spyglass Inc, a commercial licensee of Mosaic for the National Center for Supercomputing Applications at the University of Illinois.

In what looks like a clear sign that the company wants to sell the business - see page 6 - **DEC** has given its OEM Storage Business a new name: Avastor.

The new \$500m agreement between **Xerox Corp** and **Sun Microsystems Inc** extends the seven-year pact between the two, which is about to run out, for another five years: the new contract includes Sun Microsystems Computer Corp, SunSoft and SunService, and Xerox will extend its use of Sun's Sparcstation systems and embedded Sparcengine boards in current and future products, and will continue to remarket Sparcstations and Sparcservers; SunSoft will provide source code, object code and licensing.

DEC vice-president, executive operations, Adriana Staderker, seen as president Robert Palmer's right-hand woman, is leaving to form a consultancy firm that she plans to call Epic International, Executive Partners in Change.

Some 700 more employees are to be added to **Oracle's** payroll this fiscal year - to May 1995 - as the software publisher activates its new research and development complex in Redwood Shores, California.

Kendall Square Research Inc says that its settlement with suing shareholders has now been approved by the court. Its survival depends on the settlement, because its major investor, chairman William Koch, has said he won't invest any more money if it's threatened by holder suits.

Microsoft Corp and **DEC** will next month host a Design Review for their Common Object Model gateway between OLE and DEC's ObjectBroker ORB in Bellvue, Washington. There they will release the specifications and invite developers and ISVs to discuss them.

By the end of the year, **X/Open** will start testing vendors' object request brokers for CORBA-compliance and will initiate a certification programme. Test suites for checking conformance to CORBA 2 interoperability standards are expected to be in place by the middle of 1995.

Hewlett-Packard Co plans to integrate its Open-ODB database, which currently runs solely on HP 9000 servers and essentially comprises an object layer sitting on top of a relational database, with Oracle, Sybase and Informix databases, to give it access to the environments under which they run. It is also in discussion with various vendors about OEM deals.

X/Open Co Ltd and **Open Software Foundation** processes are becoming more complementary, but no-one should read too much into that, we're told. OSF's Pre-Structured Technology process are vendor requirements. X/Open is primarily a user requirement body. The more X/Open's caseload increases, the more subcontracting it'll do.

The OSF's architectural planning council has been talking about things like how to develop a common structure for making licensing, delivery and installation of its software attractive to ISVs; as well as APIs.

IBM insiders say the company is hoping to be able to start shipping the first handfuls of finished PowerPC 601-based PCs to its channel partners in the last week in August.

Fujitsu Ltd-ICL Systems Inc, the Dallas-based arm of the British company that sells integrated systems to North American retail and financial interests, has a new president. Rod Powell, previously managing director of ICL's Specialist Markets Division, is moving over to Texas. He is also president and chief executive of ICL Retail Systems and responsible for ICL's worldwide integrated retail solutions.

DEC this week is supposed to announce that it has a more intimate relationship than anyone else with Oracle Corp that will see them do real co-marketing of the Oracle Parallel stuff on high-end clustered Alphas.

The latest issue of *Upside*, which portrays Novell Inc chairman Ray Noorda as Captain Ahab to Bill Gates' Moby Dick, claims that last fall, before Noorda got serious about buying Wordperfect, he was engaged in serious talks with IBM about converging their networking businesses. "There were thoughts," it says, "of Big Blue spinning off a separate networking company and combining it with Novell." IBM Corp senior VP and group exec Ellen Hancock, once touted as a possible replacement for Noorda as president and CEO of Novell, was to head it up.

The Somerset gang claims one of the top ten PC vendors is currently designing a machine for release later this year that would take either the **DEC Alpha** or the **IBM/Motorola PowerPC 603**. Supposedly it's not Compaq or Dell. Meanwhile, **Motorola** estimates that IBM's efforts to boost clock rate on the PowerPC 601, which only IBM makes, to an anticipated 100MHz and perhaps to 150MHz as cannabaling the 604. It reads the moves as IBM distancing itself from their alliance.

Look for **HP** to follow the likes of SunSoft and license NetLabs's DiMONS 3G distributed management software for OpenView, and for AT&T to OEM the new HP system.

Amdahl Corp has appointed DEC VP, Bruce Ryan as its new CFO in place of Ed Thompson who has resigned.

SunSoft says Solaris 2.3 is now Posix.2-compliant courtesy of Posix specialist Mortice Kern Systems Inc, the product will ship in August.

Sun is moving all of its Sparc Technology Business operations - design, engineering, sales and marketing - under one roof in Sunnyvale.

Despite Japanese news wire reports to the contrary, **Hitachi Ltd** says it's not, at least right now, planning to build a 1 TeraFLOPS super-computer using PowerPC, but is concentrating efforts in that area on PA RISC.

UnixWare Technology Group Inc members will get to join in Novell Inc's beta programme for the long-awaited UnixWare 2.0, according to the group.

As expected, **IBM Corp** will offer DCE support via new services software for NetWare, Lotus Notes and its LAN Server by next June, as well as across its entire hardware range. LAN Server gets full DCE support. NetWare users, however, will only be able to share distributed file and print services across DCE networks, not apps.

As the much-ballyhoo'd front-end takes more of a back seat, there's talk that **X/Open Co** may not standardise a Common Desktop Environment specification until the end of next year. The trouble is X/Open's only got bits of a CDE spec from the COSE folks to work with, and needs the complete book.

We asked a certain vendor why it hadn't changed the name of its operating system to Unix something, or something Unix as it's said it will. "you try and get licensing terms from X/Open," it said. We asked. It said an interim agreement to use the Unix trademark means meeting four or five specific requirements, including demonstrating the ability to conform to Spec 1170 within 12 months of its publication. A formal arrangement will be delivered when Spec 1170 makes it out of the door.

Sybase Inc is porting its SQL Server-based Intermedia software - Interactive Server, Gain Momentum and Gain Interplay - for building interactive multimedia services to HP's Interactive Video Server.

Former **Unix Systems Labs** chairman Bob Kavner, who sold the unit to Novell Inc, is leaving AT&T Co for Hollywood talent agency Creative Artists Agency. AT&T says isn't expected to fill the position, and Victor Pelson, head of AT&T's Global Operations Team, will assume Kavner's duties in addition to his own. Kavner was one of four AT&T executive VPs and chief of the company's multimedia products and services group. Kavner's role at CAA will be to create opportunities for existing CAA clients - actors, writers and songwriters - to participate in interactive games, movies and the like and will look at other investments and deals.

Sound like deja vu? With **Novell Inc's** popularity amongst the Unix crowd apparently at an all-time low, there's reportedly been talks about drumming-up yet another Unix development body to do the job. Insiders say the idea of creating some kind of separate entity is little more than that, not least because of the complications **SunSoft Inc's** license buyout has raised. Whether the noise - which we've heard before (UX Nos 492, 481) - amounts to more than stick-shaking at Novell is unclear. Intel Corp system vendors are reportedly talking to Novell Inc about working together at an engineering level to have their needs accommodated, whilst OSF would like to steer overall Unix development if it could. More than one school of thought sees the market squaring-up with UnixWare and SunSoft Unix licensees on opposite sides with one or two other Unixes on the sidelines.

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“A BRAND NEW DAY” FOR ASK/INGRES UNDER CA RULE

It seems that Computer Associates International Inc got more than it bargained for last week when it started offering severance pay to employees at its ASK/Ingres acquisition, and a whole lot more staff than expected took it up on its offer. Sources indicate that the New York-based company wanted to get rid of between 25% and 30% of ASK/Ingres employees, mainly in support services and administration, and sent out termination notices early last week to approximately 150 people whose functions were deemed redundant, including all 15 upper management staff. Other former ASK employees, including some software developers, received “transition” notices, offering them new positions. Severance pay of up to six months was offered whether staff were fired or chose to resign, but CA was said to be shocked when both important engineering and sales staff, particularly on the Ingres side, decided they were more interested in the cash than the job. Speculation on the Internet and elsewhere was that CA was heavy-handed in its tactics “as a way to cut payroll without having to lay people off explicitly. Maybe it serves to cull out those who wouldn’t fit into CA’s way of operating”. The situation triggered a rash of reports in US dailies, and the *San Francisco Chronicle*, for one, declared the firm had lost about half of its 600 engineers worldwide and two thirds of its technical support staff. If this is so, it could potentially be disastrous for CA - as one spectator commented, “A RDMS isn’t a simple product; you can’t just bring in new hires to maintain it. If they lose most of their competent engineers, the loss may be irreversible”. CA called such numbers “grossly inflated”, stating that only about 100 or so staff walked out. Chairman and chief executive Charles Wang took the stance, “Alameda did not go well, but we will rebuild that”, adding that the situation isn’t as serious as it could have been as ASK started moving its development from Alameda to the UK quite a while ago. CA also refuted allegations that it simply wanted to milk its purchase of the Ingres database for maintenance revenues, saying it was committed to developing the product further and would release a white paper on future directions for both this and ASK’s ManMan/X manufacturing application suite on July 3. UK database analyst Martin Butler compared the situation to the Cullinet debacle, however. “It’s Cullinet replayed. They lost more or less everything from Cullinet, milked the maintenance and support revenues, while support was very thin on the ground. They know it takes five to ten years to get out of a product line. CA is basically a financial animal: software is an annoying nuisance”, he declared. “The jewel in the crown for CA was the ManMan manufacturing package and the tools”, he added, stating that the news “was disastrous for ICL. As a team, ICL and Ingres made very deep in-roads into the public sector. ICL has effectively lost its partner”.

ICL AND CA TO COLLABORATE MORE CLOSELY

Meanwhile, ICL Plc and Computer Associates last week also announced the start of what they described as “a far-reaching programme of global co-operation”. The two plan to integrate CA’s CA-Unicenter systems management product, which has its origins in the mainframe world, with elements of ICL’s own systems management offering for the client/server arena. This includes ICL’s Open Systems Management Centre and Automated Systems Management product as well as the Team Distributor, Team Manager and Access Manager elements of its TeamOffice groupware product line. All Unicenter extensions will be made available on both ICL’s VME mainframes and its Goldrush massively parallel database server, although no timescale was given, and ICL will also henceforth distribute Unicenter on CD-ROM with every TeamServer and SuperServer it ships as part of its “Easy Pack” option. CA, on the other hand, will start marketing and selling ICL’s TeamOffice software as its core groupware offering, and will also distribute its Access Manager user access control and management product. CA has also acquired the intellectual property rights to the parallel extensions to the Ingres database that ICL developed for Goldrush for an undisclosed sum. These include systems management and diagnostic tools and parallel enabler technology, which CA intends to integrate into future versions of Ingres. The deal took less than one month to close, and marks the start of closer relations between the two.

NEXT LOOKS TO MECCA

NeXT Computer Inc has outlined the roadmap for its NeXTStep object-oriented operating system which will culminate in Mecca, its next-generation product scheduled to appear in 1996. Mecca will be based on the OS-independent OpenStep version of NeXTStep, incorporate new memory allocation methods, new interface and development tools, and enable objects to be managed remotely in a distributed environment. It will also include technology that is currently sold separately from NeXTStep such as Enterprise Objects Frameworks (UX No 487), which is now in beta, and is due to ship in the fourth quarter for Oracle and Sybase users, starting at \$300. Mecca’s interface will incorporate parts of the new Nexttime toolkit for adding multimedia capabilities to NeXTStep applications. Meanwhile, the forthcoming NeXTStep release, version 3.3, is scheduled to ship in the fourth quarter, starting at \$800 or \$200 for upgrades. It includes enhanced e-mail features, and supports Multipurpose Internet Mail Extensions as well as version 4.0 of Insignia Solutions Ltd’s SoftPC. It can also be installed remotely over networks and templates can be configured so all systems built from the server inherit the same configurations. Features from Mach 2.0 and BSD 4.0 have been added for better system performance, and the NetInfo network administration database now supports 10,000 or more nodes across WANs. Version 4.0, slated for mid-1995, will be the first OpenStep-compliant iteration. It is also likely to be integrated with the DEC/Microsoft Common Object Model bridge between DEC’s ObjectBroker ORB and Microsoft’s OLE, now that DEC has joined the OpenStep camp.

IBM DELIVERS EARLY OPENDOC KITS

IBM Corp last week debuted an alpha implementation of its OpenDOC tool for OS/2 developers, using the opportunity to paste its object strategy up on to a single billboard. Launch of the kit at PC Expo last week - already out with some 8,000 ISVs - was watched closely by representatives from other IBM divisions in attendance at the event, many of which will be making their own object announcements over the coming weeks and months. Production versions of the OS/2 implementation are due by year-end with AIX, OS/400 and MVS implementations expected next year. OpenDOC, created by IBM, Apple Computer Inc and WordPerfect - and supported by others - is a compound document architecture and built upon IBM’s System Object Model framework for packaging and accessing objects. SOM, the technical basis of IBM’s object strategy, will be supported by around 20 programming tools by year-end, the company says. IBM’s plan is for ISVs to use OpenDOC to create new application objects, or to “componentise” current applications into modules, for re-use in development, and for delivery to users in customised packages. It’s technology that’s sorely needed explains Lee Reiswig, president of IBM’s personal software product division because “80% of what we do now is still infrastructure, plumbing; what we’ve done before but changed a bit which makes it difficult to integrate back in.” IBM’s software solutions division will provide design tools; ISVs can create OpenDOC applications in C++, SmallTalk, OO Cobol, OO Rexx and Visual RPG languages. There’s support for graphical application builders such as VisualAge and VisualGen class libraries; databases, including Object Design Inc ObjectStore, object extensions and wrappers for relational data; plus other libraries for storing and managing objects once they are created. IBM says it’ll move these tools out on to other 32-bit operating systems as the OpenDOC environment evolves. IBM envisages developers - and ultimately users - leveraging the Taligent Inc environment and toolset to design, integrate, extend, customise and use OpenDOC applications. Taligent will provide enhanced development support for stuff like graphics and text and will work with native operating system toolkits where required. Tilting at what it perceives to be crucial deficiencies in Microsoft Corp’s Object Linking & Embedding architecture, IBM last week demonstrated OpenDOC’s bi-directional interoperability with OLE and support for multiple live, non-rectangular and overlapping objects. Although IBM appears to have finally got a coherent object message straightened out - SOM services, OpenDOC components, enablers and tools and the Taligent end-user environment (and the the PC Expo crowd lapped it up) it’s still got some way to go on implementation. OpenDOC is only up OS/2, whilst Taligent is currently an AIX-only technology.

BEAR STEARNS CONFERENCE

At the Bear Stearns & Co technology conference in New York last week, more company officials were on the podium offering an insight into what their firms are planning: these items were derived from the reports filed by Reuters and Dow Jones & Co staffers at the event.

Dell Computer Corp, which is beginning to re-stimulate growth in personal computer demand with more competitive pricing, may as a result see moderate improvement in its gross margins. The gross margin at the company climbed to 22.2% in the first quarter ended May 1, from 18.6% in the fourth quarter. Dell expects to introduce new portable computers this summer, and is refocusing its efforts on re-establishing its dominance in direct-marketing or mail order. It said its introduction of a Pentium-based computer for under \$2,000 should help re-establish its position. Moreover, the computer industry is in a rapid transition from Intel Corp's 80486 microprocessor to the Pentium processor and in the first quarter, 10% of Dell's system revenues were Pentium-based personal computers.

Cisco Systems Inc VP of finance John Russell said the company is on track to double the number of the computer internetworking devices it will ship by the July 31 fiscal year end, but would not say what that would mean in terms of earnings.

Stratus Computer Inc expects a "gradual, not precipitous" decline in gross profit margins throughout this year and next, chief executive William Foster told the conference, suggesting slippage of two to three percentage points this year, and about the same amount next year. This reflects the basic industry trend of falling margins, he said, but could not say when the decline would halt.

IBM Corp must have been one of the last to the Bear Stearns Technology Conference podium, but its general manager, Multimedia Systems, Paul Loftus came bearing the hot news that the company has been chosen by Hong Kong Telecommunications Ltd to conduct an interactive television trial, supplying servers and set-top boxes. The trial will start in August or September in about 25 to 30 Hong Kong homes.

Oracle Corp told the Bear Stearns conference last week that it expects to retain and perhaps expand its market share in its core database business. It plans a major push into corporate and consumer markets for interactive information and noted that it is embarking on a trial of interactive television with Bellsouth Corp, running on a Hewlett-Packard Co server. The trial represents the fourth that Oracle has established with telecommunications companies, the others being with British Telecommunications Plc, Bell Atlantic Corp and US West Inc. The company will make a series of announcements this year about its push into the interactive market, with the effort being focused on making Oracle software usable both on additional servers and for services that companies such as retailers would provide. The company is excited about its new Context software, which highlights information in documents, and sees it as appropriate for the corporate market. It expects its workforce to grow beyond its current 12,058 this year.

Compaq Computer Corp thinks the PowerPC chip is likely to remain a niche microprocessor and will be unable to make much of a dent in the marketplace, which is dominated by the Intel Corp iAPX-86 processor that it uses. It plans to target the client/server market as more mainframe computer functions are handled by PC networks. The company also said it plans a major entry into the datacomms market. Compaq is counting on continued growth in the consumer segment. It believes PowerPC products, currently being developed and introduced by Apple and IBM Corp won't have a large impact on the market as computer technology continues to leap-frog forward and prices continue to come down. Compaq also said it is unlikely that Apple's operating system for the Macintosh, System 7.0, will move into the mainstream computing world. The firm expects company partnerships to become increasingly critical for success in the technology segments in the future.

MIPS HAS HYBRID DAUGHTERCARD

Mips Technologies Inc is hoping to grab a share of the action in the PC market by launching a hybrid daughtercard design which includes both Pentium and Mips RISC chips. The card, to be sold with utility software as a kit, will be called Ultra-P. Users would boot the system in X-86 mode, and would switch platforms by activating a switch utility which would communicate the change to the motherboard. The design, which supports R4200, 200MHz R4400 and R4600 chips, will be licensed to PC manufacturers free of charge. Mips is rationalising that the design will appeal to users because it means that they won't have to invest in two machines.

SEQUOIA BUYS ITS DISTRIBUTOR IN OZ

Marlborough, Massachusetts-based fault-tolerant Unix systems specialist Sequoia Systems Inc is so well recovered from its financial ills that it now feels fit enough to mop up the 85% in its Sequoia Systems Pty Ltd distributor in Australia that it does not already own. The vendor is Tricom Group Pty Ltd, but terms were not disclosed. Sequoia expects the firm to add about \$2m to annual revenues - it did \$41m in fiscal 1993.

LABTAM TAKES TEKTRONIX DOWN UNDER

Tektronix Inc has signed Labtam Pty Ltd of Braeside, Victoria to manufacture and market Tektronix X Window System terminals in Australia. Labtam is already a manufacturer of X terminals, and in return, Tektronix gets rights to its X Engine Technology, and Labtam and Tektronix will explore future technology developments for potential worldwide export. Labtam also has ISDN skills Tektronix hopes to exploit. Tektronix will also contribute to the costs of expanding Labtam's Braeside manufacturing facilities.

GRESHAM TELECOMPUTING IS UNDER NEW MANAGEMENT

The secret of putting the best gloss possible on your results is to choose carefully what you compare them with. Gresham Telecomputing Plc would like us to compare its interim results not with the first half of last year but against the second, or most recent half. Indeed, if you compare the six months to April 30 1994 with the first half of last year, pre-tax profits fall a whopping 41.8% to £244,000 on turnover flat at £3.1m. But against the second half of last year, the first half to follow the group's restructuring, pre-tax jumped 84.8% on turnover up 11.0%. Such are the joys of numbers! Of the results just published, reorganisation costs shaved a further £53,000 off operating profits, but chairman Hamish Donaldson is confident that these will be recovered in the remainder of this year through reduced costs, and benefits will accrue over years to come. Interwork Ltd, bought in January with the issue of 700,000 new shares and the option for a further 400,000 shares, contributed £37,000 to operating profits on turnover of £144,000. Ex-Interwork directors Christopher Swinbank and Christopher Howe-Davies were appointed as Gresham's managing director and sales director respectively, and a new organisational structure was set in place from April. The group hopes to manage and expand revenue streams more effectively and focus its sales strategy. Donaldson feels that early forecasts predicting a mass exodus of users to open systems have been over-optimistic. People are not rushing to hurl their mainframes from windows, as they see too great a risk in abandoning well-tried proprietary hardware for fragmented open systems. High publicity for those that have tried and failed has done little to encourage this particular leap of faith for the sake of saving money. Donaldson sees the real incentive for change arising with the demand for greater functionality, typically a consequence of business process re-engineering. Gresham is finding that such opportunities mean the addition of complementary new open systems and personal computer applications rather than the replacement of mainframes. Gresham has outlined three markets for its products: traditional mainframe utility products; transaction processing and utility products for open systems; and interworking products to operate between mainframes, open systems and personal computer. Gresham has seen an upturn in its mainframe utilities sales, and plans to expand to cover open systems. Dun & Bradstreet Software Inc has taken 30 orders for tp+ this year, and Gresham is at present creating standard interworking utilities for its DataServe range. As in previous years it has proposed no interim dividend.

SUN TO FORM NEW UNIT FOR VIDEO-ON-DEMAND FRAY

Rushing to catch up rivals such as Hewlett-Packard Co and Silicon Graphics Inc, Sun Microsystems Inc says it will form a new business unit, Sun Interactive, within the next three months to build computer products for the telephone, cable and interactive markets. The news was given by Ed Callahan, vice-president and general manager of Sun's global telecommunications and cable division, at the Bear Stearns 1994 technology conference. The new unit will develop a media server, based on standard Sun products, and it will be ready to ship by the second half of next year. "The objective of this new organisation is to bring together in a single unit the components from Sun businesses that are focused on the information superhighway," Callahan said, adding that it will focus on making connections between Sun's server products, Asynchronous Transfer Mode Networks and set-top devices.

IBM AND SUNSOFT INK OEM DEAL...

IBM Corp has finally nailed down its Solaris-for-PowerPC OEM agreement with SunSoft Inc that's been brewing for months (UX No 489). SunSoft is doing the port - IBM has rights to sell Solaris bundled or unbundled for all of its PowerPC platforms, including Power Personals. SunSoft will kick-off a software and hardware support program for the port. Solaris on PowerPC will provide the same features, functionality and APIs as Solaris 2.4 for Sparc and Intel. Solaris application developers will need to recompile for PowerPC, and SunSoft will add PowerPC developers to its third-party Catalyst book. IBM politics mean users likely won't be able to buy Solaris on PowerPC from IBM until sometime during the first half of 1995, although SunSoft will offer early access kits from October.

...SUNSOFT OFFERS NEW INTERACTIVE UNIX

Meanwhile, SunSoft Inc has also upgraded its Interactive Unix for V/386 Intel systems to version 4.1 from release 3.2. The new implementation includes support for PCMCIA cards, PCI bus, PCI-based disk controllers and other PC peripherals and can be loaded into 20Mb of disk. It comes with a NetWare-compatible IPX/SPX stack so that application can be accessed by NetWare clients. Prices go from \$500 - upgrades are at from \$100. An optimising C compiler will be sold separately at \$400 from August. Through reseller CSA Automated Systems Pte Ltd, SunSoft has won a 300-seat Release 4.1 deal with Singapore firm Abacus Distributed Systems Pte Ltd.

INFORMIX UK DEALERS THREATEN REVOLT

Informix Corp is now threatened with revolt amongst its dealer community in the UK by choosing not to renew contracts with veteran distributors TopLog and Sphinx Level V, but by deciding to go it alone with Frontline Distribution Ltd. This is despite the fact that last fiscal year, the firm generated some 32% of its indirect channel revenue with the former and more than 45% with the latter. Both distributors were outraged with the way Informix carried out its policy - they were given no prior warning and no explanation of the rationale behind the move. They were simply told they could purchase Informix stock up until July and would not be authorised to sell it beyond the end of September. The two accused the company of "squeeze tactics to increase their margins and improve service revenues with the introduction of mandated service contracts. It is our belief that Informix do not want to grow this business. They simply want a bigger slice of the existing cake." Meanwhile, last week, UK reseller Microdec formed a VAR protest group to try and get Informix to reverse its decision. The group, which is expected to include about 60 VARs, is scheduled to meet in mid-July. Microdec managing director Phil Dobson declared, "Informix is abandoning its VARs by this decision, but if it expects us to take this lying down it can forget it. We will source from the US if Informix tries to force us down this road." Informix currently generates some 60% of its total UK turnover via the indirect channel, but aims to have a 50-50 direct/indirect split by the end of its next fiscal year. The firm has taken on between 10 and 15 direct sales staff over the past six months, bringing the total to 25, and intends to grow this still further in the months ahead with the aim of penetrating more deeply into the large corporate accounts that it says the VAR community has not managed to reach. Informix certainly doesn't seem to see what all the fuss is about or appreciate the anti-competition stance it is taking in removing choice from the reseller community - "this will now allow us to focus all our resources on one distributor rather than split it three ways", it said, and anyway, "typically 95% of our VARs single-source their products". It decided to go with Front-Line, it added, because of its size, financial strength, reputation in the client/server market, and the fact that it promised to match the trading terms offered by the other distributors - TopLog and Sphinx weren't even asked if they would be prepared to do so, however.

AT&T TAKES HP'S OPENVIEW FOR ONEVISION SYSTEMS MANAGEMENT PACK

As anticipated (UX No 493), AT&T Co has signed for Hewlett-Packard Co's OpenView network management system, which will feature in a new, integrated network systems management package it's readying called OneVision. AT&T will combine OpenView with its own BaseWorkX system and other third party software in OneVision for Unix and NT. Its aim is to create a single environment that can be used by its telecommunications and IT customers as well as internally. To start the ball rolling, HP is putting its OpenView Network Node Manager up on AT&T Unix hardware from the fourth quarter - on NT during the second half of next year. AT&T's current network management solution, StarSentry Systems Manager, uses NetLabs Inc eponymous distributed network solution. To enable StarSentry users to migrate up to the OpenView-based OneVision, HP has followed the likes of SunSoft Inc to NetLabs Inc's door and licensed the Los Altos, California-based company's DiMONS 3G NerveCenter event correlation system and migration tools for use as an application in a version of HP OpenView Network Node Manager due mid-1995. In the interim, NetLabs will from September begin offering a version of NerveCenter that coexists and integrates with the current Network Node Manager 3.3. NetLabs, which aims to be an applications company, not a framework provider, just as soon as it can, will develop migration tools to help users move applications across.

FIRST MERGED HP/INTEL CPU'S TO START WITH PA9000 AND P7 RESPECTIVELY

Hewlett-Packard Co has confirmed that the deal to merge the PA RISC microprocessor architecture with Intel Corp's (UX No 491) will start with its PA 9000, which "is not due before 1997", and Intel Corp's P7. The CPU will be released in different iterations for different machines scaling from personal computers to mainframes, and will be fabricated in new jointly built and run facilities offering an 0.25 micron die size. However, the location has not been decided yet, nor the name of the new processor. HP reckons it will be another couple of months before specific details are decided upon, but promises these will be made available by the end of the year. Nonetheless, the firm believes that many of the instructions necessary for parallel execution will not be included in the chip - parallelism will instead be undertaken by the Very Long Instruction Word Trace compilers that HP inherited from Multiflow Computers Inc. HP believes this will take the chip beyond the traditional four-way superscalar limitations of RISC, enabling it to add more pipelines. The processor is also likely to have between two and four times the 3m transistors currently found in the 7100LC (UX No 467). The PA 8000, meanwhile, scheduled for release in 1995, is expected to provide between two and four times the performance of the 7150LC, and will be initially manufactured at 0.5 micron die size. This will be reduced to 0.35 micron over time.

TELMAT TO ACQUIRE ARCHIPEL

Archipel SA went into liquidation about two months ago, and is about to be bought out by massively parallel computer manufacturer Telmat Informatique SA. Telmat was given the right to buy the Annecy-le-Vieux, France-based firm last week by a French court. About 15 of Archipel's 35 staff have already been made redundant since it went into the hands of the liquidators, and more are likely to go as Telmat is only interested in certain areas of its business, such as the Volvix parallel Unix operating system, which is based on the Chorus microkernel (UX No 483), and applications developed for the telecommunications market. Telmat says it has not yet decided whether it will use Volvix on its own machines, although it will be looking at that possibility.

SHANNON COMPUTERS TOUTS PLATFORM 2000 SWAPPABLE CPU MOTHERBOARD

Is it possible to build a PowerPC Reference Platform-compliant personal computer with swappable CPU boards? It is according to ~~Shannon Computers Inc, a small privately owned company based in~~ Alton, New Hampshire. The company's 'Platform 2000' consists of a single motherboard, into which can be slotted a variety of CPU modules. Currently it has module designs for 80486; Intel Corp's P54C Pentium; Digital Equipment Corp's Alpha; R-Series RISC; PowerPC 601 and PowerPC 603 modules - and a PowerPC 604 design is currently in the works. The CPU modules, or 'engine cards', contain the processor and cache linked to the main motherboard via a Peripheral Component Interconnect socket. The company does not intend to manufacture machines itself, rather licensing the design to clone manufacturers. "They pay one dollar on each motherboard shipped," says president Paul Gibbs, who optimistically points out that this amount can drop to 50 cents each if a company builds enough to attract a bulk discount.

Considerably cheaper

Gibbs reckons that Shannon's effort is considerably cheaper to build than the desktop machine described in IBM Corp's PowerPC Reference Platform document, a machine he describes as "a very heavily populated board". Gibbs says the motherboard design costs less than \$300 to make and is entirely composed of standard parts. That price includes the cost of Intel Corp's high-end Saturn2 Peripheral Component Interconnect chip set. The company fell on the personal computer almost by accident. Traditionally it had been a manufacturer of Motorola-based Unix machines, but a discussion on what processors its future machines should use turned into what Gibbs describes as a technical debate with "much shouting and waving of the arms". The result was the realisation that it was not really necessary to make a decision and that it should be possible to build a machine that could support a variety of processors. From there it was a small step to design the generic personal computer and to decide to licence the blueprint to others. Shannon began designing schematics for the machines about one and a half years ago and has picked up about eight small licensees already, none of them are household names. However it did not take long for one or two problems to appear. Under the original business plan, Shannon simply intended to supply the schematics and advice to licensees and let them get on with it. However its first attempt, with a Taiwanese manufacturer, showed that more hand-holding would be needed. "The result was very disappointing," Gibbs readily admits; when Shannon saw the finished implementation, the design had been interpreted so loosely, and so many components had been replaced with differently specified parts, that the board bore no relation to its schematics and did not work properly. The company has now changed its business plan in response to this initial setback. Instead of simply supplying the designs it can now supply the component tapes used by the automated machines that build motherboards, and Shannon hopes this will eradicate the problem. This will be the full extent of the company's manufacturing contribution to the board's construction. Indeed Gibbs declares "if I have my way we will probably shrink", as the company's concentration moves from manufacturing to designing for others.

INFONET'S OSWARE CHANGES ITS NAME, EXPANDS EUROPEAN DISTRIBUTION

Now that most of the shine has worn off the Open Systems Interconnection buzzword, the OSWare subsidiary of Infonet Services Corp, based in El Segundo, California, has announced plans to change its name to Infonet Software Solutions. It also has two new distribution agreements, the first an OEM one where it will resell the MailmaX400 Remote User Agent from Norway's MaXware A/S, and the second is to distribute Alsager, Staffordshire-based Boldon James Ltd's Enterprise Mail User Agents worldwide on a non-exclusive basis. The MailmaX400 give a stand-alone personal computer users access to corporate messaging systems via modem or X25, while the Enterprise Agents are said to provide X400 messaging capabilities for local and wide area network client/server and host environments, running under the likes of MS-DOS, Windows, Unix and Motif. Infonet, part owned by MCI Communications, took a 67% stake in Canadian company OSWare Ltd back in 1990.

SLIMMED-DOWN POWERPC 604 ON THE WAY...

There are no details on this one yet, but James Thomas, IBM Corp's director of RISC Microprocessor development, says we can expect a version of the PowerPC 604 with a smaller die-size. ~~Showing a picture of the 604 to an audience of industry luminaries~~ at Dataquest's European Semiconductor Industry Conference the other day, he described the 604 as "a little bit chubby, for time-to-market reasons" and added "but you should expect to see that [die size] come down". Our best guess is that IBM is working on a version of the 604 that uses its new 0.5 micron transistor geometry, the technology that was used to shrink the 601 from 120mm square to 74mm square and cut its power consumption from 8 Watts to 4 Watts, despite the increased clock speed.

...AS IBM PRICES 603, CUTS TAGS ON 601...

Meantime IBM Corp announced that the PowerPC 603 would be out in volume next quarter at \$165 for the 66MHz version and \$195 for the 80MHz version when you order 25,000 or more. The company also cut its prices on the 601 to \$175 for the 50MHz version, \$197 for the 66MHz and \$275 for the 80MHz, again for 25,000-up.

...AND MOTOROLA ADDS 603, 604 PERSONAL COMPUTER MOTHERBOARDS

Motorola Inc has followed up its PowerPC-based single board computers for embedded applications with Ultra and Atlas variants designed to be used as motherboards for PowerPC-based personal computers. Fitted with 66MHz PowerPC 603 or 100MHz 604, the Ultras are an all-in-one, low-profile motherboards, the Atlases are in a standard Baby-AT form factor. Motorola is pitching them at the embryonic Windows NT-on-RISC market. They come with 8Mb to 128Mb of parity RAM, and a Peripheral Component Interconnect local bus, PCI and AT expansion slots; an 8-bit SCSI-2 bus interface and an Ethernet transceiver interface, each with 32-bit PCI local bus burst direct memory access; 10base-2 and 10base-T interfaces; a floppy port, IDE port; a mouse and keyboard ports. There are also two serial ports in addition to an IEEE 1284 Centronics bi-directional parallel port. The Ultra supports 16-bit stereo audio Super VGA graphics up to 1,024 bits by 768 lines and 65,000 colours non-interlaced and 1,280 bits by 1,024 lines in 65,000 colours interlaced. The boards are PowerPC Reference Platform-compliant inasmuch as that is possible with the specification still unfinished. The boards will cost under \$1,000 each in volume and they will be available in the fourth quarter.

TAIPEI GETS FIRST POWERPC TECHNICAL CENTRE - PENDING REGULATORY GO-AHEAD

IBM Corp and Motorola Inc plan to open what they say is the first of a series of PowerPC Technical Centres designed to assist hardware and software developers and chip set suppliers. The chosen first location is Taipei, part of the pair's continuing bid to woo the Taiwanese personal computer industry. There is no news on the number of staff that will be committed to the venture, but the companies say that they will be able to provide hands-on training for about 40 engineers at any one time. Neither is there a firm opening date for the centre: IBM and Motorola say they have submitted operational plans to the Fair Trade Commission in Taiwan, to ensure that they meet "the best interest and fairness within the Taiwan PC industry". Unfortunately, as we went to press no one from either company could clarify this statement, or explain its implications. The role of the Taiwanese centre is relatively clear since it has the New Taiwan PC Consortium to serve: how the US and European centres will operate is less clear. Motorola says it is still trying to establish what services the centres should provide.

OLICOM'S PCMCIA CARD LINKS UP NOTEBOOKS TO ETHERNET NETWORKS

Copenhagen, Denmark-headquartered Olicom A/S has announced a new PCMCIA Type II Network Interface Card for the connection of notebook personal computers and other PCMCIA-supporting computers to Ethernet networks. The Olicom EtherCom PCMCIA card supports all major network operating systems from IBM Corp, Novell Inc and Microsoft Corp, it says. The PCMCIA card comes in two versions, supporting unshielded twisted pair only, or unshielded twisted pair and co-axial cable. They are shipping now, but ominously, Olicom is not giving prices.

HEWLETT-PACKARD JOINS UTG

Hewlett-Packard Co says nothing untoward should be read into its joining UnixWare Technology Group Inc last week; it runs UnixWare on its Intel PCs and says it's committed to HP-UX as its strategic Unix OS. HP has joined the supporters club as a sponsor member and board director to help influence UnixWare's direction and to work with other UTG firms on systems management, objects and DCE integration.

ODMG AGREES NEW OBJECT DATABASE INTERFACE SPEC

The Object Database Management Group has agreed on release 1.1 of its ODMG-93 specification which it is trying to establish as a common interface for application portability across object databases. Version 1.1 improves C++ bindings and has better object definition language grammar than last October's 1.0 release, the group says. ODMG has picked up Andersen Consulting, Chicago, Illinois; EDS, Arlington, Texas; Micram Object Technology GmbH, Bochum, Germany; Persistence Software, San Mateo, California; and Sybase Inc, Emeryville, California, as new members. EDS and Andersen, not object database vendors, can only participate as reviewer, not voting members.

ILOG INTRODUCES SCHEDULE, SOLVER IN US

As anticipated (UX No 484), Compagnie des Machines Bull SA will begin marketing Ilog Inc's constraint-based Ilog Solver programming system fused with its own Charme Object system as Bull Solver. Already previewed in Europe, and as promised at that time, Mountain View, California-based Ilog has also announced its Ilog Schedule C++ add-on to Solver for scheduling application development tasks. Schedule has three types of user-definable resources for single entities (such as an individual), multiple entities (such as groups), and entities defined by physical state, such as oven temperature). Ilog sees corporates using Schedule for allocating personnel; system integrators developing customised applications and ISVs. Ilog Schedule is up on DEC, Sun, HP, SGI and IBM Unices and Windows PCs at from \$10,000 on workstations, \$6,500 on personal computers. Ilog Solver is \$20,000 on workstations, \$13,000 on personal computers.

PROGRESS ADDS ORACLE, SYBASE LINKS

Progress Software Corp has added Oracle and Sybase implementations of version 7 of its DataServer application builder, already up on C-ISAM and DB2/400 databases. Progress says DataServer APIs allow transactions to be processed locally or remotely on a variety of database architectures, including its own. Windows DataServer client access to Oracle over Progress networking is already available. In October Windows and Unix clients will be able to access Oracle over Progress networking or Oracle sql net. Windows access to Sybase version 4 over Progress networking is already out. A version of DataServer for Sybase System 10 will beta in the fourth quarter and ship first quarter 1995, providing access over Progress networking or Sybase Netlib; host-based Unix DataServer support is also promised for the first quarter of the next year. Prices for both DataServers go from \$360 to \$36,000. +1 617 280 4000.

SAPIENS HAS MAINFRAME DATA ENCAPSULATION TOOL BASED ON SOM

Sapiens International NV has introduced its IBM Corp System Object Model-compliant ObjectPool, effectively extending its Ideo Unix, VAX and PC application development system to MVS, VM and VSE mainframe users. Endorsing the IBM Corba technology, Sapiens sees ObjectPool as the means for creating an object-based architecture for accessing data across heterogeneous systems, LANs and databases. Initially, ObjectPool will allow MVS users to encapsulate DB2, IMS, VSAM, DL/I and other mainframe data as objects which Sapiens says can be used as building blocks for client/server applications. In conjunction with Ideo, ObjectPool will eliminate the need to replicate mainframe data or build gateways from client/server applications, Sapiens says. An MVS ObjectPool starter kit is out in July at from \$37,500 - general ships start in December. Unix and PC versions of ObjectPool are underway.

DTK SHOWS POWERPC HAND

Taiwan New PC Consortium member DTK, aka Datatech Enterprises Co, was showing off its PowerPC 601 system at PC Expo in New York last week. The company plans to ship 603 and 604 systems in the first quarter of next year and says it'll formally announce its anticipated dual-processor 601 box around the same time. The OEM-destined 601s will be offered for AIX, Solaris, Windows NT and OS/2. The 66MHz or 80MHz board-level systems support Baby AT or Western Digital expansion forms. +886 20999 6709.

SUN HAS HARDWARE/SOFTWARE COMBINE FOR FASTER WINDOWS APPS ON SPARC

Sun Microsystems Inc's Sparc Technology Business, now charged with winning back performance leadership for Sun's RISC, is looking at ways of enabling Windows applications to run faster on future versions of Sparc. The 64-bit Sparc V9 design that'll get its first airing in the widely-previewed Ultrasparc unit will have some support for the Intel iAPX-86 instruction set, but won't implement the entire set. STB says it'll implement next-generation emulation technologies in hardware and software. It says it has examined the way in which applications use Wabi and has been able to optimise designs around particular Windows application requirements.

HYUNDAI ADOPTS SUN'S MICROSPARC AS CORE OF ITS MULTIMEDIA OFFERINGS

Hyundai Electronics Industries Ltd, Seoul, South Korea has planted another foot in the Sparc camp via an agreement between the San Jose-based Digital Media Division of Hyundai Electronics America and Sun Microsystems Inc's Sparc Technology Business, giving Hyundai the rights to manufacture the microSparc RISC processor for incorporation into its audio and video decoding products. Hyundai wants the part as the core for a family of low-cost, single-chip decoders based on the Motion Picture Experts Group level 2 standard for real-time studio-quality video for use in consumer, communications and computer markets, including digital set-top converter boxes, CD-ROM players and karaoke machines. First products are expected early 1995. Although Hyundai has recently been seen with a PowerPC box (UX 490), its US unit operates Sparc builder Axil Workstations Inc (now as a separate subsidiary).

LEGENT OFFERS MAINFRAME-TO-UNIX DATABASE MIGRATION

Legent Corp, Herndon, Virginia, is now shipping its LDM/XP mainframe-to-Unix migration tools for extracting DB2 and VSAM data and transporting it into a range of target databases. Legent says the set provides for full data replication, including compression, integrity, checking, buffering and restart within the transport mechanism. Legent says standard relational database load processes can be optimised or replaced, and that LDM/XP can be integrated with any mainframe job scheduler or automation product. LD-Extraction grabs the data from VSAM or DB2 - the latter with or without SQL. LD-Conversion converts the data - whilst still on the MVS mainframe - for DB2, DB2/2, DB2/6000, Oracle, Sybase, dBASE and Foxpro. LD-Transport moves the data off the mainframe to wherever it's required. LD-Apply loads the data into DB2/6000 and DB2/2. Sybase and HP-UX support is new - they're due in September. Per CPU class, Extraction goes from \$2,400, Conversion from \$3,200. Transport costs from \$10,200 and Apply is \$750 per copy. Legent has also added new versions of its tools for optimising and managing Oracle applications: Ace JobScheduler 1.4, Ace Reorg and Ace Tester 1.1. Prices start at \$7,500, \$5,000 and \$10,000 respectively.

DG AND INSCI MARKET OPTICAL STORAGE SOLUTION

Data General Corp of Westborough, Massachusetts is to market a high-volume data storage and retrieval system with Insci Corp: the alliance covers a product called Coinserv, or computer output information server, based on "highly reliable optical storage", integrated with Insci retrieval software and Data General's AViiON Unix servers. The companies say Coinserv enables large enterprises to replace line printer, microfiche and tape output and storage with immediate on-line access to mainframe data through existing local area networks, terminals and personal computers.

Software Roundup

Santa Clara, California-based **Rational Software Corp** is shipping a new Solaris-based version of its Ada software engineering environment, Rational Apex. The company already has versions running under AIX and SunOS.

La Jolla, California firm **Pacer Software Inc** has new versions of its PacerShare and PacerPrint Mac network-to-Unix server connectivity software for AIX, OSF/1, and Solaris x86 from \$3,000 for a 20-user licence now.

Oracle Corp's ConText allows developers to build SunOS applications that can search and analyse ASCII files. Its engine identifies document themes, creates an index and puts results into C libraries. Out now, prices start from \$15,000.

Ontario, Canada-based **Microstar Software Ltd** is shipping a SunOS 4.1.x version of its Near & Far electronic document designer. Support for other Unixes will follow. +1 613 727 5696.

Progress Software Corp has ported version 7.0 of its application development environment and relational database to ICL, NCR, SGI, Unisys, UnixWare, Solaris, Motorola and Sequent Unixes; OpenVMS and OSF/1 versions will follow. +1 617 280 4000.

Bristol Technology Inc, Ridgefield, Connecticut, has debuted version 4 of its Microsoft WinHelp-compatible HyperHelp development system for Unix. Version 4 supports most documentation tools - including FrameMaker and Interleaf - as well as Microsoft Dynamic Link Libraries. It costs \$5,000. +1 203 438 6969.

PDC, King of Prussia, Pennsylvania, which recently merged with Delta systems, is offering version 4.3 of its PDC BudTool Unix backup software with enhanced automated media management support and easier installation tools. +1 610 265 3300.

Interleaf Inc, Waltham, Massachusetts, says version 2 of its WorldView document distribution and retrieval software is 50% faster than the existing edition: it's priced at \$200.

Gupta Corp is hoping to attract higher-end users of its SQLBase database and development tools with further Unix ports, including Solaris which is set for early 1995. SQLBase, at \$10,000, is far cheaper than traditional Unix offerings. A UnixWare implementation is already in hand.

SunOS 4.3.1 (Solaris 1) users are getting an upgraded 2.2.1 version of SunNet Manager with easier installation and configuration tools, which are already available for Solaris 2 users in SunNet Manager 2.2, plus SNMPv2 support, new icons, an object editor, enhanced problem tracking and aliasing. It's priced from \$5,000 - upgrades are \$2,000 and Solaris 2 users can now upgrade to SunNet Manager for the same price.

MITI, Long Beach, California, is shipping an Ingres version of its procedural 4GL writer SQR Workbench at from \$1,200. Version 3.0 of its Oracle database monitoring system, WatchWorks, will ship in the third quarter. +1 310 424 4399.

Qualix Group Inc, San Mateo, California, is offering an access security management package called UniShield for SunOS and Solaris, with HP-UX and AIX versions to follow. It is priced from \$1,000. +1 415 572 0200.

Newton Centre, Massachusetts-based **Segue Software Inc** will ship version 2.0 of its QA Partner GUI tester for 22 platforms this month. It's \$3,000 on PCs, \$7,000 under Unix.

Platinum Technology Inc, Oakbrook Terrace, Illinois, is putting its database toolset up on DB2/6000, HP-UX and Solaris.

Herndon, Virginia-based **Network Imaging Systems Inc** says its IView applications can capture, store and provide access to data stored in any form within an organisation. It runs on UnixWare, Solaris and AIX servers and DOS/Windows clients over TCP/IP. Prices go from \$40,000. +1 703 478 2260.

Columbus, Ohio firm **Symix Computer Systems Inc** is offering version 3.0 of its Progress Software Corp-based discrete manufacturing software on Unix, DOS and VMS. Prices start from \$20,000. +1 614 523 7231.

Waltham, Massachusetts-based **JetForm Corp's** JetForm Server form software is now up on Sun, HP, IBM Alpha OSF/1, SCO, NCR and ICL Unixes. It costs \$3,000. +1 617 647 7700.

Auspex Systems Inc has put **Epoch Systems Inc's** Enterprise Backup 2.0 backup and recovery software up on its network file servers - prices go from \$12,500. +1 408 986 2000.

San Jose, California-based **WordMark International Corp** is offering its WiziWord graphical word processor in Unix, Mac and PC versions starting at \$700, \$400 and \$600 respectively. +1 415 813 8989.

XVT Inc is readying PowerMac versions of its GUI development systems for the third quarter.

Revolutionary Software Inc, Santa Cruz, California, is offering version 6.2 of its /rdb database toolset at \$150 on SCO, Linux, BSDI, UnixWare, Interactive, Solaris and Coherent Unixes. An X Window front-end is only supported on Sparc platforms presently, though other architectures will be supported by summer, along with Windows. +1 408 429 6229.

Cambridge, UK firm **IXI Ltd's** Panorama "virtual" workspace software which extends the desktop beyond screen size is now up on a range of Unixes - it was previously only available on Sun platforms.

Hewlett-Packard Co's SynerVision/ChangeVision process management software bundle will be up on Solaris from August at \$3,000.

MAI subsidiary, Danvers, Massachusetts firm **Sextant Corp** has introduced version 7.2 of its Windows client, Unix server-based Manbase manufacturing resource planning system, which supports Oracle and Sybase and now includes a graphical scheduling system written in PowerBuilder. +1 508 762 0350.

Tandem Computers Inc is teaming with New Jersey firm **DGM&S Inc** to put signalling system 7-based network software up on Integrity fault-tolerant Unix systems.

Alameda, California-based **Wind River Systems Inc** has put its VxWorks embedded application development environment and operating system and WindPower toolset up on Intel Corp iAPX-86 and AMD 29K processors. It costs \$23,500 for a 10-user licence. +1 510 824 2035.

UniPress Software Inc, Edison, New Jersey, has beta versions of its Microsoft LAN Manager implementation for Solaris 2.x, which allows Sun systems to act as servers for PC client applications on DOS, NT, Windows for Workgroups and OS/2. LMU V2.2 for Solaris 2 will be generally available from the third quarter - SunOS versions are already available from \$2,400. +1 908 287 2100.

PeopleSoft Inc, Walnut Creek, California, has debuted version 2.2 of its financial management applications: the various PeopleSoft Financials modules now have more multi-currency options and being based upon PeopleSoft's latest PeopleTools 3.1 technology come with enhanced reporting features. DB2 and Rdb support is now included in addition to SQLBase and Oracle, with Sybase due. PeopleSoft application are now up on Pyramid Technology Corp servers. +1 510 946 9460.

KnowledgeWare Inc is to market **NetWise Inc** TransAccess CICS and IMS connectivity software with its ObjectView application development environment.

Unix VAR, **Lighthouse Technology Inc**, Carlsbad, California, a start-up founded by Andataco Inc refugees, continues to pillage executives from the storage and Liken Mac emulator house (UX No 489): Michael Sedlmayer becomes CFO, Richard Mussman is VP operations, Jim Hench from DG is VP sales. Lighthouse named all of its product lines after styles of music - Sonata disks etc - instead of part numbers. +1 619 431 8288.

Now **Intergraph Corp** is putting MicroStation 5.0 CAD system up on Silicon Graphics Inc Mips RISC-based Indigos at from \$3,800 (UX No 492).

New York firm **ILX Systems Inc** has put its ILX Workstation financial market data software up on Sun Sparcstations: the two will market the solutions to brokerage firms. ILX +1 212 720 3047.

Tenon Intersystems Inc, Santa Barbara, California, has a new X Server for Mac and Power Mac currently bundled with its MachTen Unix-on-Mac software. It's unbundled from the fourth quarter. +1 805 963 6983.

Lucid Inc, Menlo Park, California, has bundling San Mateo, California start-up OpenObjects' Look! dynamic browser to its C and C++ Energize development environment at from \$6,000. Lucid says it's now shipping the Energize 3.0 for Sun Sparcs.

Hewlett-Packard Co will add version 2.6 of Visual Edge Software Ltd's UIM/X Unix and Windows GUI builder and Cross Platform Toolset to its list from August: on HP-UX, SunOS and Solaris UIM/X is \$5,000, the toolset is from \$2,500.

Boston, Massachusetts software house **Percussion Software Inc** will bring its Lotus Notes programming tools, Notrix and Notrix Composer for EDA/SQL to Unix, Windows NT and NetWare between the end of the year and early 1995. The company says it expects to licence other third party database and tools software for Notrix to provide closer links between Notes and relational databases.

ORACLE BURSTS THROUGH THE \$2,000m SALES BARRIER...

Oracle Systems Corp has burst through the two billion dollar barrier for the first time. Fourth quarter net profits were up 65.6% at \$114.5m on turnover that rose 41.4% at \$668.1m. Net profit for the year to May 31 rose 188.7% at \$283.7m against a period including a \$43.5m charge for the cumulative effect of an accounting change, and \$24m for settlement of litigation, on turnover up 33.2% at \$2,001.1m. Oracle said that within the 41% fourth quarter increase to \$668m, there was a 58% advance in the US, although even the benighted European market managed to put on 22% - and the European results includes a negative currency impact of four percentage points. The Oracle Intercontinental saw a 53% increase in fourth quarter sales, after a two percentage point negative currency impact. The split of business was \$418.3m in licence sales, up 41%, and a 42% increase in those lovely service revenues, which are much more predictable: those came to \$249.8m. Oracle for Unix and the desktop remained its strongest product lines in the fourth quarter. Unix licence revenues increased by 55% over the 1993 period and Desktop sales gained 100% - but then today's desktop machine is the big minicomputer of only five years ago.

...BIGGEST OVERSEAS RESEARCH BASE FOR BANGALORE...

Oracle Corp is the latest company to take the long and winding overland trail down to Bangalore, Karnataka in the heart of southern India, and plans to establish a research and development centre to dwarf even the one in Scotland when it reaches full operation in two years' time, becoming its largest outside the US. "It's a combination of rich talent, government incentives and cost-effectiveness," says Derek Williams, senior vice-president of Oracle's Asia-Pacific division. Investment is set at \$3m this year, and it will hire 100 software developers in the next 12 months. It formed Oracle Software India Pvt Ltd last August.

...OPENS CZECH OFFICE IN PRAGUE TO COMPLEMENT LOCAL DISTRIBUTOR APP

Oracle Corp will formerly open an office in the Czech Republic later this month, says its Central & East European headquarters in Vienna. The company is now taking space in Prague in offices linked to the city's Atrium Hotel. Oracle established an office in Budapest in mid-1993, but until now had no office in the Czech Republic, relying on its contract with APP Group, the domestic systems integration company that previously acted as its representative. APP, which still has the right to distribute Oracle Financials, has welcomed the move, claiming that it would prefer Oracle to provide product support. APP's chief executive officer Eduard Mika says his company has no intention of working with other database suppliers. As a result of APP Group contract wins, Oracle currently has 80 customers in the Republic, including the Austro-Czech Zivnostenska Banka, the Czech National Bank, car maker Skoda and the Czech Presidential Office.

IBM SOLDIERS ON WITH "OPEN MVS" - MAY USE THE UNIX TRADEMARK NEXT YEAR

IBM has made the second release of ESA/MVS OpenEdition generally available. While the initial version of "open" MVS was positioned as a separate product line, OpenEdition Release 2 is a set of services integrated into mainstream MVS/ESA SP Version 5.1. It includes internationalised versions of the Posix 1003.1 and 1003.2 interfaces from Mortice Kern Systems, a C runtime library, support for REXX program execution direct from the shell, NFS Server support and integrated Sockets support for TCP/IP. DCE Base Services support, currently in beta, will be shipped later this year, probably in December, along with DCE Application Servers for CICS and IMS. These will allow IBM transaction processing subsystems to be used as servers interfacing to user-written clients. IBM spokesman Jim Porell said that IBM hoped to be able to license the Unix trademark from X/Open sometime next year for MVS, once it has achieved the XPG4 and Spec 1170 specifications - assuming that all the outstanding copyright issues (including Microsoft's rights to the name) can be resolved by then. Other future plans include object-oriented support via IBM's SOM, NFS Client support and parallel and shared file systems support. OpenEdition applications, currently mostly programming tools, include software from Abraxas, Candle, Computer Associates, Legent, SAIC, Sapiens, Software AG, Sterling and Sybase. IBM hopes end-user applications will begin supporting the new services over the coming year. IBM's aim is to allow System 390 mainframes to operate as a peer, not just a datacentre, in new systems installations.

IBM FORMS NETWORKED APPLICATION SERVICES DIVISION

The so-called InfoBahn is being relentlessly driven by the fun-and-games business, but fun and games are not the first things one thinks of when one considers IBM Corp. Nevertheless, the company is determined to win a place in the fast-lane of the highway, and so fun and games it has to master. Accordingly, the company has formed a new Networked Application Services Division, to be headquartered in yet another of the seemingly endless list of New York state locations where IBM has a base, Thornwood. The new unit is charged with developing the kind of network-based services and products for consumers and businesses that are expected to be the foundation of the Information Superhighway. It will develop vertical market business services and mass market interactive television and Personal Communications Services that operate on the US Advantis network joint venture with Sears, Roebuck & Co, the Prodigy Services Co joint venture with the same company, and the IBM Information Network worldwide. It will be headed by veteran IBMer Fernand Sarrat, who was previously assistant group executive of market development, who will report to James Cannavino, IBM senior vice-president, strategy and development. For Personal Communications Services, IBM is developing its Intelligent Communications service to take on AT&T Corp: the service is intended to provide "anytime, anywhere" service using intelligent agents to send facsimile messages, voicemail and documents to users, by trying various numbers to locate the recipient, and carry out requested tasks. The unit will also look at electronic publishing, public access, electronic markets and Internet-related opportunities. Businesses that will report in to Sarrat include IBM's Multimedia Systems & Market Development, Electronic Market Services, Collaborative Services, Fireworks Partners - which transfers from IBM Personal Systems, Direct Customer Access, and Kiosk Solutions. The new division will start life with fewer than 500 employees.

AT&T TARGETS WORLDWORX AT DESKTOP VIDEOCONFERENCING MARKET

AT&T Corp last week entered the race to provide video-conferencing to the desktop with the launch of WorldWorx services. The system works by compressing video signals to travel on the same line with data and voice traffic. Two people working at computers miles away can share data, see a video of each other and talk to each other. From a business perspective, AT&T's WorldWorx helps expand the markets for several computer and software companies. Eight companies - Apple Computer Inc, Sun Microsystems Computer Corp, Novell Inc, Lotus Development Corp, PictureTel Corp, Xerox Corp, VideoServer Inc and IBM Corp formally pledged to support AT&T's line with hardware and software. Users will need an ISDN or switched 56Kbps line to get WorldWorx services. AT&T would not disclose how much users will have to pay for the services that will be available early next year. One name missing from the supporters' club was Intel Corp, which in January announced a collaborative effort involving AT&T, using Intel's Indeo compression standard for desktop video transmission. AT&T said it was still a partner in Intel's effort, but appears to be ready to compete with Intel with its own alternative as well, and plans to price its adaptor boards - which use the H320 compression system - very low, although at present such boards cost \$5,000 a time and "very low" here still means around \$3,000. The cost of a video call to a business using the WorldWorx system would be from 50 cents to \$1.50 a minute, excluding all the equipment costs.

SAS ANNOUNCES SAS SYSTEM 6.10 - WILL SUPPORT POWERPC

At its SEUGI '94 conference in Strasbourg last week, the SAS Institute duly began talking up Release 6.10 of the SAS System, currently on beta, which it now describes as an object-oriented rapid application development system. The company has added enhancements to its Remote Library Services, making it easier for users to access data on remote platforms via APPC, DECnet, NETbios and TCP/IP. It has also extended its Business Object Library (UX No 493), improved its graphical user interface and included facilities for handling image files. SAS already runs on AIX, HP-UX and Solaris, and with the new version is also out on Mips ABI-compliant systems, Intel's ABI+ and DEC Alpha systems running OSF/1. Its planned support for the Apple Macintosh, due later this summer, will include both Motorola 680x0 and PowerPC systems, SAS said.

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Comdex parent, **The Interface Group**, is now going to manage Uniforum, according to the latest decision out of the old user group.

The **Santa Cruz Operation Inc** has named Dave Norman, founder of the spoiled Businessland Inc retail chain and Dataquest Inc, to its board. Norman is now chief executive of Network Application Technology Inc.

Siemens Nixdorf USA has named Joseph Maguire as VP, Unix Systems to develop and direct strategies to enable the company to become a major player in the client/server marketplace. Siemens Nixdorf says it's gearing up for major growth in its Unix organisation, staffing up with database, communications and OS specialists and expanding its software porting and competency centre at its US headquarters in Burlington, Massachusetts. Maguire joins SNI from Sun Microsystems where he was director, sales operations.

Some of **Taligent Inc's** playmates in its PEEK early access programme have been identified as **Athena Design**, a NeXT and OS/2 spreadsheet; **Brio Technology**, front-end data access tools; **Cadre Technologies**; **Iconix**, object-oriented analysis and design tools; **Nisus Software**, Mac software; and **Sundial Systems Corporation**, time management products.

A group of industrial computer manufacturers have banded together to form a technical and marketing consortium to define and promote a PCI-based passive backplane standard. They think such backplanes may allow Windows NT to eventually displace Unix as the OS of choice in their industry.

IBM will produce its one millionth PowerPC 601 in July, just 10 months after it began making the chips.

HP has signed software development and training house **Bluestone Consulting** to help in its efforts to tempt Sun and DEC users over to the HP way of life.

Acer is to spin out its operating units into 21 different companies by the year 2000, with a parent core company holding at least 19% but less than half of each. Acer Labs makes Mips RISCs, Acer America's charter includes OEM sales of Acer computers in the US. Acer America is scheduled for the client/server spin-out treatment in 1996 with an initial public offering in the U.S. Acer Labs is already a separate entity, with Acer itself holding 51% interest.

Users can now download specifications and some design documents for the **NetWork Management Forum's** Open Management Edge object request broker (UX No 489) from Internet!thumper.bellcore.com!nmf-objects. Meanwhile, the **AIMS** working group is also currently working with the Management Integration Consortium on writing source code that should be publicly available by the autumn.

SunSoft Inc reckons that less than 10% of staff will be made redundant as a result of its European reorganisation (UX No 492). And, the only change in reporting structure, it adds, will be amongst engineering and product marketing staff in Grenoble. These will no longer report to Dennis Yaro at SunConnect, but to Jim Billmaier, who will head up a new networking business unit within SunSoft.

Tadpole Technology Plc has launched Japanese-language versions of its Sparcbook 3 family of portable workstations through a distribution agreement with **Itochu Techno-Sciences Corp**, the main independent distributor of Sun Microsystems Inc workstations, and through an expanded agreement with Sun Microsystems' SunExpress telemarketing arm.

Software distributor **LifeBoat Software Inc** has announced Japanese availability of the ezX for Solaris Motif graphical user interface builder: LifeBoat has been the Japanese distributor for the developer Sunrise Software International since May 1992 and has sold 150 packages to date, saying that this comprises one third of the market which it shares with teleUSE from Alsys SA and UIM/X from Hewlett-Packard Co; it costs \$4,327.

Sybase will have System 10 up on Solaris x86 by the end of the year: prices are set at \$2,000 to \$256,000 for SQL Server 10 with Backup Server - \$300 to \$32,000 for Open Client.

Tucson, Arizona-based manufacturing software house **Avalon Software Inc** has opened for business in Tokyo, Japan, with former Yokogawa Hewlett-Packard Co staffer Shoji Negishi as sales manager. +3 3221 9740.

Nichimen Corp's Nichimen Data Systems is to market Interactive Development Environment's Software Through Pictures design tool in Japan.

Fujitsu Ltd's US unit is to resell **Legato Systems Inc** NetWorker products: Unix distributor Tallgrass Austria will market NetWorker in central Europe. Tallgrass: +43 1 615 3850.

Laguna Hills, California-based **Star Technologies Inc** is offering a Star*SMP-Lite multiprocessor with up to three Pentiums running Unix. Prices start at \$11,000 with 16Mb RAM.

Kendall Square Research Inc is letting go 80 of its 260 staff to focus on the commercial market: those going were apparently engaged in more technical efforts.

Tandem Computers Inc will roll out TPC-C benchmarks for a fault-tolerant K10000 Himalaya with more than 100 CPUs this week: it promises to double the 64-way's 12,000-odd transactions per second but at the same time lower the cost per transaction.

Object Management Group president Chris Stone is one of the financial backers of An Object Orientation, a play by former systems integrator Tim O'Brien that'll show in San Francisco during Object World: *Information Week* says the main characters, If and Loop, are objects that have searched for a missing piece of data so long their quest has lost all meaning.

There's a spin-out from **Raxco Inc** that'll debut next week, specialising in client/server security software and services.

ICL Plc's SystemWise division in Manchester has a new CD-ROM information service which it hopes can make the black art of systems integration easier to design and plan. It contains product details on all kinds of hardware and software and products which can tie them together. +1 44 61 371 9164.

Frenchman Olivier Helleboid has been appointed general manager of **Hewlett-Packard Co's** Commercial Systems Division reporting Richard Sevcik, general manager of HP's Systems and Servers Group. Helleboid replaces Glenn Osaka who now heads HP Professional Services Organisation.

The first of the big database vendors, **Cincom Systems Inc**, Cincinnati, Ohio, has beaten a path to Austin, Texas firm UniSQL for its object/relational database technology for CinCom SupraServer.

Parsys Ltd says it shipped several customer evaluation versions of its Inmos T9000 system to sites in Europe, including the University of Palermo. All are from the SN 9400 range, with from one to seven processors, several include the new processor-to-processor routing, configuring and partitioning switch.

Unisys Corp has taken its two-phase commit Linc OLTP application generator outside of its own systems stable for the first time, putting the development environment up on Sequent and Sun servers running Oracle. A Windows-based Linc client development system starts at \$12,500 per seat, runtimes are \$2,400 for eight users - \$300 for every other user. Linc is available now for Sequent Symmetry - a Sun version is due this quarter. +1 215 986 5367.

A prototype of **Hitachi Ltd's** Precision Architecture RISC parallel supercomputer - designed to accommodate up to 128 CPUs and go to 23 GFLOPS using a 100Mbps interconnect (UX No 493) - will be up and running at the University of Tokyo within the next three months.

Meanwhile, the scalable RISC server architecture **Hitachi Ltd** plans to construct around PowerPCs following its recent agreement with IBM Corp (UX No 485) could stretch right through the spectrum, from high-end systems with over a hundred nodes, to small departmental servers.

All design and development work is the responsibility of **Hitachi Ltd** in Tokyo - Hitachi Data Systems Ltd will decide which of these technologies it wants to sell on a worldwide basis. All new Tokyo system products will run OS/1. Hitachi, an acknowledged conservative industry force, admits its been deliberately slow rolling out its Osiris open systems mainframe environment. It says its got a whole bunch of new Osiris technologies up its sleeve, but is scared of frightening off its IBM Corp plug-compatible mainframe crowd by introducing them all at once. It says its six European and 15 worldwide Osiris customers make it right on target.

Sybase Inc and **Science Applications International Corp** are working on an "industrial strength" Data Access and Exchange Facility using SQL Server that will allow oil companies to store and manipulate data types that conform to the relational version of the Petrochemical **Open Software Corp's** Epicenter data model.

Around 20 **Open Software Foundation** staff will have left the organisation by July 20 following its reorganisation announced at UniForum. The Foundation expects to be down to 200 employees by year-end from 300 now.

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SUN SIGHTS APPLE MARKETS WITH NEW GRAPHICS BOXES

Sun Microsystems Inc will this week beef up its entry-level desktop graphics offerings with the addition of 24-bit two-dimensional colour imaging and new multimedia options on the low-end microSparc II-based SparcStation 5 workstation series. With its eye on the improved performance PowerPC has handed down to Apple Computer Inc, and the lucrative colour pre-press, document imaging, desktop and technical publishing application market, Sun is pitching the latest offerings first and foremost against Apple rather than at its more traditional competitors such as DEC, Silicon Graphics Inc and Hewlett-Packard Co. It touts competitive pricing, superior networking and multi-tasking over its Cupertino, California neighbour's Macintosh - plus the Mac Application Environment. The SparcStation 5 S24 comes with a new 24-bit frame buffer, effectively a low-cost, binary compatible version of the SX accelerator that features on the Mountain View, California-based company's SuperSparc models and first introduced last October. S24, which Sun says performs 360,000 2-D vectors per second, is designed to accelerate windowing, text and bit-mapped image manipulations; it doesn't do double or Z-buffering, and therefore no 3-D rendering. It can display grayscale and colour images side by side. It supports 1,152 x 900 resolutions and is the size of an Sbus card but plugs into microSparc's memory bus rather than using the slower Sbus I/O interface. Sun is pitching 70MHz versions of the SparcStation 5 S24 with 16Mb RAM, 535Mb disk and 17" colour screen at \$6,600. As well as the markets above, it sees 5 S24 sales in low-end geographical information systems, computer-based training and customer management. An 85MHz version with a 17" colour screen, 32Mb RAM and 1Gb disk is from \$9,600 - at 85MHz with a 20" colour monitor, 32Mb RAM and 1Gb disk it is from \$11,400. A 70MHz multimedia version of the 5 S24 with the SunVideo Board and camera already found on other Sun workstation models - called the SparcStation 5M - comes with 32Mb RAM, 535Mb disks, a 17" colour monitor and starts at \$9,640. It can perform 541,000 2-D 8-bit vectors per second or 360,000 24-bit vectors per second, according to Sun. All are due next month. 100MHz versions of the microSparc II workstations are waiting on that part from Sparc Technology Business. Comparing the performance of graphics systems is rather an inexact science at best. Sun doesn't use the standard PHIGS, PEX or OpenGL graphics libraries natively - although it offers implementations of PHIGS and PEX - preferring instead its own XGL graphics library. SGI doesn't report GPC picture-level benchmarks. Also, following IBM Corp's lead (UX No 489) Sun will now price list and support the range of Evans & Sutherland Corp Freedom graphics accelerators already available to Sparc users, though it doesn't have E&S' newest 003 models that IBM has dibs on.

SPEC 1170 DUE IN NEXT FEW WEEKS

At 9am Monday morning last, X/Open Co Ltd completed its fast-track review of Spec 1170, and expects to have finished documentation in the next couple of weeks. The specification is based on formal and de facto standards and on APIs from 50 of the most commonly installed applications. About 10 were specifically pulled apart to examine calls, including AutoCAD, Informix and WordPerfect. Spec 1170 is expected to remain stable for the next three years at least. X/Open will use the UK Defence Research Agency's TenDRA, Architecture Neutral Distribution Format technology (UX No 468) as the basis of a conformance test suite, plus its own version of the Sun-derived Assertion Definition Language, which is supposedly more semantic, to automate analysis functions. Testing should begin in the fourth quarter by vendors and third parties, not X/Open, and any operating system can be branded Unix, as long as it conforms to the Spec - although X/Open admits this is bound to cause a certain amount of confusion in the marketplace initially. The standards body will henceforth categorise its specifications as operating system-dependent - ie Unix - or operating system neutral if they conform to XPG portability standards. Services in distributed environments will be classed as operating system independent. We won't be seeing a global XPG5 standard, however, X/Open says - it will simply broaden the scope of XPG4 to include real-time, security, internationalisation, and sockets. Segmented shared memory standards will be phased out in future versions in favour of a messaging-based approach so as to support massively parallel computing. Meanwhile, X/Open says it will offer preliminary systems management specs - based on the Tivoli Management Environment - to OMG. It reckons all systems management will eventually be based on CORBA and the DCE RPC. The organisation expects to have preliminary specifications for performance management and backup services out this year, software distribution and distributed management guidelines out during 1995.

Desktop designs

X/Open also says it will begin fast-tracking the Common Desktop Environment specification, now being looked after by its Desktop+ working group (UX No 488), in mid-November. Products aren't expected until March 1995 at the earliest. When CDE version 1.0 is complete, the Open Software Foundation will take over development via its Pre-Selected Technology process (UX No 480), and will hand any enhancements back to X/Open for ratification. Desktop+ also hopes to get its hands on X Consortium's X11r5, PEX and XIE graphics specifications as well as Motif, OpenDoc and Microsoft Corp's OLE, and expects to "collaborate" with the Interactive Multimedia Association, the Workflow Management Coalition, the Black Forest Consortium workflow user group, and the Desktop Management Task Force in the near future. *See page 2 for more news.*

TANDEM TO BRING HIGH-AVAILABILITY TO SGI BOXES

Tandem Computers Inc, Cupertino, California, is now into the third quarter of its OEM deal with Mips parent Silicon Graphics Inc, expected to net \$100m over two years. It declined to be specific, but says the arrangement is going according to plan. Tandem sells SGI R4400 Challenge servers under its own name as Network Resource systems in its R3000-based Integrity Unix line, plus workstations carrying the SGI logo where required. It says it will take SGI's R4600 systems, but hasn't yet decided on the newest R8000 Power Challenges. Whether SGI machines will fully supplant the Integrity line is unclear - Tandem achieves fault-tolerance by replicating system components in triplicate - however one indication may lie in Tandem's planned announcement of high-availability and switching hardware and software technologies for the SGI platforms. Tandem's CPU-independent OS development, *see page three.*

HP ADDS C++ OBJECT LAYER TO DCE

Hewlett-Packard Co will this week introduce an interface definition language compiler (idl++) and a C++ class library for Distributed Computing Environment users it says can cut development time in half. It is calling the layer OODCE/9000 and says applications written with the toolset will be interoperable with standard DCE applications. OODCE/9000 will be a part of HP's ORB-Plus object framework, which is based on the Distributed Object Management Facility or DOMF, that derives from its work with Sun Microsystems Inc. It will be used to demonstrate interoperability with IBM Corp's System Object Model object request broker at Object World in San Francisco later this month. HP has also proposed OODCE/9000 to the Open Software Foundation's DCE Pre-Structured Technology group for inclusion in DCE version 1.2. It's had out a request for comments on the stuff and says it's in licensing discussions with other DCE vendors. HP expects applications created with OODCE/9000 to be interoperable with future OMG CORBA 2-based distributed object request broker architectures. In advance of the object standards crowd resolving vendor differences HP says it also plans to offer interoperability with Microsoft Corp's distributed Object Linking & Embedding system and the Microsoft/DEC Common Object Model object system as a layer on top of OODCE/9000, though it doesn't explain how. It says this will allow other transport mechanisms, such as sockets and Mach messaging, to be mapped to the DCE infrastructure. *Details, page five.*

SAPIENS UNVEILS OBJECTPOOL CONNECTIVITY MIDDLEWARE

Later this month, Sapiens International Corporation NV will announce ObjectPool, its IBM mainframe to Unix and personal computer connectivity software and application development tools. ~~ObjectPool is essentially middleware that enables users to read and write to either mainframe, relational, flatfile or ODBC-compliant databases from multiple sources.~~ The product is in beta now, and will be available by the fourth quarter - support for third party tools will be added by the end of the year. Meanwhile, lower than expected first quarter figures and the need to get rid of staff overlap at last May's acquisition SmartStar Corp has led the Cary, North Carolina-based firm to reorganise its internal structure and reduce its workforce by 8% - the equivalent of 40 employees - worldwide, mainly from middle management and administrative posts. Staff cuts mean it will take a one-off hit of \$1.5m in the second quarter, which ended June 30, but expects to save \$2.5m as of July 1. However, due to lower than anticipated sales and undisclosed levels of increased investment in research and development on such products as ObjectPool, the firm expects to make losses in the second and third quarters. As a result, it intends to try and build up sales via third party channels to lower costs and increase market penetration - at the moment, it sells about 90% of its products direct, but aims to have a 70-30 split by 1995. Sapiens has also reorganised its business structure into three new units to service international strategic accounts, the insurance sector, and direct marketing of its Ideo rapid application development environment. Furthermore, Europe has been split into three geographic regions, each headed by its own senior manager. Former head of international distribution channels at Ingres, Tim Shears, will head up the Northern region, which includes the UK, Ireland and the Nordic countries. Albert Defosse, who set up operations in the Benelux 18 months ago, is to take the helm in Central Europe, which comprises the Benelux countries, Germany, Switzerland and Austria; and Saadia Esoudri, who established the French office, will look after the South, which encompasses France, Spain and North Africa.

X/OPEN OPENDAY

X/Open says its relationship with the OMG is complementary. It reckons OMG's role is to concentrate on object infrastructure technology whilst it focuses on system-level applications, development environments, databases, and programming languages plus testing and branding. X/Open has already adopted the OMG Common Object Request Broker Architecture and Common Object Services and is developing a test development tool, with the help of funding from MITI in Japan, to re-use test code. It expects to have a CORBA test suite out by the fourth quarter.

X/Open adopted the preliminary specification for its Sun-derived Federated Naming Service last week, which will enable network directory services and applications to interoperate across distributed environments, it says. FNS will be available in August, and is intended to be compatible with CORBA further down the line.

As far as online transaction processing standardisation goes, X/Open says the main problem lies in the diversity of communications resource managers, which use incompatible techniques such as request-response and message queuing to do the job. It is trying to develop a specification that caters not just for transaction processing monitors running under Unix, but also for existing mainframe-based systems, but says it should know by the end of the year whether this task is possible or not. X/Open says it is not yet sure whether OSI-TP is part of the problem or the answer.

X/Open expects to see a full Generic Security Service API for distributed authentication, which it adopted from the Internet Engineering Taskforce, out by the end of the year. This will form part of DCE 1.1.

X/Open is working with UniForum in what is known as a Joint Internationalisation Group to develop a guide to distributed internationalisation framework and services. JIG will issue a discussion white paper on its findings by the end of the year. X/Open is also working with ECMA on developing bi-directional, context-sensitive text handling extensions to XPG4.

NOVELL TO CUT UP TO 1,000 STAFF IN WAKE OF WORDPERFECT ACQUISITION

Novell Inc is expected to unveil plans to reorganise itself in the light of its WordPerfect Corp acquisition, and could lay off as many as 1,000 employees, according to US reports. If they are accurate, staff cuts are likely to come in two waves - one in each of the July and October quarters. Chief executive Robert Frankenberg denied that certain executives, such as chief technologist Kanwal Rekhi and executive vice president Mary Burnside, will leave. He also refuted talk that executive vice president of the AppWare Systems Group, John Edwards, is either about to leave or become president. Sources confirmed he is spending less time on AppWare and more on the transition team dealing with the reorganisation. They also added that vice president Bob Young is to run the workgroup division of WordPerfect, and that other WordPerfect management posts are likely to be filled by Novell staff. Other changes being considered reportedly include a more clearly defined role for executive vice president Richard King, who currently looks after NetWare and related technologies. King's empire could be split up to enable him to spend more time on NetWare-specific projects. Novell is also thought likely to divide the company along product-related lines such as applications, tools, networking products and operating systems.

SGI DEBUTS MIPS R8000-BASED POWERCHALLENGE M...

Silicon Graphics has unveiled PowerChallenge M, the first machine based on its Mips Technologies unit's new 75MHz R8000 chip. The R8000 is optimised for floating point performance and has a Specfp rating of 310. PowerChallenge M is an entry-level uniprocessor, targeted as a compute engine or server for such applications as finite analysis and number crunching financial data. It has no graphics capabilities, but runs SGI's 64bit Irix version 6.0 operating system and starts at about \$40,000. It will ship in the first quarter of 1995.

...AS OPENGL GRAPHICS LIBRARY FINDS GROWING SUPPORT

Silicon Graphics OpenGL graphics library appears to be gaining momentum in its bid to become the three-dimensional application programming interface of choice. San Diego, California-based Template Graphics Inc is expected to offer register-level APIs for the three remaining major hardware environments for which implementations aren't yet available, that is Hewlett-Packard Co's PA RISC, Apple Computer Inc's PowerPC-based Macs and Sun Microsystems Inc's Sparc - no availability dates were offered for the first two, but Sparc code is already said to be in the hands of independent software vendors, with shipment scheduled for later in the year. TGS expects to announce an OpenGL development toolkit at Siggraph next month, which it claims will run on every major platform. Microsoft Corp has also said it will support OpenGL in Windows NT, and is eventually expected to support it in Windows as well, which will certainly give the library a leg-up in the desktop multimedia market.

SOLARIS FORMS BASIS OF CHINESE LANGUAGE CONVERSION PROJECT

The Chinese University of Hong Kong is implementing the Hanzix research project's proposed common Chinese language computing standard for "Greater China" on Solaris, according to *Computer-World Hong Kong*. When complete, in September, the operating system will be able to automatically convert code sets between traditional and simplified Chinese language applications. The idea of the Hanzix project is to establish a common platform on which software can run in the People's Republic of China, Taiwan and Hong Kong, without change. Currently, Taiwan and Hong Kong use 'big five' code sets for traditional character applications whilst China uses GB code sets for simplified characters: the two are incompatible. Hanzix will include a common interface for different data input and software authoring methods. Companies doing business across greater China either need proprietary traditional-to-simplified translation software to maintain different sets of Chinese language files. The University, working in conjunction with SunSoft Inc, the Chinese Academy of Sciences in Beijing and the Institute of Information Industry in Taiwan, want to establish the technology as a standard. They hope it'll be easy to implement the stuff on IBM, DEC and other systems too.

TANDEM WORKS TOWARDS PROCESSOR INDEPENDENCE

Mips RISC shop Tandem Computers Inc has been quietly working on building CPU-independence into its NonStop operating system. The company says it could now jump processor engines in as little as a year, though it has no plans to do so at present. Its just that with the chip vendors now locked in mortal combat and price/performance issues ever more important, it figures hedging its bets is a sensible thing to do. Tandem hasn't actually had NonStop up on other CPUs but has been playing with instruction set models of non-Mips technology. Its not making a big deal of the fact given its insistence that compiler technologies are of more consequence to it and says it fully expects to work up through current Mips generations. NonStop, a microkernel re-write of the Cupertino, California-based company's proprietary Guardian system software runs on the new Himalaya fault-tolerant systems which use Mips R3000 and R4000 architectures. NonStop runs existing applications under a Guardian personality. The company is gradually bringing the components of its promised Posix/open systems 'Open Services' personality for NonStop together. The overlay isn't an implementation of Tandem's System V.4-based NonStop-UX, which runs on its separate line of Mips-based Integrity machines, rather it's a collection of application programming interfaces, Posix, SQL and other extensions designed to attract Tandem's ISVs to the open systems world. The firm says it now has six customers using Posix services calls on top of NonStop, and expects a dozen others to come on line by Autumn. By then it should have early implementations of Novell Inc's Tuxedo OLTP monitor up on the microkernel - it's already offering ODBC support. If it can get general shipments of Tuxedo, and a Distributed Computing Environment port out of the door by year-end it figures it'll only be around three months off target. Tandem says the process of bring open systems-type services like Tuxedo over to NonStop, tracking the behaviour of software calls and other things, has helped it build more open services functionality into NonStop than it probably planned. An IBM Corp CICS personality is also due on NonStop courtesy of Micro Focus Plc.

Meaningless GFLOPS numbers

NonStop systems account for between 80% and 85% of Tandem's revenue, with Unix making up the rest: it puts 13% back into research and development. It reckons it has shipped 550 K10000 and 1,200 K1000 Himalaya models in the first two quarters of delivery. After 16 CPUs, the systems - K10000 goes to a theoretical 4,000-odd processors - are clustered using fibre-optic links. Tandem's main business remains fault-tolerant sales, with decision support second, followed by messaging/e-mail/document interchange. Its market is supported by around 300 ISVs with 1,000-odd applications that impact some 50% of Tandem's revenue. Tandem touts its software as the key advantage it has over competitors, which now include many of the (massively) parallel or scalable system builders as well as traditional fault-tolerant rivals like Stratus Computer and IBM. "GFLOPS are even more meaningless than MIPS used to be," director of NonStop product marketing Chris Rooke says. "Its all about applications, what software you can run and cents per megabyte," he adds, seeing the prospect of 50Mb 1.2" disks next year. Oracle, Informix, Sybase and DB2 databases are having to be re-engineered for parallel tasks to which their lock-management architectures are inherently unsuited, says Tandem. It claims its NonStop SQL database engine hashing algorithms negate the need for searching and so takes less space and uses less I/O than other architectures.

MDIS GOES WALL TO WALL SPARC WITH TADPOLE, SUN AND CRAY DEALS

The UK's MDIS - McDonnell Information Systems Ltd - has at last admitted to itself that it is not in the hardware manufacturing business, and signed strategic partnership agreements with Sun Microsystems, Cray Research and Tadpole Technology. In fact, MDIS, the management buyout that emerged from McDonnell Douglas Information Systems last year, has not produced its own hardware since the late 1980s, and has relied since then on OEM deals with Encore Computer Systems and Motorola Inc for its re-badged Series-X mid-range systems. Those agreements are still in place, but MDIS says it has been under pressure from its customers to provide a wider choice of hardware and more powerful systems at the high-end. It chose the Sparc architecture because Sparc has been widely licenced beyond its originator - a factor that disqualified DEC's Alpha - and because SunSoft Inc has begun licensing the Solaris operating system in the same way. It also hopes to take advantage of the Solaris applications catalogue. The agreement with Sun began winding up earlier this year, and MDIS says it achieved £1m worth of business in June, all new customers. The range will be topped off by Sparc-based Cray 32 and 64-way SuperServers, and supplemented by Tadpole portables running Solaris at the low-end. The systems will not be re-badged. Sun CEO Scott McNealy, over in the UK recently to seal the deal, described MDIS as "a systems integrator with lots of applications", these are primarily written in the Pro-IV fourth generation language and are aimed at the commercial and public sectors, particularly banks, healthcare, emergency services and libraries. The company is also making a gradual transition from its Pick-under-Unix Reality-X database system over to relational databases, primarily Oracle, but also Ingres, Informix and DB/2: it has put in place interfaces that allows Reality-X to call data in from Oracle via subroutines. Reality-X and Pro-IV already run on Solaris. MDIS says it has its eye on future deals with other hardware vendors, and hints that it will follow any new developments from its old partner Motorola Computer Systems with interest - presumably it means future PowerPC-based systems.

WILL SUN CONTINUE WITH FIVE-AND-DIME LINE?

Sun Microsystems Inc may not carry its line of ultra low-cost systems forward at the same price point. It says it has made a decision internally about whether or not to continue with its SparcClassic series that break the \$3,000 mark; but it isn't saying what it has decided. However, now beyond its second birthday, SparcClassic is already older than the 18 months Sun reckons a box is good for until it is superseded by a new model: "but believe it or not people are still buying it," the company says. Perhaps helped by the lack of margin at that point and the gradually creeping prices of PCs and Macs, absolute rock-bottom cost has become less of an issue amongst the Unix vendors. In any case everyone realises that you must spend substantially more than \$3,000 if you want more than a computer-shaped paper weight.

SAYS EI CHEAPO SPARCSTATION 5 "WILL SHIP NEXT QUARTER"

Sun is now saying that problems with the ei cheapo version of the SparcStation 5, the \$3,995 version with the 15" colour screen, are fixed, and that the unit, announced for delivery back in March, will now eventually ship next quarter. Sparc players had been annoyed with Sun, saying it was stalling the market, because it hadn't been able to get the monitor for the low-end model to work (UX No 490). Sun says the monitor didn't interface properly with the frame buffer, explaining that monitor emissions were feeding back into the system. The firm said it hadn't expected the problem because it used the same buffer as in the SparcClassic. Buyers in a hurry had to start with a box several thousand dollars more expensive instead. The overall impact, they complained, was the stifling of low-end Sparc boxes across-the-board. Hard to believe without figures, but Sun is adamant the SparcStation 5 remains its hot-box and that despite the hiccups has exceeded its first quarter shipment forecasts. It wouldn't say what those were. Sun's end-of-year figures are due around the end of the month.

VALLEY START-UP TO KNOCK OFF POWERPC CLONE

The first attempt to clone the PowerPC has begun at a Silicon Valley start-up called Renaissance Semiconductors. Officially the firm will only confirm that it is designing a high-end microprocessor and not going to join the growing pack doing x86 knockoffs. Sources, however, said the target architecture is the PowerPC and that the planned chip will run NT and the other operating systems PowerPC supports. Reputedly the circuit will add value to the standard PowerPC architecture. But just what those added features will be remains unclear. As of now the Renaissance chip will not have x86 emulation in silicon like the projects underway at Mips and IBM Microelectronics. The company's also not talking about a timetable for delivery yet, with sources indicating first silicon could be a year or so away. Shepherding it through its initial growing pains is Gordon Campbell who started Chips and Technologies, credited with almost single-handedly creating the independent chip set industry that helped make Intel. These days he's chairman of Tech Farm, a firm he created to help start-ups. He's also chairing Renaissance.

FLOATING POINT SYSTEMS' ENVI IMAGE VISUALISER AIMED AT MINERS, FARMERS

Floating Point Systems Ltd, Wokingham, Berkshire has launched an Environment for Visualising Images, or Envi, the first turnkey multi-spectral and hyper-spectral analysis package for satellite and aircraft remote sensed data. It enables the user to display, analyse, layer and manipulate multi-band data sets of any size, data type and spectral depth. It will compete with Erdas Inc's eponymous product and PCI Inc's ESI-Pace, both born out of the local network satellite technology of the 1970s and limited to seven-band data. Envi gives multiple image displays, in either eight or 24-bit, at full resolution, with zoom functions and full-colour capability. It is written in IDL 4GL, a scientific computing language from Research Systems Inc, Boulder Colorado. IDL is an array-based, structured programming language, with image processing and display capabilities and a graphical user interface toolkit. This enables users to add applications and customise their Envi package. Operating on Unix workstations, personal computers running Windows, and Macintosh systems, Envi requires a minimum of 16Mb and a 80486 processor. Floating Point, the sole UK distributor for Envi and IDL, is aiming the product at the mining and environmental industries and agriculture and has had an evaluation copy of Envi with Rio Tinto Zinc Plc, the mining company, for the last three months. It is immediately available in both development and run-time packages. Pricing for development systems starts at £8,750 for Unix, £4,775 for Windows. Run-time versions, which lack program customisation capabilities, are priced £5,750 for Unix, £3,350 for Windows and Macintosh versions.

IBM "CONSIDERS SOFTWARE ACQUISITIONS"

It seems IBM Corp has decided it has to do something to alleviate its weakness in non-mainframe software: the company's networking chief, Ellen Hancock, revealed at the Database Client-Server World show in Boston last week that IBM's Networking Systems division and its Software Solutions division are actively considering purchase of several software vendors, *PC Week* reports. She declined to identify the targets, but said that they have sales in the \$100m range. She also indicated that IBM is most interested in buying applications development and network tools rather than general desktop productivity applications.

...ENDS EUROPEAN UNION AGREEMENT

IBM Corp has given the European Commission notice of termination of its 1984 agreement that ended the Commission investigation of the company. Under it, IBM agreed to supply information to rivals on interfaces, memory and software, but it now claims that the commitments were no longer necessary in an age of open systems. "Information about product interoperability is widely available simply because the marketplace demands it, and the dynamics of the industry have made most of the undertaking's terms obsolete," IBM said. The undertaking allowed IBM to give the Commission a year's notice of termination any time after the end of 1988. It told *Reuter* that it had not received any requests for product information from European manufacturers for four or five years - although several Japanese companies still make requests.

TANDEM, AT&T GLOBAL ARE FINALISTS TO HELP KOREA DESIGN BIG SERVER

South Korea's tortuous quest for a large computer that it can manufacture locally has taken another step forward, and it appears that the trade ministry has gone cold on the idea of Unisys Corp's A series. According to *Reuter*, the ministry has now shortlisted AT&T Corp's Global Information Solutions and Tandem Computers Inc as finalists in the contest to find a company to transfer technology to enable Korea to build what is now being described as a high-end server. "We have selected the two foreign firms out of three as prior negotiators but we cannot say when we'll name the final winner," a ministry official told *Reuter* in Seoul. The project is expected to cost a total of \$47m of which the government would provide preferential loans of about half. Three local partners - Samsung, Hyundai and Korea Computer Co - will also participate.

PRICE WATERHOUSE BACKS SAP'S R/3

Price Waterhouse is getting into the SAP R/3 business and accounting package in a big way: it says it'll be dedicating 10% of its resources to an SAP software initiative and says it'll triple the number of consultants on development and implementation. It's getting-up dedicated design centres and will spend \$4m to train 500 consultants in SAP R/3 next year. "SAP R/3 is the hottest product in the market today," PW says.

NUMBER NINE COMPUTER CLAIMS FIRST 128-BIT GRAPHICS PROCESSOR

Lexington, Massachusetts-based Number Nine Computer Corp is making the controversial claim that it has the world's first 128-bit graphics and multimedia processor. Called Imagine-128, it replaces single-buffered architecture with a triple-buffered MultiFrame architecture. This uses Display, Back Store and Mask buffers to determine the composition of the final image viewed on the screen. Two programmable linear-addressable Peripheral Component Interconnect apertures and one rectangular aperture enable memory to be segmented into independent bit maps, each with a distinct resolution and colour depth setting. Display Video RAM goes to 8Mb, Back Store memory to 32Mb and Mask memory to 2Mb. The three buffers provide "unlimited clipping primitive combinations and greatly simplify on-the-fly mask generation with source keying and plane selection". An optimised 128-bit memory controller handles traffic to and from the processor at sustained bandwidths of up to 500M-bytes per second, the company claims. Up to 16 pixels can be modified in a single instruction cycle and target benchmarks are 155m for WinMark 3.11 and 55m for WinMark 4.0 in 256-colour mode using a 100MHz Pentium PCI system. The I-128 System Development Kit costs \$2,500, which buys I-128 reference board, board schematics, Technical Reference and Programmer's Guide, software development library, on-line debugger, diagnostics and related utilities. Support is planned for Windows 3.1, Windows NT, OS/2 2.1, Unix under X Window, NeXTStep and AutoCAD. I-128 samples will be out this quarter with volume in the fourth at \$160 for 10,000-up.

COLOUR X PRICES SLASHED BY NCD

Network Computing Devices Inc, Mountain View, California has broken the \$1,000 price barrier for colour X terminals by cutting prices on its 68020-based ECX entry-level colour X terminal base electronics unit to \$845 from \$1,600 - when you buy six or more of the things. The price excludes a screen but the company says that it works with any low-cost Super VGA monitor. The company also introduced a new high-resolution 17" monitor option for its high-end 88100-based RISC X terminal base. The new NCD17fs model is priced at \$3,000 when you buy six, \$1,000 less than the NCD17cr, which offers the same RISC base but with a Sony Corp Trinitron monitor. It is available now.

LOTUS' SOFTSWITCH BUY WILL ENSURE SERVER-SWITCH COMPATIBILITY

Lotus Development Corp's shares have followed the market down since it agreed to pay \$70m in shares for Wayne, Pennsylvania-based Soft-Switch Inc, and as it wants the company and doesn't want excessive dilution, it will now pay about \$62m in cash. It needs Soft-Switch to provide the basis for closer integration between the forthcoming Lotus Communications Server and Soft-Switch's enterprise messaging switches for integrating disparate electronic messaging systems. Specifically, the Soft-Switch EMX Unix-based multi-protocol messaging switch and IBM Corp mainframe-based Central system are to be integrated with the Lotus Communications Server. But as Lotus does not want to delay the launch of the Server, slated for the first half of next year, its first release will probably include little integration with the Soft-Switch products - although some components may be integrated by that stage. Although no time-scale was given for the fuller integration work, subsequent releases of the Server will incorporate the Soft-Switch functionality in stages, says the company. Other than the Communications Server integration, development work at Soft-Switch will continue in the same direction as previously and Lotus will continue to sell and support the Soft-Switch products. On a wider level, Lotus says it perceives the market for enterprise-wide communications to be an emerging and increasingly important business area for it, saying "as companies re-engineer, the next big frontier is connecting to business customers and suppliers". The acquisition of Soft-Switch is seen as integral to tackling this emerging market. Soft-Switch will continue operating from its Wayne headquarters and Michael Zisman, its president, is now to become vice-president of a new Inter-Enterprise Communications Group unit where he will have joint responsibility for managing it with Larry Moore, vice-president of Lotus's Telecommunications Services Group. Lotus says it will account for the transaction as a pooling of interests and that it will have an immaterial impact on its earnings per share for 1994. If federal regulatory approval is received, Lotus says the transaction should close within 60 days.

HP READIES ITS HP-UX TALIGENT LAYER WITH SOFTBENCH...

Hewlett-Packard Co admits the static tool in C++ SoftBench 3.x has its limits. It can't read in unlimited amounts of code, but then neither can the CenterLine or SparcWorks environments. And there's a trade-off when set against other mechanisms, according to HP. Taligent Inc is using an alternative product called Sniff+, a C and C++ development environment from Salzburg, Austria firm TakeFive Software GmbH to build its own development tools (UX No 491). Even HP admires TakeFive's text-based retriever, but explains that Sniff+ is an acknowledged lightweight system that encompasses only a small part of what SoftBench can do. Moreover, if a programmer's coding style doesn't fit the Sniff+ pattern the system can easily break down, it says. Sniff+ looks for functions like open parenthesis { and closed parenthesis } on the same line. But if there is only one parenthesis on a line then it'll miss it and the pattern could be incomplete. Taligent has found Sniff+ useful, but then Taligent hasn't examined the full range of CASE tools available, according to HP software engineers. Had Taligent been up on HP-UX rather than AIX from the beginning, then SoftBench would have been fine for it, they claim. Although an implementation of SoftBench is up on AIX as the Software Development Environment Workbench/6000, it isn't being used by Taligent, nor is it included in the development environment model. However HP says Taligent is still weighing up the possibility of using SoftBench, but would take a computer-based approach that has a deeper level of semantic infrastructure than Sniff+, if it did. HP is already using SoftBench on the layered version of Taligent it has up on HP-UX internally and will provide it as the development environment for Taligent on HP-UX now being readied. A native version of Taligent - ie the TalOS up on PA RISC - isn't precluded from the agreement between Taligent, its investors and HP, but it hasn't been decided yet either. HP already describes Taligent as a rich framework environment and expects most software to be inherited with only small pieces of new code having to be added to applications. There's also no evidence yet that there will be any performance penalty for offering a layered product rather than a native environment.

...MAPS DCE CONCEPTS INTO C++ OBJECT LAYER

Hewlett-Packard Co says its planned OODCE/9000 C++ layer - see front page - removes the need for working directly with the 400-odd DCE application programming interfaces that define how DCE applications communicate with each other and what use is made of DCE services like security. DCE API commands are encapsulated into C++ client and server classes (templates for creating re-usable objects) with a default DCE behaviour. "But they're not C++ wrappers," HP says. The idea is that classes can be used to access DCE services at a higher level without having to learn all the details of the DCE API. In essence, HP has mapped basic DCE concepts in C++ language features. C++ classes, which HP calls Manager Classes instead of DCE's Manager Functions, have member functions defined for each operation declared in the IDL specification. Objects of the classes reside in the server program and service client requests. HP calls them Manager Objects, each has its own identifier. Client access Manager Objects via proxy Client Objects, which are based on the IDL API and generate remote calls to the server. HP is providing 20 pre-defined classes and objects in OODCE/9000, including those for implementing Manager Class functionality, and writing Server Main function and client programs without dealing directly with the DCE APIs. HP says the combination of these features will provide faster development times, greater code re-use and easier maintenance because C++ applications typically require less lines of source code. HP says it expects the performance OODCE/9000 applications to be within 5% of regular C-based applications. Out in August, OODCE/9000 is \$3,000 plus \$1,000 for each subsequent developer. It requires DCE/9000 and HP's C++ compiler. HP's DCE users number in the hundreds, it says; it has the likes of Motorola Inc and Mead Data testing OODCE/9000.

...HAS SOFTBENCH 4.0 ON HORIZON

Meanwhile, SoftBench 4.0 is on the horizon. It'll include support for distributed application development via links to HP's ORB-Plus object request broker, the product implementation of its long-in-the-works Distributed Object Management Facility, DOMF, though SoftBench won't actually be delivered fitted with the ORB. There'll be increased support for C++ as C++ becomes more mainstream, plus Cobol, C, Pascal and Ada in those versions of the toolset. At the moment Distributed SmallTalk, (which is HP's distributed, DOMF-enabled implementation of ParcPlace Systems Inc VisualWorks) is a richer and more powerful environment than C++ for building distributed applications, HP says. Its easier structure makes it especially more attractive to developers moving over from the world of Cobol programming. Although HP is gradually moving Distributed SmallTalk functionality and tools over to C++, and will make dealing with legacy applications under C++ easier than it is today, SmallTalk already incorporates stuff like an inference repository browser, remote debugger and an IDL generator which the C++ development environment doesn't: and it's distributed. SoftBench is now the responsibility of James Davis, general manager of HP's Software Engineering Systems Division in Fort Collins, Colorado, who replaces Chung Tung who left HP for Mentor Graphics back in December. Davis reports to Tilman Schad, general manager of the software business unit in HP's computer systems organisation.

ISVs BAND TOGETHER TO PROMOTE THEIR TOOLS

Nine ISVs, including Alsys, Atria, CaseWare, CenterLine, ExperSoft, Integrated Computer Solutions, Imperial Software Technology, IXI and Lucid have formed a 'Coalition for Software Productivity through Open Systems.' The Coalition feels that many development organisations aren't aware of the range of ISV products available due to the hardware vendor channel dominance. Its idea is to promote ISV tools and help get information on all of their respective products to engineers, developers and managers. The Coalition observes firms spend a lot of time evaluating hardware for purchase but little evaluating development tools even now that large vendors that once bundled tools with their boxes typically sell them for thousands of dollars.

DEC CONSULTING ARM TO GO TO COMPUTER SCIENCES?

In what would be a rather bigger disposal than the mooted sale of the disk and related manufacturing units to Quantum Corp, and would call into question the plunge by other large manufacturers into the business, Digital Equipment Corp is also discussing sale of its consulting and systems integration operations to Computer Sciences Corp, the *Wall Street Journal* reported. But the parties aren't yet close to a deal, one insider said, and it isn't known what price is being asked for the unit, which has annual turnover of some \$1,500m. Neither side would comment. Computer Sciences began targeting commercial computer consulting and systems integration seven years ago, looking for a complement to its big international contracts with government and other public sector bodies, and has built it into a \$1,360m business in the year to April 1. The DEC business is seen as giving it the springboard into Europe and Asia, where it is still weak. The paper notes that the company said total consulting revenue was \$2,500m in the year to July 3 1993, and hears that DEC packaged a large part of the business, with 10,000 employees and \$1,500m in annual revenue, and offered it for sale in early May.

SUN'S MULTIMEDIA BUSINESS

Sun Microsystems Inc's revelation of a new multimedia business unit to be formed within the next three months to serve the telephone, cable and interactive markets will focus on producing interactive network products and will develop a media server, based on standard Sun products, that will first ship by the latter half of calendar year 1995. The objective is to bring together the components from Sun businesses that are focused on the information superhighway. It will be known as Sun Interactive, and will work together with partners in the telephone and cable industries. Sun says its current operations in these areas contributed about \$650m in revenues during fiscal 1994, which ended last week, or 14% of Sun's total revenues for the year ending June 30. The unit will focus on making connections between Sun's server products, Asynchronous Transfer Mode Networks and the television set-top devices that are to be used in the interactive networks of the future. Other products from the unit would include devices to lower the cost of making connections to advanced digital networks.

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Cray Research Inc and **Fujitsu Ltd** have completed a worldwide patent cross-licensing agreement covering each company's current and future supercomputer and mainframe patents and provides worldwide, royalty-free design freedom as new systems are developed, the pair said.

Sun's SunService unit has signed up **SunGard Data Systems Inc's** SunGard Recovery Services division to provide disaster recovery to Sun customers in the US. +1 610 341 8854.

Core technology for **IBM Corp's** NetView for Windows comes from a British company, **Network Managers Ltd** of Guildford, Surrey.

Billerica, Massachusetts-based PC-to-SNA communications specialist **IDEA**, formerly IDEAsociates Inc, is offering version, 3.0 of its Concert communication processors with four new modules for connecting SNA users to TCP/IP and Ethernet environments.

Isocor Inc, Los Angeles, California, is working on an e-mail connectivity program which uses the Microsoft Messaging Application Programming Interface (MAPI) to connect NT with its Isoplex messaging server running on SCO Unix. It is expected by the end of the year.

Apple has been doing some house keeping lately and in the process moved MAE, the Macintosh Application Environment, the old Cat-in-the-Hat, from Apple Business Systems to its Apple Software unit. Insiders say the move indicates the Wabi-like stuff is more important to the firm. They also say it's been selling nicely the few weeks it's been available.

DEC is expected to come up with essentially a statement of direction on Wednesday July 13 on Alpha clustering involving Oracle 7.1 and Encore's reflective memory. Observers say prices need to come down and are waiting for Encore's stuff to support PCI.

Cirrus Logic Inc, Fremont, California, has purchased **PicoPower Technology Inc**, a three-year old firm in San Jose, California, for \$60m in stock. PicoPower has developed a chip that manages power consumption in PCs and portables. The chip keeps tabs on what goes on inside the CPU, and switches it off when it is not in use.

In the UK, forty of the largest SCO users have formed the **SCO UK User Group**, and plan quarterly meetings, the next scheduled for September 27th. The group's chairman and prime mover is Bill Bowmar, divisional IT manager at Trafalgar House Construction Ltd; others in attendance included Bayer, Provident Personal Credit and Southwark Borough Council. Bowmar said one of the issues the group would like clarification on was SCO's position regarding Unix SVR4. Contact Christine Carter on 0923 816344.

Liant Software Corp has enhanced its C++/Views GUI builder to allow applications to be developed once, then moved between different GUIs without source changes. It is offering new portable resources, geometry management and a multiple document interface for Motif. Prices start at \$750 on Windows, \$1,000 for OS/2 and \$2,000 for Motif.

Digital Equipment Corp will launch two Alpha AXP-based Unix workstations at the end of the month its claiming will be "the fastest in the world," destined for the visualisation applications market.

A new European Union-backed working group, Europa, has been set up at the **London Parallel Applications Centre** to specify a definition for a parallel object-oriented language, which will be based on UC++, a language derived from C++. Participants include Compagnie des Machines Bull SA, ICL Plc, and Cap Gemini Innovation.

Informix Software Inc has licensed San Mateo, California-based **Visigenic Software Inc's** Windows and Unix Open Database Connectivity drivers for Sybase, Informix and Oracle databases (UX No 486) and its ODBC for Unix Driver Manager. Informix plans to integrate the drivers into its development tools. Visigenic's ODBC development kit for Unix 2.0 will be available on Sun Sparc hardware in September, and on HP and IBM kit in the fourth quarter, costing £795 per developer. Drivers ship in October.

Dun & Bradstreet Corp has replaced Hank Holland as president and chief executive officer at its software division with Douglas MacIntyre. Holland, a bean-counter appointed by the D&B parent sometime after it bought MSA back in 1989 to form D&B Software. He spurned contact with press during his tenure, but is said to have left the company "by mutual agreement". MacIntyre, who is a former D&B executive, was also president of Software 2000 for three years. He left the firm last month to take the top job at **RAM Mobile Data**, but resigned within seven days to go back to his old company.

Quadralay Corp, Austin, Texas, is adding a new version of its UDT for C/C++ development environment for Linux, the free Unix-on-Intel OS. UDT for C/C++ includes enhanced workgroup documentation features and costs from \$800. +1 512 346 9199.

Peregrine Systems Inc, Carlsbad, California, has added new modules enabling users of its help desk environment, PNMS Client/Server, to share data with external applications. +1 619 431 2400.

Z-Code Software Corp founder, Dan Heller, has quit the e-mail company he sold to **Network Computing Devices Inc** back in February.

Boole & Babbage Inc is offering **Shany Inc's** AlertView PC monitoring tool and will develop integration with its own Command/Post systems management software. The San Jose, California company has also picked up **JBM Electronics'** protocol converters that provide Unisys system emulation under Command/Post. Finally, B&B has formed a joint venture, **Joint Systems and Technology Inc**, to be based in Tokyo and Osaka, with **Diversified Software Inc** and **System Operation Corp**. SOC had been B&B and Diversified's Japanese distributor.

SunSoft Inc's second wave of Solaris 2.4 betas go out this month: general ships of the operating system, now unified in Sparc and Intel releases which share a source code base, begin next month, the firm says.

Tivoli Systems Inc, Austin, Texas, has signed **Nissho Electronics, Nichimen Data, Itochu Techno-Science and Maribeni Corp** to distribute the Tivoli Management Environment in Japan, and says it'll start a majority-owned subsidiary and open an office there later this year. A Japanese language version of TME is slated for 1995. **Japan Associated Finance Co Ltd** has helped Tivoli get its stuff together over there. Once the Japanese operation is going it will start thinking about serving the rest of the Pacific Rim.

At Object World, **Hewlett-Packard Co** and **IBM Corp** will demonstrate interoperability between Distributed System Object Model running on OS/2, Windows and AIX and ORB Plus on OODCE/9000 on HP-UX.

Wall Data Inc has licensed **Spry Inc's** Air Series PC-to-Unix and Internet connectivity software.

Purify Software Inc will put version 3.0 of its testing environment up on Solaris 2.x from September starting at \$1,300. +1 408 524 3083

Qualix Group Inc, San Mateo, California, is offering an access security management package called UniShield for SunOS and Solaris, with HP-UX and AIX versions to follow. Prices go from \$1,000. +1 415 572 0200.

Ex-director of marketing for **DEC** Japan Norio Murakami is to head-up **Informix Software KK**.

DEC and **Oracle Corp** have launched their promised Enterprise Solutions Program which will provide joint technology solutions based on parallel and clustered technologies for downsizers, support, a consulting effort and training. As part of the program, Oracle has announced a 64-bit port of its Oracle7 database to Alpha. Integrated products will hit the street next year.

First **ASK** refugees are turning up in new positions: former ASK sales VP William Murphy is now VP sales at Sextant Corp.

IBM Japan Ltd has a new unit for marketing PowerParallels; it says its sold 60 SP1s over there so far.

CenterLine Software Inc is offering release 2.0 of its TestCenter software testing tool, including a new error simulator, call coverage extended to the function level, user-defined error-checking and support for Solaris 2.x threaded applications. Out next month under Solaris 2.3, TestCenter 2.0 is from \$3,000 for a floating licence. TestCenter will be up on on SunOS and HP workstations from September. +1 617 498 3287

NTT Software, Yokohama, Japan, is selling an SSADM-based CASE tool based upon IDE's Software through Pictures on Solaris 2.3 under Japanese Open Windows 3.3. Prices start at ¥980,000.

Computervision Corp is using Waltham, Massachusetts-based **Software Emancipation Technology Inc's** ParaSet C/C++ development environment internally for medium and large scale applications in a deal worth \$1.5m. +1 617 466 8600.

Hewlett-Packard Co will be adding to its object database family on July 18th, but won't abandon OpenODB, the company says.

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ADDAMAX ANTI-TRUST LAWYERS BATTLE TO BRING OSF ANTI-TRUST CASE TO COURT

In a week when thoughts have again turned to antitrust charges due to Microsoft Corp, it seems fitting that the spectre of the Addamax Corporation antitrust suit against the Open Software Foundation, DEC and Hewlett Packard should again loom large. Way back in 1990 (UX No 275), the Foundation chose SecureWare Inc of Atlanta, Georgia over Addamax to provide the technical basis for its secure Unix offering, prompting Addamax to launch its \$100m antitrust action a year later (UX No 331). Addamax lawyers Kelley Drye & Warren and Warner & Stackpole have now filed their brief with the federal courts opposing a long-standing motion by OSF et al for summary judgement, an attempt to get the case thrown out of court. It is now up to the courts to decide whether the case will go to trial. The 61-page memorandum outlines some of the case Addamax might bring and how OSF would refute it. Addamax' contentions are based on the assertion - which its lawyers maintain is recorded in OSF documents and the sworn testimony of its officers and employees - that OSF was from its inception "a deception," and "nothing more than an agreement among the leading vendors of proprietary computer systems to fend off the proponents of a 'whole new approach to computing,' namely the open systems movement," as represented by AT&T and Sun Microsystems. It says that to stop open systems required preventing the standardisation or industry-wide acceptance of software technologies that OSF sponsors did not control. "Thus an essential mission of OSF was to use the combined market power of its sponsors [52% of worldwide computer revenues] to manipulate input markets for component technologies," a nefarious goal accomplished through a "rigged Request for Technology mechanism" publicly touted as unbiased but in practice a way to "promote sponsors' interests and stifle innovation" and "displace existing or emerging standard technology with sponsor or sponsor affiliated technology." Since Addamax did not advance the interests of the sponsors, says the brief, it was rejected after an essentially fake evaluation pre-ordained to pick SecureWare, a vendor strategic to HP, in a process that was rigged by HP, assented to by DEC and colluded in by SecureWare. Since OSF "indisputably functioned as a joint purchasing arrangement for its sponsors," Addamax claims - and this is its key point - that it was damaged and the market for trusted systems destroyed not only by the defendants' monopoly power but also by its monopsony power. (M-O-N-O-P-S-O-N-Y, the ability of a buyer to reduce the price of a purchased item (usually an input) below the competitive level by restricting purchases of the item.) *More details, page 3.*

SCO RAMPS-UP "WINDOWS FRIENDLY" STRATEGY WITH PEGASUS, NEW SYSTEMS ADMINISTRATION

Starting August 1 and continuing at its annual SCO Forum fest later in the month, Santa Cruz Operation Inc will begin delivering on some more of those "Windows friendly" strategic objectives it laid out at the beginning of the year (UX No 473), this time pushing more integrated Windows connectivity and easy-to-use distributed systems management to the fore. They're the kind of requirements being demanded by users through X/Open Co Ltd's desktop requirements group (UX No 485). First SCO is expanding its relationship with AT&T GIS (UX No 488), swapping its current Microsoft Corp LAN Manager for SCO software for the NCR-developed Advanced LAN Server implementation known as Pegasus (UX No 473). NCR has had sole responsibility for LAN Manager for Unix since Microsoft stopped supporting it last year. What SCO will call Advanced Server for Unix is the functional equivalent of putting Windows NT Advanced Server on SCO Unix. That includes NT networking components - SCO Advanced Server for Unix sites will be able interoperate with NT and co-exist with it seamlessly on a peer-to-peer basis - plus attributes such as security and interdomain trust relationships. Pegasus offers more than the simple file and resource sharing currently available from SCO. It'll provide future Chicago and Cairo desktop integration via Hermes/Desktop Management Interface administration; distribution, licensing and management of Windows applications from a Unix server; and NetWare, Windows for Workgroups and OS/2 connectivity. SCO wants users to be able to plug Windows PCs in to SCO Unix servers and have the server know the PC is there, configure it, and download software like an X server and MS Mail automatically. Later in the month, at SCO Forum, the company will begin demonstrating what it says is its next-generation, easy-use Unix systems management environment. Based on a TCL scripting language, SCO touts the system as a complete text and visual management environment that it hopes could eventually provide a single point of administration for Unix and Windows. SCO is currently putting the stuff to COSE's systems management group for use in the common management environment effort folks there are supposedly still working on. SCO says they're currently looking at how Unix SNMP-based environments will be able to interoperate with Microsoft distributed management technologies and Desktop Management Taskforce DMI protocols, via translators, interpreters or direct support. Ideally SCO would like to be able to integrate Advanced Server and Unix management tools in a single environment but realises the two will be separate for some considerable time. It's also shopping around for a microkernel to form the basis of its next-generation Unix-on-Intel operating system and promises Spec1170 compatibility with the next release of its current generation. There will have to be more outlets and greater volumes before it does a PowerPC port, it says.

VENDORS BAND TOGETHER ON CORBA 2 SUBMISSION

At Object World this week, the seven vendors involved in developing the interoperability element of CORBA 2 are expected to announce they will present a joint submission to the Object Management Group by its September 21 deadline. It will be "at least partly based on" the framework put forward by ICL Plc (UX No 485), which encompasses both common protocol and gateway approaches. The submitters agreed on this course of action at the last Object Management Group technical meeting in Pittsburgh on June 28-29. CORBA 2 is also likely to include standards for initialisation and specifications on how to add new definitions to the interface repository, which was outlined in CORBA 1.1. Both specs should be finalised by the next OMG meeting in Dublin at the end of August.

END OF THE ROAD IN SIGHT FOR QUORUM

It looks like we can kiss Quorum Software Inc good-bye. The Mac-on-Unix company has reportedly failed to find any bidders despite its attempts to auction itself off (UX No 487). Distributor UniDirect is now selling and supporting Quorum Equal, the end-user product that runs Microsoft's for-Mac Word and Excel packages. Expectations are company engineers will take over the Latitude developers product and Quorum will simply fold its tents in a few weeks. Quorum blames Apple Computer, the legal difficulties Apple created for it and the scare it put into venture capitalists for its imminent demise. Quorum's nearest competitor Liken isn't much better off. Its developer Xcelerated was taken over by Andataco and Liken is now bundled and used to help sell disk drives at higher prices. Meanwhile, on the Windows front, Locus Computing Corporation, like Insignia and MainSoft before it, signed up with Microsoft to license Windows 3.1 source code for its Windows-on-Unix-on-Intel Merge product now at revision 3.2 which supports Windows programs that require enhanced mode. 3.2 also provides virtual x86 performance, Locus claims, and unlike Insignia or Wabi allows direct execution of non-privileged instructions meaning they are not emulated. The race is now on among the Windows-on-Unix gang like Insignia, Locus, Bristol and MainSoft to support Chicago. Locus figures its current enhanced mode support gives it an edge. Its package supporting Chicago will naturally be designated 4.0, after Chicago's official name, and should be able to handle NT and distributed OLE software. Merge 3.2 will be sold on SCO Open Desktop, UnixWare and surprisingly Solaris x.86.

UNIPRESS TO PORT PEGASUS TO SUN

Under a new relationship with AT&T GIS, UniPress Software Inc will be porting Pegasus, the advanced version of LAN Manager for Unix (LMU), to Sun boxes running Solaris 2.x (UX No 494, and see front page). The software, the functional equivalent of putting NT Advanced Server on Sun, is due in the first quarter of 1995, reports our sister publication *Client Server News*. Pegasus essentially puts Advanced Server's networking components and some of its key attributes such as security and interdomain trust relationships on Unix. Reportedly a French company called Axlan also has rights to do a port though UniPress intends selling its code overseas as well. Pegasus, the latest generation of LAN Man for Unix which AT&T fell sole heir to after Microsoft ceased supporting it last year, will let Unix machines interoperate with NTAS and co-exist with it on a peer-to-peer basis. UniPress, a PC-Unix connectivity house, says large installations of PCs and Suns are keen for the technology. With it, Suns will be able to act as servers for PC client apps on DOS, Windows, NT, Windows for Workgroups and OS/2 platforms. It will give PC users transparent access to the large-capacity high-speed disks and fast printers of the Sun systems. Pegasus, LAN Manager for Unix and NTAS servers form a domain, with a primary domain controller handling security and keeping track of users, groups of users and server resources. UniPress says this eliminates the need to update each server individually for every change in the network and allows large networks with thousands of users, where the New Jersey company feels LAN Manager may be better represented than Novell, to be well supported. It reduces network administration overhead and lets users access all authorised resources with one log-on. Pegasus and LMU call the system to automatically alert users of printer, disk or security problems. Errors can be tracked and network tasks such as program execution, message sending or file back-up can be scheduled to occur automatically. Pegasus supports NetBIOS over TCP/IP or NetBEUI on either the standard Sun Ethernet board or the optional Sun Token Ring Board. It also provides access to NFS, Remote File System (RFS) and Andrew File System (AFS) data. TCP/IP enhancements allow domains to span routers and connect to WANs and the Internet. Clients can also be connected to NetWare on the same network. UniPress, which is currently peddling LAN Manager 2.2 for Sun, anticipates maintaining the same price points and selling Pegasus for \$2,395 for 24 users, \$3,595 for 48, \$5,995 for 128 and \$9,595 for unlimited users.

BULL, SYSECA CREATE NEW TRANSTAR SOFTWARE ENGINEERING VENTURE

Groupe Bull and Syseca SA, Thomson-CSF SA's information technology subsidiary, have announced a consolidation of their communal software engineering technology development efforts with the launch of a joint venture company called Transtar. The new company was built on the foundations of what was formerly Societe Francaise de Genie Logiciel, which comprised Bull, Syseca, Cap Gemini Sogeti SA, Sema Group Plc, Steria SA and Cisi SA. During the course of the first quarter, Bull and Syseca quietly bought out the holdings of four other shareholders and have now regrouped the software engineering tool development activity of their previous joint organisation, Emeraude, and that of Bull itself. Held 65% by Bull and 35% by Syseca, Transtar will market Bull's Integrated System Development product set, which is, in turn, based on Emeraude's implementation of the Portable Common Tools Environment repository. The repository contains, as its kernel, the Neutral Information Model from UK's Software One Ltd. Integrated System Development SD is available immediately on the Bull DPX/20 and IBM Corp RS/6000 under AIX 3.2.5. Its components will soon be available on Sun 4, SunOS 4.1 and Solaris 2. The Emeraude PCTE is available as a stand-alone product on the above-mentioned machines and on the HP 9000 Series 700 under HP-UX 9.0 and Digital Equipment Corp Alpha under OSF 1.3. Associated options are Emeraude PC, which provides client access from Windows 3.1 and Emeraude TCI, which integrates Emeraude PCTE with ToolTalk on Solaris workstations. Transtar will market the products worldwide, mostly through value-added reseller partnerships; a number of Emeraude PCTE distributors are in place in Europe, North America and Japan. Transtar is also in 'very active' discussions with IBSI, the software engineering subsidiary of France Telecom, about collaborations because of its complementary products.

MICROPROCESSOR REPORT ARGUES FOR NEW INSTRUCTION SET

In the face of the new Intel-HP alliance, the *Microprocessor Report* has delivered itself of the argument that maybe somebody out there should come up with another chip architecture. It reasons that with the exception of the PowerPC, none of the current RISC platforms has the software support or the money to compete against the oncoming post-RISC Intel-HP chip - which for lack of name supplied by its putative parents the newsletter has taken to calling the P86. It says it's likely most PC vendors will follow Intel. Sun, it says, "will need to abandon Sparc at some point, possibly for PowerPC" and other RISC vendors could go either P86 or PowerPC. Lest the industry be left with only one or two choices, editor Linley Gwennap says a "third architecture could be created by joining Compaq, which clearly dislikes having a single CPU source, with the MIPS team, bringing in NEC, IDT and Toshiba as multiple chip sources. Silicon Graphics would provide CPU design expertise as well as system products complementary to Compaq's. NEC is the leading Japanese system vendor. The new architecture could offer compatibility with both MIPS and x86. To assist with the latter, AMD's design skills would be useful; AMD is also a CPU vendor that Compaq is comfortable with. Although this scenario is just one possible outcome," Gwennap claims that "pressures are building to cause such a radical industry realignment." Gwennap's argument assumes that Intel is really dedicated to replacing x86 with the P86 and that five or 10 years from now there'll be real volume demand for chips that deliver thousands of MIPS. Those two assumptions in mind, he reckons x86 vendors have only a limited window left. Once the P86 appears, the x86 market, including Pentium and still-to-be-seen P6, will inexorably decline and vanish by the year 2002, eight years from now. Intel will probably make the alternative of building P86-compatible processor nigh onto impossible both by keeping portions of the new architecture a secret and by surrounding it with patents. As for the RISC camp, well, in Gwennap's view only PowerPC has a chance. The others he consigns to the purgatory of low-volume markets unable to attract ISVs to support them or major systems vendors to sell them. It is also unclear to him whether the RISC folk will be able to keep up with the post-RISC P86 design though they may be able to keep abreast by putting multiple processors on a chip. To compete with post-RISC designs of their own would require heavy investment and probably the support of major systems vendors who in turn would attract the ISVs. Gwennap isolates four companies that can make a big difference to a fledgling architecture: Compaq, DEC, Sun and NEC. "These companies," he says, "can stay with their current processors and risk becoming uncompetitive in the long run. They can adopt P86 and lock themselves into a single chip vendor. They can move to PowerPC, but that architecture may not provide compatibility with these vendors' current software base." DEC, he reckons won't do it. Sun and Compaq could form a powerful third axis but Sun, he thinks, is headed towards PowerPC leaving Compaq to team with SGI and the MIPS vendors.

SAS ADDS REPORTING TOOLS

SAS Institute says it's extended the SAS/EIS library of its management information system to include six new reporting objects: Comparison Report combines text and graphics; Expanding Report provides bird-to-worm's eye view of data; Multi-column Report can summarise all data as tables and graphics; Group Bar Chart can present different data sets together; Organisation Chart provides a graphical view of the organisation; and Multidimensional Data Viewer allows users to view the same data in a variety of presentation formats. The new features bring the number of objects in the SAS/EIS library up to 30. The six new objects are testing now for Windows, OS/2 and HP-UX. They'll be available free to existing SAS users - mainframe, VAX, PC, OS/2 and Unix - from September. SAS claims 27,000 installations of its SAS System. +1 919 677 8000.

BOOLE & BABBAGE BEGINS NEW CHANNEL CAMPAIGN

Boole & Babbage Inc, San Jose, California, has appointed former TRS Technologies and InterLink VP Robert Albertson as executive director of a new business partners programme with the aim of developing a VAR channel and new integrator partnerships for its Command/Post and recently acquired Sysnet distributed systems administration software. The company has already signed 10 European VARs for the initiative, and is targeting low-end, high-volume markets. Albertson will oversee all of B&B's indirect channels. +1 408 526 3000.

MONOPSONY AT WORK AT OSF, CLAIM THE ADDAMAX ANTITRUST LAWYERS...

Economists uniformly recognise - or at least Addamax Corp lawyers contend in their antitrust case against the Open Software Foundation (see front page) - that the lower input prices commanded by monopsonists do not translate into lower consumer prices for finished goods. To the contrary, where the monopsonists control a large share of the output (i.e, the computer systems) market - and destroy competition by reducing demand in the input market - the price of the finished goods to the consumer will actually rise. The Addamax memorandum contends that the OSF sponsors exercised monopsony power in the trusted system security software input market which lowered the price of that input below competitive levels, thereby destroying the market for software and injuring Addamax. It claims that OSF security negotiator Doug Hartman told Addamax to bid its technology development costs which Addamax put at \$7m. OSF wanted to purchase the technology for "six figures." Addamax protested a price below development costs would put it out of business and Hartman concurred, says the document. Addamax claims OSF destroyed the market for RPC Technology the same way and injured Netwise (UX No 279,280,283). Among the many arguments Addamax musters against OSF, it claims OSF's formation was *per se* unlawful under the Sherman Antitrust Act and contends that its anticompetitive nature is proven by the fact that it never produced any new products or performed any significant R&D - not even on OSF/1 or Motif. It also claims that OSF was completely in the sway of its sponsors who not only dominated the board but "made sure OSF followed their wishes by installing their own employees - on temporary sabbatical from the sponsors - in key policy-making positions, by staffing technology review committees with former or on-loan sponsor employees and by naming former or on-loan sponsor employees as authors of the technology criteria documents. This total control, coupled with OSF's failure to produce a new product, indicates, it says, "that OSF was nothing more than a mere instrumentality of its sponsors formed to thwart the movement towards open systems," and emphasises its point by quoting OSF's head of engineering, Roger Gourd as saying, "We should not pretend we are here 'for the good of the industry' - that does not put bread on [the sponsors'] tables." Addamax notes in passing that OSF, by reducing both the input and output markets and by the fact that it produced no new products, could not have resulted in enhanced product quality. "Indeed," it says, "OSF's own internal documents state that the sponsors' products offered through OSF were no better and in many cases were not as good as products already on the market." Addamax also wonders whether - given its contention that OSF produced nothing at all - it has a right to exist based, as it is, on the National Cooperative Research Act of 1984, and comments that since it is "far from being a research and development organisation, at best OSF is an advertising agency whose mandate is to promote products, developed and integrated primarily by others."

...AS IT WORKS ON ITS VISION OF A DISTRIBUTED FUTURE

The Open Software Foundation will outline its vision of the future for distributed computing in a document it is working on called the Open Computing Infrastructure. OCI is based on the Distributed Computing Environment, and is also likely to include completed elements of the Distributed Management Environment, the Common Desktop Environment, plus other technologies and products that provide distributed portability, interoperability and scalability. This includes whatever can be mustered by the COSE folks. OSF's Architecture Planning Council, which met in Cambridge, Massachusetts for the first time last month, is working on the project. It will meet again in September, when the OSF User Council will supply it with a list of technologies it wants included in OCI. OSF will also get-up one of its new-fangled Pre-Structured Technology processes so that vendors can submit other interoperability and portability solutions. The OCI document won't appear before the end of September and will be followed by a more detailed technical roadmap.

EX-UNIX INTERNATIONAL CHIEF HEADS UP SUNINTEGRATION SERVICES EUROPE

As reported (UX No 483) Peter Cunningham, former president of Unix International, has turned up at the helm of European arm of SunIntegration Services. Like its US arm, which is headed by Bill Coleman, SunIntegration Services Europe has around 80 employees - a mixture of system architects, project engineers, programming managers and legal/admin staff. There are already 20 or so "multi-million" European projects on the go for which Sun is providing integration services, according to Cunningham, including London Life in the UK, DG-Bank in Germany and Ericsson in Sweden. Sun isn't interested in any projects that don't include some element of Sun hardware, but given that it will gladly handle and integrate PCs, terminals, Cray or Amdahl servers, and maybe even other hardware as well. It will also handle cabling, routers, peripherals and network traffic analysers. But the key element for Sun is networked middleware, and it says it will put together a solution using tools such as Oracle, Tivoli, NetLabs, OpenVision and the like, along with SNA and OSI connectivity solutions, and its own internal tools such as automatic software distribution and the SunRAI MVS to relational database bridge (UX No 464). SunIntegration Europe is based at Sun's UK HQ in Bagshot, Surrey, and it is in the process of setting up a presence in France, Italy and the Nordic region. Cunningham says the cycle time for business is different from Sun's usual quarter on quarter turnover, with contracts running over 18 months or so, but hopes to increase turnover by 40-50% over the next few years. SunIntegration Services has alliance partnerships with other systems integrators such as Control Data Systems, Cambridge Technology Partners and Unisys Corp.

IBM'S CGI PORTS ITS MAINFRAME APPS OVER TO UNIX

CGI Informatique SA, the \$333m software and services company which was bought by IBM France SA last Autumn, has been talking of late of moving from its mainframe focus towards client/server, and last week launched a client/server version of its Sigagip human resource and financial application. Although the first version of Sigagip/CS is only available under DB2 on IBM mainframes (with a choice of clients including PCs), a Unix server version of the human resources package using Oracle is promised by the end of the year, with the finance package following closely afterwards. It will eventually run on a wide range of Unix flavours and with a choice of database, said CGI, which claims worldwide revenues of \$60m for Sigagip, installed in 680 locations around Europe. Meanwhile, the company's Popims distribution package, widely used by major automotive companies such as BMW, Fiat, Land Rover, Renault and Rolls Royce, and also by Rank Xerox and Mercury Communications, is also making the move to Unix client/server and is due for debut this Autumn. CGI's UK arm, CGI LS3 in Leamington Spa, is currently re-writing the system using Micro Focus Cobol to support Oracle on a Sequent multi-processor. It is converting its core code where possible, and adding features such as a GUI front-end using Visual Basic and the PC to mainframe connectivity tool from Bellevue, Washington-based AttachMate Corp. Eventually, it says, core code will have to be modified to take it to full client/server capabilities. The company says it is resolved to become an "open" company, won't stick to IBM hardware despite its new parentage, and will compete with the likes of CGS, SAP and Sema. There is already a Unix version of its Pakbase integrated CASE toolset - thought to be one of the main reasons IBM bought the company. CGI says it will talk more about its overall client/server strategy within the next few months, it says.

DEC HAS NEW ADVANTAGECLUSTER 5000

As well as the new 3000 Series 700 desktop and 900 desksides unveiled this week (UX No 496), DEC also announced a multiprocessor server that clusters between four and 16 Alpha processors. The AdvantageCluster Compute Server 5000 costs \$200,000 for the four-processor model and up to \$300,000 for the 16-processor version. DEC also said that in October it plans to add a record-breaking server, currently codenamed Turbo Laser that will pack up to 12 Alpha microprocessors to deliver aggregate performance of 3.6 GIPS, 3,000 SpecMarks, 1 GFLOPS from the four-way.

BACHMAN BETS ELLIPSE CAN BE A HIT THIS TIME AROUND

By David Johnson

Almost exactly two years ago, San Jose, California-based Cooperative Solutions Inc announced Ellipse, an all singing, all dancing tool for building, managing, deploying and maintaining client-server applications. It would make translating from your nasty old mainframe to your ~~shiny new client-server environment easier than falling off a log, it explained.~~ Then Cooperative went bust. Well, Ellipse is back but now it's Bachman Information Systems Inc's Ellipse. Ellipse was inherited by Burlington, Massachusetts-based Bachman when it took over the bankrupt Cooperative Systems and undertook its debts last November. The question is whether Bachman knows what went wrong with Ellipse and what is it going to do to avoid a repetition of history? Cooperative Solutions was founded in 1989 by Kim Worsencroft and Dennis McEvoy, old Tandemers. It was, at its time, the most heavily funded start-up company ever, winning \$29m of investment. According to Bernard Dodwell, administrative marketing manager at Bachman Ltd, Ellipse failed the first time round because "it was way ahead of its time" and not what the market was looking for in the late 1980s, and frankly, the market didn't know what to do with it. Result - it "couldn't sell enough products to generate working capital" and starved to death. Also its pricing structure veered from extremes during the product's life, starting out over-priced at \$100,000 a package, and ending under-priced and lacking any credibility. He now believes that the market is more mature and is ripe for the product to succeed. As to this prediction time only will tell. The need for mission-critical client-server applications is coming but only slowly, and time is not on the side of the ailing Bachman. Steve Brenman, at rival company Forte Software Inc, believes that Ellipse's problems are more fundamental as it "relies on relatively old technology." To his mind, the only way to create a package that enables the design, configuration, management, and in particular the partitioning of applications throughout a client-server environment is through an object-oriented language such as C++ - Ellipse is written in C. Forte's product has one million lines of C++ code, has taken three years to develop, and is enabled by its object-oriented architecture to offer greater functionality. He regards Ellipse as no competition for Forte, since he believes Ellipse can compete only in the local area net departmental system market, and cannot meet the requirements of customers embarking on enterprise-wide migrations. And if the product does succeed, the prices are so low that margins must be very slim, and a second failure is a distinct possibility. However, Bachman is promoting Ellipse as an enterprise-wide package, beyond the parameters of Gupta Corp's SQL Builder and PowerSoft Corp's PowerBuilder.

Mainframe mentality

Ellipse was created by experienced mainframe developers with a mainframe mentality and mainframe fault-tolerance. Indeed, Bachman feels so little competition from that quarter that it markets PowerBuilder in the US. Mark Kent, managing director of Bachman UK, believes that "as companies begin to deploy client-server systems enterprise-wide, they are finding that early client-focus development tools such as SQL Builder and PowerBuilder, are "inadequate to scale beyond departmental applications" and that "with the addition of Ellipse, Bachman can offer systems for customers at all stages of client-server migration and development." He believes that 80% of the effort in building a client/server system is spent in actually constructing effective process management wherein the applications operate, rather than in the writing of the actual applications, and Ellipse will help out. The company claims that Ellipse automatically partitions between the client and server, attributing applications to either the client machine or the server, according to a set of parameters including the amount of data to be used. It also offers full scalability, enabling the support of additional developers, users, sites and servers. Dodwell believes that Ellipse's lack of object-orientation is not a problem but an advantage, as there are very few production applications that are truly object-oriented and very few people trained to write in C++. Consequently Forte will demand huge amounts of costly retraining and this will prove a big turn-off for potential customers. The new Ellipse is "evolution not revolution." It failed last time because it was a revolution, and Dodwell hinted that the steepness of the learning curve that Forte demands might consign it to a similar fate. Frankly Bachman needs a winner, because last quarter alone it lost \$4.0m, bringing total losses to \$9.5m for the nine months on turnover of \$25.7m. However, Dodwell is not concerned by the recent poor results, explaining that the massive restructuring with a 15% cut in US personnel and the acquisition of Cooperative Software and WindTunnel Software Inc has repositioned the company to optimise sales of its software engineering tools and the expanding client-server software market. Ellipse is presently being beta tested at 33 sites in the US and Bachman Ltd expects to have a company beta-testing in the UK by the time of the UK launch in September. An entry level special offer price of around £15,000 will run until the end of the year. This buys a NetWare server repository, one development client and licences for up to five users. This compares most favourably with Forte's offering at £75,000 with capacity for five developers, 10 users and a relational database for the objects. The client environment for Ellipse's development and production is Microsoft Corp's Windows or IBM Corp's OS/2 for Windows, connecting over Novell Inc or TCP/IP networks to Sybase Inc's SQL Server and DB2. Support for Windows NT Advanced Server networks and Oracle Corp databases is also planned. Bachman also plans to combine Ellipse and graphical user interface tools, such as Powersoft's PowerBuilder and Microsoft Visual Basic.

DEC DETAILS ITS NEW BUSINESS UNITS

Digital Equipment Corp has provided some details of its new Computer Systems Division. It consists of three worldwide business units, each of which has profit-and-loss responsibility. The divisions include the Personal Computer Business Unit which is responsible for making and selling through business partners DEC's personal computers. The Systems Business Unit is responsible for making and selling Alpha workstations and client-server systems and selling them through business partners. The Accounts Business Unit will sell DEC's and other companies' products to customers. Digital said that area vice-presidents will continue to head sales efforts until January 1 1995, when the group general managers take over sales responsibilities.

APPLE MAY HAVE LICENSED SYSTEM 7 TO ACER AS IT WOOS IBM, MOTOROLA

Conflicting stories appeared last week on Apple Computer Inc's plans to license its Macintosh System 7 to other manufacturers. *InfoWorld* reported that the company finally has an undisclosed agreement with Acer Inc, and the *Wall Street Journal* said Apple has decided only to license it to IBM Corp and Motorola Inc for their PowerPC-based machines. Acer has already signed some OEM agreements to provide other manufacturers with systems capable of running System 7, sources told *InfoWorld*; it reckons Acer will have the right to sell PowerPC systems with the operating system in some markets under its own name, but will focus on supplying a number of companies with Mac clones, which would sell them under their own labels in the Far East. The paper says the announcement has been held until agreement is reached with IBM because Apple wants IBM to be seen as the first major licensee of System 7.5. According to the *San Jose Mercury News*, Motorola would sell a few of the clones it builds under its own brand name, but is likely to manufacture most of them for sale on the OEM market.

NINTENDO USES HIGH-SPEED RAMBUS MEMORY INTERFACE IN ULTRA

Rambus Inc, Mountain View, California designer of the high-speed memory chip interface that is claimed to increase access times 10-fold has won a big leg-up to prosperity with the announcement that Nintendo Co is to use the Rambus - licensed by NEC Corp and Toshiba Corp which make memory chips that implement it - in its planned Ultra 64 64-bit games system. Nintendo told *Reuter* the Rambus technology will bring three-dimensional graphics capabilities to the Ultra 64. Previously known as Project Reality, the system is being developed jointly by Nintendo and Silicon Graphics Inc. Rambus replaces the control signals and multiplexed bus of the standard dynamic memory interface with a packet-oriented bus.

HP HAS ODAFTER OBJECT OVERLAY FOR ORACLE7

As expected (UX No 493), Hewlett-Packard Co has introduced an object overlay for relational databases. Oadapter is designed to enable Oracle7 - and other relational databases too, over time - to ~~store objects created by object-oriented applications so that software developers can create purely object-based applications on top of existing Oracle7 systems, and run them alongside existing relational applications.~~ To create Oadapter, HP has stripped the object development and query component out of OpenODB, its meld of the existing Allbase/SQL relational database overlaid with a range of object technologies. In doing so, HP appears to have bowed to the inevitable, accepting that most users already have their own database strategies and aren't interested in moving to HP's home grown relational offering even if they are keen on OpenODB's object functionality. Part of the motivation was provided by large users in the oil and petrol industry through POSC, the Petrotechnical Open Software Corporation, which anointed de-coupled OpenODB APIs as part of a preferred object data access mechanism but at the same time recognised that Oracle, Informix and Sybase databases are already the most common means of relational data storage (UX No 471). Seeking to overturn conventional object-relational notions, HP argues Oadapter maps not only objects' data to the relational database, but accompanying processes and rules too. It's cagey about the details of the proprietary transformation software, but essentially Oadapter converts Object SQL object classes to relational tables using what it calls object decomposition routines. It uses an integrated object model to access and store the data in the underlying relational tables. Storing the object models within Oadapter allows different applications to share the same objects, HP says. De-coupling the objects from the application code itself - development from the enterprise - means that only one model, on client systems, has to be maintained, HP maintains, relieving the necessity of updating the server every time a client breaks the server model, especially where large numbers of users and large amounts of data is involved. Like OpenODB, Oadapter queries are formed in Object SQL (OSQL) - HP's implementation of SQL and the draft ANSI SQL 3 standard already deployed as Allbase/SQL. Processing takes place on the server. Oadapter also includes Enterprise Data Access-Objects, a class library using Information Builders' EDA/SQL gateway to provide access to relational views of legacy databases. For modelling, Oadapter supports HP Fusion, Hitachi Ltd's ObjectIQ, Protosoft Inc Paradigm Plus, Step Tools Inc Express and most object-oriented analysis and design tools. HP Interface Architect, ParcPlace Systems Inc VisualWorks, Visual Edge Inc UIM/X or any GUI tools that generate C, C++ or SmallTalk code can be used for interface development on Oadapter. It's tightly-integrated with HP Distributed SmallTalk, SoftBench C++ and VisualWorks for code generation, and also supports ObjectIQ, Information Builders' Focus, and the Taligent Inc Framework when it appears. It currently runs on Allbase/SQL or Oracle 7.x, though may be extended to other environments - see below. Client software is up on HP, IBM and Sun Unix workstations and Windows PCs. It only runs on HP servers at present, though HP says it'll be migrated on to Sun, IBM and other platforms shortly. From September, \$6,000 buys a two-user concurrent licence with the ability to install an unlimited amount of clients. HP is looking for OEMs, targeting integrators and tools providers. The first deal is likely to be cut with Cap Gemini Sogeti's US unit, which last month teamed with HP to provide solutions to POSC.

Informix

But why hasn't HP put Oadapter up on the Informix database? After all HP licensed OpenODB to Informix back in 1992. Apparently the relationship hasn't worked up much business - HP cites "political problems" and the turnaround in strategy over at the Menlo Park, California, company that's left some business partners struggling to figure out where their relationships are heading. However, the OpenODB contract with Informix remains in place, HP says, and therefore the possibility of putting Oadapter up on Informix in future. It's also considering ports to DB2/6000 and to its other database partner Sybase Inc, although Sybase is understood to have its own object plans afoot. Having already separated Oadapter from Allbase, porting issues are purely business decisions, HP says.

HP ENHANCES DISTRIBUTED SMALLTALK

Hewlett-Packard Co has introduced release 3.0 of its Distributed SmallTalk development system, effectively an implementation of ParcPlace Systems Inc's VisualWorks 1.0, extended to allow distributed development and deployment over HP's CORBA 1.1 object request broker. 3.0 includes a shared repository with version control ~~and improved browsing, allowing users to share SmallTalk objects~~ on a network, increased messaging speed, a distributed debugger, enhanced security, support for character-based applications and additional sample applications. HP will add support for VisualWorks 2.0 later this year, plus Windows, NT and OS/2 systems. Distributed SmallTalk is available standalone or bundled with VisualWorks - HP will give away VisualWorks free with every five Distributed SmallTalk licences purchased before the end of October. 3.0 is out next week starting at \$5,000 - \$10,500 with VisualWorks on HP-US, SunOS, Solaris and AIX.

FINAL OPENSTEP APIS DUE SEPTEMBER

Preliminary versions of the application programming interfaces to OpenStep, promised by June 30, are available from NeXT Computer Inc over the net at ftp.next.com. A final set of OpenStep APIs - the operating system-independent version of NeXT's object-oriented NeXTStep environment - are now expected by the end of September, following a review that's being conducted in conjunction with NeXT partners, including SunSoft Inc, DEC and Hewlett-Packard Co. NeXT, which worked with SunSoft on the specification, says it doesn't expect there to be any major changes to the APIs - which it owns - but has promised other partners an opportunity to review the specifications and recommend changes. NeXT will offer the completed specs to X/Open Co Ltd. SunSoft and DEC are putting OpenStep up on Solaris and OSF/1 respectively, HP already offers the entire NeXTStep environment natively, with NeXT's underlying Mach microkernel, and will take the Mach implementation of OpenStep. NeXT is readying for summer 1995 and NeXTStep 4.0. NeXT expects 95% of applications should run with only minor changes across all three platforms. SunSoft and DEC have licensed parts of the NeXT user environment too, meaning NeXTStep desktop functions like e-mail should be compatible between the implementations.

NEXT SIGNS NEW INTEGRATION PARTNERS

Meanwhile, NeXT has some new Object Channel partners it'll introduce at ObjectWorld this week. Canadian integrator SHL System-house plans to develop a range of project management, reporting and integration tools on NeXTStep, as part of an expanded ObjectWare programme. It'll peddle them through its object technology centre, offering worldwide support for object projects. Defence industry supplier Martin Marietta Information Systems & Technologies, King of Prussia, Pennsylvania, will work on telecomms, financial services and government solutions based upon NeXTStep. And NeXT is also to begin offering a new set of customer support resources. Object Experts will include full-time, on-site NeXTStep experts providing technical support, design and development assistance; integration and third party solution advice; review and reporting. Object Experts costs from \$25,000 per month for up to one year.

IBM NUDGES AHEAD

IBM Corp made some money in the second quarter, reporting earnings of \$689 million on sales of \$15.4 billion, up 3%. It's a heck of a lot better than last year when it lost \$40 million in the same period. The US, Latin America and Europe were flat; Asia-Pacific picked up 14%. Mainframe and AS/400 revenues declined; demand for PowerPC RS/6000s exceeded supply and overall RS/6000 revenues were up. PC revenues increased internationally; the US was flat. Software revenues were flat while service revenues increased 24%. Maintenance, financing and rentals decreased. The company's gross profit margin was 39.8%. Expenses declined 18%. It said it now plans to reduce expenses by 1996 by \$8 billion rather than the \$7 billion it thought it could manage last year.

MERCURY HAS INTEGRATED CODE-TESTER

Mercury Interactive Corp, Santa Clara, California, says it's offering a system that will allow developers to manage their entire testing process. Integrated with Mercury's WinRunner 3.0 and LoadRunner/PC, TestDirector allows users to select the tests to be run; then goes off and invokes the appropriate tools. It provides information on how many tests have been run, how many failed and how many bugs were found. It supports test planning and execution, data analysis and bug tracking. Server versions start at \$6,850 plus \$480 per client.

MICROSOFT SIGNS CONSENT DECREE; SACRIFICES LITTLE TO GET FEDS OFF ITS BACK

by Maureen O'Gara

(Editor's Note: on-line subscribers may recognise the bulk of this story as the one they read Monday July 18 as part of our breaking news "Telegram" service.)

Microsoft announced on Saturday July 16 that it had signed a consent decree with the US government thereby heading off an anticipated antitrust suit against it by the US Department of Justice. At the same time, it said, it signed a substantially identical undertaking with the European Commission ending the EC's year-old probe of its questionable practices. With the consent decree, Microsoft has bound itself to abandon its notorious per-processor OEM pricing scheme for Windows and MS-DOS, which the government deemed anticompetitive, and to use uniform wording in its nondisclosure agreements.

The company's infamous undocumented systems calls were not made an issue nor were any holes in the wall between its operating system and application development groups. Both the consent decree and the European undertaking will remain in effect until they expire in six-and-a-half years, a date some may take as a sinister omen considering it will be 2001. During that time the DOJ may police Microsoft's NDA and OEM arrangements and demand information concerning them. The deal, which Bill Gates and his chief counsel Bill Newcomb repeatedly swore during the course of the four-year investigation that they would never cut with the feds, actually imposes little hardship on Microsoft. The company remains intact. The brilliantly clever per-processor licensing scheme that competitors contend forced OEMs to pay for operating systems they didn't necessarily ship and that played a key role in establishing Microsoft as king of the hill had obviously run its course, especially as Microsoft steps out of the purely desktop market.

The terms of agreement

By agreement with the government, Windows NT, which Microsoft plans to reprice by the time Daytona is released in a few weeks time, is not covered by the consent decree because it is a sufficiently different product with low volumes and "relatively small value," Newcomb said. The decree, however, covers successive products and replacements and Bill Gates indicated it would impact Cairo's pricing as it "replaces Chicago." Microsoft will now adopt per-copy or per-system pricing in the desktop market - and OEMs with a bone to pick about their DOS and Windows contracts with the company will be able to renegotiate specific terms - but only going forward not back. OEMs will have to initiate any negotiations. The decree will also force Microsoft to abandon contracts that obligated vendors to commit themselves to volumes years in advance but Microsoft's volume discounts remain unaffected. Contracts will be drawn for one-year terms with a second year possible and no minimum commitments. Newcomb claimed Microsoft's OEM revenues would not be impacted by the move. Microsoft calculated the difference between per-processor and per-system pricing, which it claimed was available to OEMs all along, was a matter of 50 cents a copy. The government estimated its per-processor agreements accounted for 60% of all operating systems sold. Microsoft's rationale for accepting the consent decree was its reasonable terms plus the aggravation of any legal proceeding it would save, Newcomb said during a Saturday afternoon teleconference that had to be repeated twice because of sound difficulties. He declined to characterize the government's position as "either...or," either sign the consent decree or face a lawsuit, as is widely believed was what was happening. Microsoft repeatedly maintained it did not know whether the DOJ would have filed suit and claimed the government "chose not to go forward."

Ethics

The unrepentant Newcomb resisted the monopolist's mantle and attempted to minimise the case the DOJ could have made against the company by claiming that Microsoft has not accumulated market power in the antitrust sense of the phrase and that per-processor pricing was "ethical and fully lawful." "We do not believe we've ever had a monopoly," he said. "The agreement we have with the government is not that their allegation is true. Our agreement with the government is that we are willing to accommodate them in these reasonable ways." He said the DOJ initiated the talks leading to the consent decree, a process that began in earnest in Brussels July 3 and continued in Washington through the night of Friday July 15 when Newcomb signed on behalf of Microsoft with Gates' consent. Gates, who was off in Idaho, was not actively involved. Newcomb called the NDA issue "a tempest in a teapot." Because of a flap created three months ago when Microsoft sought to restrict developers at WordPerfect and Lotus who were working on non-Microsoft standards such as OpenDOC from beta testing Chicago, Microsoft will now have to be even-handed in the way it applies its NDAs. The

decree will also loosen the terms of Microsoft's NDAs. It had previously required ISVs not to disclose any information about its operating system for three years after it came to market. The government found this worked a hardship on software developers while Microsoft was free to recruit development staff anywhere. Microsoft NDAs will now expire when the product hits the market. (NDAs were never part of the European investigation.) The EC undertaking goes into effect immediately; the US consent decree in 60 days. Competitors, whom Newcomb blamed for the investigation without naming them, now have that time to file their comments, protests and questions with the DOJ and federal courts. There could of course still be outside antitrust suits lodged such as Novell has threatened. However, Novell said it has withdrawn without prejudice its complaint with the European Commission and said it "welcomes" the consent decree. It congratulated both Microsoft and the government agencies for "working through these issues." While the thrust of the consent decree could open Microsoft to new competition from OS/2 and Novell DOS, its entrenched position with the buying public is expected to ensure its leadership on the desktop. Its eleventh-hour acceptance of the consent decree will save it from the legal wrangling that helped bring IBM down. The consent decree represents the first time in antitrust history that the US Department of Justice coordinated a settlement with European authorities. Newcomb indicated the concession was made at Microsoft's behest. Interestingly, the cooperation treaty that allowed the governments to coordinate their activities and share information could be invalidated by the European Court of Justice on procedural grounds, according to Microsoft's senior corporate attorney for Europe Brad Smith.

SUN'S PROFITS RISE TO \$195.8m

Sun Microsystems Inc turned in fourth quarter revenues of \$1,400m, up 11% from \$1,260m last time around, and a profit of \$77.9m, or 82 cents a share, compared with \$76.1m and 72 cents a share in the corresponding period last year. The quarter to June 30 brought Sun's fiscal year to a close with a profits at an all time high of \$195.8m, up 25% on \$156.7m last time, on revenues up 9% at \$4,690m on \$4,310m last year. Earnings per share rose 36% to \$2.02 over \$1.36 last time. It says it booked 40% more business in the last quarter than in the fourth quarter of last year; SMCC shipped 82,000 systems, 21% more than in the third quarter and 16% up on the fourth quarter last year whilst SunSoft shifted 111,000 Unix licences in the quarter. In the figures, analysts saw gross margins down from 42% to 40.8% on the year.

VIRTUAL REALITY: DIVISION WINS HP

UK-based Division Group Plc, the virtual reality software pioneer has won Hewlett-Packard Co as a strategic hardware partner. Division is to convert its dVS distributed virtual reality run-time environment and dVise authoring and simulation software to run on the HP 9000 Series 700 HP-UX Unix workstations. It has also integrated its Provision 10 virtual reality massively parallel accelerator hardware with the HP 9000 715 and 735 graphics models to create a new line of virtual reality systems. The two will also collaborate on future generations of high performance graphics products with HP using Division's PixelFlow technology licensed from the University of North Carolina at Chapel Hill.

...NOW HP SIGNS WITH E&S

And, following a well-beaten track to the Salt Lake City-based graphics outfit, HP now has a OEM agreement with Evans & Sutherland Computer Corp for its Freedom Series graphics accelerators for use with HP's HP-UX workstations. Freedom with the OpenGL API and HP's Starbase graphics library will be available from the fourth quarter for application porting with first customer ships expected early 1995. PEXlib application support will follow by mid-1995 HP says. E&S' Freedom-based CDRS auto design application will be the first application up on the HP 700/Freedom solution.

HP DROPS NATIVE NETWARE PLAN

Hewlett-Packard Co has confirmed a report in US *PC Week* that it has abandoned a plan to sell a native Precision Architecture RISC-based version of Novell Inc's forthcoming Processor-Independent NetWare first announced in April. John Saw, Hewlett-Packard's distributed systems manager in the UK, says that the decision was made ~~because it was felt that the native Precision RISC version of Processor-Independent NetWare would effectively duplicate Hewlett-Packard's other efforts in the field: he says that the company believes that its iAPX-86-based NetServer product line, of which around a third are sold with NetWare pre-installed according to Saw, satisfies the superserver market, while its Portable NetWare for HP-UX Unix offering caters for those customers specifically wanting Precision Architecture RISC-based servers.~~

FRANKENBERG CANS CORSAIRE

Novell Inc has canned work on developing its Linux-based Corsaire operating system into an independent product to compete with Microsoft Corp's Windows, according to *PC Week* (UX No 490). President and chief executive Bob Frankenberg apparently took the decision while evaluating all areas of the company for its pending reorganisation in the autumn. Company officials are expected to unveil the reorg as the "New Novell". But the Corsaire development team reportedly hopes to persuade Novell to spin the project off into a separate company and has appealed to chairman Ray Noorda to continue financial support - Noorda is said to have personally provided some funding to date. *PC Week* sources reckon some Corsaire technology could find its way into UnixWare, however. According to internal Novell documents, Corsaire combines the Linux 1.0 kernel with Novell's DOS 7.0, and runs on Intel Corp, PowerPC and other RISC processors. It includes an MS-DOS and Windows emulator, the Mosaic graphical front end to the Internet, and a virtual desktop based on Visix Software Inc's Looking Glass product. It was intended as a client operating system that would go into embedded switches, appliances and the like. One UnixWare licensee declared, "The feeling was that the UnixWare kernel was too big for Novell to have a 'UnixWare everywhere' strategy like Microsoft's 'Windows everywhere' strategy. But Noorda was making noises that Corsair was what they'd lead with and fight Windows with. That was a real slap in the face for the UnixWare guys".

NCR GROWING UNDER AT&T

AT&T Corp shows that big companies can still grow - it is now bigger than IBM Corp, doing \$17,730m in the second quarter, up 8.7%. Global Information Solutions, the new name for the combined NCR/AT&T computer business, turned over a storming \$2,010m, an 11% increase, and made an operating profit of \$14m, up from \$5m a year ago - not anything to write home about, but at least its in profit. Revenues also increased from network equipment, but were strongest for wireless products and transmission systems. Sales to US telephone companies rose; international revenues jumped more than 30%. Sales of microelectronic components outside the US also rose significantly. Long distance telecoms services rose 5% to \$10,340m.

WYSE OFFERS NEW SMP SERIES 7000i SERVER

Wyse Technology Inc will this week introduce its new Series 7000i Model 765 server for departmental and small business computing, based on the SMP architecture it licensed from Sequent about six years ago. The Model 765 can incorporate up to two 66MHz Pentiums and will be sold by VARs as a multiuser system, a network file server or application server. It has eight EISA slots and comes with from 16Mb to 512Mb RAM. SVR4, SCO MPX, Microsoft Windows NT, or OS/2 are pre-installed; other options are MS-DOS, UnixWare, NetWare, and Solaris. Available immediately, a uniprocessor machine starts at \$10,000. Existing Series 7000i Model 760MP users can upgrade their 66MHz 80486DX2 boards to Pentiums for \$1,500.

SNI STRIKES TEKTRONIX X-STATION DEAL

Siemens Nixdorf Informationssysteme AG announced last week that, with sales and service locations in over 45 countries, it is to adopt Tektronix as its preferred supplier of X terminals for the European market. The agreement is aimed at filling a growing European demand for high-end X terminals in the banking and finance, government, and transport sectors. Tektronix says it often finds itself working closely with Siemens Nixdorf at customer sites and the agreement formalises the past relationship and paves the way for future arrangements between the two companies. It will offer Tektronix X terminals and its new multimedia X server software, XpressWare 7.0.

POWERPC EMBEDDED ABI OUT SOON, CLOSELY BASED ON SUN'S SOLARIS

A meeting of the informal PowerPC Embedded ABI group this Tuesday and Wednesday should see most of the loose ends of the software spec tied up. The most pressing problem for the group, which includes compiler, debugger and realtime operating system manufacturers is ~~what to do with their work once it is finished.~~ The PowerOpen Association is the obvious place, however the Association is concerned that having two very different Application Binary Interfaces (ABIs) bearing the PowerOpen endorsement could confuse the market. And when we say very different, we mean very different. Where the PowerOpen ABI is based very closely upon IBM's AIX version of Unix, the EABI is built around SunSoft's Solaris port for the PowerPC. When the EABI-ers started working on their specification, they initially turned to the PowerOpen/AIX ABI. Here, after all, was an operating system ready to run on the PowerPC. Unfortunately, the AIX ABI is tuned for sheer performance, rather than compactness, or the other attributes that the embedded industry likes. And so the EABI group struck out on their own. Around the end of 1993 the group switched compiler output standards, and it was consequently drawn towards Solaris. When a compiler spits out a finished file, it includes information which can be used by debuggers and other software tools. One standard, XCOFF is used by AIX, another, ELF, is used by Unix System V Release 4-compatible systems such as Solaris. Most people acknowledge that ELF is the up and coming contender, newer and more flexible than XCOFF. It was after the EABI group changed its allegiance to ELF, that it became aware of SunSoft's effort to port Solaris to the PowerPC - with an ABI based on System V release 4 and support for ELF, the potential for collaboration was obvious. Moreover Sunsoft's lack of an installed PowerPC base meant that, unlike IBM, it could tweak its proposed ABI to the EABI group's advantage. Mark Edwards, of Motorola's Advanced Microcontroller division and one of the leading lights among EABI workers says Sunsoft and the EABI group have worked closely, proposing and making changes to their respective ABIs to keep them in sync. By closely basing the EABI on Solaris for PowerPC, the embedded group ensures a ready supply of development and conformance testing tools.

Something of a quandary

However, the result puts the PowerOpen Association in something of a quandary. On the one hand, here is the undisputed ABI for embedded applications, on the other hand, it is so different to the main PowerOpen ABI that applying the PowerOpen stamp to both may cause confusion, since some customers might expect a degree of compatibility between tool sets. There are suggestions that the Association's reluctance may also have a political basis, with IBM unhappy about the infiltration of SunSoft technology into the previously true Blue Association; a suggestion that Association President Tom Mace denies. "There are some people who would characterise it as political, but it is really not that way" he says, adding "... what we have to work out as we talk to the EABI group is how we keep the confusion down to the minimum, while providing the group with the facilities they require" he added. Mace is attending next week's EABI group meeting for a discussion of what will be required to get the PowerOpen Association tag attached to the embedded group's work. "We will help them in any way we can", he says.

ELAN HAS NEW LICENCE MANAGER

Elan Computer Group Inc, Mountain View, California, will this week release version 3.0 of its Elan License Manager software licensing toolkit for Unix. The product has been enhanced to enable software vendors to implement "soft" limit license usage, and includes start date keys so vendors can restrict a customer's use of their software until a given date. It also has a new dynamic client debugging capability, so that software developers can track down problems that occur within an application when it is being licenced out to customers - when an application that includes License Manager is run, information about what is happening internally is printed to stdout. Version 3.0 also includes a software usage metering function, which registers how often a certain application or feature or function of that application is used. It is available now in both source and binary code as an upgrade or for a one-off fee of \$7,500.

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Developers interested in Taos, the mixed-processor parallel operating system from **Tao Systems Ltd** of Belsize Park, London can now try the beast out on iAPX-86-based machines: **Tantric Technologies Ltd**, based in Southampton, Hampshire is now shipping kits for it for £195.

Sybase Inc saw second quarter net profits up 77.8% at \$16.0m on turnover up 64.6% at \$158.0m last week. Mid-term net rose 80% to \$27.0m on turnover up 68.2% at \$296.0m. Despite the gain, Wall Street hounded Sybase shares down 18% at around \$40 on the day, with analysts citing the fact that growth from core database licence fees slowed to 36% in the quarter from 61% in the first quarter and that for the first time server licence revenues dipped below 50% of total licence revenues.

Under the re-org **DEC** is on track to shrink its research and engineering spending from 13% of revenues, or \$1,700m in 1992 to 9% or \$1,300m for fiscal 1994 ended June 30, chief technical officer William Strecker said, adding that these expenses were too high for the kind of businesses the company was in. His Advanced Technology Group gets about \$130m this fiscal.

***Oracle Systems Corp** has bought a 7.7% stake and confirmed it has entered into discussions with **Gupta Corp** over several transactions including possible acquisition. The attraction is the SQL-Windows tool which would enhance Oracle's pressure on the desktop, and perhaps SQLBase, which would give it a low-end database without the need to compromise Oracle pricing by offering a cut down version.

Unisys Corp's half-year turnover declined 9% to \$3,448m, with sales off a daunting 18% at \$1,950m, and only services growing - but at least the Blue Beller did manage to stay in profit. Information services and systems integration is now the largest source of revenue for the corporation, accounting for 27% of total revenue. In the quarter, services revenue grew 31%. Net profits were down 51.5% at \$49.9m on sales down 6.6% at \$1,799.2m; mid-term net fell 69.8% to \$109.9m.

UK-based **Virtuality Group Plc** has switched from the Motorola Inc 68000 family to the company's 88110 RISC in its current generation of virtual reality systems, and despite its alliance with IBM, says it has no plans to switch to the PowerPC. The new systems include 88110 configurations delivering 200 MIPS to 1,200 MIPS.

For the first time, **IXI Ltd** will begin targeting end-user sales of its X.desktop environment with the release of a new more PC-compatible version of its interface software at Unix Expo in October that implements its Wintif Windows look and feel for Unix technology.

With Sparcstation 5-compatibles already under its belt, Fremont, California-based **Aries Research Inc** is now offering Sparcstation 20-compatibles with dual Ross HyperSparc at from \$7,500 with 55MHz CPUs and \$9,000 for 66MHz parts. Aries says these Marixx dt workstations will be the first systems it's offered directly to end users. Aries claims the workstation offers double the power of Sun's Sparcstation at 42% less cost. +1 510659 1544.

Perhaps not surprisingly, the PowerPC accounted for only 1% of the French microcomputing market, by value, in 1993, says a study published last week by Paris market research firm **Gfk International SA**. The study, which includes the first few months of this year, says that Motorola Inc lost share to Intel Corp in a French market that grew 16% in 1993; for the period February to May, Intel saw its share of unit sales grow to 87% this year from 80% last, and to 86% from 80% of sales in revenue; the Gfk study also shows that French hypermarkets and department stores have doubled their share of the market.

At Object World, a group of companies including **Ilog SA** will demo an application that is to be used to automate the Swiss Stock Exchange and integrate heterogeneous legacy systems. The project is due to be deployed in March 1995, and is headed by **Unicile**, a consortium of Swiss banks which develop software for financial markets. Unicile has subcontracted integration work to Swiss firm **Linkvest**, which, in turn, is using Ilog's Views, Broker and Server products to implement the system.

On July 15, **Microsoft Corp** and **Digital Equipment Corp** held the first design preview of the preliminary spec for the Common Object Model. More than 100 systems integrators, application developers, independent software vendors, system vendors, and representatives of industry committees attended the event, where they were invited to examine the spec and offer feedback. Microsoft said it had also invited the Object Management Group, Apple, Hewlett-Packard, and IBM to review COM.

SCO says it sold 40,000 Unix clients last year.

Objectivity Inc is integrating its object database management system with **ParcPlace Systems Inc's** VisualWorks Smalltalk-based application development environment. Under the terms of the agreement, the two will exchange technical information, have early access to each others products, undertake design reviews, and co-operative marketing. Objectivity/DB Smalltalk support will adhere to the Object Database Management Group's ODMG-93 specification for a Smalltalk binding to object databases. The product is scheduled for release by the end of 1994.

***Apple Computer Inc** is developing a high performance X Server with **Age Logic Inc** that will enable customers to access applications on their Unix boxes via Macintosh computers. The two will cross-license source code for their respective MacX and XoftWare X Windows software, and as a result, Apple will release an upgraded version of MacX later this year that supports the X 11 Release 5 standard - it will also be optimised for Power Macintoshes. Age, meanwhile, plans to release a Macintosh version of XoftWare later in the year too.

3Dlabs Ltd - formerly known as DuPont Pixel before it was bought out by its management (UX No 484) - is developing graphics boards based around its Glint processor that will support Toronto, Canada-based start-up X Inside Inc's Accelerated X X server software (UX No 473). The two also intend to OEM the integrated solution, when it is released at some unspecified time in the future.

X/Open Co Ltd had hoped a common API for OLTP communications schemes would eventually emerge from ISO. It picked-up three communications resource manager snapshots, anticipating they'd eventually be reconciled under a common ISO framework. Reportedly that scenario's no longer on the cards and X/Open has stopped work on the three communications schemes, TxRPC - based on the Transarc Corp/DEC transactional RPC scheme; XATMI - from Novell Inc's Tuxedo; and CPI-C from IBM's APPN/LU6.2. It also stymies work on XA+, the extension to X/Open's existing XA distributed transaction processing specification interface and model that was to have included those APIs exchanged between different communications managers and transaction processing monitors.

Sadly, **Novell Inc's** vice president for Europe, the Middle East, and Africa, Greg Fallon, died of heart failure last week in London. He was only 43.

Although **Motorola Inc's Computer Systems Group** backpeddled as hard as it could after UniForum earlier this year, saying that the 88110 RISC-based systems it introduced there wouldn't be the last 88110 box before PowerPC (UX No 480), now *Computer Reseller News* hears of PREP-compliant PowerPC servers being readied by the company for the OEM market due sometime in the autumn running a variety of operating systems.

FoxPro 2.6 for SCO Unix and Xenix due next month, is said to incorporate the same features and functionality as the MS-DOS version, thereby reportedly completing a promise made by **Fox Software Inc** executives back in 1989 to bring FoxBase+ in line with FoxPro, before the company sold FoxPro to Microsoft Corp in 1992. Although Microsoft will continue support for the current product line, with the promise fulfilled, Unix versions of the next FoxPro 3.0 release aren't guaranteed.

Looks like **IBM Corp** will roll-out its RS/6000 SMP strategy at Unix Expo in October, beginning with the Pegasus multiprocessors and SMP AIX.

*Although the "update-anywhere" capability of **Oracle Corp's** Symmetric Replication System for Oracle 7 7.1 "Parallel Everything" database won't be around until the first quarter of next year (UX No 493), Omri Serlin's FT Systems notes that the Parallel Data Query and other parallel additions available from this month already shoot Oracle ahead of rivals Sybase and Informix. Sybase is still beta-testing its Navigation Server with AT&T GIS - and is having some well-publicised teething troubles - whilst Informix's OnLine Dynamic Server 8.0 isn't due until mid-1995. The newsletter reports Sybase and Informix's current "hot site" replication is only a subset of the replication technology Oracle offers.

It got its Q's mixed up: what **Sun Microsystems Inc** meant to say is that its "el cheapo" \$4,000 Sparcstation 5 will ship with the 15" screen this quarter (UX No 496).

We understand folks at **AT&T** and **SNI** are shopping around for their next-generation Unixes too.

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OPEN SOFTWARE FOUNDATION GEARS-UP FOR DME II: SYSTEMS MANAGEMENT OUT OF A-BOX

After biting off more than it could chew the first time around, the new-look Open Software Foundation is steeling itself for another attempt on the distributed management cherry - or rather several smaller nibbles. The effort will use some refreshed parts of the largely-failed Distributed Management Environment, make some renewed attempts at other DME-type technologies all over again, as well as add new components. This time around the aim is to truck consistent, graphical, systems management out-of-the-box to the industry via five or six of OSF's so-called Pre-Structured Technology Processes now gathering steam. All of the PSTs are currently in the (non-public) "authoring" phase where sponsors and non-sponsors shuffle ideas around until they figure out a compromise strategy. Only when the PSTs formally submit their proposals to OSF will those PSTs be made public. The first batch are expected to step into the light in the fourth quarter, with development slated to begin early 1995. The PSTs will signpost the distributed computing roadmap OSF is currently drumming-up as its Open Computing Infrastructure (UX No 497). Although much of the original DME will be recognisable in DME II, the new initiative will piggy-back on work already done under the auspices of COSE's common management environment. Indeed, the COSE systems management group has continued to meet and pass its ideas and material on to OSF in readiness for DME II and, according to members of that group, has been overseeing the embryonic PST groups. In DME II, or whatever it is eventually called, distributed services established under the original DME process such as licence and event management will be supplemented by COSE-defined technologies like load balancing, backup and restore, plus the Palladium print management stuff OSF discarded (UX No 460). However, unlike core DME services, which relied on the use of the the OSF Distributed Computing Environment RPC, whatever the PSTs come up with will recognise other kinds of interoperability technologies too, including TCP/IP, ONC and SNA. The services will either be expanded to encompass those other interoperability mechanisms, or the environment in which those services operate will be extended, according to DME business area manager, Lance Travis. Surviving Network Management Option components will be enhanced for stuff like SNMP 2. There won't be an OSF reference framework implementation a la Tivoli in DME I, however there will be a PST to gather up a set of managed objects like the stuff Tivoli has given over to X/Open Co Ltd's systems management workgroup. The object framework game of course has now passed OSF by. Retained DME technologies will be re-worked by the PSTs either because they either need updating, or because they've evolved to the point where they are unrecognisable or incompatible (or both) with original specs. The PSTs will work with X/Open systems management specifications where they exist and PST application programming interfaces will feed back into X/Open. The two organisations are expected to work more closely in future, although they say there's no plan to combine their work in a formal sense. DME II technologies will be licensed by OSF and PST partners. The idea, says Travis, is to keep the individual PST goals small and sweet to ensure OSF stays in sync with the rest of industry, one of the reasons for the downfall of DME I. The usual band of companies - DEC, HP, IBM and Sun - are gathering for PSTs, although OSF's Japanese sponsors, Hitachi, Sony, Fujitsu and NEC, are expected to adopt much more prominent roles (in this and other OSF developments) mainly due to the presence of Sun and the perceived validation of OSF processes its membership brings. What the rest of the industry is waiting for is a PST schedule, not just on systems management, but on Common Desktop Environment and other technologies too.

X/OPEN TO LEAD CROSS-PLATFORM APPLICATION PORTING PROJECT USING DRA TOOLS

X/Open Co Ltd is expected to announce in October that it'll lead a new internationally-based project to encourage the creation of a new breed of application porting and API testing tools using technology conceived by the UK Defence Research Agency (DRA) and currently being honed in the European Commission Esprit-funded Deploy project (UX No 471). We understand there will be 12 project affiliates, including users, ISVs and vendors, which will use and evaluate the tools as key project technologies. The apparent success of Deploy, described by project members to the industry at large, seems set to lead, as DRA, X/Open and others had hoped, to a new initiative to enable users, ISVs and other organisations to develop consistent and strictly enforceable application porting processes. Deploy partners, apart from X/Open and DRA, include OSF Research Institute, IXI Ltd, Software AG and two consultancies, Etnoteam and ET International SA. Former Unix International Europe front man, Scott Hansen, now head of Brussels-based consultancy ET International, is expected to take the reins of the project, and will coordinate development of requirements, feedback and pursue funding. *Details on page 3*

SPARC PERFORMANCE GOALS "MAY FALL SHORT OF MARK"

Efforts by Sun Microsystems Inc to meet the performance goals it set for the upcoming UltraSparc and SuperSparc II silicon are likely to fall short of the mark, sources report. Sun's first 64-bit chip, the UltraSparc, is to tape out in the next few weeks and the company should have first silicon by September or October, Sparc Technology Business president Chet Silvestri said, reportedly a couple months late. He estimates the part will come in at 167MHz, which, sources claim, was STB's target though performance will be 250 SPECint at best, not the 275 SPECint hoped for. The SuperSparc II which is already in silicon - and reportedly booted immediately - will only hit a clock rate of 90MHz (125-130 SPECint), 10% less than the 100MHz (140-145 SPECint) hoped for and a quarter off, a delay that by current thinking should produce a 15% performance improvement to equalise its competitive position. Silvestri contends a second revv of the SuperSparc II silicon in September could produce 100MHz parts, however, he claims to be unphased by whether it does or not. STB's business model, he says, has changed and he is now more interested in producing a steady flow of high-volume merchant chips than sorting through the batches produced separating 100MHz parts from 90s and losing sales of the lower-clock parts to the dumpster. Although, according to Silvestri, the SuperSparc II will be the highest volume Sparc in the Sun line for a year after it arrives, sources suggest its failure to clear the 100MHz hurdle could finally open Sun to the entreaties of Ross Technology Inc on behalf of its 100MHz HyperSparc chip. SuperSparc II and its genre, however, are essentially a passing fancy as far as Sun's more serious intentions lay - provided it isn't eventually forced into the enemy Intel or PowerPC camp. *Continued, page 3.*

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IBM DENIES STOCKPILING POWERPC 601s, BUT JUST WHERE THEY ARE ALL GOING?

IBM Corp has already told anyone who's interested that it had shipped its millionth PowerPC 601 processor by the end of last month. Now it is also saying that by the end of 1994 total PowerPC sales, from IBM and Motorola Inc will sit at 2.5m processors. IBM is characterising the achievement as "one of the fastest ramp-ups of any microprocessor in the computer market", and points out it exceeds industry estimates of demand. IBM presentations show that demand does exceed industry estimates, however, they also raise the question of where exactly these chips have been shipped. ~~There is a sneaking suspicion among a number of analysts that they are sitting in an IBM or Motorola warehouse somewhere.~~ A recent technology briefing from analysts Paine Webber was headlined *PowerPC Chips Collecting Dust?* and contained the assertion: "We believe that IBM is ramping PowerPC supply at a much faster rate than the market can absorb them". The report, by Paine Webber's Stephen Smith and Neil Herman, points out that Apple Computer Inc will have shipped about 400,000 Power Macintoshes by the end of June and says the other big customer, IBM's own RS/6000 division, is shipping well under 50,000 units a quarter. Dataquest Inc's Dominic Ricchetti broadly concurs. Dataquest is forecasting that about 550,000 Power Macintosh systems and about 40,000 workstations and other RISC personal computers from IBM and other vendors will ship this year. Even if Apple can do 700,000 Power Macintoshes "that still does not add up to support IBM claims of a million PowerPC 601 chips shipped already" he comments. However, IBM Microelectronics has put up a robust defence of the figure, together with a compelling, though complex, argument showing it would have nothing to gain from running production faster than demand.

Some warehouse, somewhere?

To start with, it is adamant all those million chips have shipped - they are not sitting around in some warehouse somewhere; they all went out of the door. Reasonably enough, it cannot say to whom they were shipped. Moreover, the division points out the same plant in Burlington is producing RAM chips, iAPX-86-compatible processors and PowerPC processors. It claims there would be absolutely no advantage in over-producing PowerPC chips since plant capacity can always be buffered by memory chip production anyway. Other manufacturers may need to keep production high because they have specialised plants producing only one type of processor - Intel Corp, for example - but that does not apply to IBM, they say. It sounds a reasonable argument, but the question where the chips have gone remains unanswered. It seems one or more of IBM Microelectronics' customers are taking the very unusual step of stockpiling processors. Manufacturers do not normally do this. Stockpiling memory, yes; but processors? No. One suggestion is that some OEM customers predicted strong demand and stocked up with PowerPC processors - a demand that failed to materialise. This is a possibility that Ricchetti entertains - for example Apple might have thought it was going to shift a lot more Power Macintoshes. Another suspect is IBM's own Power Personal Division - it must be preparing for a production run of its machines - it may have already started. Is there a big warehouse full of Power Personals somewhere? But if anyone comes across half a million or so PowerPC 601 processors, we'd like to know where they are.

NOVELL SELLS FLEXOS TO PSOS FIRM

Novell Inc has decided to get rid of the FlexOS real-time embedded operating system it acquired with Digital Research Inc, selling it to Integrated Systems Inc for \$3m, half in cash, the other half in new shares representing 2% of the Santa Clara company, which already has the pSOS real-time multi-tasking operating system in its portfolio. FlexOS is used in point-of-sale terminals and office automation products, providing pre-emptive, protected-mode multitasking for fast response to time-critical events and uninterrupted operation. IBM Corp uses FlexOS in the 4680 and 4690 retail terminals and Siemens AG uses it in factory automation equipment.

OLIVETTI-DEC ALLIANCE HITS GLITCH -

A report in the *Wall Street Journal* recently suggested that Ing C Olivetti & Co SpA's two-year old OEM deal with DEC may be running into trouble. DEC is to cease buying Olivetti portable PCs for resale from September, in preparation for building its own portables, while sales of Alpha machines by Olivetti are said to be not up to the levels expected. Meanwhile, Olivetti has introduced two more workstations in its LSX 7300 line of re-badged DEC machines: the LSX 7370 and 7390, running OSF/1 Unix and using the Alpha AXP EV45 chip. The LSX 7370 is an enhanced version of the existing 7360 running at 225MHz instead of 175MHz. The LSX 7390 is an enhanced version of the 7380, with clock speed boosted from 200MHz to 275MHz. The new workstations join the LSX 7300 workstation, LSX7500 and LSX 7700 server lines, and the R7-600 low-end workstation/server line, all Alpha systems. They are available in Italy or France, but not in the UK, where Olivetti concentrates on the LSX 7500 running NT or OSF/1, with up to four processors. This gives it an NT offering for financial and retail customers, but doesn't clash with the LSX 5050 Pentium quad processor, or the top-end Pyramid-sourced LSX 6500 range.

RAXCO BIDS FOR UNIX SECURITY

MANAGEMENT MARKET WITH AXENT UNIT

As expected (UX No 495) storage and DEC security software and Unix backup and storage house Raxco Inc, Rockville, Maryland, recently opened a new wholly-owned unit devoted to DEC and Unix security management products. Raxco senior VP of operations Pete Privateer is to run Axent Technologies, with Tom McDonough as VP sales, which will start life with up to 120 employees drawn from the parent's ranks and outside. Raxco gained its security products from the acquisition of Clyde Digital around three years ago and its Unix storage technology from Unitech. It says it did around \$10m on security products last year and believes the market will grow at between 30% and 40% a year. Its idea is to bring the type of robust infrastructures, such as security, still in its mind only found in mainframe environments to Unix, and particularly commercial client/server architectures. According to its way of thinking Unix security should encompass much more than DCE Kerebos and authentication, it's also about the US government's Orange Book and IBM's criteria for trusted systems for instance. Its list runs to six requirements. An enforceable and manageable security policy. User administration and access control through enforced password policies and formats. "it's nice to know what happened," or intrusion detection monitoring, which it says is non-existent in most of today's client/server arrangements. Identification and authentication, encryption and remote login. Backup to different locations using standard formats and encryption. And data availability via increased automatic backup devices including migrating critical files off-line to users and optical storage. Accordingly, Axent says it will address each of these with its first offering, OmniGuard, a suite of six products currently all in beta that will ship this September. They're positioned as a subset of an overall systems management framework. OmniGuard includes an Enterprise Security Manager (ESM) as its foundation. The ESM is effectively the next release of Raxco's existing security toolkit, examines all of a system's current security management and enforces common security policy across clients and the server. It won't, for example, allow users to override password changes as is possible, it says, in current NetWare implementations. The second component is Enterprise Access Control, a Unix add-on for file and programme access and user administration that doesn't modify the underlying kernel it acquired from an unnamed third party and enhanced and repackaged. Intruder Alert is a NetWare and Unix port of its existing VAX mechanism. Single Sign-On is a new authentication procedure that can provide single logon access to multiple sites which can be integrated with Kerebos and DCE. It acquired Enterprise Backup Manager, a backup unit now cross-platform, from Systems Center 18 months ago. Autostor for Unix is an hierarchical storage manager with integrated backup and security management, core technology for which came from Lachman Associates. Axent will sell a manager and an agent for each module. The managers run on OpenVMS, OSF/1, Unix, and NetWare under Windows or Motif. Windows NT and MVS support is planned. A single module for Unix (or NT) is \$2,000. Unix agents are from \$400, VAX agents more and NetWare and PC agents less. Axent counts OSF as a customer and says it'll support, but won't supply DCE. OmniGuard works with OpenView, NetView, Tivoli and other management environments. Raxco will also continue to market the Unix security toolkit separately. Axent will do its own research and development out of Raxco headquarters plus its facilities in Orem, Utah; Reston, Virginia; Lexington, Massachusetts; (Raxco/UIS) Leatherhead, in Surrey, UK and at other sites across Europe. It's seeking European distributors and OEMs.

KUBOTA DUMPS ITS ALPHA GRAPHICS BOXES, HEADS TO INTEL/MICROSOFT

Last week, Kubota Graphics Corp upped and ran from its DEC/Alpha and Unix position to pursue volumes sales through a combination of Intel and Microsoft technologies. Kubota cited lack of volume sales of its high-end graphics subsystems plus lack of success in penetrating the Silicon Graphics Inc-dominated market. DEC only learned of Kubota's intent on Friday July 29. In anticipation, Kubota had already closed down all direct European direct sales of Alpha-based systems. Last week the two were trying to work out some kind of support scheme for existing customers through DEC, which also sells the Kubota graphics technology. Kubota has been trying to keep the bad press to a minimum by talking-up its new strategy and not answering questions about its experience with DEC, though both admit continuing losses are the reason for the move. Kubota is the Santa Clara, California-based subsidiary of \$7,000m Japanese tractor company Kubota Corp whose decision to branch off into computers some years ago confounded even fellow Japanese. It sold Turbo Channel Alpha workstations fitted with its own graphics subsystems called Denali and Kenai - both with hefty price tags. SGI stomped them flat, competitively speaking, sources said. Kubota estimated its installed base last week at 1,000 accelerators. It remains unclear how many boxes that represents since up to eight boards could fit in a single Alpha, or whether DEC sales are included. Kubota plans to enter the PCI-based 3D PC market selling what it claims is workstation-class graphics indirect rather than direct and cutting its staff by 123 people worldwide. The new ActionGraphics technology was previewed at the A/E/C show in Washington at the end of June but won't be officially introduced for another month. Kubota's new line-up includes an unseen Windows NT product that'll use the OpenGL component of the upcoming Daytona NT release. It will also bring its visual simulation stuff to Intel, and is looking at tags of between \$1,000 and \$3,000 for the PC crowd. The Kubota business is the surviving entity from the failed Ardent Computer Inc-Stellar Computer Corp merger, and was seen as one of DEC's more important design wins for the Alpha RISC. Indeed Kubota's flight leaves some significant deals in its dust. DEC financial predicament precludes it from picking up where Kubota left off without the intervention of a third party, it said. DEC recently cut a deal with high-end graphics specialist Megatek but won't have that technology until next year.

SUN MAPS OUT ITS SPARC FUTURE

(Continued from page 1). SuperSparc and MicroSparc are slated to go out the door replaced by a single pipeline of bi-endian UltraSparc chips, differentiated by only packaging, that start at 150MHz, Silvestri said. Sun's transition to strictly UltraSparcs, which includes a new bus reportedly dubbed the UPA, should be effected by 1996, he said. Although this seems to bespeak a new roadmap that leaves in question the previously proposed 100MHz-125MHz MicroSparc III, which was supposed to be in silicon next year, sources question the competitiveness of a future line starting at 150MHz. Sun's ambitions to make SuperSparc more of a merchant chip seem to fly in the face of policies enacted over the past few months that put Sun technologies, ostensibly available to any Sparc cloners who want to buy them, beyond their reach. Stated policies to the contrary, Sun has declared certain I/O and graphics elements of the SparcStation 20 chip set off-limits to all but some cloners. Silvestri maintains that for the sake of volume and marketability he doesn't want to productize all the iterations of the technology Sun uses and that what's at issue here is neither more cost-effective nor functionally different nor more powerful than the SparcStation 10 chip set they are now limited to - a position which begs the question why Sun would then use the SS20 technology itself. Sources claim Sun's covert purpose in the action, knowledge of which it has attempted to suppress, is to kill off the clones and force those who continue to follow in Sun's footsteps into the product differentiation that has so far eluded them.

HESTER TO RATIONALISE IBM HARDWARE

IBM Corp is finally sloughing off the accumulation of thick skins that created a company in which the various computer divisions competed more fiercely with one another than with outside competitors, and has created a new Systems Technology & Architecture Division under one of its most highly-regarded young executives, Phil Hester, 39, to develop common core hardware technologies and set architectural standards for all the company's computer divisions above personal computers. Marking another big break with the past, in which almost anything regarded as really important was headquartered in New York state, the new unit will be based at Hester's present location, Austin, Texas. The division is expected to take over about 1,100 employees from other parts of the company who will remain in Austin, Rochester, Minnesota, and Endicott and Poughkeepsie, New York, but transfer their allegiance to the new unit. It will develop processor and memory subsystems for use by IBM's server divisions (including mainframes), define architectural standards for IBM servers and co-ordinate development of common hardware subsystems. The Large Scale Computing mainframe, AS/400 and RS/6000 units will maintain product development responsibilities and brand identities. Hester had most recently been VP for systems and technology for the RS/6000 division, he's replaced by Randy Groves.

HP STRUTS 100MHz E55 SERVER

Hewlett-Packard Co will this week add the 100MHz E55 model to its E-class line of entry-level 800 HP-UX servers introduced at the start of the year, which use the PA 7100LC RISC (UX No 471). The E55 follows the E25, E35 and E45 and according to HP performs 728.7 TPC-C transactions per minute, or \$765 tpcC, running InFormix 5. It's rated at 2,588 SPECrate_int92 and 3,911 SPECrate_fp92 and starts at \$13,140 with 1Mb cache, 16Mb RAM, 535Mb disk and two slots. It's seen for use as a replicated site server in small or medium sized businesses.

computer Inc-Stellar Computer Corp merger, and was seen as one of DEC's more important design wins for the Alpha RISC. Indeed Kubota's flight leaves some significant deals in its dust. DEC financial predicament precludes it from picking up where Kubota left off without the intervention of a third party, it said. DEC recently cut a deal with high-end graphics specialist Megatek but won't have that technology until next year.

UK DEFENCE RESEARCH AGENCY OFFERS CROSS-PLATFORM PORTING ENVIRONMENT

The UK Defence Research Agency believes its tools can revolutionise the weird science of porting applications across different operating systems and platforms (see front page). It says ISVs, users and vendors, can all benefit from being able to enforce a consistent application porting system across entire development teams and projects. The tools apply equally well to all stages of the development cycle including analysis, design, coding testing and deployment; across multiple environments. The tools are designed to check and maintain adherence to API requirements at every stage. They are not restricted to Unixes per se, and are expected to be used for porting to Windows NT and other operating systems and combinations. Once the developer sets the porting goals, the DRA tools will enforce those criteria. It should allow ISVs to develop across a set of strategic platforms then move software onto other operating systems at minimal time and expense. From operating system APIs, the tools can be applied to enforcing systems management, object or other APIs, DRA says. Although the tools will provide a common infrastructure, DRA believes the concept must be extended to create a configurable frameworks for different market sectors; prepackaged policies that can accelerate porting tasks. DRA will sell the tools, in C and C++ versions, but wants other ISVs to market products in this area too: X/Open project is expected to lead to the creation of common interfaces and develop relations with other tool suppliers. Right now there are around 30 prospects being evaluated for the remaining place on the project. DRA will provide around 1,000 licences to the 12 participants and will refine and customise the tools based on member's feedback and requirements. Having cut its technology teeth inside the ANDF project, DRA says the toolset is already robust enough for serious use. Commercial sales are still a couple of years out, DRA reckons, but estimates that the 12 project members represent less than 5% of a market that could be worth up to \$2m per sale. In the short-term, DRA will continue sales of its compiler systems. It says it is experiencing increased sales of C++ for object-oriented development and sees developers using C in more object fashions. Smalltalk, it feels, is inefficient for object development.

OSF discussion point

DRA says Deploy has shown its technology can deliver strategic advantages to companies; prospective members of the X/Open-driven effort have taken decisions to get involved to board-level and says the technology was discussed at OSF's recent Brussels board meet where the main topic of conversation outside of trying to define PSTs was what the new-styled organisation could do for software developers. Of course it was the original OSF that backed DRA technology by selecting it for its all-but abandoned Architecture Neutral Distribution Format system. Deploy still has two years to run and there are three more releases of the tools scheduled under its terms. Another call for Esprit funding is expected at the end of the year when Deploy members will have to decide if and how they wish to carry European development forward.

EXPERTSOFT TO LINK OLE 2.0 AND CORBA

Expertsoft Corp is going to build OLE 2.0 support into its XShell distributed object management system, creating a program it says will be able to link OLE 2.0 and the Object Management Group's Common Object Request Broker Architecture (CORBA). XShell ~~now is fully CORBA-compliant. The San Diego-based company~~ said its goals specifically include linking NT and Unix workstations and applications. Target date for general release of the OLE/CORBA version of XShell isn't until the third quarter of next year, with betas going out to select customers an indeterminate amount of time before that. Expertsoft said it is working on a routine for the new version of XShell that will automatically generate OLE 2.0 interfaces for objects defined in the CORBA IDL (Interface Definition Language). It will generate OLE custom controls which activate remote network services under CORBA. The new software, to be called XShell/OLE, will map between its own multiple inheritance mechanism and OLE's interface aggregation model, automatically transforming OLE method invocations into CORBA-compliant XShell object requests, the company said. The whole issue of OLE 2.0 and CORBA compatibility has been thorny and somewhat controversial, with Microsoft insisting that together with DEC it is building semi-compliance with CORBA but citing basic architectural differences that it insists prevent full CORBA compatibility. Microsoft executives last week also repeated earlier explanations about not making changes to OLE 2.0 just to satisfy CORBA specs because such a move would trigger the wrath of the few developers who have already begun working on OLE 2.0 programs.

SOFTWARE AG FORMS NEW UNIT TO SELL ESPERANT - RENAMES ENTIRE, ADABAS

Software AG is now shipping its Esperant graphical database query tool, originally promised for the end of May 31 (UX No 483), and has created a new independent marketing division in the US to peddle the stuff. Esperant is the Darmstadt, German company's first product that does not have to be used in association with other SAG tools or packages. It's aimed at Unix and Intel system users alike, and uses a Windows interface to access data stored in SQL or ODBC databases. SAG claims users need no previous knowledge of SQL, or of the structure of the database to construct queries from its point-and-click Esperant SQL Expert. The tool apparently monitors every selection a user makes and removes or "grays-out" choices that would result in an illogical SQL query. Unlike other similar tools, SAG claims Esperant automatically creates more than just simple SQL Select statements, providing Create/Drop View, Union and nested select (subquery) facilities. Esperant's administration system presents a conceptual view of data to the user. SAG's Reston, Virginia-based US unit says analysts persuaded it to push the software through a new independent unit, lest it get lost in the swathe of other SAG products. The US-only P&L venture will be lead by Rob Vonderhaar with 15 staff initially, using existing SAG distribution channels. Europe and other geographical areas have yet to decide whether to follow with their own independent Esperant divisions. Supporting most relational SQL and ODBC databases, prices go from \$600. Meanwhile, in a confusing move, SAG has renamed its Entire SQL Unix database The SQL Server Within Adabas, and the MVS-based Adabas, The Mainframe Server Within Adabas. Both use SQL, however.

PLANEMAKER DOWNSIZES, REPLACING TANDEM KIT WITH HP SERVERS

Tandem Computers Inc is not immune from the rush to downsizing and open systems, and must be smarting that Northrop Grumman Corp's Commercial Aircraft Division is replacing its Tandem systems. It has a \$7m client-server system consisting of 10 HP 9000 Series 800 HP-UX Unix business servers, 21 HP 9000 Series 735 workstations and 113 HP 9000 desktop workstations; 10 HP Vectra personal computers and 244 X terminals to be used as database and application servers and clients. The system will be managed by HP OpenView network- and systems-management applications; Hewlett's Professional Services Organisation and International Integration Inc, working with Northrop Grumman staff, implemented a three-tiered client-server architecture to run the planemaker's Boeing 747 fuselage manufacturing operation.

SCO BUILDS LIGHTWEIGHT SYSTEMS MANAGEMENT ENVIRONMENT

As reported (UX No 497) Santa Cruz Operation Inc will shortly begin previewing a new set of distributed systems administration and management technologies which it will roll into the next ~~release of its SCO Unix implementation. The new software found-~~ed in a product strategy SCO says it began working on around three years ago to ultimately deliver integrated PC-type functionality and ease of use to its Unix-on-Intel users. It's meant a complete overhaul of the aging, character and command-line systems management and administration facilities that have been part of the SCO offering for many years. Around that time SCO began cataloguing all of the systems management tasks it and SCO customers users were invoking, eventually creating templates to define those tasks and a scripting language to describe them. The result was a kind of usability profile, including detailed documentation of the most common systems management requirements amongst its users. SCO has modelled its new task-oriented system after these findings, and says there's now only a handful of basic tasks that will ever need to be coded independently.

Uses GDMO to map to other specs

David Young, SCO product marketing manager for future technologies and point-man for systems management at the firm describes the environment as a lightweight, low-level, transport-independent framework based on existing X/Open Co Ltd specifications in that area. It's not intended to replace Tivoli Systems Inc kinds of technologies, in fact it's been designed with express intent of being migrated up to embrace new generations of X/Open management service specifications, including OMG Corba 2 when it arrives, plus SNMP and CMIP via the use of Guide to Definition of Managed Objects (GDMO) application programming interface specifications. We've already described some of the functionality it'll offer, including a new file system manager, LAN Manager and NetWare integration and a graphical shell (UX No 497, 488). There are new applications for functions such as login, error and message handling, indeed many of the things that would formerly have required hand-coding; it uses Sun's Network Information Service for defining distributed user and network printer information.

SCO Visual TCL

Young is especially proud of the company's effort at the front-end of the system, where it has employed a re-worked version of the Terminal Scripting Language trademarked as SCO Visual TCL. The two-year Visual TCL effort will deliver a single graphical management and application environment for managing distributed systems from Motif or character-based screens running on an SCO Unix server. Visual TCL will support new and existing SCO implementations and allow developers to create both Motif and character versions of applications from a single code base, says Young. Visual TCL creates Champ - character Motif - versions of graphical software. Providing all this, but at the same time keeping the framework extensible and as low-level as possible will maximise resources for administrators and opportunities amongst ISVs, according to Young.

Software distribution format

The SCO code includes a software distribution format for all points in the system - allowing ISVs to cut a product to suit formats for say graphics or network users - plus updating mechanisms and version control. SCO is putting its stuff up for discussion at the Posix tables, where, it says, only a command-line solution resides at present. The environment will also allow users to run new versions of an application alongside current implementations for comparison, evaluation and learning, rather than them having to go over to a new release of a piece of software in one fell swoop. The system provides the ability for a host-based manager to send calls through GDMO-enforced APIs to a connection layer which transmits the call over sockets, named pipes or a remote procedure call, to a client connection layer, again with GDMO-defined object APIs, and on up to object service agents at the desktop.

FUJITSU GETS CORBA'S CO-OPERATING - LAUNCHES OBJECT MANAGER

At Object World Fujitsu Ltd demonstrated transparent interoperability between its own CORBA-compliant ObjectManager and three other Object Request Brokers: Iona Technologies' Orbix, Post-Modern Computing's ORBelene and Sunsoft's DOE, and also introduced File Object Server (FOS), which extends the Object Management Group's Common Services to provide uniform access to file objects in a distributed environment of PC, Unix and mainframe systems. Fujitsu is developing object-oriented products based on an O-O management model that includes ObjectManager and holds the FOS as fundamental. ObjectManager includes both an ORB and Object Services and obviously interconnects with other OMG-compliant ORBs to create a heterogeneous network of distributed systems. The ObjectManager framework supports both a run-time and a development environment for distributed object applications. In addition, it supports PCs using CORBA interface and OLE mechanisms. OMG COSS services such as Naming, Lifecycle and Event Notification are also supported. The FOS, on the other hand, is designed to support functions that manage file-related resources and executable files such as local and remote file object management, application and data binding and the display and manipulation of object icons. FOS also manages other resources in a distributed environment, Fujitsu said, such as processes, users and jobs. The company said that a distributed desktop environment providing seamless operation can be built using FOS and the local display services found in PC, Unix and mainframe systems. With this environment, remote resources are accessed in the same way as local resources. The APIs or interfaces to these services are also provided in IDL notation.

Intelligent pads

Meanwhile, Fujitsu also entered the US object-oriented and multimedia software game with three packages: IntelligentPad, ODB-II and GraphicsPower. The company, which labelled its announcement a "highly strategic business decision," is actively seeking technology and distribution partners for its stuff. IntelligentPad is an object-oriented multiplatform interactive visual application programming system developed at Hokkaido University designed to create applications out of components or "pads" that can be shared, reused and distributed regardless of hardware. There are pads for text, data, image, video, records and tables and for connecting to databases. An IntelligentPad Consortium including Hitachi Software, Sapporo Electronics Center Foundation and Vision Corporation has been organised to promote the software. A \$300 Windows version will be available in Q1 followed by Unix and Mac in Q2. ODB-II is an industrial-strength client/server ODBMS targeted at complex enterprise applications such as geographic and spatial databases, multimedia-document publishing and engineering-data management. It includes a complete object repository and an extensible language, ODOL or Object Definition Query Language, application builder and browser tools, client-interface and visual development tools for both PCs and Unix and a query language. There are also interfaces for accessing and retrieving data from popular RDBMSs. The product will be in general release for Solaris in Q1 at \$3,000 for a single user and \$10,000 for two to eight users. Versions for HP and IBM are planned for Q3. Sales and support will come from Fujitsu Open Systems Solutions Inc in San Jose, California. Lastly there is GraphicsPower, an object-oriented GUI toolkit. This model, which follows on a Unix version previously released by both Fujitsu and its daughter company ICL, is targeted at Windows 3.1.

ROSS UNVEILS HYPERSPARC UPGRADE KITS

Ross Technology has come out with 72MHz HyperSparc CPU upgrade kits, making them available to users of SparcStation 10s and 20s and SparcServer 600MP machines. Ross reckons the things offer up to four times the performance of the boxes' original processors and claim the highest performance of any quad Sparc processor available. The company claims to have sold 1,500 HyperSparc upgrades between November and June to 300 customers worldwide, adding 200 customers in the second quarter, through direct and indirect channels that include 40 resellers. A single-CPU part is priced at \$4,188; a dual at \$7,656 and a four-way at \$14,352.

CAN OBJECTS SAVE THE AMAZON?

The largest distributed objects-based contract ever let, three years in the making and reportedly worth \$1bn overall, was just awarded by the government of Brazil to Team Raytheon, a group of eight concerns led by the Raytheon Company based on Expersoft Corporation's object technology. The contract, known as SIVAM, short for ~~Surveillance and Vigilance of the Amazon~~, is noteworthy not only for its size and object-orientation but for the nobility of its purpose - to police and protect the Amazon rainforest from being polluted, stripped and razed, providing also for medical and pharmaceutical research. The bulk of the award will go for hardware - unidentified massively parallel machines, thousands of IBM, HP, Sun and Silicon Graphics servers and tens of thousands of PCs, according to Expersoft chief David Porreca, who estimates Expersoft's share could be in the low eight figures. The project, which relies heavily on satellite image processing for near real-time analysis of environmental conditions and includes air traffic control to intercept illegal traffic and multi-agency information sharing to co-ordinate activities, will use Expersoft's XShell technology as its primary development and run-time management tool for its infrastructure and applications. The race to save the rainforests dramatically underscores the need for rapid deployment, hence the reliance on objects. Team Raytheon is promising to have portions of the system up and working in two years. Development starts in October with Raytheon developing the applications. According to Porreca, prototypes were built that proved the feasibility of the project, which is being funded by the International Monetary Fund based on loans guaranteed by the US government through the Export Import Bank. Key to the project were the automatic image processing skills of all the team members which in part are based on Shell. Shell, however, is the glue that ties the information process together and is responsible for data distribution and correlation. Expersoft expects the project to help it integrate its technology with other GUI and CASE products, a factor that is key to its long-term plans.

Objects in brief

Object oriented development tool vendor **Rational Software Corp**, Santa Clara, California, introduced RoseViewer, a graphical browsing tool for visualising and reusing C++ libraries and object repositories. CenterLine, Code Farms, Expersoft, Ilog, Infinity Financial, Lucid and Rogue Wave will bundle RoseViewer with their tools. Rational also has a new 2.5 version of its Rational Rose object CASE tools - Rose, Rose/C++ and Rose/Ada. Rose/C++ and Ada offer support for code-generation and reverse engineering. The tools run on SunOS, Solaris, HP-UX and AIX and Windows. Rose/C++ now also supports CenterLine's ResourceCenter software re-use tool. Prices from \$750 per module on PCs, \$2,000 on Unix. +1 408 496 3891

The **Cushing Group** of Nashua, New Hampshire is offering hands-on training in developing programs using CORBA.

Martin Marietta Information Systems has signed up as a member of **NeXT Inc's** Object Channel as an integrator for NeXTStep solutions. The deal follows a reseller agreement that Marietta signed last month with Persistence Software, which sells tools to link object applications to relational databases.

Nashua, New Hampshire firm **Netlinks Technology Inc** introduced a new object request broker (ORB) maintenance tool, ORBitize, as a Corba-compliant interface repository browser allowing users to examine and create new IDL definitions. It runs on a variety of ORBs, Unices and NT and is \$500, immediately. +1 603 891 4177

Object International, Austin, Texas, is shipping version 1.1 of Together/C++, its combined modelling and C++ programming tool. It includes full support for Borland C++ 4.0, Visual C++ 1; improved graphics and NT compatibility. +1 512 795 0202

Dawn Technologies Inc, Sunnyvale, California, has put its Dawn-Tools class libraries up on ObjectCenter, the CenterLine Software C++ development environment. The libraries, CDEM+ and TT+, provide object interface to the Common Desktop Environment and ToolTalk and work with a range of compilers. On Solaris 2.3, SunOS and HP-UX, the libraries are \$1,000 and \$2,000 per seat respectively. +1 408 737 6181

SUN OFFERS PCMCIA ON ITS SBUS STATIONS

Sun Microsystems Computer Corp first introduced support for PCMCIA cards in its Voyager nomadic SparcStation a few months ago (UX No 476) and promised then that it would soon introduce PCMCIA support on all of its products. Now it is claiming to be the first workstation vendor to support PCMCIA across its entire line of desktops. The new board adapts a Sparcstation's SBus expansion slot so that it can accept up to two Type-II or one Type-III PCMCIA cards, "greatly increasing the systems' expandability," Sun says. There are 250 or more cards currently on the market. It needs Solaris 2.3 up and costs \$300. The interface logic is provided via an SBus-to-PCMCIA ASIC chip that can be licensed from Sun's Sparc Technology Business, and drivers are currently available for serial and modem communication devices, with full PCMCIA card services expected by year-end. The standard is gradually starting to make an impact beyond the PC itself. Sparc portable manufacturer Tadpole Technology supports PCMCIA on its laptops, and its rival RDI is planning support for the PowerLite Sparc portable. X-terminal vendors Human Designed Systems and Network Computing Devices also include PCMCIA support. There are three types of card of varying thickness, each using the same interface. PCMCIA (which stands for Personal Computer Memory Card International Association) was founded in 1989, and presides over the standard: it now has over 475 member companies and is based in Sunnyvale, California. +408 720 0107.

PARALLAN SERVER CO TO STRIKE OUT ON ITS OWN WITHOUT IBM'S HELP

Server builder Parallan Computer Inc, which has been cruelly jilted by its former sugar-daddy IBM Corp, says that it expects losses "for at least the next several quarters," and said that it plans to complete a reduction in its workforce before the end of the third quarter. Parallan, based in Mountain View, California, had relied on IBM for all its revenues until the deal was terminated last month. IBM was contributing to development costs. Parallan has been developing software products and server technology based on open industry standards, and can now market systems under its own name: it says its product lines "present us with a number of interesting opportunities in the high growth server market". The company has about \$36m in cash and investments, which it sees as enough liquidity to finance new ventures. IBM terminated a similar agreement with Parallan rival Auspex Systems Inc earlier this year (UX No 475).

IBM LAUNCHES VIRTUAL REALITY SYSTEM

Virtuality Group Plc and IBM Corp have formally launched their ValuePoint personal computer-based immersive virtual reality system (UX No 496), calling it the Project Elysium VR system. Made by IBM at Greenock, it will be marketed by IBM worldwide. It consists of the computer with Virtuality board installed, keyboard, visor and accessories, and costs from £6,600 to £47,000 for a networked system. The launch marks the Leicester company's first major drive into non-leisure markets and marks the opening shot in its strategy of licensing its technology to a handful of key partners. IBM will target engineering, architectural, medical, entertainment and education markets with Project Elysium VR.

STERLING TO PAY \$143m IN SHARES FOR KNOWLEDGEWARE

A torrent of US computer industry merger and acquisition activity bursts forth at this time of year - when much of the rest of the world is otherwise occupied with thoughts of vacation. Last week, long-term acquisition candidate, Atlanta-based software engineering specialist KnowledgeWare Inc, whose one hot property is the ObjectView graphical user interface builder from its Matesys Inc acquisition, fell to Sterling Software Inc, Dallas, for about \$143m - about one year's turnover. Sterling, which had been quiet for a long time until it bought Systems Center Inc last year, is still weighed down with many declining mainframe software products - its core is the old Informatics business - and KnowledgeWare does not seem to do a great deal to modernise its portfolio. Following the Sterling acquisition, the company also snapped up American Business Computer Inc, a privately-held Ann Arbor, Michigan developer of Electronic Data Interchange software for Unix, in a share exchange on undisclosed terms. American Business Computer did about \$5.1m sales for the year to June 30.

NETWORK FORUM ISSUES ITS SPIRIT 2 SPEC FOR PHONE COMPANY COMPUTERS

The Network Management Forum's Spirit team, in the process of setting standards for a machine-independent distributed computing system to enable phone companies to buy a standard environment from a choice of vendors, has now moved on to the second release of their specification. Although a - preferably fault-tolerant - implementation of Unix System V is strongly implied, since most of the standards come from the Unix world, no one operating system is specified, and if Microsoft Corp can implement the standards in NT Advanced Server, fair enough. The service provider members of the Forum have estimated combined annual spending of \$20,000m worldwide. In Spirit Issue 2.0, X/Open Co Ltd's TxRPC for Distributed Transaction Processing, plus Distributed Computing Environment for client/server computing, and interoperability with legacy environments are also specified and Structured Transaction Definition Language has been chosen as a high-level transaction processing language providing application portability. Issue 2.0 also incorporates Fibre Distributed Data Interface, ISDN and Frame Relay transmission protocols, and irons out inconsistencies between the C, Cobol and SQL languages to ease portability. Spirit 1.0 was announced in October.

IBM'S INTERNET CHALLENGER TO WORK WITH WORLDWIDE OUTSOURCING GROUP

IBM Corp's Global Network, launch of which was announced a couple of weeks ago will work in partnership with IBM's Worldwide Outsourcing Group. This group includes IBM's systems integration business, the Integrated Systems Solutions Co. Services offered by the Global Network will be marketed to customers by the IBM sales force, its industry service units, Integrated Systems Solutions, its recently-launched Network Applications Services Division and as yet unannounced third party distribution channels. The Global Network unit says that it will team with telecommunications companies and local carriers, and create an infrastructure for the development of network-centric applications by IBM and third parties. It will also work with software vendors to develop new applications, which will be delivered via the Global Network. The aim behind Global Network is to turn IBM's computer networks into an Internet-like network for corporations, with high speed voice and data interchange.

HUMAN DESIGNED OFFERS ROCK-BOTTOM PRICING ON NEW X TERMINAL FAMILY

Human Designed Systems Inc, King of Prussia, Pennsylvania is laying down the gauntlet at the bottom end of the colour X terminal market with the ViewStation LX Series starting at just \$750. A fully configured model with 4Mb RAM, Ethernet, serial and parallel port is from \$750 to \$2,400 depending on monitor. The family uses 80960 RISC architecture, enabling X client applications to run inside the terminals, offloading existing host computers and improving performance. Optional features include PCMCIA slots for local storage via Flash PROM or hard disk drives. It runs the same version of the HDSware X server software as the company's other families of X terminals. The ViewStation LX includes full copies of OSF/Motif and Open Look window managers, emulation of DEC VT320 and IBM 3270 terminals. Users can also convert their own applications to inside the X terminal with the optional HDSware Developer's Kit.

SUN, MITSUBISHI DEVELOP NEW GRAPHICS MEMORY TECHNOLOGY

Sun Microsystems Computer Corp and the Electronic Device Group of Mitsubishi Electronics America Inc have developed a memory technology called 3D RAM. This new frame buffer technology increases triangle rendering performance by a factor of approximately 10 compared to Video RAMs of similar cost, the firms claim. 3D RAM can render 100 pixel triangles at a rate of up to 1.8m triangles per second compared with 210,000 triangles per second with 2M Video RAMs. Devices based on 3D RAM will be available from Mitsubishi. Samples will be available by the end of this year, with full production to be started by the first quarter of 1995. Mitsubishi supplies Sun with DRAMs and sells Sparcstations in Japan.

SUNSOFT CDE DEVELOPER TOOLS DUE

This week SunSoft Inc's developer products unit, formerly SunPro, will detail its set of CDE development technologies, SunSoft Workshop. SunSoft has already licensed its CDE implementation on to the likes of DEC. IBM was the first company to offer a bundled CDE product. SunSoft will deliver bundled, then unbundled later in 1995.

...AS HP SIGNS TRITEAL TO PUT CDE ON HP-UX, SUN, IBM, AT&T UNIX...

Hewlett-Packard Co has picked one of its Visual User Environment partners, TriTeal Corp, Carlsbad, California, to take its Common Desktop Environment implementation to market. TriTeal currently markets VUE - and TaskBroker - on Sun, AT&T, IBM and other Unix systems, although it was San Diego, California company SAIC that HP originally had doing VUE implementations. HP is licensing its CDE code to TriTeal which will be able to resell source and binary licences on HP-UX. HP currently ships VUE with its systems. Customers will have to pay TriTeal for CDE. TriTeal will also develop VUE-to-CDE migration tools and whatever value-add TriTeal brings to CDE it will hand back to HP. TriTeal's first CDE products are expected early 1995. As well as having no standard CDE spec to work with yet - see below - sources speculate that HP may also be reluctant to offer a CDE implementation direct because the code the COSE firms got to play with probably wouldn't pass HP's quality assurance tests.

...WHILE OTHER CDE PRODUCTS ARE STILL A LONG WAY OFF

The first crop of CDE products, from - HP, IBM, SunSoft and others - are each firm's own implementation of the original COSE work, not CDE standard products as such. The COSE (now OSF) firms are due to deliver a single source code sample implementation to X/Open Co Ltd by year-end. X/Open branding isn't likely until well into 1995. CDE providers will require at least second release of CDE products to meet the spec. Insiders say that by this time, changing requirements, such as the need for increased PC connectivity now championed by X/Open members and OSF, will likely spawn a new set of demands.

OSF ASSOCIATE MEMBERS BAND TOGETHER

The Open Software Foundation has added an Allied Sponsorship level of membership to its ranks at the behest of some of its Associate members, currently without a voice on the OSF board. NEC, Siemens, Silicon Graphics, Sony Corp and Transarc Corp, all formerly Associate Sponsors, have banded together in a new grouping - the Allied Sponsor class - and have elected Siemens to represent them at OSF board level. Associates pay \$200,000 a year dues but do not automatically get a board seat. Executive members pay \$1m and get an automatic place on the board. When enough Associate members get together with dues in excess of \$1m in total, they'll now get a seat on the board.

ORACLE SEEN LIKELY BUYER FOR DEC's Rdb

Oracle Corp is not commenting on widespread suggestions that it will be the buyer of Digital Equipment Corp's Rdb VAX database business. Word is that Oracle has agreed to keep the product line going for a long fixed number of years, and the business would certainly be attractive to it because the typical Rdb user is a substantial company of the kind that also makes up the core of Oracle's customer base, so that if it keeps the product going on a care-and-maintenance basis while it develops all the aids necessary to make a conversion to Oracle painless, it should be able to hang on to much of the base. DEC is also thought to be leaning towards Oracle as the preferred database for its customers. Rdb is believed to be worth about \$250m a year in user support and licence upgrade revenues.

BAAN - CA DID NOT OBTAIN COURT ORDER

Holland-based Baan International is apparently a little peeved at Computer Associates' announcement last week that it has received a preliminary injunction against the firm (UX No 498). According to Baan, CA has not obtained a federal court order for the company to deliver the new versions of Triton 3.0 and its tools 5.0, and maintains that it lived up to the terms of the initial agreement with Ask to provide the current release of source code for the products on the date of contract termination, June 23rd. On the issue of the Triton Porting Set, Baan claims it amicably settled with Ask out of court. In the meantime, a court date has been set and the two firms will meet on 2nd September in San Jose, California.

META TO PUT SPEECH RECOGNITION ON ITS "80486" RISC

Intel Corp is snowed under with demand for so many standard Pentium and 80486 parts that it has neither the time nor inclination to come up with application-specific variants - such as ones with graphics accelerators in place of the maths co-processor, leaving the field wide open for innovative competitors. Torrance, California-based International Meta Systems Inc, the company that is attacking Intel Corp's iAPX-86 fiefdom at a tangent by designing a RISC processor that emulates the 80486, has more than one string to its bow, and this week announced that it has filed of a patent application covering a technology for recognising continuous dictated speech, which exploits the unique features of its IMS3250 RISC. The company believes its speech recognition technology can be implemented for English and other languages at a reasonably low cost, and plans to license it to major computer companies and software developers. The technology depends on the use of fast RISC processors incorporating signal processing functions, and the company points out that such hybrid processors are now relatively cheap - its IMS3250 chip not only meets these requirements but you get hardware emulation of the 80486 - claimed to match 66MHz 80486 performance - thrown in. The IMS3250 can embed speech processing algorithms and other special functions in microcode on the processor, and provide the basis of complete speech-recognition-enabled products which can be small in both size and price. International Meta says it has a letter of intent from Sharp Corp expressing strong interest in entering a non-exclusive licensing agreement; Sharp would manufacture, promote and sell the technology in its own branded product line. It has also signed Standard Object Systems Inc to adapt the speech processing algorithms to Japanese - initially - and will demonstrate its Japanese language speech product to Sharp in 90 days.

HP DELIVERS GDMO TOOLKIT FOR OPENVIEW USING INGRES

Hewlett-Packard Co has debuted a set of OpenView GDMO (Guidelines for the Definition of Managed Objects) tools for its network management system developers. ISO's GDMO is becoming increasingly important as a means of designing and creating interoperable objects and is already in widespread use in the telecommunications industry that HP is targeting. Alcatel, Ericsson-HP Telecom, Siemens and France Telecom are all beta users. The kit includes a GDMO editor/browser, an Ingres-based object dictionary, a GDMO import tool to translate GDMO document files into the object dictionary, a semantic checker, conformance report generator and Ingres-to-GDMO export tool. Up on HP-UX and SunOS the toolset starts at \$6,000 from next month.

HITACHI LAUNCHES CODE REUSE TOOL

Hitachi Europe has introduced ObjectReuser, a code reuse tool for C, C++ and the firm's ObjectIQ development environment. The product developed out of the UK, is essentially an object manager/library of programs that developers can store in a central repository. Designed for a client/server networked environment it operates under NFS or OSF's DCE operating systems facilities. Clients of ObjectReuser (and there can be any number of users requesting, browsing and updating information in the central repository) can access information via prospectors, which provide a graphical view of objects (pieces of code) in a library. This means developers can find and retrieve coded objects using point and click, drag and drop methods into the programming environment they are using. According to Hitachi, prospectors also incorporate hypertext documentation capabilities. These allow developers to read and write annotations associated with objects. Multimedia documentation functions, such as video and audio, will be added in the future, the firm says. ObjectReuser is available running under HP-UX, AIX and Solaris at £1,000 per platform. Windows and NT versions are expected to be released next year, with added support for Cobol, the company says.

...NEARS DEAL WITH SEQUENT

Beaverton, Oregon-based Sequent Computer Systems Corp looks like adding another major OEM customer for its multiprocessors to sit alongside Unisys Corp. The company has been telling analysts in Chicago and New York that it is close to an agreement with Hitachi Data Systems Inc, and that it is also in the process of expanding the agreement under which Unisys buys its machines OEM. The two new agreements are expected to add \$15m to \$20m to Sequent's sales next year.

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As we went to press we got word that Curt Wozniak, director of marketing at **Sun Microsystems Computer Company**, Sun's hardware arm, had decamped for an unidentified company. Sun last week also lost Derek Meyer, director of Sparc marketing at silicon arm Sparc Technology Business who has joined **Philips Semiconductors'** new **TriMedia Division** working on its advanced DSP processor, a widget based on VLIW technology and intended for consumer markets. No permanent replacement has been named to succeed Meyer though Scott Hickman is acting in his stead.

IBM Corp has enhanced the Trouble Ticket/6000 feature of its NetView/6000 and elevated it to a stand-alone product with client support for Windows, HP/UX and SunOS and it is available now.

Not a bad name, **Xerox** - two strong, snappy syllables, unlikely to be mistaken for anything else - so now **Xerox Corp** is apparently about to spend a small fortune changing it, and according to the *New York Times* has settled on the incredibly clunky the **Document Company** - Xerox: the paper says Xerox started a print ad campaign last Thursday, to be followed by \$5m to \$7m in television and radio advertisements; the company's official incorporated name continues to be Xerox Corp.

Menlo Park, California-based **Gupta Corp's** considered response to **Oracle Corp's** idiosyncratic buying of a fair number of and then quickly selling some of Gupta's shares is to adopt a shareholder rights plan "to protect and maximise shareholder value" and provide protection "to our shareholders from the abusive and coercive tactics that are often prevalent in attempted takeovers" - whatever tactics

The Microprocessor Report is completely unimpressed by Mips' UltraP R4x00+Pentium module pointing out that a 90MHz Pentium delivers nearly the same performance as the fastest Mips processor shipping in volume today. "Once one has already paid for a Pentium," it says, "it seems like a waste to use it as a boot processor; without the switching software, potential customers are those who only use applications that run faster on the Mips processor than on a Pentium."

The lobbying and associated clamour is about to begin about what should be included in the next iteration of **Common Desktop Environment**.

X/Open Co Ltd's systems management workgroup is hopping from foot to foot waiting for the RPC wars to conclude so it can take advantage of Object Management Group's Corba 2 interoperability specifications.

As expected, **X/Open Co** will publish the fast-tracked SPEC 1170 API next month; test suites from ApTest Inc are due later this year, branded systems are expected early 1995.

Novell Japan Ltd will this month ship a Japanese version of UnixWare 1.1(J) which will include Japanese Advanced Merge for Windows and Japanese Motif 1-2-3.

UK, London company **Parsys Ltd** has been showing Oracle version 7.1.2 parallel query on its T9000-based SN 9000 massively parallel system: it says it's already tested Oracle 7.1.3 in-house. As expected (UX No 478), the company has opened a German subsidiary in Munich; Dr. Gottfried Maxerath has been appointed managing director.

Oracle Corp is bundling new Backup/Restore utilities with Oracle Parallel Server for use with EpochBackup, IBM Adstar Distributed Storage Manager, Legato Networker, SpectraLogic Alexandra and StorageTek Reel storage management software to backup large databases.

Mercury Interactive Corp, Santa Clara, California, has swept up the database firms for its visual code-testing tools: it'll integrate the test solutions with Informix, Oracle and Sybase front-end development systems.

Although voices were raised against the choice of **Tivoli Systems Inc** technologies as the basis for preliminary X/Open Co Ltd systems management specifications, "Tivoli was the one that rallied the X/Open effort and was the only bidder to exceed the requirements laid out."

DEC says its Pegasus development system for the DEC/Microsoft Common Object Model system will allow COM-compliant applications to share objects and classes with applications created in ParcPlace's VisualWorks, NeXTStep, Forte and C++. Pegasus works in conjunction with DEC's ObjectBroker ORB and will eventually be integrated with it. A beta Pegasus kit is expected early next year.

Frame Technology Corp has appointed former **Central Point Software Inc** staffer Bob Critchlow as its new vice president and general manager for Europe, based in the London sales office.

Tandem Computers Inc is adding **Locus Computing Inc's** Transparent Network Computing technology to its NonStopUX fault-tolerant Unix to develop distributed computing capabilities.

The Object Management Group was much happier about this year's Object World show than the 1993 event: the conferences were busier and attendance was up 20% to 5,500, but it also managed to attract more top-flight execs.

Bill Koch has handed the reigns of **Kendall Square Research Inc** over to Larry Reeder who becomes president and CEO on August 15th. Koch remains chairman of the board. Reeder comes in from the **Sprout Group** venture capital outfit, presumably to try and find funding for KSR's PowerPC plans.

US West airline will put **IXI Ltd X.desktop** up on 8,000 workstations over the next six months - the UK company is looking to pick up a further 9,000 seats on other US West contracts it is bidding.

Sun Microsystems Computer Corp has licensed the eponymous SNA connectivity suite from the Cambridge, Massachusetts-based Brixton Systems Inc subsidiary of Computer Network Technology Corp of Maple Grove, Minnesota, for use with its Sparc/Solaris systems. The SNA gateway, terminal emulation and APIs will be delivered beginning the fourth quarter through the beginning of 1995 as SunLink 9.0. SunLink 8.0 users will be offered upgrades or they can go direct to Brixton now and get the software at discount prices.

SunSoft Inc believes one of the key issues facing the embryonic object industry is just how its going to divide up markets - after its figured out exactly what those markets are. As it sees it, products are becoming more intangible and are often just an idea which can be monitored, supported and distributed by a particular piece of software. Objects will only intensify this process.

SunSoft is also relishing the prospect of reduced cycle times and software for building products that object technology is promising, expecting it to be able to impact the bottom line much more quickly than at present.

Siemens Nixdorf Informationssysteme AG's eight-way Mips Technologies Inc R4400-based RM600-240 server achieved 789.88 TPC-B running Oracle7 - or \$1,137 per tpsB; the RM400-530 hit 200.66 using Informix On-Line V.5, or \$1,087 per tspB.

Japanese wires report the **NEC Corp** will market some new source-level Unix packages from September as UX-Aplika, allowing resellers and ISVs to add-value, prices (and a new name) to the offerings, which are slated for sales, financial, personnel management and accounting. They're up on NEC's 48 Series Unix servers running Oracle and PC 98 Series clients.

Tatung Science & Technology Inc and its Albuquerque, New Mexico-based Creative Consultants reseller has won a much-needed boon to supply several hundred Sparc compatible workstations to the US Los Alamos Labs. SunSoft Inc will provide the software; DEC the on-site hardware service.

Sequoia Systems Inc has appointed former **Encore Computer Corp** and **Charles River Data Systems** VP John Owens as its new VP engineering, reporting to president and CEO Neil McMullan.

SCO has added 32 and 1,024 user licences to the 2, 16 and 512 user licence packs it already offers: however a new-pricing tier now means that a 32-user SCO Unix licence costs \$200 more than a 512 licence used to, and a 128 user SCO Open Server enterprise system is now \$5,000 against \$3,200 for a 512 user licence previously. SCO says its prices are still lower than similar offerings from the likes of HP, IBM and Novell.

Insignia Solutions Inc thinks its figured out what Wabi means: "Wanna Be Insignia," proclaims its latest campaign.

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HITACHI CLANS WARRING OVER PROCESSOR STRATEGY; COMPAREX TO OFFER OSIRIS UNIX ON MAINFRAMES

There's more than a corporate hedging effort going on over at Hitachi Ltd, where the Japanese company has recently adopted IBM's PowerPC alongside its already in-place HP Precision Architecture RISC strategy. We understand there's a deeper mortal combat going on for control of the company's future microprocessor direction. Apparently there's no-one outside Japan close to the stuff, or likely to have much influence over its outcome, insiders believe. Although Hitachi Japan, Hitachi Europe and other units are already shipping a parallel system based upon PA for the technical market, SR2001, the so-called HMPP 1 is comprised of technology for the most part built and supplied by HP, including the chips and HI-UX/MPP operating system. As little more than a prototype system, the give-away to academics and others hasn't much to offer the commercial market in terms of parallel functionality, lacking parallel Fortran for example. A second generation HMPP 2 due in two or three years running Hitachi's OSF/1 is the machine seen as a commercial beast. In the meantime, Hitachi Data Systems Inc in the US, a unit of international operation of Hitachi Data Systems Corp - where Electronic Data Systems has a 20% holding - has decided it can't wait that long and will be offering rebadged Sequent Computer Systems Inc Symmetrys to bridge the gap (UX No 499). Although Maidenhead, Berkshire-based HDS Europe - the operating unit of HDS Corp's other division, HDS Holdings BV in the Netherlands - usually shadows its Santa Clara, California-based cousin's footsteps, in this instance it doesn't believe there is enough demand to warrant a similar local arrangement with Sequent and is content to wait for the Hitachi solution. However, quite what that solution will eventually turn out to be remains unclear. As well as the PA RISC road, under the agreement with IBM Corp, Hitachi also has rights to IBM's SP2 parallel line, plus the option to do its own parallel PowerPCs (as well as a host of other things). A decision is expected sometime around Christmas, the company promises. If Hitachi, and subsequently HDS Europe, does end up taking SP2s, it'll take them complete with AIX until parallel hardware running its Osiris mix of OSF/1 and other commercial Unix systems software is delivered. HDS Europe's plans are presently somewhat clouded by its need to finalise a new distribution plan - a plan its US relation has already delineated. Its main plan is to support and not conflict with Hitachi Ltd Europe's strategy or its own distributors. Beyond that it says it's free to adopt or pass-up its parent's technology as it sees fit. HDS Europe's biggest reseller of course is BASF AG-owned Comparex Informationssysteme GmbH. Until now a strictly mainframe OS-only house, Comparex is expected to announce in October that it'll begin offering Hitachi's rebadged IBM-compatibles running the Osiris Unix mix. Osiris now offers support for Oracle, and although Informix and Micro Focus Cobol are coming, there's probably three times as much stuff being planned for Osiris than it actually has now. HDS's Boston group is working on DCE - Motif and DME elements are coming. HDS European distributors include Olivetti in Italy; Comparex services Germany, Spain, Austria, Eastern Europe and countries HDS doesn't reach.

X/OPEN CHARGING "EXTORTIONATE" FEES FOR SPEC 1170 TESTS

Bob Ripley, marketing VP at Canada-based Consensus Corp, claims X/Open Co Ltd has taken to running a "software protection racket." His complaint, which he says he took to X/Open itself, stems from what he considers the exorbitant fees it's charging for the Spec 1170 test suites ApTest Inc is designing for it. According to X/Open's latest pricing schedule, he says, a company has to buy not only the Spec 1170 test suites but the XPG3 suite that Spec 1170 will replace. Those two bills come to \$20,000 apiece. Then there's a year's worth of support. Chalk up another \$9,000-\$9,500. Then if you want to have a say in what's going on and join the beta programme, that's another \$20,000-\$25,000. Ripley, who says it's a big company game, claims X/Open could not deny his charges.

ALTA JOINS PARALLEL PIONEERS USING THE ALPHA RISC

Sandy, Utah-based parallel processing tools developer Alta Technology Corp is using DEC Alpha technology to design and build its own parallel machine, following the likes of Cray Research Inc and Jacques Stern's Stern Computing Systems SA. DEC will supply Alpha CPUs and workstations to Alta for use in parallel, attached and embedded computing products. Alta has completed initial development of several 275MHz products for shipment later this month, with commercial off-the-shelf products due in September. The first systems will be dubbed "personal supercomputers". The PS/Alpha/T-series are packaged systems to be supplied with up to 16 Alpha processors and 16Mb to 128Mb of memory per processor. They are designed for high compute, low-bandwidth applications and use low-cost communications processors attached to the Alpha processor, but Alta says future products will use ATM and Fibre Channel technology. The dual-processor 275MHz EISA PS/Alpha/T-series begins at \$38,500 with DEC's C, C++ and Fortran tools and Alta's parallel software extensions. First board-level product is the Alta AT/V64, a 275MHz Alpha VME board with 16Mb cache providing 400Mbps. It attaches to Intel PCs and NetWare networks, and Unix workstations. To augment the 21064A's 16Kb data and 16Kb instruction caches, Alta's AT/V64 external memory interface features a 128-bit wide path to a proprietary cache, and includes a four-channel communications processor. It costs \$8,900.

INFORMATION BUILDERS DIRECTS ITS FOCUS TO UNIX

Information Builders Inc, the 1,700-man \$250m-a-year New York software company generally associated with mainframe middleware, has caught the downsizing bug and come October will be intensifying its push into strategic Unix-based enterprise-wide client/server tools. At Unix Expo in October it is slated to debut Focus Open Enterprise, a next-generation version of its 4GL environment fitted with parallel query technology, a timely move in view of the Sybase-Oracle wrestling match for parallel supremacy. The product, which will be in beta in October and should hit market the first of the year, is said to exploit the processing power of Unix-run symmetric multiprocessors, the current hot boxes. Early alpha tests conducted at a Canadian site reportedly indicate a Focus-derived application will run 10% better on a Unix machine than on a mainframe. In the test case, the machine was a Pyramid box, but David Sandel, general manager of IBI's Unix Division, anticipates similar results on any Unix SMP system be it Intel, Sparc, Mips, HP, DEC or IBM. The software spawns duplicate query images that can traverse a Focus database in parallel, delivering increased throughput for large-scale applications. The database can be IBI's own hierarchical system, the third most widely installed mainframe database, or relational databases from Informix, Oracle or Sybase and DS2/6000. IBI says the data migration tools included in Focus Open Enterprise will allow Focus data, accounting for billions of lines of code in some of the biggest corporations in the world, to be rightsized. The product integrates Postscript support so data need not be exported to a word processor to create presentation-quality reports. IBI will also unveil Focus Reporter for Motif, a unique graphical enhancement for a 4GL that will make it possible to move applications between Motif, Windows and character-based environments transparently. IBI will stress the portability between it and its PC product Focus for Windows. An EDA/SQL 3.1 Hub Server will let Unix servers function as enterprise hubs with global data access to 60 relational and non-relational data sources, a massive number in anyone's book. No prices.

BSD UNIX - THE FINAL CUT

O'Reilly & Associates, Usenix and the University of California at Berkeley's Computer Systems Group have released the final Berkeley Unix, BSD 4.4. There are six volumes of documentation and a CD containing source code for the so-called BSD-Lite, created to settle the cross-lawsuits between Berkeley and Unix System Labs. The CD costs \$150; documentation alone \$120. Call 800 998-9938, fax +1 707 829-0515 or e-mail sara@ora.com.

LOTUS JOINS OPENDOC CLUB

Lotus Development Corp is the first "full member" company to join Component Integration Labs Inc, the San Francisco, California-based ~~non-profit industry association formed to support the OpenDoc alternative to Microsoft Corp's OLE (UX No 468)~~. CI Labs' sponsors are IBM, Apple Computer and Novell Inc's WordPerfect. Lotus already supports Apple's Bento technology, the portable object storage library and format for Unix, Windows, OS/2 and Macintosh products, in its current versions of 1-2-3, Improv and Notes, having had a hand in its development. Bento, and IBM's SOM System Object Model have been licensed to CI Labs with the idea of making the technologies more broadly available. Lotus says it is "seriously evaluating" SOM, and will evaluate other parts of OpenDoc as they emerge. Sun Microsystems, Taligent, Xerox and Oracle have previously shown interest in the OpenDoc technology.

CA OUTLINES PLANS FOR INGRES

Last week, Computer Associates International outlined its future plans for the Ask and Ingres product lines in a move to bolster support from concerned customers. The company has been dogged by trouble over the last few months, culminating most recently with an unsettled legal battle with Baan International over source code for CA's ManMan/X manufacturing software (UX No 498,499). The firm maintains that it is committed to enhancing and delivering future versions of both the Ingres database and its OpenRoad applications development environment. Ingres now becomes CA-OpenIngres and the next release will emerge next year. It will support a server version of the database, CA-OpenIngres Server, and come with a Object Management Extension for CORBA compliance and enterprise access capabilities. On application development, CA says it will keep Ask's OpenRoad strategy and is developing new versions of a Cobol development tool, called CA-Visual Realia, and an Xbase development tool named CA-Visual Objects. The company also reaffirmed its commitment to ManMan/X, but more product details are expected to be announced in October.

ACA TO BUY ASK JAPAN FOR INGRES

The ACA joint venture company formed by Computer Associates International Inc and Ashisuto Co Ltd, the successful Japanese software company founded by American Bill Totten, announced that it would be absorbing the relational database business of the Ask Group Japan. This comes in the wake of the acquisition by Computer Associates of Ask's US parent. This gives ACA an entré into the relational database market in Japan, where Ingres currently has only 4% share of the Unix market, compared with a reported 10% of the whole database market. According to Dataquest figures, Oracle Systems Corp has 41% of the \$373m market, Informix (sold by ASCII Corp) 21%, and Unify Corp and Sybase Inc have 15% each.

NTT, SILICON GRAPHICS MULTIMEDIA PACT

Nippon Telegraph & Telephone Corp and Silicon Graphics Inc have signed an agreement for joint development of interactive multimedia services for the Japanese market. The system will be based on Nippon Telegraph's digital network, coupled with Silicon Graphics's video servers. Both Nippon Telegraph and Silicon Graphics will commit around 10 specialists to joint development of the system, which is envisaged to include virtual reality-style home shopping in which the shopper can wander around a virtual department store (like Macys was in Chapter 11), trying on clothes; as well as remote education and telemedical services.

NEC RELEASES OBJECT DATABASE FOR MIPS

NEC has released for sale PERCIO, a database management system based on object-oriented technology. PERCIO stands for Persistence Concept in Object. The software is designed for use on the NEC Superstation EWS 4800 series of MIPS Technology Inc RISC-based Unix workstations. The features of the new software include: definition of variable length data (objects) and their handling in the same way as fixed length objects, making for a compact database; high-speed enquiry - faster than relational database by a factor of 10; large database space - through use of indirect virtual addressing up to 4,000m 2Gb objects can be used; and compatibility with C++, making creation of applications easier. NEC is hoping to sell 2,000 copies of the software in the next two years. NEC says that orders for its EWS 4800 series of Unix workstations were up 42% last year, while the UP series servers were up over 200%

SUN PLOTS GRAPHICS COURSE

According to Niraj Swarup, graphics product line manager for Sun Microsystems Computer Corp, each new generation of ~~graphics technology is delivering a tenfold price/performance increase, many times more than is achieved with each new generation~~ of a microprocessor architecture. Even until fairly recently graphics was being done primarily on external devices, boards made up of discrete components, but now everything is becoming integrated into the system. VLSI allows more and more chips to be thrown at the problem. However, looking at today's PC's compared with those that were around say five years ago shows that good-looking graphics are also being achieved by straight CPU performance improvements.

2D and 3D graphics

Two-dimensional line drawing and simple windowing has given way to graphical user interfaces and multimedia environments. Meanwhile, the rise of three-dimensional graphics on relatively low-cost systems has placed heavy demands of mainstream floating-point processing units and has driven graphics subsystems to be closely-coupled with the CPU. Although Swarup believes "no CPU can yet deliver the floating point performance that gets anywhere near interesting for heavy graphics use," he admits that mainstream microprocessor technologies are becoming more useful to the graphics world. Graphics subsystems aren't yet completely integrated with the CPU in most cases - although the Mips RISC chip technology has a host of on-board multimedia stuff - as intensive graphics requirements are still fairly niche - it's just not cost-efficient. Greater on-board support will drive price/performance increases and separate graphics CPUs will relieve floating-point demands made on the central processor.

AFX bus for bandwidth

Sun expects imaging and multimedia for stuff like complex document processing and management to become standard desktop features, requiring 24-bit colour capability, which is why it's added two-dimensional S24 graphics on the low-end Sparcstations. Indeed, the increased cost of doing 24-bit colour graphics - a couple of hundred dollars in this case - is relatively small compared to the greatly improved images 24-bits provide. It's only when 3D graphics are required that the price starts skyrocketing. Sun has linked its S24 graphics unit directly to the Swift microSparc II over an AFX memory bus link because imaging requires the bandwidth of the memory bus to be able to display new images very often, Swarup says. Simpler graphics only require a pipeline to feed changes to the screen. AFX is not a public interface and isn't guaranteed to remain the same over time: if the memory bus in a new generation CPU changes then AFX will change too.

Graphics libraries

Sun uses its own XGL graphics library for 2D and 3D graphics, XIL for imaging and X for simple windowing across its range of graphics subsystems. It doesn't support either PHIGS or PEX or the popular Silicon Graphics Inc GL library or its "open" OpenGL incarnation natively. OpenGL cuts no ice at Sun. Swarup claims few ISVs are developing on OpenGL, the great majority are on GL, and that it's a big porting effort to move to OpenGL. Moreover, SGI still controls the OpenGL specification, according to Sun, a situation incompatible with its policy of not supporting vendor-controlled technologies. It concedes that if the market moved to embrace OpenGL then it can see no reason why it wouldn't too: it's not religious about the issue it says. The problem with GL, Sun says, is that it's out of date, lacking stuff like support for X Windows. GL is available on Suns, however, through Austin Texas firm Portable Graphics Inc - recently acquired by Evans & Sutherland - whose software enables GL instructions to make calls to XGL. Sun says Portable Graphics is near to achieving native GL performance on Sparcstations. Sun also offers no native support for PHIGS or the PHIGS Extension to X (PEX). Sun says its situation is the same as Hewlett-Packard Co's here, which also doesn't support PEX natively. Reason is that before PEX came along, immediate-mode graphics technologies had already been developed by Sun (XGL) and HP (StarBase): DEC and IBM didn't have the stuff, so they picked up PEX.

IBM MUST TWEAK AIX AGAIN FOR TRUE SMP

As IBM Corp told us at the launch (without details), and now reported in Omri Serlin's latest *FT Systems* newsletter, the new IBM Corp AIX 4.1 release (UX No 498) may require a refresh to actually support SMP and PowerPC systems. "The key issue with the PowerPC," he says, "is that it does not support in hardware 12 instructions that are part of the so-called "classic" Power architecture. IBM says it has dynamically traced a number of major commercial and scientific applications and found that the mission instructions occur very infrequently. They will be supported in V 4.1 through emulation with (hopefully) minimum impact on performance. Alternatively, programs can be recompiled using the "common" compiler flag, which directs the compiler to avoid generating the missing instructions."

SUNSOFT CLAIMS 110,000 UNIXES SHIPPED LAST QUARTER - 50,000 ON INTEL

SunSoft claims it distributed over 110,000 copies of Solaris and Interactive Unix in the quarter ending June 30, up 22% from the previous quarter. It says it shipped 360,000 units in the fiscal year along with 100,000 copies of Wabi. It says it got 20% of its revenue from outside of SMCC and shipped more than 50,000 units for x86 platforms. Cumulative Solaris shipments come to 1.8m. IDC says SunSoft got 30.9% of the Unix market worldwide in 1993, nearly double any competitor, and Sun is the leading Unix vendor with 17.5%. Solaris claims to have 9,300 applications; 3,000 for Solaris 2.x.

HP HAS DRAFT OF OPENVIEW REPOSITORY

Hewlett-Packard Co will this week release a working draft of its HP OpenView Meta Schema, the first piece of its planned common repository. The draft describes how developers should organise information in their applications so that it can be integrated into the repository. Users should be able to access a common repository with standard database tools and custom applications, HP says. The Meta Schema was developed in conjunction with its OpenView OEMs and partners in an OpenView integration working group (UX No 463). It specifies structures for object attributes, topology and trend data collected from distributed management environments. Applications will own specific tables in the repository that will be accessible for reading from other applications and tools. HP plans a model for allowing multiple-writer access to databases via services so that the repository can be shared by applications that will in turn be able to generate a use data about a managed environment. The long-term goal of the repository is to allow all OpenView-based applications to integrate and share network and systems management information so that a user can see the status of NetWare, SNA and DECnet environments from a single map rather than on three separate submaps. The Meta Schema is available from the integration workgroup members, the Management Integration Consortium, World Wide Web or from HP direct.

TEKTRONIX GRAPHICS PATENT RULING IS SEEN TO BE A LANDMARK DECISION

A US Federal appeals court has handed down what is being seen as a landmark ruling on just what can be patented in the grey area where hardware interacts with software, by deciding that the Patent & Trademark Office was wrong to turn down an application for a patent from Tektronix Inc. The court "recognised that when a computer program is loaded into a computer, it sets a lot of switches and connects a lot of components and literally makes a new circuit," technology patent attorney Peter Trzyna of Chicago firm Keck Mahin & Cate told the *Wall Street Journal*. At issue was a rasterising system for putting graphics on a screen developed by a Tektronix engineer. The Patent Office appeals panel decided that the invention merely described mathematical formulae, which can't be patented, but the appeals court ruled that while it relied on formulae, it was "a specific machine to produce a useful, concrete and tangible result."

PROGRAMMED LOGIC PUTS DISK-DOUBLER ON SOLARIS

Programmed Logic Corp has ported its disk-doubler software to both the Intel and RISC versions of Solaris 2.x. The Desktop File System (DTFS) uses transparent on-the-fly file compression to increase disk capacity on Unix boxes. Solaris editions cost \$150 for the client version, supporting up to 400MB of uncompressed disk space, and \$350 for the unlimited server version.

SUNSOFT TAKES WORKSHOP DEVELOPMENT TOOLS TO HP-UX AND UNIXWARE...

As well as taking its Solaris Unix beyond Sparc, SunSoft Inc is seeking a broader market for its other software, including application development tools. It's putting the WorkShop environment up on Hewlett-Packard Co HP-UX and Novell Inc UnixWare, although it's putting the software through its own resellers. The C, C++ or Fortran system, until now only available on Solaris, is being pitched as a common toolset for migrating applications to run under the COSE Common Desktop Environment on third party platforms. It's hardly a coincidence that only last week Hewlett-Packard Co announced it'll take its CDE implementation to market through TriTeal, which already sells HP's Visual User Environment on a range of platforms, including Sun (UX No 499). Although DEC has signed for Sun's CDE source implementation which it will use on its Alpha platforms, SunSoft says a WorkShop port to DEC's OSF/1 is unlikely. An AIX/6000 version - IBM Corp already offers a bundled CDE product - wasn't discussed. Despite its CDE banner-waving, SunSoft will continue to ship its Motif-based OpenWindows user environment with Solaris. The forthcoming Solaris release 2.4 will ship with Motif version 1.2.3, the basis of CDE. Although SunSoft has had a CDE snapshot out since April, only in subsequent Solaris releases will CDE be offered as the standard front-end environment. SunSoft claims that's down to how far in advance the content of Solaris releases are planned, however a standard CDE specification from X/Open Co Ltd is also now not expected until next year and like HP, it's unlikely SunSoft will want to bundle an unratified CDE implementation that may have to be altered. SunSoft says it sees no demand for its tools on non-Unix, non-CDE platforms, including the Sparc version of Windows NT. WorkShop includes the ProCompiler C, ProWorks development tools TeamWare code management tools and support for ToolTalk. Workshop for C, C++ and Fortran for UnixWare 1.1 is out now. The C version is \$1,500, C++ is \$2,000 and Fortran costs \$2,100. ProWorks/TeamWare for HP-UX is available in early access now, C, C++ and Fortran will follow early next year.

...PLANS OBJECT RELEASES

WorkShop comes out of SunSoft's Developer Products Group, the pre-reorg SunPro. VP Jon Kannegaard sees no threat to the group from SunSoft's planned object future for Solaris which is based upon technology derived from NeXTStep. Indeed the group plans a release of its development environment that'll support NeXT's Objective C system. It argues that whilst NextStep - or the OpenStep version that SunSoft will incorporate into its system software - has a comprehensive set of tools, it doesn't offer a good programming environment. The developer group is therefore adapting its tools for the object market and may even offer them for other Object Request Broker mechanisms.

OEC HAS TOOLKIT FOR OSF DCE PLATFORMS

Boston firm Open Environment Corp is pitching a new version of its client/server OEC Toolkit as a comprehensive system for developing applications that will run across Distributed Computing Environment platforms and TCP/IP networks. It's calling the thing Encompass. It includes Asynchronous RPC, allowing Windows PCs to participate in multitasking DCE environments. Until now, the company argues, Windows applications could only issue one RPC at a time, preventing users from doing other tasks as it waited for the RPC to complete. The mechanism allows multiple, simultaneous RPC requests to multiple DCE servers from a Windows application, eliminating what it calls the "hurry-up-and-wait" syndrome that has characterised other Windows DCE implementations. OEC is pitching Encompass as the first common application development framework for DCE, including common naming, security and directories across operating systems, hardware platforms, interfaces and databases. Using Encompass, OEC says developers can split application development into what it describes as three components: user interface (client), application logic (server) and data access technology. to make code more portable and reusable. OEC is offering Encompass/DCE, and Encompass/TCP for TCP/IP networks, an enhanced version of its OEC toolkit up on a range of Unixes plus Windows and Mac; all the major relational databases; with support for VisualBasic, PowerBuilder, Cobol, C, C++ and SmallTalk. Developer prices are \$16,000 each - runtimes are \$2,000 per server. +1 617 562 0900.

500th issue
TEN YEARS OF
UNIGRAM.X

This week Unigram.X celebrates the publication of its 500th issue - we'll be 10 years old at the end of October. Here we take a whistle-stop tour through some of the more important events and issues over those ten years, and reprint the front page of the very first issue

News

AT&T SPLITS UP INFORMATION SYSTEMS
The basis of the big AT&T Information Systems reorganisation currently underway is to integrate design and manufacturing with marketing, and so should make the development side less remote from what the market wants. So it looks like a good move, but ADMIS will obviously take some time to settle down, and ADMIS Technologies is a clear loser in the process. The company is to create three autonomous units out of ADMIS, each with its own product development and marketing. Parts of ADMIS Technologies go into the new units, which will now in general have responsibility for development and manufacturing as well as products. Large Business Systems on selling communications under Richard Holbrook. Business Systems will sell the general public, and will be responsible for further development of voice as videotex, as well as and alarms. This unit is formerly head of ADMIS Technologies, which now loses unit, as well as the small Large Business Systems and Business Systems will sell customers. The third new unit which will be responsible for computers, taking on some of oratories to help with that only to OEM customers, and words, who was vice-president Technologies. Each unit will centre, and the reorganisation completed by January 1. Bob vice-president of Information the reorganisation. The all increase very poor computer will employ 92,000. It is the changes will affect the largest Technologies but AT over-supply of computers - a gestions of distribution of the reorganisation as a po operating officer Vittorio) not expect any change in AT Olivetti as a result of revealed that manufacture sold by AT&T as the PC3000 ponent shortages, and that to AT&T were some 3000 to through from what we hear of the things anyway.

SEEK AT&T-OLIVETTI PA
AT&T and Olivetti have an joint development and as which will run both Unix telecommunications featu that the development is dead will be pursued with the makes it sound as if the w to be direct competitors of The new workstations will replace the 38 mins and M24 Personal-like, sold by AT existing products will be li line, suggesting that it PC3000 processor board and high performance 32-bit AT&T

News


ICL FORGES EUROPEAN MANUFACTURERS' STANDARD
ICL seems to be the driving force behind a plan to establish a European Manufacturers' Standard for Unix; details are still hazy but the company is in "technical discussions" with Siemens, Bull, Olivetti and Nixdorf, and the proponents have given waverers only till the end of this month to decide whether they are in or out.

IRVINE HAS 32032 UNIX V BOX
Another of the growing band of companies working with the NatSemi 32032 is Irvine Business Systems.

AT&T SET TO LAUNCH CONVERGENT SAFARIS
Not before time, AT&T is almost ready to launch its Safari machines from Convergent Technologies as the Safari 400 and the Safari 200, now believed to be built around Motorola's 68000 and not AT&T's M88300 - but they do run under System V. Convergent has designed the machines to AT&T's requirements. The Safari 400 comes with 512Kbytes - expandable to 2Mbytes or 4Mbytes, a 2Mbyte Winchester, single floppy drive, 12" display and communications hardware and software. Priced at IBM's PC AT, it will sell for between \$3000 and \$6000 in the US. The Safari is intended to be used as a telecommunications business terminal competing with the likes of the 8086-based Bolt offering, and ADMIS has a telephone handset and control software option for the Safari 200, which is also 68000-based, has a 9" display and built-in teleph available, but it can be of one or more 400s. Both the can be connected to AT&T System 85 PARMA. The Safari 100 have already gone out

FERRANTI TO TAKE 64
Ferranti has been quietly unidentified German univers for launch at Compac next System V and will go out operation. No plans for Uni though - the company de-termining Unix efficiently.

SEXTROM-LRT HAS UNIX
The Motorola 68010 has for Replacement Technology, a Group of Reading, which is software development at Motorola part. The system curred by LRT, is confusing - a name used by 3Com in the number of workstations, ty ten, a print server, a fil linked using an Ethernetwork around identical £2,000 consisting of a 512Kb 68010 £1,300 - a 68451 memory LANKE - local area network - and an SCSI interface. It can be used as a standalo buys a computer with 512Kb Winchester disk storage, serial ports, and a single-ence - UniPlus, being Computers. Replacing the 40Mb unit ups the price to What Ethernetworking softwa licence for four users bril £6,140. EtherPrint is the but the maintenance contru run the server costs £250, 80Mb of store and a tape server with a 400Mb SMD an EtherStore is available in versions. The EtherGate hal as the Etherlear, but the u cost from £1,000. LRT will out board which is the h or completed home, on an cost £1,500 for 500-up.



The newsletter for Unix systems users

London, Monday October 29 1984 Number 1

Welcome to Unigram/X. Every week we will be bringing you international and UK Unix news gathered by us and our correspondents round the world, features, analysis, benchmarks and reviews of new machines. This week we have hardware and software news on pages 1-3; a look at the big shakeup at AT&T Information Systems on page 2; an interview with Unix watcher and founder of Yates Ventures Jean Yates on page 3; what just about every manufacturer is doing with Unix on page 4; a benchmark and review of the Pyramid 90x on pages 6-8; and news in brief on page 8.

DEC TO SET NEW SCIENTIFIC WORKSTATION PRICE-POGHER STANDARD WITH MICROVAX-2
Although the Venus top-end Vax is what everyone is panting for from DEC - October 31st is now the launch date - we hear that another property in the works at DEC could cause an even bigger impact. It is a scientific workstation built round the unannounced MicroVax-2 chip set, and people who have seen it say that it will rewrite the price-performance rules in the scientific and technical market, causing sleepless nights for the likes of Apollo Computer and Sun Microsystems. The machine will run VMS and DEC's Ultrix Berkeley Unix adaptation, include 1000 by 600 pixel screen and 50Mbytes Winchester for around \$25000. The processor is said to deliver three times the power of the Vax 11/750, which makes the MicroVax-1 look obsolete already and should obliterate the embarrassment over the problems with the original VaxStation. A product which looks to be a forerunner of the workstation has just been announced in France; it runs under MicroVMS, has windowing, 1 Mbyte memory, 31Mbyte Winchester, two 400Kbyte floppies, VT100 and Tektronix 4014 emulation, Ethernet, DECnet and mouse, costs about \$25000 and ships start January. The Vax processor on a chip will now emerge as the MicroVAX 3; DEC has the chip earmarked for use in a wide range of networking products.

JAPAN TO PICK UNIX FOR SOFTWARE DEVELOPMENT SYSTEM
Japan's Ministry of International Trade & Industry is set to adopt Unix System V as the basis of its project to develop a development environment for mass-production of software, reports Electronics Week. The magazine says that MITI's budget request for the project has already been given the nod by the Finance Ministry, and is expected to get smooth passage through the Diet in December. The intention of the project is to increase accretion of software development; the Japanese reckon only 10% of the development process is automated due to lack of tools. The first step will be to produce a Japanese language version of Unix, part of the massive Unix development effort proposed by MITI.

HYTEC MICROCODES NCR 32 CPU TO RUN UNIX V, MS-DOS, CP/M
Micro and terminal maker Hytec Microsystems is all set to go with a Unix machine built around the NCR 32 chip set, which will also be microcoded to emulate other operating systems. The machine, to be launched by the Oxford company in November, has a Unix System V kernel with some additions from Hytec as the master operating system, with MS-DOS and CP/M running as emulations. It will range in price from £9,000 to £30,000. An entry-level machine comes with CPU, 512Kb of RAM, a 5Mb hard disk and 512Kb of floppy disk storage, a single screen and Unix. At the top-end, £30,000 buys a CPU, between 5Mb and 8Mb of RAM, a 400Mb hard disk, two tape streamers, a 512Kb floppy disk drive and support for eight to 10 screens. The NCR 32 chip set has a massive 128Kb of microcode memory available, and as well as microcoding a set for Unix System V, Hytec has written microcode emulations of both CP/M and MS-DOS. The microcode emulations occupy only 2.5Kb to 3Kb, so there is plenty of capacity for other emulations, and Hytec says that it will introduce further emulations later - for both operating systems and other instruction sets - but is giving no specifics. First shipments will not start until January next year, and the emphasis then will be on the US market. The full UK release of the machine will follow in April, 1985. NCR is also planning a machine built round the chipset and running Unix System 5.2.

Unix is a trademark of AT&T Bell Laboratories

Unigram/X Number 1 was published on October 29th 1984, although an "Inaugural Issue" was printed a few weeks earlier to catch the European Unix User Group's Cambridge conference that year. In the early days the emphasis was on the hardware manufacturers, who, fuelled by somewhat hyped predictions from analysts such as Jean Yates, were rushing towards Unix like the Gadarene swine. In particular, the smaller minimakers saw Unix as their only hope of survival. Unfortunately, the likes of Gould, Perkin-Elmer, Prime, Burroughs and Honeywell, not to mention Brits like Whitechapel Workstations and High Level Hardware and Europeans such as PCS Cadmus, were either subsumed into larger conglomerates, moved into a different business, or disappeared without trace. More focused Unix start-ups such as Pyramid and Sequent survived the test of time, while

ICL, Bull, Siemens, Olivetti, Hewlett-Packard and DEC were all looking at Unix more seriously as an alternative to their proprietary moneyspinners, some more advanced than others. IBM was the missing factor - issue 2 of Unigram/X ran an analysis piece claiming that IBM was unprepared to meet the threat of Unix, despite Unix implementations coming out of its ears. Ignoring the disastrous RT, IBM did not get its act together for another six years with the launch of the RS/6000 (UX No 270). Also in issue 2, we reported that Kodak had paid \$20m for a 7% stake in "high-flying Unix scientific workstation manufacturer Sun Microsystems".

Chip talk at this time was centred around the Motorola 68000 (Sun was about to launch a 68010 colour workstation) and the Nat-Semi 32000 (used by Sequent), an eventual casualty of the RISC revolution.

ROOT
UNIX Ports
UNIX on VAX
Tel: 01-726 6661

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WHICH ELECTRONIC PRINTER?
Will take the Hit 'n' Miss out of buying?
PAUL FINNERTY
01-734 2000

SUN BRINGS BERKELEY 4.2 AND SYSTEM V TOGETHER...
Sun Microsystems this week announced its new operating system, SunOS 4.1.4, which is a combination of Sun's Berkeley 4.2 BSD and System V. This release is phase 1 of the fruits of the agreement between AT&T and Sun, announced last September, to converge the two operating systems. The company says that this first phase of convergence is based on 4.2 with enhancements from 4.3BSD merged with the functionality of System V into the SunOS kernel. Also included in SunOS 4.1.4 are several new features: a new user interface, a new file system, a new shell, a new system call, a new library, a new research effort for file systems. System V updates have been added to the default available in 60 to 90 days and will be bundled with project is expected to be full base level SVT driver interface, and end to use all the features to its workstation range technical workstations.

PARAMETER DRIVEN SOFTWARE HAS ADAPT GENERATOR FOR UNIX
Parameter Driven Software, a new product from Parameter Driven Software Inc., Birmingham, Michigan, sounds likely to find a ready market. PD-Adapt Unix is a...

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EUROPEAN BACKING FOR HAMILTON GROUP
IBM LEADS CONSORTIUM TOWARDS INDEPENDENT UNIX
Seven major companies led by IBM this week announced their plan to unveil a "vendor-independent" Unix standards strategy to counter the AT&T-Sun Microsystems alliance, confirming persistent rumors over the last few weeks (UX No 179). As we forecast last week IBM, DEC, Apollo, and ICL have become the Sun Microsystems for that it has built under three year non-exclusive 960s, and ICL will be of mentioned above and over and public administrative agreement with Parc Syst stations criticized for any, where ICL made a problems. ICL will run and up having to write a will be no lay-offs as a

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DOROTCH OFFERS OF A NEW COMPANY, DOROTCH
product, a file manager write-once optical disk eloped joint with the OS and is claimed to handle 5.25" optical disks. It enable transparent merge and is designed to allow creation of tree structure any type of file system. Microsystems' Sun 3 work plans to offer Dorotch offering the software to test.

unigram·x
The weekly information newsletter for the UNIX™ community worldwide
London, Week Ending December 3 1988
Number 208

ARCHER GROUP BECOMES UNIX INC - AT&T JOINS
With hopes for a reconciliation between AT&T and the Open Software Foundation (OSF), the Archer Group of Unix System V4 supporters has made its next move, putting the organization on an official footing with a new name, new president, and an official list of members. The name, Unix International Inc, appears to have been on the cards for some time (UX No 189), but is not the AT&T spin-off of its Unix activities that many were expecting. Unix Inc, which includes AT&T as a member along with twenty-eight other companies, will instead "guide the future development of Unix System V". Apart from AT&T, the members are: Amdahl, Aris, Computer Concepts, Concurrent, Control Data, Convergence, Data General, Fujitsu, Gould, HCR, ICL, Informix, Intel, Interactive Systems, Lachman Associates, NEC, NCR, Oki Electric, Olivetti, Oracle, Prime, Pyramid, Sun Microsystems, Texas Instruments, Tolson, Toshiba, Unisoft and Unisys. Two names - Micro Focus and Micro- are not included as members, despite being amongst the original list of Archer supporters. Organizing chairman, as expected (UX No 205) is Don Herman, a retired NCR senior executive who was founding chairman of the Corporation for Open Systems. No indication of funding as yet, but according to Herman, Unix Inc is seeking additional members. Originally scheduled as a worldwide satellite-linked launch, the announcement was instead very low-key, and no further details on structure, membership and operating strategy were given: these will now be released "over the coming weeks".

APOLLO SEEKS BIG INVESTOR; MENTOR A SECOND SOURCE
Sources on Wall Street and in the industry say that Apollo Computer Inc has privately let it be known that it would welcome an investor capable of giving it a large infusion of cash, according to Information Week - and the listing is that any buyer that emerges will be Japanese. The two companies named as possible investors are NEC Corp and Mitsubishi Electric, and an investment by a Japanese partner is seen as a means not only to give the workstation builder the additional working capital it needs, but also to tie up against the possibility that it will be the victim of a hostile bidder. If it is faced with a hostile bid, Apollo, which reported combined losses of over \$10m for its most recent two quarters, could seek refuge from one of big OEM "coasters, with Siemens AG the one with the deepest pockets. Meanwhile Apollo's - largest single OEM customer, Mentor Graphics Corp, which this month extended its relationship with Apollo to a further \$100m of business over 18 months, wants to reduce its dependence on Apollo by finding a complementary workstation from another supplier, and is reportedly looking at offerings from IBM - the RT presumably, although possibly the 9370 - from Sun Microsystems, and DEC.

DEC ADDS MID-RANGE FILE SERVER FOR WORKSTATIONS
DEC has boosted its workstation business, now second in shipments only to Sun Microsystems, with the introduction of a high capacity file server designed to support large networks of workstations, this time using its VAX 6210 and 6220 mid-range systems as the base hardware. The VAX FileServer 6200 series provides up to 2.5Gb disk storage and high performance input/output for VMS, Ultrix, and mixed workstation environments. Systems are pre-configured with software to allow file services and network management capabilities, and come with tape drive, system console and networking hardware and software. VMS-based servers include VMS/Ultrix Connection software with Sun's Network File System (NFS) support for Unix and Ultrix workstations. VAXcluster software, VMS services for MS-DOS to allow PC connections. Ultrix-based servers come with a two-user license for centralized file management, network support and a server license; they support Unix workstations through NFS and TCP/IP, with DECnet/Ultrix software for communications to DECnet networks. Prices start from £212,000 for VMS and £183,000 for Ultrix versions; conversions to full timesharing VAX systems are available.

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Number 470

SUN TO STRIKE OUT ON ITS OWN: BUYS OUT UNIX SOURCE RIGHTS FROM NOVELL
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SUN BRINGS BERKELEY 4.2 AND SYSTEM V TOGETHER...
Sun Microsystems this week announced its new operating system, SunOS 4.1.4, which is a combination of Sun's Berkeley 4.2 BSD and System V. This release is phase 1 of the fruits of the agreement between AT&T and Sun, announced last September, to converge the two operating systems. The company says that this first phase of convergence is based on 4.2 with enhancements from 4.3BSD merged with the functionality of System V into the SunOS kernel. Also included in SunOS 4.1.4 are several new features: a new user interface, a new file system, a new shell, a new system call, a new library, a new research effort for file systems. System V updates have been added to the default available in 60 to 90 days and will be bundled with project is expected to be full base level SVT driver interface, and end to use all the features to its workstation range technical workstations.

PARAMETER DRIVEN SOFTWARE HAS ADAPT GENERATOR FOR UNIX
Parameter Driven Software, a new product from Parameter Driven Software Inc., Birmingham, Michigan, sounds likely to find a ready market. PD-Adapt Unix is a...

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ARCHER GROUP BECOMES UNIX INC - AT&T JOINS
With hopes for a reconciliation between AT&T and the Open Software Foundation (OSF), the Archer Group of Unix System V4 supporters has made its next move, putting the organization on an official footing with a new name, new president, and an official list of members. The name, Unix International Inc, appears to have been on the cards for some time (UX No 189), but is not the AT&T spin-off of its Unix activities that many were expecting. Unix Inc, which includes AT&T as a member along with twenty-eight other companies, will instead "guide the future development of Unix System V". Apart from AT&T, the members are: Amdahl, Aris, Computer Concepts, Concurrent, Control Data, Convergence, Data General, Fujitsu, Gould, HCR, ICL, Informix, Intel, Interactive Systems, Lachman Associates, NEC, NCR, Oki Electric, Olivetti, Oracle, Prime, Pyramid, Sun Microsystems, Texas Instruments, Tolson, Toshiba, Unisoft and Unisys. Two names - Micro Focus and Micro- are not included as members, despite being amongst the original list of Archer supporters. Organizing chairman, as expected (UX No 205) is Don Herman, a retired NCR senior executive who was founding chairman of the Corporation for Open Systems. No indication of funding as yet, but according to Herman, Unix Inc is seeking additional members. Originally scheduled as a worldwide satellite-linked launch, the announcement was instead very low-key, and no further details on structure, membership and operating strategy were given: these will now be released "over the coming weeks".

APOLLO SEEKS BIG INVESTOR; MENTOR A SECOND SOURCE
Sources on Wall Street and in the industry say that Apollo Computer Inc has privately let it be known that it would welcome an investor capable of giving it a large infusion of cash, according to Information Week - and the listing is that any buyer that emerges will be Japanese. The two companies named as possible investors are NEC Corp and Mitsubishi Electric, and an investment by a Japanese partner is seen as a means not only to give the workstation builder the additional working capital it needs, but also to tie up against the possibility that it will be the victim of a hostile bidder. If it is faced with a hostile bid, Apollo, which reported combined losses of over \$10m for its most recent two quarters, could seek refuge from one of big OEM "coasters, with Siemens AG the one with the deepest pockets. Meanwhile Apollo's - largest single OEM customer, Mentor Graphics Corp, which this month extended its relationship with Apollo to a further \$100m of business over 18 months, wants to reduce its dependence on Apollo by finding a complementary workstation from another supplier, and is reportedly looking at offerings from IBM - the RT presumably, although possibly the 9370 - from Sun Microsystems, and DEC.

DEC ADDS MID-RANGE FILE SERVER FOR WORKSTATIONS
DEC has boosted its workstation business, now second in shipments only to Sun Microsystems, with the introduction of a high capacity file server designed to support large networks of workstations, this time using its VAX 6210 and 6220 mid-range systems as the base hardware. The VAX FileServer 6200 series provides up to 2.5Gb disk storage and high performance input/output for VMS, Ultrix, and mixed workstation environments. Systems are pre-configured with software to allow file services and network management capabilities, and come with tape drive, system console and networking hardware and software. VMS-based servers include VMS/Ultrix Connection software with Sun's Network File System (NFS) support for Unix and Ultrix workstations. VAXcluster software, VMS services for MS-DOS to allow PC connections. Ultrix-based servers come with a two-user license for centralized file management, network support and a server license; they support Unix workstations through NFS and TCP/IP, with DECnet/Ultrix software for communications to DECnet networks. Prices start from £212,000 for VMS and £183,000 for Ultrix versions; conversions to full timesharing VAX systems are available.

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The first noises from what was to become X/Open were reported in our inaugural issue and in issue 1. The European Manufacturers Standard version of Unix initiative begun by ICL eventually became BISON (Bull, ICL, Siemens, Olivetti and Nixdorf), and finally X/Open, winning support from AT&T and IBM. A bizarre portability demonstration in 1987, hosted by the EEC in Luxembourg (UX No 120), featured 11 android-like figures each pressing Return simultaneously to set a single piece of code running on 11 different computers - all to the music of Jean Michel Jarre.

The standardisation mania began to catch on. Unigram.X reported moves to standardise computing around Unix from the likes of the Swedish Government and the US Airforce (with AFCAC). In 1986 (UX No 89) we reported that Sun had agreed to merge its Berkeley-based BSD 4.2 Unix implementation with AT&T's System V - the first signs of a unification which paradoxically led to the subsequent Unix wars. When Sun was perceived to be getting too close for comfort with

Unix owners AT&T, the rest of the industry rebelled. IBM, DEC, Apollo, Hewlett-Packard (later to merge) and the Europeans formed the Hamilton Group (UX No 180), soon to become the Open Software Foundation. AT&T later retaliated with the Archer Group - see Unix International (UX No 208). The battle lasted for another six years before Unix International was disbanded, and Unix passed to a new owner - Novell Inc (UX No 417). But the rows were not over: worried vendors such as Sun are now buying out source code rights from Novell in order to maintain their own control over future development.

While the RISC vendors continue to fight amongst themselves and battle it out against the Intel camp, the primary focus of Unigram.X has gradually shifted from hardware to software. X-Windows and the user interface wars, COSE, CASE and 4GLs, client-server, distributed computing and object technology are continuing sources of innovation and contention. And now a new bunch of operating systems, most notably Microsoft Corp's NT, is moving in. Here's to the next decade.

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International Roundup

Silicon Graphics Inc has opened what it calls the Silicon Graphics Reality Centre in Theale, Reading, with the aim of providing UK companies with the hardware to develop computer graphics and virtual reality products and applications.

Documentum Inc has a new European headquarters in London and named former Uniface VP worldwide sales Reiner Pinot-Noack as VP and general manager of Europe, the Middle East and Africa. The Pleasanton, California-based firm has also signed **Kinesis Computing Ltd**, Swindon, Wiltshire, to implement and support its document management systems in Europe. + 44 793 536 291.

Cologne, Germany-based **Pallas GmbH** is optimising its Parallel Virtual Machine message passing interfaces for struggling Cambridge, Massachusetts-based **Thinking Machines Corp's** CM-5E massively parallel supercomputer. CM-PVM will (hopefully) be available by the end of the year. + 49 223 218 960.

Camberley, Surrey-based **Admiral Computing Ltd** has released a Unix version of its TransDrive testing/simulation tool for on-line transaction processing applications. + 44 276 692 269.

Scientific Software-Intercomp Corp's Kinesix Inc has opened new European headquarters in London, with the backing of a consortium of UK-based investors. **Kinesix (Europe) Ltd** will distribute and support the firm's Sammi Unix programming tools and graphical interface builder for real-time applications, and intends to create a network of similar distribution companies throughout Europe. + 44 71 610 6144.

Progress Software Corp intends to set up a joint venture company in Japan with general trading company Nissho Iwai Corp and data services firm INES Corp to sell, market and support its Progress application development environment and relational database. Progress Software KK should be up and running by the third quarter.

Dun & Bradstreet Software has open a sales office in Dublin, Ireland, which will also offer consultancy and training.

Micro Focus Plc has opened a new sales, consulting and support office in Manhattan, New York - customers were previously serviced from Philadelphia. + 1 212 312 2200.

Paris, France-based **SG2 SA** is marketing Hayes, Middlesex-based **Lawson Software Ltd's** financial and distribution software in France. Rotterdam, Holland-based **Eniac Open Software** is doing the same in the Netherlands.

The University of Palermo's physics department in Italy has purchased a **Parsys Ltd** T9000-based SN 9400 for an undisclosed sum. It will be used for the simulation of molecular models in the field of molecular dynamics.

Wokingham, Berkshire-based **Azlan Ltd** is now distributing, marketing and supporting Hewlett-Packard Co's OpenView network management products in Europe. + 44 734 894 400.

Pick Systems Inc has opened a sales and support subsidiary in Cape Town, South Africa; Rudge Bowen heads a four-person team there.

Richardson, Texas-based **STB Systems Inc** is developing a family of graphics boards based on former **Du Pont Pixel** (UX No 484), now known as **3Dlabs Ltd's** Glint 300SX and 300TX graphics accelerator chips. The Power 3-D System boards will have configurable VRAM framebuffer sizes, up to 6Mb of Z buffer DRAM, virtual desktop support and support for Microsoft Windows and Windows NT, AutoCAD, and **Parametric Technology's** ProEngineer APIs. They are due in the fourth quarter and will cost between \$500 and \$1,600.

FoxPro, dBase and Clipper developers can now port their applications to **Novell Inc's** UnixWare using a new version of Bracknell, Berkshire-based **Recital Corp Ltd's** Recital application development environment and relational database management system.

Micro Focus Plc has published the second issue of its guide for Cobol programmers interested in using object technology. Object Orientation: an introduction for Cobol Programmers was written by the firm's object product manager Raymond Obin. + 44 635 326 46.

Hewlett-Packard Co has appointed Nigel Battered, who was previously UK Channel Marketing Manager, as Workstation Business Manager. Peter Critchley, formerly Channel Strategy Manager, will now undertake channel marketing in his new role as Channel Manager.

The **Acer Group** and Acer's Mexican distributor **Computec de Mexico** have signed a letter of understanding to establish a joint venture company to assemble, market and distribute the firm's computers and peripherals in Latin American and Caribbean markets. Acer-Computec Latino America will open for business on January 1, 1995.

Baan International BV, currently rowing with Computer Associates, has set up its second UK office at the Leeds Business Park in Morley - the first is in Harlow, Essex, and a third is due to open shortly in Bristol. Another will be established in Ireland in the next 12 to 18 months. + 44 532 383 262.

Waltham, Massachusetts-based **IRI Software Inc** has appointed ex-head of **Pilot International** Carl Gritzmaker as executive VP international business development for third party channels.

Integrated Computer Solutions Inc has signed up **Scientific Computers Ltd** to distribute its graphical user interface development tools in the UK. + 44 293 403 636.

ICL Plc has set up a new UK sales and marketing operation, ICL Client/Server Systems Trading, to sell direct to the UK third party channel, displacing ICL subsidiary and distributor, **Technology Plc**. Frank Harrison has been appointed director of indirect channels and John Arnell as business development manager.

Software AG has opened an office in Taipei, Taiwan and appointed former **Wang Labs** systems department manager Eric Chen as general manager. The Darmstadt, Germany-based firm is working with **Golden International Co** and **Mirrors International** on localising its products for the Taiwanese market.

Siemens Nixdorf Informationssysteme AG will offer the Windows NT operating system on its RM200 and RM400 Mips Technologies Inc RISC machines from September. The firm has also signed up **PA Consulting** to provide its UK R/3 customers with consultancy and project management services - it has the right to sell licences for the SAP AG financial and accounting application suite.

Control Data Systems Inc, which finally wrapped up its acquisition of **Michael Business Systems Plc** of Burgess Hill, Sussex and ended up paying \$3.5m cash, has changed the company's name to **Control Data Systems Plc**.

Financial applications house **IMRS Inc** has appointed Richard Hawksworth as UK marketing manager. He was formerly Planning and Research Manager with the Stamford, Connecticut-based firm. + 44 565 633 744.

PowerSoft Corp has acquired its distributors in France, Spain and the Benelux countries for an undisclosed amount of common stock - they are now wholly-owned subsidiaries. **Case Consult** in Belgium, the Netherlands and Luxembourg has been renamed **PowerSoft Benelux** and is now headed up by Gerald Goetgeluck. **PowerSoft France** and **Spain** will keep their names and be headed by managing director Samuel Rozenberg. The Concord, Massachusetts-based firm has also established customer service and support centres in Paris and Brussels.

Invincible Technologies Corp, which manufactures fault-tolerant mass storage products for Unix workstations and servers, has opened new European headquarters in Guildford, Surrey. Former EMC executive Mark Richards has become European manager. + 44 483 452 241.

Manufacturing software house **Avalon Software Inc** has opened an office in Tokyo, Japan, and appointed former Yokagawa Hewlett-Packard Corp global accounts sales manager Shoji Negishi as sales manager. +813 3221 9740.

JYACC Inc (of JAM fame) has opened two sales offices in Europe, one in London and one in Paris.

Desktop mapping software provider **MapInfo Corp** has recruited Rikke Helms-Wienschack as its new European managing director. She was formerly UK MD at **Borland International Inc**. The New York-based firm wants to increase European sales from the current 20% of total revenues to about one third by 1996. It has just moved its European headquarters to London from Holland and will open a technical support centre at Culemborg in the Netherlands shortly.

Sybase Inc has opened two new subsidiaries, **Sybase Hong Kong Ltd** and **Sybase China Ltd** to sell and support its products in the region. The two units were born out of Sybase's acquisition of its former distributor, **HCL Leung & Associates**, and will be headed up by Kenneth Lau and Roger Wi respectively. Both will report to Gary Leung, managing director of the Greater China Region, who founded HCL.

Tivoli Systems Inc will set up new European headquarters in Geneva, Switzerland in mid-September.

HP JOINS AT&T's WORLDWORX TEAM...

Hewlett-Packard Co has joined the gang supporting AT&T Corp's WorldWorx Solutions family of business communications products and services designed to enable customers to make video and data calls on the same line and concurrently with telephone calls using a switched 56Mbps or ISDN line. Working with AT&T, Hewlett plans to offer hardware and software that complies with AT&T network service and related products to enable users at multiple locations to share applications, as well as data and image files while participating in an audio-video call or teleconference. Hewlett-Packard has an MPower 2.0 collaborative multimedia environment for its HP 9000 Series 700 workstations, which is designed to enable remote workgroup users to exchange data, speech, images and digital video in real time. It includes SharedX, enabling users on a network to share X Window System applications in real time; SharedWhiteBoard, for users in different locations to annotate a shared graphic or document in real time; and TeleShare integrated telephony option to turn the computer into a complete communications system. It also includes tools for real-time video capture and playback, image and audio editing, scanning, faxing, imaging and multimedia mail.

...ADDS FIBRE CHANNEL FOR CLUSTERS

Hewlett-Packard Co has also launched the HP Fibre Channel/9000 network interface for connecting clusters of powerful HP 9000 Series 700 Unix computers via a high-speed link. It is aimed at environmental analysis, scientific computing, aerospace and oil and gas exploration applications. The Fibre Channel/9000 network interface will support speeds up to 266Mbps today and will rise to multiGigabit-per-second speeds in the future. It provides a serial connection to a Fibre Channel switched fabric, supports TCP/IP and is based on the Fibre Channel Systems Initiative IP Profile. Out now, it is \$3,500.

A MERGED NOVELL-ORACLE WOULD APPROACH MICROSOFT IN SIZE - FORBES

The top 10 software companies measured by turnover has been compiled by *Forbes* magazine, and Reuters helpfully presented it in tabular form as follows:

Company	Revenues	Employees	Sales/Employees
Microsoft	\$4,395,000	14,400	\$305,208
Computer Ass.	2,148,000	7,200	298,398
Oracle	2,001,000	9,245	216,457
Novell	1,299,000	4,429	293,514
Lotus Devt.	1,001,000	4,740	211,219
Reynolds	760,000	5,000	139,380
Computervision	755,000	2,500	302,101
SAP AG	665,000	4,000	188,813
Shared Medical	509,000	4,000	127,308
Sybase	484,000	2,600	186,419

SUN HAS 12 JAPANESE SUNPRO VERSIONS, BASED ON COMPILER TECHNOLOGY

Sun Technology Enterprises Japan now has Japanese versions of 12 SunPro tools. Sales are going through Nippon Sun Microsystems sales channels, which include Fujitsu Ltd, Toshiba Corp, CTC, Nippon Unisys Kaisha, Fuji Xerox Ltd, Matsushita Electric Industrial Co and Nippon Steel Corp. Director of marketing from SunPro, Paul Henderson and Masatoshi Tanaka, general manager of Sun Technology Enterprises Japan presented the new products, which include the Workshop integrated tools suite; Sparcworks/iMPact (J), Sun's first multithreaded development tools for multiprocessor systems; and a new version of Sparcworks Development Tools (J), version 3, for developing in C, C++, Fortran and Pascal. Team development can be supported with Sparcworks/TeamWare, which simplifies the code management task. These products are based on new compiler technology, which Sun claims provides 30% to 40% faster compilations for C and Fortran, while the C++ compiler triples previous compile speeds. Japanese prices for the new products range from \$5,000 through \$7,250 for the WorkShop products; down to \$1,548 and \$2,240 yen for the compiler products.

STRATUS TO PAY UP TO \$32m FOR TCAM

Marlborough, Massachusetts-based Stratus Computer Inc, continuing its programme to build up a portfolio of software companies, yesterday announced a letter of intent to acquire TCAM Systems Inc and its affiliated companies for about \$17m cash up-front, plus an earn-out worth up to another \$15m if TCAM meets pre-set objectives over the next three years. TCAM, which has offices in New York, London and Edinburgh does software products and offers consultancy, providing systems integration and turnkey systems to the securities industry, is involved with Stratus on computerising the Bombay stock exchange. The TCAM Systems group saw sales of \$25.3m in 1993, claims to service over 50 customers in 11 countries, and has been a Stratus software provider since 1985.

X/OPEN JAPAN AND JAPANESE USERS ASSOCIATION JOIN USERS COUNCIL

X/Open Co Ltd's Japan office and the Japan Users Association of Information Systems have joined the Users Council of X/Open. Currently only two Japanese firms - Nippon Telegraph & Telephone Corp and Nippon Steel Corp - belong to the User Council which has 89 members in all. The Users Association is a user group to which major Japanese corporations belong - the executive council is headed by Mr Kume, chairman of Nissan Motor Co, with membership from executives of Tokyo Marine, NTT, Kao, Itochu, Mitsubishi Heavy Industries - and has backing from Ministry of International Trade & Industry. It changed its name in 1992 from the Japanese Data Processing Association. Through membership of X/Open, the Users Association hopes to add its voice to the technical requirements gathering process which is input to X/Open specifications such as XPG4, while X/Open expects the Association to assist in the Xtra user needs survey and hopes to use the Association to influence large users to specify X/Open branded products in their tenders and internal specifications. The number of X/Open branded products in Japan is particularly small, and this was attributed to the lack of government guidance in specifying branded products in tenders, as well as lack of knowledge of branding on the user side. Currently worldwide there are 719 XPG3-compliant products and 202 XPG4-compliant ones.

OBJECT DESIGN READIES NEW TOOLS

Burlington, Massachusetts-based Object Design Inc and IBM are expected to announce the first fruits of their joint development alliance with ODI announcing two new database tools in the fourth quarter. First up is a bidirectional object to relational connectivity tool, called DB Connect - although that name might change on release, says ODI. DB Connect will allow ObjectStore, the company's object-oriented database, to interoperate with relational database management systems using schema mapping. According to the firm, this translates C++ object data schema into relational schema and vice versa. ODI will add SmallTalk support next year. DB Connect will initially be available for DB/2 with support for Oracle and Sybase to follow. The second tool, Performance Expert is a graphical performance monitoring tool for ObjectStore. The product, which was co-developed with IBM's German software labs, has been designed for developers configuring applications and parts of the database for distribution across a client/server environment. In concert with these two announcements, ODI is also readying version 4 of ObjectStore, which will include improved performance and concurrency enhancements, such as multiple readers and writers. IBM has a 20% stake in ODI, which it acquired back in 1992 (UX No 434) and uses ObjectStore as the reference platform for internal software development. Meanwhile, two other ODI investors AT&T and Intel Corp are also using ObjectStore. Intel is to develop manufacturing applications for internal use across the company and AT&T has some multimedia projects on the go.

IBM WILL SHIP POWER PERSONALS IN Q4

IBM Corp has always said it would ship its Power Personal machines - or whatever they will be called - in the second half of this year. And here we are in the second half. Andy Jawlik, IBM's manager of marketing communications at Power Personal Systems, bit the bullet in a CompuServe forum recently and said what some had suspected for some time - namely that for general availability "we're really looking to the fourth quarter". The smart money has been on Comdex in November for the formal announcement.

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The haemorrhage of talent from **Digital Equipment Corp** continues, and Gresham Brebach, a vice-president and head of the company's consulting business, is moving on to "pursue other interests," DEC reports. Meanwhile, UK chief executive Chris Conway becomes VP and general manager for the accounts business unit of Europe based in Geneva reporting to Vincent Damiani. The accounts business sits inside DEC's new computer systems division alongside personal computers and systems business.

With respect to our front-page story last week on the Sparc chip, the **Sun Technology Business** unit says that although the UltraSparc chip currently simulates 250 SPECint performance, compiler optimisation could raise it to the targeted 275 SPECint before it goes into initial production. Then again, it might not.

The Hot Chips conference is scheduled for this week August 14-16 at Stanford University. It'll feature the PowerPC 604, Power2+, Alpha 21164, 68060, **Metaflow's** Thunder Sparc, **Intel's** i960 J-series, the P54C and **Hitachi's** SH-2 core. Call +1 415 941-6699 or e-mail r.stewart@compmail.com.

The Parallel Architectures and Compiler Techniques get-together is scheduled for August 23-26 in Montreal. **Hewlett-Packard Co's** Bob Rau, who looms large now because of his VLIW background and the **HP/Intel** alliance, is supposed to give his personal views on the direction of instruction sets. Call +1 514 848-3081 or e-mail herbert@ece.concordia.ca.

Will miracles never cease to happen. **Cray Research Inc**, after beating its head against the wall since 1979, has finally been able to sell a publicly procured machine in Japan up against direct Japanese competition. A Cray C90 super-computer is going to the Tokyo Institute of Technology. It is also Cray's first sale to the **Japanese University Computing Center**. It goes in in December.

Max Henry, one of the co-founders of **NeXT Computer Inc** who bolted there for the presidency of JSB Corp, has pushed on again to become VP and general manager of **Information Access Company's** corporate on-line division. The company is a division of **Ziff Communications** and he will have responsibility for the sales units of the Computer Library and SandPoint Company, parts of the **Ziff-Davis Electronic Information Division**.

IBM Japan Ltd, which is working on a Japanese language version of Wabi along with **HP** and **Sun Microsystems**, is supposed to start selling the thing there within the year, according to Japanese wire services. **Hitachi, Sun, Fujitsu** and **HP** are supposed to ship the Japanese edition this fall. The wire services say IBM will bundle it on new PowerPC-based workstations.

IXI Ltd is putting its Solaris-only Motif 1.2.3 implementation up on other Unixes, beginning with AIX. HP, DEC and SGI ports will follow.

As of last summer, almost none of the 7,500-odd applications up under Solaris had either been developed or redesigned to take full advantage of **Sun's** Sparc multiprocessors by utilising Solaris user-level threads via the company's Sparc-Works/Impact parallelising tools and compilers (UX No 471); and that doesn't appear to have changed. "A lot of users but not a lot of product" was how **SunSoft Inc's** Developer Products Group described the situation.

SunPro came through the **SunSoft** reorg relatively unscathed as the Developer Products Group, actually picking up some additional development tools from SunSoft on the way. When Sun was creating its planetary system, SunPro says it chose the name SunSoft for itself but was beaten into orbit with the moniker by SunSoft boss Ed Zander.

Although layoffs as a result of the **SunSoft Inc** reorg in Europe have been kept to a minimum, **SunSoft UK** will in future operate out of just one site, the old Interactive Systems offices in High Wycombe, Buckinghamshire that it's occupied since Sun bought Interactive a few years back (UX Nos 492, 494). SunSoft staff at **Sun Microsystems Ltd UK HQ** in Bagshot, Surrey, will have to take other jobs within Sun if they don't want to relocate.

SunSoft Inc reckons that less than 10% of staff will be made redundant as a result of its European reorganisation. And, the only change in reporting structure, it adds, will be amongst engineering and product marketing staff in Grenoble. These will no longer report to Dennis Yaro at **SunConnect**, but to Jim Billmaier, who will head up a new networking business unit within SunSoft.

Meanwhile, it looks as though the change of reporting structure that **Sun's** planetary realignment was supposed to effect hasn't worked quite as planned in Northern Europe; consequently it's meant redefining some of the work of the units instead.

With DEC already under its belt, speculation a few months ago was that **SunSoft** was also on the point of winning **Siemens Nixdorf Informationssysteme AG** for its CDE implementation (UX No 480); although an eventual tie-up isn't ruled out it's not clear if the firms are still talking - SunSoft claims its not interested in generating a business selling CDE source.

As expected (UX No 499), there's lots of discussion going on about what to include in future versions of the Common Desktop Environment: **SunSoft** Developer Products Group believes stuff like common editors, debugging facilities and support for building CDE implementations across systems is required. Users are asking for greater PC-interoperability.

A bunch of companies, including **SunSoft, Wyse, Intel** and **Illustra** are to establish a joint venture with China's ministry of health to create a national computer information system.

Next month, **Novell Inc's** Robert Frankenberg is expected to clarify the strategic direction of the company following the **WordPerfect** acquisition. It's expected that a number of products will be dropped and the company generally streamlined. The announcement, expected at NetWare Interop in Atlanta, Georgia beginning on September 12th, may also see the unbundling of services from the operating system. Meanwhile, the long-awaited Unixware 2.0 isn't far away now, and should emerge by the end of October.

Sources claim it's Japanese sponsor **Hitachi Ltd** that must take much of the credit for keeping the **Open Software Foundation** alive. When **DEC, HP, IBM** and the OSF board were preparing to put out the lights it was Hitachi that reportedly argued the case to keep OSF going and convinced them to join in the final peace process with the goal of bring **Sun Microsystems, AT&T et al** on board. Hitachi still hankers after a unified operating system. Although the chances seem remote, it sees IBM and HP both moving down the OSF/1 microkernel road it and DEC have chosen. Indeed it's Hitachi and IBM that are responsible for funding much of OSF's microkernel development in Grenoble and New York, it says.

With UK industrial company **IMI Plc** selling off its **Uniplex Ltd** office automation unit to California company **CP Software Group** (UX No 498), rival Unix OA supplier **Quadratron Systems UK Ltd** (itself also no stranger to the market shake-up (UX No 491)) is hoping to make hay, offering Uniplex users a low-cost migration package to its own Cliq OA software. Trade-in prices are £1,570 for eight users (against £3,125 normally), or £7,260 for 64 users compared with £14,520.

We looked back in our dustiest files while preparing this 500th issue, and found out that the first ever subscriber to sign up for *Unigram.X* was David Thornley, then head of **Pyramid Technology, Europe**.

The Australian Unix User Group's AUUG '94 show in Melbourne is on September 7-9th.

You can now have your Internet address emblazoned on your licence plate frame for \$14 compliments of **DHM Information Management** in Redondo Beach, California - just don't try copying one down as you're cruising along the freeway.

Admitting that his style is intimidating to some employees, **Sun Microsystems Inc's** shoot-from-the-hip chairman, president and chief executive Scott McNealy told the *Wall Street Journal* that he operates an open electronic mail as well as an open-door policy, so that employees can criticise him without having to do it face to face: he says that some salesmen do tell him when he's said something dumb during a sales call, and insists that he makes it known that "I can't stand a 'yes' person or someone who won't tell you your fly is down - what good is someone who won't tell you your fly is down?"

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ENCINA FIRM TRANSARC CORP GOES TO IBM

IBM Corp has been threatening to make a string of software company acquisitions, and in a reported fit of economy, has decided to buy Transarc Corp, one of its investments, and operate it as a wholly owned subsidiary. Last week, the pair of them sidestepped any discussion of terms but IBM is understood to have had over 50% of the five-year-old venture when it was incorporated and reportedly dropped \$40 million into it at the time. It has probably put in considerably more since then as Transarc, which is tight with the Open Software Foundation and its Distributed Computing Environment (DCE) effort, has grown to a couple of hundred people. Despite industry estimates which suspect a lower figure, Transarc reckons its revenues are approaching \$20m. The company was set up to exploit development work done at Carnegie Mellon University on the Andrew File System (AFS) and produces client/server software for file sharing and transaction processing including the DCE Distributed File System and the Encina TP monitor. Encina, licensed by HP, DEC and Siemens Nixdorf, is also the base software in IBM's CICS/6000 TP software. IBM said the acquisition would leave Transarc's operations fundamentally unchanged and vendor-neutral continuing to supply its stuff across MVS, OS/2, AS/400 and AIX. However, it was also clear IBM will apply itself to developing new strategies, leading many to conclude Transarc's days as an independent operation are numbered. It could be absorbed into IBM Laboratories in Hursley, England, where its CICS work is done, or be otherwise disembowelled. Although Transarc resellers may benefit as a result, vendors that have adopted Encina are not likely to be cheering at the news. IDC believes Encina and CICS will be merged into a single tool for integrating heterogeneous environments, turning CICS into a client/server product and resolving some technical bugbears such as CICS/6000's performance problem which stems from mapping CICS to DCE. However, it is likely to cast a proprietary pall over CICS and IDC believes the move could drive many of Transarc's 800-odd customers into the arms of Novell's Tuxedo, the de facto standard, or even AT&T's technically superior Top End. It doesn't expect IBM's real challengers in this market, the distributed Unix database providers, to be adversely affected by the acquisition. A combined CICS/Encina will, however, allow IBM, DEC and HP to offer a common OLTP interface - in IBM's case running from PCs to mainframes. Although IBM also gets Transarc AFS with the acquisition, it's actually the emergent DCE Distributed File System that's always been the strategic mechanism for Transarc's technology. Transarc plans a major DFS marketing campaign in the autumn; IBM and Transarc will ship replication and some new systems management features in new DFS releases by year-end. Transarc claims 30 customer sites live with DFS (although many more have it as part of their DCE licences).

STRATUS PREPARES PA FAULT-TOLERANT LINE FOR EARLY '95

Stratus Computer Inc will roll out its long-in-the-making Precision Architecture RISC-based fault-tolerant machines early next year. The Marlborough, Massachusetts-based company's tie-up with Hewlett-Packard Co for the PA CPU goes back to June 1992, and there's been hardly a whisper on the hardware front since then. Stratus, now into its third generation of mainstream processors, will be hoping that it's third time lucky; having picked only losers in the microprocessor wars so far; it went from Motorola 68020 to 68030s, jumping the 88000 boat mid-voyage for Intel Corp's i860 and has around 7,000 installations. The new systems will run its FTX fault-tolerant SVR4 Unix and the proprietary VOS operating system. Its current i860 XA/R systems top-out at six-ways. The PA boxes will go further, but aren't expected to be pitched into the scalable system market where players are fielding machines with tens or hundreds of processors. The company claims that in the PA line it has all-but eliminated bottlenecks; Stratus employs a tightly-coupled, shared memory architecture which achieves fault-tolerance by duplicating memory. The new systems will be sold alongside i860s for some time, and come towards the end of a two-year effort which has seen Stratus attempt to redefine its business for the world of client/server computing, having already managed the decline of OEM business as a major revenue source. As it sees it, the problem of high availability has moved into new realms where customers no longer want just a fault-tolerant box - the technologies are well-established and available from a number of vendors - but are rightly demanding solutions to other problems like network management and distributed processing too. Stratus has bought into that world with the acquisition of distributed software house Isis Distributed Systems Inc (UX No 466), securities software house TCAM Systems Inc (UX No 500), and plans to spend more on other software and services providers. OEM sales accounted for 6% of its \$513m 1993 business, down from 41% of the \$343m it did in 1989 when IBM Corp was still peddling the stuff (Olivetti and NEC are its only top-line resellers now). Between 25% and 30% of its business is Unix - it sees no end in sight for VOS; its major FTX users are European telcos.

POWER PARALLEL WILL USE SMP POWERPC 620 NODES

Before IBM Corp's Power Parallel division delivers SP parallel machines using the envisaged dual-chip Power3 unit - the processor which has been given the working title of PowerPC 630 - it'll be offering symmetric multiprocessing nodes using 64-bit PowerPC 620s due in future RS/6000 systems. The PowerPC 620 SP nodes, not expected until late 1995 or early 1996, will follow the current Power2-based SP2 line and will be designated accordingly. It's unclear whether they'll exploit the processor's 64-bit design in initial configurations. If there is a 64-bit operating system environment to support the architecture - PowerParallels run AIX releases from the RS/6000 division on top of their own parallelised system software - IBM says SP2 users will be able to recompile for 64-bit if required, but these machines will in any case support 32-bit software too. Quite what shape or form PowerPC 630 and its system-level incarnations will eventually take is still too early to call, says Ben Barnes, assistant general manager of the Somers, New York-based unit. Meanwhile, although Hitachi Ltd's Data Systems units don't yet appear to have made clear decisions about carrying Hitachi-badged PowerParallels into the regions (UX No 500), IBM has already built Hitachi OEM quantities into its sales forecasts, citing the May agreement with the Japanese company which it says contains a clear set of PowerParallel volumes Hitachi must reach to fulfil part of their wide-ranging mainframe and PowerPC agreement. IBM will ship initial SP2 units to Japan by the end of the year where they will be used for internal Hitachi training and testing, before OEM units start to move through Hitachi channels in 1995. *More details, page 3.*

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OPENVISION WAITS ON CORBA, WILL TARGET TWO OR THREE ORBs...

Although it last year appeared to be sidling up to the DEC version of an object broker mechanism (UX No 464), distributed systems management house OpenVision Inc has unhitched its horse from any Corba wagon, and is now simply waiting (like the rest of the industry) for the train to finally stop moving. Apparently it had already started to do some coding when Corba 2.0 went through one of its many changes ~~of skin and it decided that it ought to stop until the thing becomes real. It expects to end up providing its current ONC-only architecture on~~ two or three brokers and knows it'll need to support future Distributed Computing Environment technologies; all DCE offers over and above ONC presently is security services, it says.

...finds moving applications to distributed client/server is harder than expected...

Meanwhile, with its chief technology officer Aca Lanum now engaged full-time on developing and monitoring the evolution of distributed standards and processes, the company says it's able to focus more on developing applications, using its own software, the technology of the nine companies and five products it has bought in little more than a year and a slew of new ISV relationships. To OpenVision's mind, potential users are typically coming to systems management solutions incrementally and they are wary of buying complete systems management solutions and are more concerned with solving individual problems - often with heavily customised solutions - although collectively, and over time, they may amount to more or less the same thing. In OpenVision's experience, users might move from solving network management, to network backup, distributed job scheduling and so on. It says the market hasn't matured fast enough to be ready for the kinds of solutions it originally envisaged, mainly because the task of moving applications to distributed client/server environments has proved much more difficult and time consuming than anticipated.

...collapses point products into four solutions bundles

OpenVision's new PointSolutions suite incorporates all of the company's former point products. Here, for example, volume manager, backup, migrator and hierarchical storage management have been combined into OpenV NetBackup. SuiteSolutions will be offered as a package of three or four OpenVision modules, plus consulting, for specific systems management problems, such as optimising database performance. SolutionsPlus will include OpenVision products enhanced for specific environments, such as Oracle Financials, PeopleSoft, SAP and D&B. OpenVision says it's in discussions with those firms. It didn't offer any product timescales, but said more details would follow by year-end. QuickConnect services will provide specific peripheral software to help users create systems management-enabled environments, mostly in the areas of LAN and network management and OpenVision has established a range of new alliances to provide these technologies. In ConnectLAN it will use Syntax and Network Computing Inc software to allow Unix servers to administer Unix and Novell, LAN Manager, NT and Macintosh environments. ConnectNetwork uses BridgeWay Corp's EventIX to link OpenVision's event manager to SunNet Manager, OpenView and NetView/6000. ConnectProblem Management uses Scopus Technology and Remedy Corp desk management software to provide enterprise-wide trouble ticketing. ConnectSW Distributor will use ViaTech Development's Xfer to distribute and collect software amongst heterogeneous networked systems. ConnectChange Management allows OpenVision's monitoring software to feed back into application life cycles through Softool Corp's Harvest application change management system. Up on SunOS, Solaris, HP-UX and AIX, ConnectLAN, Distributor and Change Management are from \$10,000 - the rest from \$15,000. CEO Mike Fields says no products or technologies will be dropped as a result of the consolidation, and expects the new product suites to generate as much as 75% of the company's licence revenues over the next financial year, with just 25% coming from point products. The Pleasanton, California company's OpenV*Environment event manager remains the backbone of its solutions, although the seven products that formerly made up its OpenV*OPSS suite of object services are now bundled into these solution bundles alongside other packages, services and consulting, indeed OpenV*OPSS will now only be offered through the company's consulting service. OpenVision racked-up revenues of around \$20m in the first full year of sales to the end of June, and claims around 1,000 customers. It recently attributed a round of layoffs - something like 10% of its population - to normal consolidation rather than the shortfall between projections and reality in its fourth quarter (UX No 496). OpenVision delivered three new products and eight enhancements over the year - it expects only enhancements and some combining of technologies over the 1994/95 timeframe.

GRAPHICS LIBRARIES; A MATTER OF STYLE?

Sun's implementation of the MIT PHIGS Extension to X (PEX), which has been an option on Sun boxes for 18 months or so, actually uses Sun's own XGL graphics library rendering mechanism to talk to the hardware, although that's all transparent to the developer. Sun defends its use of XGL for benchmarking purposes, saying that it's what most developers on Suns are writing to and that in any case it's faster than PEX. Most Unix graphics libraries share similar functionality, differences are mostly matters of style and other non-critical stuff, therefore graphics vendors stack their products up against each other according to speed, and as such are in all cases prepared to put a lot of work into wringing every last drop of performance out of a piece of technology. In Sun's estimation, with the possible exception of the MIT PEX effort, there's never really been an attempt to drum up common graphics library technologies COSE style, probably because graphics stuff is too niche and simply isn't a big enough issue. Moreover, even where specialised ISVs have got down to putting their applications up on a range of platforms using a common graphics library, say GL, there remain a whole bunch of operating system and kernel issues to resolve that are specific to each platform. Sun also explained to us how IBM and DEC tried and failed to incorporate immediate-mode graphics into the PHIGS graphical programming system, and turned to the Silicon Graphics Inc GL library as a result (UX No 500).

ALSYS HAS OBJECT VERSION OF ADA

Alsys Inc, San Diego, California, is offering ObjectAda, an object-oriented version of Ada 9X, which includes encapsulation, abstraction, inheritance and polymorphism, dynamic binding and support for the Latin-1 character set. Alsys has implemented a compiler switch allowing users to select Ada 9X features of ObjectAda or strict Ada 83 compilation to leverage the use of existing Ada 83 software. The Motif-based system includes the range of existing Alsys programming tools. ObjectAda supports integration with HP's SoftBench CASE environment and is up under Solaris from \$8,000.

IDE ADDS OBJECT-TO-RELATIONAL TOOLS

Interactive Development Environments, San Francisco, California, has added support for San Mateo, California-based Persistence Software Inc's object software-to-relational database integration tools to its Software through Pictures/Object Modelling Technique analysis and design system. StP/OMT users can now access Persistence's Relational Interface Generator, which can be used to create interfaces between application objects and relational databases. IDE says it sold 500 StP/OMT licences in the first six months of sales to mid-1994 and expects to do \$2.3m on the product in Europe this year.

UNIX INTERFACE DEVELOPMENT TOOL MARKET UP 65%

X Business Group says the market for Unix interface development tools grew 65% in 1993 to \$133m, up from \$81m in 1992, with North America accounting for \$63.6m, Europe \$53.3m and the rest of the world \$16.1m. The group says Integrated Computer Solutions, Visual Edge, VI Corp and XVT lead sales in their respective market sectors. Of the \$1,200m 1993 worldwide X industry, X terminals accounted for \$615.4m sales, services \$99m, channel margins were \$228m, PC X servers \$56.4m, GUIs/toolkits \$72m and interface development technology \$133m.

THINKING MACHINES TO BE DISMEMBERED AND SOLD IN PIECES

Paying the sorry price for being a pioneer too far ahead of its time, Cambridge, Massachusetts-based massively parallel systems pioneer Thinking Machines Corp is to be broken off and sold off in bits having filed for Chapter 11 bankruptcy protection from its creditors last week listing total assets of \$66.5m and total liabilities of \$35.7m. The filing was made because business for the company suddenly dried up completely after word got out that ~~the company was in serious difficulties. The firm's president Richard Fishman told *Reuters* he expected the company to be broken up and that bidders~~ for pieces of the company will be forming an orderly queue within days. Sun Microsystems Inc and AT&T Corp are known to be interested in parts of the company - its current line of CM5 machines are Sparc-based, and software and compilers are likely to be of interest to Sun. Thinking Machines had also reportedly talked to IBM Corp, but IBM demanded that it switch to the PowerPC and grant a free licence to some of its software in return for a minority equity investment - and Thinking Machines felt it was asking too much for too little. Fishman said he has had talks with 20 firms to form strategic partnerships since he joined Thinking Machines 10 months ago. "We got very close with a few of them. And unfortunately, it just fell apart in the last week or two," he said. He had hoped to raise \$25m from existing investors and a further \$25m from new investors. Fishman plans to resign

TATUNG SHIPS SPARCSTATION 20 SMP-

CLONES WHILE OTHERS ARE ANNOUNCING

Tatung Science & Technology Co says it is now shipping its expected multiprocessing Sparcstation 20-compatibles, the SuperCompStation 20A-502 MP and 20A-612 MP desktop workstations, and SuperCompServer desksides, which use dual 50MHz and 60MHz SuperSparcs respectively (UX No 492). The 20A-502 MP does an estimated 69 SPECint92 and 78 SPECfp92 on each CPU, or 2,833 SPECrate_int92 and 2,995 SPECrate_fp92. \$13,400 buys a system with 32Mb RAM, 520Mb disk, 20" colour screen and Turbo GX graphics. The 20A-612 MP is estimated at 88.9 SPECint92 and 102.8 SPECfp92 on each CPU, 3,903 SPECrate_int92 and 4,645 SPECrate_fp92. With 1Mb super cache per CPU, Turbo GX, 20" screen, 32Mb RAM and 1Gb disk the thing starts at \$18,400. Servers are from \$13,100 and \$17,100 respectively. Although other Sparc-compatible vendors, including Aries Research Inc, Axil Workstations and Integrix Inc, have each announced their own SparcStation 5 and SparcStation 20-compatible lines (UX Nos 497, 498), Tatung says the competition can't compete with it on delivery, claiming it's the only vendor that can fill orders for multiprocessing SparcStation 20-alikes right now. It says it's also now only around three months behind Sun on delivering new SMCC-compatible technology and points to its recent win against Sun at the US Los Alamos Labs (UX No 499), as proof of its ability. Although it may have long-term PowerPC intentions via its Taiwanese parent, which has already previewed an OEM-targeted PowerPC 601 prototype (UX No 491), Tatung says it remains committed to doing Sparc boxes. Indeed Tatung says the slower than expected performance ramp-up and delivery of Sun's Sparc CPUs, higher-than-anticipated pricing plus Sun's cloner strategy, has meant it's had to dig deeper into its pocket than it had anticipated when it began its Sparc development back in 1987. It doesn't intend to develop its own ASICs for Sparc aka Axil Workstations Inc and others. It argues the strategy is too costly for the length of time the stuff will be useful, although it admits such schemes do offer a useful degree of independence from Sun. The Sparc-compatible market is still growing, though not as fast as Tatung had hoped, but it says it's now happy with where the processor technology has got to; it's Sparc pricing that needs to be addressed. Although Tatung's PowerPC effort isn't likely to gain momentum until late 1995/early 1996 the US unit will have the option of marketing the technology, indeed it's already in the loop drumming up OEM contracts for its parent.

MKS REPACKAGES POSIX AND XPG TOOLS FOR SPEC 1170 WANNABES

Canadian Posix house Mortice Kern Systems Inc is offering to bring Unix and non-Unix operating systems up to the Spec 1170 mark with a repackaged version of its InterOpen Posix and XPG4 source code products and services. It's effectively honed a superset of its XPG4/Posix.2 commands and utilities (which alone accounts for some 51% of the Spec 1170 API set) and XPG4 terminal interfaces to provide conformance with key Spec 1170 APIs. Vendors will still have to put the completed work through X/Open Co Ltd's not inexpensive test suite. MKS is wary of saying exactly who it's working with given the competition amongst the vendors to be first out with a Spec 1170 OS, but it expects to tap its existing licencees - SunSoft has used its stuff for Solaris - especially the non-Unix OS crowd, where it counts DEC OpenVMS, HP MPE/iX, IBM MVS, OS/400 and Unisys CTOS as wins. Many Unixes are already close to meeting the full API set in any case, it admits, though getting them up to the mark, and putting them through the testing process won't be quick - MKS expects conforming products to be on offer in around six months time. +1 519 883 4346

immediately, and Richard Clayton, currently senior vice-president, will become acting president. The plan to file was accompanied by lay-off of about 140 of the 425 employees and more are to go soon. Thinking Machines said that while in Chapter 11 proceedings, it will "aggressively market" its technology through licences to other companies, and will maintain a small organisation to provide service and support for its 112 machines in use around the world. The assets for sale include a future parallel computer under development, its software development tools, and the Darwin data mining application that enables a massively parallel machine to search through enormous mounds of data to identify nuggets of underlying relationships. American Express Co uses Darwin and a Thinking Machines computer to mine credit-card data for new information about its customers. Thinking Machines lost \$20m in 1993 on sales of \$82m, and was last profitable in 1990, when it earned \$1m on sales of \$65m. One of the company's problems was that it was locked into a long-term lease for its headquarters, obligating it to spend more than \$40m in the next five years; it has not paid its rent for the last six months. "Together with our customers, we have opened a new frontier in computing," said Danny Hillis, chief scientist and leading visionary at Thinking Machines. "I am sad we have not been able to turn our technical successes into financial success, but I am proud of our team, our customers and what we have accomplished." Hillis told the *New York Times* that no matter what happened with Thinking Machines, he sticks to his original goal - building a machine that can think: "I still want to make a thinking machine," he said. "This is a setback, but building a fast computer was just a step toward that goal."

IBM POWER PARALLEL HAS ORACLE BETA SITES; OTHER DATABASES DUE

IBM Corp's Power Parallel division, which rolled out its Power2 SP2s back in the Spring, says its now got a handful of sites running beta implementations of Oracle Parallel Query; the database company is expected to make that version of its software generally available around the end of October. DB2/6000 parallel edition is out at beta sites and IBM has a user lined up for Navigation Server just as soon as Sybase Inc can deliver it; IBM expects that site to be up and running by year-end. It'll have a demonstration version of Informix OnLine Dynamic Server up in the first quarter of next year. It's still working to get serial versions of existing RS/6000 technologies, including NetView/6000 and CICS/6000 running in parallel mode. With some 40 commercial sites worldwide and 30 more on order, Power Parallel assistant general manager Ben Barnes reckons commercial interest in the technology is now approaching 50% of the unit's activity and overall it's currently receiving more interest than it can actually deliver. Barnes admits that it's only the support of other IBM technologies that allows it to operate successfully, observing that having to do all the design and development work is precisely the difficulty that is pushing other parallel system vendors to, or over, the brink.

HAWAII'S HIGH PERFORMANCE COMPUTING UNIT READY TO ROLL

Meanwhile, the Maui High Performance Computing Center officially opened in Hawaii last week: IBM Corp is providing PowerParallel SP2s for the center, which will support US Defense, government, education and industry research. There are currently 80 nodes of a 400-node system installed; the project has cost some \$22.5m to set up thus far. Classified research will be done on separate 64- and 16-way SP2s plus a 32-node SP1 which will be upgraded to SP2's Power2 CPU and provide the migration path for existing Power software to get up on Power2. The Center will be up to 70 staff by year-end from 30 now and by that time will have the complete 400-node system, making it and the Cornell Supercomputer Centre the largest Power Parallel sites.

DEC's EUROPEAN RESTRUCTURING FINDS IT WALKING ON EMPLOYMENT LAW EGGSHELLS

By Marsha Johnston

As yet, it is uncertain which regions of Digital Equipment Corp's worldwide business will take the brunt of the 20,000 job cuts it announced at the end of June. Some press reports have speculated that Europe, because it accounts for about 50% of DEC's non-US revenues, will suffer half of those. What those reports fail to mention, however, is that, although European sales total approximately 50% of DEC's \$8,300m in international revenue, it counts less than one third of its total staff. A Digital Europe spokesman in Geneva says the organisation counted about 24,000 staff out of a world total of 77,800. As a result, says Digital France's spokeswoman, "we are still trying to figure out what this means for us. Brad Allen, director of investor relations in Maynard, says the cuts will be "a function of the needs of the business in the various geographies, which means customer needs and, in part, the region's revenues and profit." Figures on precisely how much each country in Europe contributes to DEC's revenue are scarce; the only information available comes from Germany. Combined revenues for Digital Equipment GmbH and Digital-Kienzle Computersysteme for 1993 were equivalent to \$1,595m with a net loss of \$65m, compared with 1992 revenues of \$1,664m and a net loss of \$117m. Ultimately DEC will likely achieve the staff reductions in Europe it requires, but recent events with its unions in Germany and France demonstrate the increasing difficulty of the task in a climate where unemployment has reached critical proportions.

Intransigent union

A company spokesman is, in fact, optimistic, noting that the organisation has cut approximately 5,000 of 6,000 jobs that had been slated for elimination this year. "We have been working with the local works councils and social plans, so we know how to deal with that to achieve our goals," he said. Nonetheless, a more intransigent union leadership in France will require DEC's management to come up with alternative solutions to layoffs, and a pending court decision in Germany, if lost, will increase the cost of staff reduction considerably. Digital France had its first confrontation with the new union leadership early last month, when its plan for eliminating 446 jobs was annulled by a court in Evry, the suburb of Paris where the company is located. The court, called in by the union, found a lack of evidence to corroborate Digital's assertion that one third of the employees concerned had been given job reclassifications required by law. Daniel Guez, secretary general of the central labour-management committee at Digital France, asserts that the "reclassifications" were, in fact, never made; that DEC never intended to lay off 446 people, but only the 300-odd that it had laid off at the time of the court's decision. "By announcing that the restructuring involves 446 posts, it allows them to say they effected 30% job reclassifications," he said. In response, a Digital France spokeswoman says they were made and then cancelled at the time of the court decision, moving those people back into their original posts. The plan was similar to three others over the last five years; neither was it the largest - 1992 saw 630 jobs affected, with 380 actual layoffs. The difference, says Guez, is that the committee is now unionised and requires more stringent justification from management for job cuts. For the future, says Guez, the committee's modus operandi is "zero unemployment." Currently, the two groups are negotiating the adoption of a work-hour reduction scheme proposed by the Ministry of Labour.

Labour agreements

The programme would have DEC, the government and the employees sharing equally the cost of reducing Digital France employees' work week. "Approximately 3,000 people in France working four days a week instead of five would save 600 posts, and it costs them a lot less [than layoffs]," Guez said. Work-time reduction is one of several programmes the company is exploring to try and avoid layoffs, says DEC's spokeswoman. She adds, "I don't think anyone can predict that another social plan will necessarily be found in conflict with the French justice system and be taken before the court. The economic necessity of this last plan was not contested by the court." She acknowledged, however, that "the context in France is particularly touchy economically." Across the Rhine, Digital Equipment GmbH could also soon find a court invalidating its decision to cancel its labour agreement, which cost it \$253m in fiscal 1994. "We wanted to discuss with the works council a new social plan that we could afford, because the previous one was 70% higher compensation than the industry average," says company spokeswoman Theresia Wermelskirchen. German law recognises two different types of labour contract - a Tarifvertrag, which is between the employer and union members representing the national informatics industry, and a contract with works councils, which are elected associations of strictly DEC employees. As a result of its purchase of Mannesmann-Kienzle, Digital GmbH had both types of contract in house, a Tarifvertrag for Digital-Kienzle and individual contracts with the various regional work councils for Digital Equipment. Last year, says Wermelskirchen, DEC tried to exchange Kienzle's Tarifvertrag for the works council accords it had in the

other side of the company. But, given the threat of impending layoffs, its employees preferred the outside authority that is involved in a Tarifvertrag, and, thus, DEC's existing contracts with its works councils were incorporated into the Tarifvertrag. The hybrid Tarifvertrag, now covering employees at both Digital GmbH and Digital-Kienzle, contained the formula from the works council accords, dictating how much an employee would be paid on departure. That formula cost Digital Germany an average of \$125,000 for each departing employee in fiscal 1994, an amount it decided it just could not afford with the new restructuring requirements. The company may have thought it justified, but the decision was patently risky. The labour contract would have been in effect until the end of this calendar year and such a cancellation has occurred only one other time in German history, the spokeswoman said. Given the lack of precedent, the works council may have a bigger chance of winning the case, she said, adding that the company "is trying to negotiate a settlement before the court decision, but it's difficult." Since the end of fiscal 1993, the combined staff of Digital Equipment and Digital-Kienzle has dropped from 6,304 to about 4,800. It has targeted a reduction to 3,900 by the end of this calendar year, but that number is likely to be revised downward in the context of the new restructuring.

Aware of the costs

Some of the employees scheduled to depart this year had already signed under the previous Tarifvertrag, before June 30. "For the rest, people are waiting for the court decision. But, if someone negotiates now an agreement for, say one half of the previous package, and the court decides we have to stay with the old accord, they would get the rest of the money," she notes. In that case, she said, Digital GmbH would end up taking "a bigger share of the restructuring money that the parent company has set aside." Ingrid Ohmann, from DEC's law firm Droste in Munich, is more optimistic. "I think it's open because there is no federal court or even local court precedent on the legal consequences of such a summary cancellation. It's one reason why the union is not too anxious for a decision," she says. Ms Ohmann says Digital has a strong case for why it had to cancel the contract; it remains to be seen whether the court will allow the cancellation to take immediate effect. Allen says DEC has accounted for every contingency in Europe, even losing the lawsuit, so as not to be forced to make bigger cuts elsewhere in the world, such as the US: "We have looked at and are fully aware of the costs of restructuring in Europe and have taken what we believe are realistic assumptions in the geographies where restructuring activities will take place."

DATAMAN PITCHES SOLAIR SERVER WITH DUAL SUN/ROSS CHIPS

The UK unit of European Sparc-compatible supplier Dataman Computer Solutions Ltd, Wetherby, Yorkshire, is offering the Solair Server 800 with dual 51MHz, 55MHz or 66MHz SuperSparcs, or with HyperSparc modules incorporating up to four Ross CPUs. The dual 51MHz system is rated at 2368 SPECrate_int92 and 2828 SPECrate_fp92 - 5419 SPECint_rate92 and 6470 SPECrate_fp92 with 66MHz parts. It comes with from 64Mb to 1Gb RAM, two SCSI channels, 2 Mbus and 6 SBus slots, graphics card and monitor. Available now, prices start at £14,000 for the 51MHz model and £15,000 for the 66MHz version. +44 423 358226

HP CONTINUES TO WALK ON WATER AS SALES RISE 22%, PROFITS 28%

Hewlett-Packard Co continues to fulfil its fans' expectations, and the shares rose sharply, up \$5.375 at \$81.50 on the day the company reported third quarter profits up 28% on sales up 22% last week. There was 27% year-on-year order growth, gross margins were close to flat with those for the second quarter at about 37.7%. Net profits up 28.0% at \$347.0m on turnover that rose 22.0% at \$6,053.0m. Net profits in the nine months rose 27.7% at \$1,123m on turnover that rose 22.9% to \$17,989m.

UNCLE SAM THROWS CRAY A LINE

Colorado Springs, Colorado-based Cray Computer Corp may be saved from oblivion by Uncle Sam: riding to the rescue of the beleaguered supercomputer builder, the National Security Agency has agreed a joint development contract valued at up to \$9.2m for Cray to produce a Cray-3/Super Scalable System. The Cray-3/SSS will be a hybrid high-performance system that will offer vector parallel processing, scalable parallel processing and a combination of both, and under terms of the contract, Cray Computer will be paid up to \$4.2m for development costs, and the government will provide about \$400,000 in software consulting services. Cray will also have rights to use some government technologies. The project is based on a September 1993 feasibility study recommending a hybrid supercomputer composed of a Cray-3 and a large number of Processor-In-Memory chips, developed by the US Supercomputing Research Center; no doubt if Cray Computer survives and ultimately thrives as a result of this contract, in due course it will be complaining to Commerce that it is unfairly discriminated against when it tries to sell computers to the Japanese government.

ORACLE DIVESTS REST OF GUPTA HOLDING

Oracle Corp has ended its talks with Gupta Corp about a potential business combination between the two companies and Oracle has divested the remaining 2.4% stake of Gupta stock it held. Oracle said it decided that its best strategy is to complete development of a low-end client tool as opposed to acquiring a product for this market. Its internally developed product, code named Project X, is due for production delivery in 1995. The company's CDE product family will continue to be aimed at the mid-end to high-end of the client tool market.

"PICKING WINNERS STRATEGY WAS A MISTAKE"- JAPAN'S TRADE MINISTRY

Just as the Clinton Administration is trying to emulate the model established by the Japanese Ministry of International Trade & Industry to foster technological and industrial development, Japan is preparing to jettison that model, the *Wall Street Journal* reported. Officials at the mighty Ministry now say that design and construction of a \$750,000m national fibre optic network needs to be left to the private sector: without loosening government's grip on industry, "we will slowly lose our competitiveness," says a senior MITI official. "We are now a second class country and we may be downgraded to a third-class country if we don't change our policies," he warned.

SPANISH IT SALES SLUMP

According to the Software Publishers Association, the Iberian Peninsula turned in the worst software sales results in Europe for the first quarter of 1994. Packaged software sales in Spain and Portugal fell 22% on the same quarter of 1993, while the European market as a whole grew by 10%. The Iberian figures imply sales of around \$12m for the companies within the Association, which include Borland International Inc, Lotus Development Corp, Microsoft Corp and WordPerfect Corp. Italy's figures were up 104%, this being attributed to the measures adopted to prevent pirating. The effect of similar action which has been taken in Spain is yet to be reflected in any sales figures. Overall turnover in the Spanish information technology sector in 1993 was down 3.78% on 1992 to \$6,542m, compared with 1992's fall of 6% to \$6,799m in 1991. The gross domestic market fell by 4.98% to \$5,603m but exports managed to grow up 4.79% to \$938.58. The number of people employed by the information technology sector fell 5.56% to 49,995.

UTILITIES UNLIMITED TO SELL INTEL-ON-POWERPC EMULATION TO IBM OR APPLE

Back in June, a big stir was caused by reports that Lake Havasu City, Arizona-based Utilities Unlimited International Inc was working on a 80486 emulator for the PowerPC. It was billed as running on a Power Macintosh 8100 at speeds exceeding a 66MHz Pentium computers. The story was broken by *PC Week*, and the claims came from Jim Drew, the company's chief executive. Furthermore, the memory requirements were low, 1Mb for the emulator itself, plus the amount of extended memory desired on one's personal computer. Most of the emulation was said to be written in PowerPC assembler. Utilities Unlimited claimed its emulators were so clever that High Wycombe, Buckinghamshire-based Insignia Solutions Ltd's SoftPC 286 emulator runs faster within the Emplant Mac emulator than it did running native on a Macintosh.

Could it be magic?

Some people suspected it was all magic. Others pointed at the apparent slippage that had bedevilled a 80486 emulator the company is working on for the Amiga from West Chester, Pennsylvania-based Commodore International Ltd, which is in liquidation. However, Drew told the US paper the software would be ready in the late summer. Since then, he has maintained a trappist silence and no-one else at Utilities Unlimited can comment. There is one place where he does pop up and chat, and that is in the Usenet newsgroup comp.sys.amiga.emulations. Here Drew says he intends to concentrate on his existing Amiga business and hopes to sell off the iAPX-86-on-PowerPC emulation work. "I doubt I will own this technology for much longer. IBM, Apple, and a Japanese corporation are all bidding on the technology... I would like to stick to the Amiga," he wrote in a posting at the beginning of April. Unfortunately, he adds "I have seen/signed more NDAs [Non Disclosure Agreements] in the last two weeks than in my entire life". Exactly who he is talking to, he will not say, but apparently he met with IBMers working on iAPX-86 emulation on July 15 and will meet again on August 18 to continue emulation technology discussions. The IBMers in question are based in Austin, Texas, so they are either from Personal Software Products or the RS/6000 division. Drew also wrote that he was scheduled to meet with Apple Computer Inc in July, to discuss the same technology. Nobody from IBM Corp or Apple would comment. On the technical side, here is some more information to be gleaned from the Usenet newsgroup. The PowerPC work is supposed to be closely based on the forthcoming Emplant personal computer emulator Utilities Unlimited is working on for the Amiga, and consequently, Drew is adamant the PowerPC work will not be released before that version. However, he has not shied away from the late summer release date. The trickiest problem according to Drew has been emulating the 80486's various memory management modes. That appears to have been solved, since he says there is a completed 80486 engine. As for peripherals, Drew says there is emulation of SoundBlaster Pro for audio, standard analogue joystick ports, 8254 timer, 8272 floppy controller, 8273 DMA controller, 8042 keyboard+mouse controller, 74LS612 DMA page register and 8259 Slave controller. *Chris Rose, PowerPC News*

IBM SNA SYSTEMS ARM OF RAVAGED HARRIS ADACOM GOES IN MANAGEMENT BUYOUT

Winnersh, Berkshire-based Harris Adacom Ltd has been bought out by its three principal directors from its Israeli parent company, the Adacom group. Terms have not been disclosed but the buy-out has been privately financed by the directors Mike Baker, Rosemary Bensley and Martin Hoyle. Harris Adacom Ltd, a specialist in IBM networking systems, was one of the companies created last year by the division of Harris Adacom in the UK. The other company formed at that time was Harris Adacom Network Systems Ltd that earlier this month announced it had laid off nearly a quarter of its staff in an attempt to meet target revenue; it remains part of the Israeli group. The new company will be called HAL and plans to focus on the IBM Systems Network Architecture market linking desktops to mainframe. It starts live with £6m annual turnover and 24 employees and stays at Harris Adacom Ltd's offices.

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The weekly information newsletter for the UNDX™ community worldwide

The trouble with being perceived to be the best-run big company in the industry is that everyone wants to poach your people in the hope that they will bring your formula for success with them: **Digital Equipment Corp** has hired Wim Elfrink, formerly European marketing director for **Hewlett-Packard Co**, to be vice-president and general manager of the Personal Computer Business Unit's European operations, based in Geneva: he succeeds, and will report to, Bernhard Auer who has been promoted to lead the worldwide Personal Computer Business Unit.

Novell Inc said Robert Frankenberg, president and chief executive, was named to the additional post of chairman. He replaces founder and former chairman Raymond Noorda, who has finally stepped down and will now continue as a board member. Frankenberg joined Novell in April.

It turns out that the agreement between **Admiral Plc**, Camberley, Surrey and **Powersoft Corp** is rather more extensive than was indicated earlier, and the two are actually forming a joint venture for distribution and support of a range of Powersoft's software products: Powersoft has paid £2.1m for a 51% stake in the partnership company, which is based on Admiral's existing distribution and support operations for the Powersoft products.

Industry watchers believe **Apple Computer Inc** is working with partners **IBM Corp** and **Motorola Inc** to increase the performance of the PowerPC 603 processor.

Oceanport, New Jersey-based **Concurrent Computer Corp** has decided that its new Maxion R-series RISC-based multiprocessors will make ideal interactive multimedia servers.

Stung by a report in *Electronic Engineering Times*, **Intel Corp** said its strategy for its P7 generation of chips remains on track, including the possibility that **Hewlett-Packard Co** may contribute elements of the chip's architecture, and dismissed the report, which had suggested that P7 work was "petering out" in a re-evaluation of the strategy.

Motorola Inc's RISC Microprocessor unit last week announced its Peripheral Component Interconnect chip for the PowerPC, the MPC105 PCI Bridge/Memory Controller, promising volume in the fourth quarter, when pricing will be announced: the PCI interface module supports a 32-bit data address bus that operates at 20MHz to 33MHz and supports the PowerPC 601, 603 and 604 RISCs.

This year's **Unix Expo** extravaganza is going to have a Software SuperStore on the floor, which will offer attendees discounts on software developed by the show's exhibitors: co-sponsor for the initiative is distributor UniDirect Corp.

JSB Corp has found a replacement for Max Henry (UX No 500), promoting VP sales Robert Ferguson to president.

In Japan, **Sumitomo Corp's** Sumisho Datacom is offering a microSparc II "Sparc Card 5" board that upgrades PCs to a workstation.

Point taken. **Gradient Technologies Inc** observes that the PC element of **Open Environment Corp's** Encompass DCE application development system, which provides threads capability and asynchronous RPCs, isn't new to the market (UX No 499). Indeed OEC, like others, is using Gradient's PC-DCE support.

As well as selling itself to **IBM Corp**, **Transarc Corp** last week found time to announce it's going to integrate Locus Computing Corp's PC-Interface 5.0 PC-to-Unix connectivity tool into its Andrew File System release 3. Transarc will sell the Locus technology into its AFS sites which will provide access to AFS files from PCs.

Convex Computer Corp is shouting loud about a 32-way Exemplar parallel box running HP-UX which recorded 95,108 SPECrate_fp92.

NeXT Computer Inc is now shipping NeXTStep Developer 3.2 on HP workstations.

Wind River Systems Inc has tapped former IMP VP Graham Shenton from **Vantage Analysis Systems Europe** as managing director of its European division.

Sybase Inc has announced alpha versions of its Enterprise SQL Server Manager for administering distributed database servers from a single point of control, which is based upon **Tivoli Systems Inc's** TME distributed management architecture. Delivery is slated for early 1995.

Former leading Sparc-builder, **Solbourne Computer Inc**, now an Oracle Financials integrator, has been reduced to selling Sparc servers in the Denver, Colorado area, but says it'll expand to Santa Clara, California soon.

NeXT Computer Inc has re-hired a former employee, Sina Tamaddon, as executive director of professional services: Tamaddon was once regional sales manager for NeXT in Chicago.

First applications for **SunSoft Inc's** XTL telephony services are due late summer after XTL ships in Solaris 2.4: **Dialogic Corp**, **Newbridge Microsystems**, **Gensys Inc**, **Natural Microsystems** and **Linkon** were amongst XTL's initial acolytes.

Qualix Group Inc is picking up the third party software and peripherals **Silicon Graphics Inc** has been selling via its ExpressWare catalogue.

Los Gatos, California workstations peripheral supplier **Parity Systems Inc** has formed California Parity Systems International Pte Ltd with **Apex Technologies International Inc** to sell Parity products into the Pacific Rim countries. + 65 256 9746.

Unison-Tymlabs, until recently best-known for its HP MPE-based systems management software, has changed its name to **Unison Software**, which it says reflects its new focus on the Unix marketplace.

Nippon Steel Corp's Enicom is set to port AT&T's Top End OLTP system to Japanese Unix systems.

If it's still around by then, **Cray Computer Corp** plans to release the Cray 4 supercomputer next year. It is slated as a conventional multiprocessing vector machine with a common memory closely resembling its **Cray Research Inc** rival's C-90 and Y-MP cousins, doing 1,000 MIPS per processor: an eight-way with 4Gb memory will cost around \$4m from early next year. Seymour Cray says the Cray 5 will have 2,000MHz CPUs each doing 2,000 MIPS.

Dana Timbrook has been named VP of **Fujitsu Ltd's** new Cultural Technologies division. The name Fujitsu has put to its interactive and multimedia campaign for hearts and minds in North America. +1 408 456 7846

Ed Taylor's ever-expanding **Pencom Systems Inc** group, in Austin, Texas, has created a Pencom Systems Administration unit which will peddle all kinds of systems administration solutions, consulting and training: it's looking for 60 experienced staff. +1 512 343 666

Roel Pieper's **UB Networks** is offering version 2.0 of its NetDirector network management software for managing hubs, routers and switches across Unix sites. The suite of applications is integrated with HP OpenView.

The UK's **National Algorithms Group Ltd** will market and support **Silicon Graphics Inc's** Iris Explorer scientific visualisation software from first quarter 1995 when SGI releases Explorer 3.0. +44 865 511245

Computerworld believes **Sun Microsystems Inc** will be using the NetWare IPX/SPX protocol stacks it licensed earlier this year to begin positioning some Unix servers as PC NetWare LAN gateways.

The wires say **Yokogawa Electric Corp** will market **Cray Research Inc** SuperServers in Japan: the two already have a joint venture selling Cray supercomputers in Japan. And Cray has also won trading house **Itochu Co** to sell SuperServers in Japan.

As well as what's thought will be SMP RS/6000 Pegasus boxes, **IBM Corp** has some Power Objects software due at Unix Expo.

Motorola Inc's Computer Group, meanwhile, is expected to debut PowerPC 603 and 604 systems using VME bus technology, presumably from its recently announced 603 and 604 board solutions that'll probably allow users of its 88000 family servers to migrate up.

As well as bankrolling **Transarc Corp** to the tune of \$40m plus (see front page), it's understood **IBM** also dropped \$40m into **Tivoli Systems Inc** when it was coming into the world.

Stratus Computer Inc is fairly dismissive of its rival fault-tolerant builder **Sequoia Systems Inc's** pact with **Novell Inc's** Unix Systems group to help create a fault-tolerant version of Unix System V. It's interested to know if the two have any idea of what exactly is likely to result. God forbid that Stratus, an admittedly devoted Novell Unix licensee, were to end up paying a royalty for Sequoia technologies.

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DEC SHEDS FAULT-TOLERANT UNIT, SEQUOIA THE BUYER

The old order changeth with a vengeance, and three short years ago, Digital Equipment Corp was flying high, one of the most expected, and apparently one of strongest of the world's computer companies, while Sequoia Systems Inc was struggling to recover from the backwash from some over-enthusiastic order bookings and seemed unlikely to survive. Today, Sequoia is back and bustling, recently signing a technology pact for development of a fault-tolerant Unix System V with Novell Inc, while DEC looks as if it is on its deathbed. Now DEC is selling the work it has done on developing a fault-tolerant Alpha AXP machine to the Marlborough, Massachusetts company, which expects to reach a definitive agreement next month. It looks like Sequoia has found the RISC strategy it's been looking for since putting its Hewlett-Packard Co PA project on indefinite hold (UX No 450), saying it'll take over DEC's people and technology and maybe its existing VAXft 810 systems too, though the latter is still under discussion. Fault-tolerance hasn't turned out to be the core business DEC had hoped, it thinks clustering techniques will probably replace the stuff over time in any case. Analysts say DEC got only a handful of telco customers and a group of staff in New England working on fault-tolerance. Sequoia, who's whole business is FT, will pay cash for the business, and says its got telco companies asking for Alpha's performance. It plans to retain VAXft's Italian manufacturer, Alenia SpA, Rome, to build Alpha products for it. The two plan joint sales and marketing initially and DEC may write OEM rights into the eventual agreement. As originally conceived DEC's fault-tolerant Alphas are based on the VAXft's set-up, but run OSF/1 with the Habitat Unix SVR4 personality, claimed to run both types of applications. They supposedly have dual CPUs with 32Mb to 1Gb mirrored memory, up to 76Gb shadowed disk and 16 slots. The VAXft comes in 11 configurations across three families running OpenVMS. Sequoia will own all rights to the Alpha products, and takes over DEC's beta site customers. It's readying them for market as the Tradewind series internally. Sequoia currently markets the expandable 68040-based Series 400 (OEMed by Hewlett-Packard Co) and the one-to-four processor low-end Series 40 machine developed by Samsung Electronics Co which uses the 68040 plus additional ASICs. Sequoia insists Toshiba Corp is still readying a Sparc version of its fault-tolerant architecture for the end the end of next year which it will market outside of Japan. Sequoia is evaluating PowerPC as a 68040 follow-on part, but is readying interim enhancements for the existing line by year-end. Sequoia, which employs "N+1" - one more of each component - to achieve fault-tolerance, claims 300 installations and other deals in the wings. DEC, caught off-guard by Sequoia's public admission of talks (it says word was spreading too far beyond its small corridors) was keeping tight-lipped last week.

MAGNA OFFERS HIGH-LEVEL OLTP APPLICATION GENERATOR

New York city firm Magna Software Corp will this week hit the streets with what it's touting as the first high-level application generator designed specifically for client/server OLTP servers. First incarnations of Magna X will generate Cobol programs for Tuxedo (now) or Encina (in the fourth quarter). Cobol was chosen because MIS managers understand it, and because the system also provides access to mainframe applications and data. A C version is slated for mid-1995. Magna X, which sits between OLTP front-ends and the database, has three main components: a graphical system for designing the application and its relationships; a data definition facility to specify messages used (which can include several different transaction processing services); and the XPL (Extended Programming Language) source editor to build applications using Cobol-type English language statements. XPL includes the ability to encapsulate mainframe Cobol code - and therefore build mainframe CICS services which can be invoked from within an application - executing as part of a Tuxedo or Encina program. The system generates a Cobol stub for the Unix server and a Cobol mainframe program. XPL can handle encapsulated SQL code too. All three components store their data in tables in the user's relational database. Magna X doesn't use the unpopular Tuxedo/Host but says Encina's PPC gateway provides two-phase commit and XA compliance on the mainframe. Magna X can generate 3GL server code for Unix and MVS/CICS which is compiled and linked into executables: developers need no knowledge of C or of low-level OLTP monitor interfaces or of how the mainframe-Unix connections works. Desktop front-ends can be built in any Windows or Motif-based tool, including Visual Basic, PowerBuilder, Unify or JAM. Up on HP, IBM and Unisys Unices now, DEC OSF/1 and Solaris ports should be out by year-end. Oracle and Informix support is included now - Sybase follows. It has got a couple of US beta sites, is doing joint marketing with IBM and Novell and is looking for European outlets. Prices go from \$40,000 plus \$15,000 per development server up to a maximum charge of \$75,000. Magna reckons its aiming at a market of some 400 Tuxedo/Encina users now, in a market said to be doubling every year. Magna says the relational houses' move to replication servers is effectively an admission that they haven't been able to build robust, high-performing distributed databases. Since 1980, \$4m-a-year Magna has shipped 4GL report writers for Control Data and Bull mainframes. Its Unix expertise comes from a 1989 merger with Virginia firm Fairfax Systems and recently-acquired Tuxedo engineers.

POWEROPEN IS STRAPPED FOR CASH

PowerOpen looks to be in for a spot of bother over budgeting, a perennial problem for consortia. The founders are six months away from the end of their original two-year commitment and already there's whining in some quarters over the money. Both Motorola Inc and Apple Computer Inc, two of the three lynchpins in the PowerPC triumvirate, are said to be relatively indifferent to the goings-on at PowerOpen. At least the Motorola semiconductor group is, and Motorola is the one that kicked the thing off in the first place. Motorola is passingly interested in AIX 4.1 on its new "Big Bend" development machines, to be passed around to IHVs, ISVs and OEMs in order to kickstart PowerPC development, so maybe it'll wind up funding it through 1995. Or perhaps it will pass the torch on to the Computer Group which is understood to have a more abiding interest. On the other hand, PowerOpen might rekindle things when its products start rolling out. It is currently in the thick of certifying software packages and when we last looked still had a press slot scheduled at Unix Expo in October. Meanwhile, PowerOpen has picked up Gordan Kass, who used to be senior development manager, product engineering over at SunSoft Inc and responsible for Solaris 1.x and 2.x, as its VP, engineering.

SCO TO MOVE A MOUNTAIN BY NEXT SUMMER...

Reports from SCO Forum last week tell of a new Santa Cruz Operation Inc Unix release that'll combine some of the features SCO's been previewing over the last weeks and months (UX Nos 488, 498), and more. SCO Senior VP and Chief Technology Officer Doug Michels indicated the release, already more than a year in the making and code-named Everest, will appear by next summer. It's claimed Everest will offer "unprecedented reliability, better administration and management properties than any other Unix product, better standards compliance and will be more interoperable than other server products available." Portions of Everest technology, including the new easy-use administration system were on show at the Forum.

...AS IBM CONSIDERS WORLDWIDE SCO DEAL

Meanwhile, it seems IBM Corp maybe about to take on SCO as the next operating system in its OS armoury: Dave Nichols, director, Server Solutions, IBM PC Server business, announced that SCO and IBM were in negotiations to make IBM a world wide reseller of SCO solutions.

IBM LAUNCHES AIX 4.1, BUT IT'S STILL WAITING TO GET THE POWEROPEN STAMP

IBM Corp's new AIX 4.1 is the version of Unix that is likely to bear the PowerOpen stamp - once there is a PowerOpen stamp to stamp it with. IBM is characterising 4.1 as the most important rewrite of AIX since its launch back in February 1990. The biggest internal change is the addition of support for symmetric multiprocessing, but there are also simplified installation and packaging and a new graphical user interface, the first to be based on the COSE group's Common Desktop Environment. The release is also said to be compatible with any systems built to the PowerPC Reference Platform Specification. It is essentially the same package as will be available with the forthcoming Power Personal machines although the packaging details may differ. It currently comes in client and server packages. The client version requires a minimum of 16Mb of system memory and 128Mb of disk storage without graphics. An additional 72Mb of disk storage is required for graphic client systems. Any users wanting to run Macintosh applications, are going to be disappointed, however, there is no mention of Macintosh Application Services. Apple Computer Inc, which is developing Macintosh Application Services, says that the subsystem will be delivered around the same time as its own version of AIX - sometime in the first half of 1995. There are no details yet of how it will be marketed to IBM's AIX customers. So, is it compatible with AIX 3.2.5? "Largely", says the letter to users. Not surprisingly, applications that use undocumented interfaces to the kernel may crash and burn, but beyond that, most high function terminal IOCTLs are no longer supported. IBM X-input extensions are now replaced by the X11.5 standard input extensions; the communications IO LAN device driver interface has changed; SCSI device configuration methods have changed; the enlist interface has changed to match AIX 4.1 XCOFF format. Any application compiled on AIX Version 3 where the AIX shared libraries have been statically bound into the application may also refuse to run. Despite this scary-sounding list, IBM reckons that the vast majority of AIX applications will continue to run. The new release's symmetric multiprocessing capabilities are specifically designed to work with IBM and Compagnie des Machines Bull SA's forthcoming Pegasus symmetric multiprocessing box based on multiple PowerPC processors. And by the way, AIX 4.1 is not compatible with the existing SP-1 or SP-2 clustered RS/6000s, nor does it run on the N40 laptop from Tadpole Technology Plc.

IBM HAS A COMMON MODE COMPILATION FOR POWER RISC, POWERPC & POWER2

IBM Corp has produced a new set of libraries for its AIX compilers that will enable developers to build binaries on AIX 3.2.5 and the new AIX 4.1 that will run on PowerPC, Power and Power2 processors. Currently applications are all compiled in Power mode, which means that when the application is run on a PowerPC-based machine, AIX's old static libraries had to invoke a software emulation of the unsupported instructions. The new 'Common Mode' cuts out any emulation, by restricting the compiler to instructions present in all of the processor types - a lowest common denominator, if you like. The new software libraries are free for AIX 3.2.5 users and are bundled with the new AIX 4.1. The price paid for common compilation is the inability to optimise for the special talents of a particular processor. In general it is only floating point performance that will suffer from a common mode compilation. Integer mathematics is more or less unaffected. IBM says that the new Power2 instructions deal exclusively with floating point data, and in particular, double precision maths. Applications that perform computations on consecutive elements of double precision arrays, perform many square root operations or conversions from floating point to integer could suffer a significant performance hit if compiled in common mode, rather than Power2-specific mode. On the PowerPC side, the biggest impact would be on applications that rely heavily on single precision floating point code. New instructions deal with square root, convert to integer, cache operations and other privileged instructions, which are not compiler generated. However IBM says that performance of double precision floating point applications compiled in common mode can also be hit if they contain sufficient square root and convert to integer operations.

MTI ADDS NEW PRODUCTS TO ITS UNIVERSAL STORAGE LINE

Anaheim, California-based MTI Technology Corp, the last resting place of the former System Industries Inc, has announced two new products for its Universal Storage Architecture, MTI StorageWare and Stingray NFS Network File System implementation, and MTI Oasis data management software architecture, which enables migration between the VMS and Unix systems environment. MTI StorageWare is designed for multi-system heterogeneous computing environments and features a dual port architecture that enables two Fast, Wide Small Computer Systems Interface buses to traverse each StorageWare cabinet, offering redundant data paths for greater fault tolerance and performance, says MTI. MTI StorageWare's architecture allows for high availability through redundant dual porting. It also ensures input-output load balancing which in turn enables input-output to be distributed across redundant buses for better performance. MTI StorageWare is a storage system consisting of modular cabinets, SCSI storage device building blocks and network-host interfaces. Prices begin at \$16,315 for 14Gb in a Data Center Cabinet. Stingray NFS is a dedicated Network File System server and is MTI's first venture into so-called open systems. StingRay NFS has an average response time of 5mS, says MTI whereas, it claims, other Unix-based dedicated network file servers have average response times as high as 22mS. StingRay NFS connects directly to an Ethernet or Fibre Distributed Data Interface network and supports up to 27Gb in a RAID 4 array, using a single large Write Anywhere File Layout file system that can write to the first available open disk block in the cylinder, eliminating the disk seek latency common to some RAID implementations, says MTI. Entry-level systems with 64Mb cache, seven 2.1Gb disk drives and system software begin at \$39,000. MTI Oasis, claims MTI, is a full-bodied architecture that addresses the needs of a distributed client-server environment by providing centralised administration of the storage resource, automated library robotics, media management, back-up, archive and hierarchical storage. Says MTI, the MTI Oasis provides an enterprise-wide solution to data management by enabling multiple servers and clients to access and manage multiple tape libraries and optical jukeboxes across multiple heterogeneous, networked systems. MTI Oasis prices start at \$8,500 for Unix workgroup back-up.

SCIENCE APPLICATIONS INTERNATIONAL TO HELP SMALL SOFTWARE HOUSES

San Diego, California-based Science Applications International Corp is donating facility space and technical expertise to help small San Diego software companies get their feet off the ground. Science Applications is teaming up with the new San Diego Software Industry Council, Connect and the American Electronics Association to create the Software Resource Centre, which will provide low-cost access for small neighbourhood software companies to essential hardware and software development technologies that would normally be cost-prohibitive to them. The not-for-profit centre will focus on providing application development value-added services at minimal cost. Formed in 1993, the San Diego Software Council's first priority was to set up a testing and development centre and that is where Science Applications comes in - it is donating space for the new centre at its Wateridge Circle facility in Sorrento Valley. Science Applications provides systems integration, national security, energy, health, environment and transport professional services and products to government and the private sector. With \$1,670m in annual revenues, the employee-owned company has 16,000 employees at 250 bases worldwide.

NEC GETS VIDEO-ON-DEMAND SERVER FROM STARLIGHT

Where Fujitsu Ltd is developing its own complete video-on-demand system, NEC Corp is taking a short cut and licensing the video server software developed by Starlight Network Inc, Mountain View, California. Starlight's software runs on an iAPX-86-based server under Unix, and originally, back in 1992, supported only 20 users on a 50MHz 80486 machine. With the arrival of faster Pentiums, and work done on it by NEC, it now supports up to 200. NEC's system, to be available early next year, will be aimed at business customers to start with because of the low number of concurrent streams supported. The system may also generate demand at schools as a teaching instrument, NEC said.

SIEMENS TAKES MESHINE AS SP2-KILLER, UPS ITS PYRAMID HOLDING

To seal a deal under which Siemens Nixdorf Informationssysteme AG will OEM Pyramid Technology Corp's massively parallel Meshine and licence the San Jose, California company's parallel extensions to Unix, the Munchener is to increase its stake in Pyramid to 17.6% from 5.3% next month, with an option to take its stake to 24%. It will buy 2m shares at \$8.625 each - \$17.125m all told, and gets a 12-month warrant for 1.33m more at \$10 a share. It's not a prelude to outright acquisition - at least in the foreseeable future - SNI officials say, but it is a significant upgrade of the relationship that's ebbed and flowed over a nine year period. Apparently getting beaten-up all over the place by IBM Corp's PowerParallels, SNI will use Meshine as SP2-killers, especially in decision support and data warehousing-type applications. Insiders reckon SNI's lack of an open systems decision support solution has cost it some major account wins recently, tipping it into the deal, though Pyramid maintains IBM has no real production or prototype commercial SP2 installations yet. Turning the frighteners up a notch is the suggestion is that IBM may have as many as 600 sales people spread across its PowerParallel, RS/6000 and Large Scale Computing divisions, each one dedicated to selling SP2 to an individual corporate account.

A lucrative deal

The deal gives Pyramid a lucrative foothold in markets it would otherwise have difficulty reaching, plus cash, some of which will be used to beef up its marketing activities. Meshine, due mid-1995 is slated to accommodate up to 1,000 Mips Technology Inc RISCs and as such is expected to be compatible with SNI's existing 2-to-24 Mips CPU-based RM lines, some of which is based upon Pyramid's SMP Unix hardware. How much longer SNI will continue its relationship with rival MPP house, Kendall Square Research Inc is unclear. SNI says there's no change and that the KSR technology is intended for scientific research customers whereas Meshine is destined for commercial use. Pyramid sources, however, claim that in fact there's been very little going on between the two. SNI's Sinix operating system is already based on Pyramid's DC/OSX SMP Unix implementation. As part of the deal, SNI has licensed Pyramid's MPP extensions to it so it has access to kernel source, and will send engineers to San Jose to develop PCI bus support at the kernel level, functionality Pyramid will also offer once complete. Meshine uses Locus' Transparent Network Computing (developed in conjunction with IBM Corp) and CalTech's hypercube mesh-type interconnect. Now in beta with the likes of Oracle, Parallel Server will be the first database up on the system. Pyramid counts AT&T and EDS as existing partners and claims it's sitting on other OEM deals for Meshine.

- Pyramid Technology Corp says its coming up against IBM Corp's SP2 all over the place these days. The MPP Unix marketplace is most heavily populated by AT&T's Teradata machine, but there's no evidence of a move to the 3600 Teradata follow-on, the company says, and that similarly, nCube is noisy but not-showing.

- Pyramid says it's sold more Oracle Parallel Server on its Nile SMP Unix boxes than it had anticipated, and that 30% of the systems it sells are being clustered.

- In common with other industry currents, Pyramid believes that what Novell Inc is doing with Unix right now "is a step backward." It would like to see a more aggressive Novell, more API support, and says it's sticking close-by X/Open Co Ltd whilst this thing is worked through "reserving judgement" on whether Novell can really be the technical leader of Unix development.

ABC HAS LAN LICENSER FOR WINDOWS NT AND LAN MANAGER FOR UNIX

Dyfed, Wales-based ABC Systems & Development Ltd has announced that its LAN Licenser software package now supports Windows NT Advanced Server and LAN Manager for Unix. The product is a network management tool that monitors, and if specified, enforces the number of copies of an application that can be used at any one time, both from local hard drives of personal computer workstations and from the server, says the company. It now supports Windows 3.1, Windows for Workgroups and Windows NT on the client side and LAN Manager for OS/2, IBM LAN Server and DEC Pathworks at the server end of the equation.

ATRIUM RECASTS DISTRIBUTED PRINT SYSTEM "OUTWARE," SEES ONC, NT FUTURE

Atrium Technologies Inc, the little Texas company with Dazel, the Distributed Computing Environment-based print technology, is planning to relaunch itself and reposition its product as "outware." The company, which was started by Tivoli founder Bob Fabbio and is just about at the breakeven point, has recently gotten a round of venture capital reportedly worth \$3.5m to \$4m and wants to pull together a world class marketing team starting with former Power-soft marketing VP Doug Miller, a dyed-in-the-wool Texan who just joined in the same capacity. This week Atrium is supposed to announce that it's extended its technology to embrace the Windows desktop allowing PCs to access the DCE environment. Further down the line it will expand its environment further and move off of the Open Software Foundation's DCE exclusively to embrace Sun's ONC and eventually Windows NT, starting with an NT client. Atrium claims it is a more comprehensive solution than the HP/Bull print technology below.

HP AND BULL SIGN AGREEMENT TO WORK ON DISTRIBUTED PRINT MANAGEMENT

In one of the few co-operative agreements announced since Hewlett-Packard Co's President Mitterrand-foiled bid to take a share in Compagnie des Machines Bull SA, the two companies hve announced that they will co-operate on distributed print management. Bull and Hewlett-Packard will jointly market and support the newest version of OpenSpool, developed by the latter and augmented by Bull under the name Distributed Print Facility/OpenSpool. The latest release will be jointly owned by both companies; it provides central print administration, network-wide transparent access and fault tolerance on a variety of operating systems, including HP-UX, Bull's BOS 2 Unix, AIX, Solaris, MS-DOS and Windows and legacy systems.

XVT ADDS VISUAL PROGRAMMING, NEW C++ TOOLS

XVT Software Inc, Boulder, Colorado, last week announced a new visual programming tool dubbed XVT-Architect and new C++ features inserted in its XVT-Power++ application framework including the integration of Rogue Wave's Tools.h++. They combine to form release 3.0 of XVT's Development Solution for C++. Architect provides a graphical way to develop portable C++ applications. By reducing hand-written code and providing point-and-click interaction with the XVT-Power++ object hierarchy, it is supposed to make the in-depth functionality of the underlying application framework easier to access. It is used for the entire application development cycle, and includes three modules: Blueprint, a browser used to view the object hierarchy, Drafting Board, a graphical layout tool, and Object Strata, a way to view the class inheritance of an object selected from either the Object Strata or Blueprint. Architect, or actually the Blueprint module, also generates application code. User code shells and GUI code are generated separately, promoting a scalable design.

Power++ 3.0 enhancements

Meanwhile, XVT-Power++ 3.0 now includes portable images, portable native font access and a portable hypertext help system. Portable images provides for single graphic design of items such as toolbars, palettes and other bit-map images on all supported platforms, reducing time to port. Full palette control and pixel manipulation are available for up to 24-bit colour. Portable images can be drawn off-screen before displaying improving application performance. Portable native font access eliminates platform-specific coding of font control and the hypertext system maintains one set of source material for the help text used on all target platform. The integrated Rogue Wave Tool.h++, the library of data structures for C++ which also supports Microsoft DDE on Windows 3.1, will provide 100 classes for data, string and character manipulation. Supported platforms include Windows, NT, Mac, OS/2, OSF/Motif and Open Look. Power++ 3.0 is available immediately, Architect will ship with Power++ at no extra charge in Q4. Development Solution++ 3.0 is licensed on a developer-seat basis for \$1,950 on PCs, \$6,300 on workstations.

BIG BLUE'S BIG BLUE-PRINT - START OF A BRIGHT NEW ERA OR DEJA VU ALL OVER AGAIN?

By Chris Rose, PowerPC News

The announcement of IBM Corp's new Systems Technology & Architecture Division caused a few groans in the office. Some people remembered Systems Application Architecture, IBM's last big effort to produce consistent user and software interfaces across its mainframe, mid-range and PS/2 personal computers. Born in March 1987, it was grandiose, highly ambitious and... not the kind of thing that nice people mention any more.

SAA, like an old soldier, did not so much die, as merely fade away. Whereas SAA confined its ambitions to software, this time around IBM is attempting to rationalise both software and hardware development. The new division is purely involved in hardware, it is true, but back in May, IBM announced its 'Workplace with everything' strategy, designed to introduce a common software base across its entire range of machines. The two developments go hand-in-hand. So will the Workplace and Systems Technology & Architecture strategies suffer the same ignoble fate as SAA? Probably not. They are bottom-up technology efforts, rather than a desperate bid to paper over the cracks. There was always something that looked rather cosmetic about SAA: fundamentally different systems given a lick of paint and a sprinkling of new applications programming interfaces to try and make them look the same; developers in different divisions forced to obey design rules and goals that really didn't suit their machines' capabilities; people paying lip-service. Where the SAA edifice appeared to be little more than wish-ware when first announced, the Workplace and Systems Technology & Architecture announcements look like more practical efforts to formalise work that has been going on for some time. Most importantly, it seems that IBM is trying to ensure that the strategy actually helps those designing and building machines, rather than burdening them. The goal? To ensure that as far as possible IBM invents only one wheel. The new System Technology & Architecture Division will have 1,200 people on the payroll, led by Phil Hester, previously vice-president of systems and technology at the RS/6000 Division. However only a few of these (probably less than 100) will actually move to the Division's Austin headquarters. The vast majority will stay exactly where they are, designing processors or subsystems in the ES/9000 (Large Scale Computing), RS/6000 or AS/400 division. The result? A substantial population of workers in these units who suddenly are reporting to the central technology division, instead of their traditional bosses. That might cause some friction, if it weren't for the fact that the chief bosses themselves have been transported to the new set-up. The Division is divided into three parts. The vast majority of the staff will be reporting back to the section charged with consolidating processor and memory subsystems. This office is headed by Larry Tarnow, previously head of AS/400 systems hardware development and now vice-president of Microprocessor Development. Tarnow gets control of IBM's presence in the Somerset PowerPC design centre and AS/400 processor design (again PowerPC-based). He also finds himself holding the reins of the System 390 CMOS processor development. The second and much smaller part is the architectural standards office, with Richard Baum at the helm, plucked from the Large Scale Computing division, where he was IBM Fellow and assistant general manager.

Everybody freeze

Baum becomes vice-president of Systems Architecture & Performance. His remit is to "define architectural standards for all IBM server systems". So can we expect Baum's burly henchman, clad in sharp suits and dark glasses to go bursting into IBM departments brandishing sheafs of paper and yelling "FREEZE! From now on EVERYBODY uses 4.5" disk drives"? Probably not. IBM spokesmen are adamant that the divisions will retain control of their own architectures. The office will simply try to identify where parallel design efforts can be combined. It seems that, to start with, the architecture office will spend much of its time co-ordinating the development of the processor and memory subsystem work. However the extent to which it ends up working in an advisory role, or as an arm with real clout, remains to be seen. The third section, dubbed the 'program office' is in charge of developing the common plumbing; the power supplies, the cooling systems and input-output boards that all the server divisions need. It's under the control of Gerald O'Rourke, previously the engineering operations manager of the RS/6000 Division. The plan is that O'Rourke will build ad hoc, cross-divisional teams to design standard components that are usable across the whole range of systems, occasionally stretching right down into the client domain. For the first time in quite a while, IBM is formally trying to get its dis-

parate parts to work as a team. The same is true on the software side. But instead of producing a new, co-ordinating division, IBM stuffed all the working into the Personal Software Products operation, Workplace's original home. There is a new position, though, somewhat analogous to Phil Hester's - Dr Peter Schneider was named IBM vice-president of development, "responsible for co-ordinating the development of Workplace technologies and their incorporation into software products in all IBM divisions." Like Hester, Schneider reports directly to senior vice-president and group executive John Thompson. However the same announcement also stated that Lee Reiswig, Personal Software Products' president was in charge of "Workplace development and marketing efforts". Workplace developers in the Personal Software Products AS/400 and RS/6000 divisions all report to Reiswig's assistant David Schleicher. Ominously, the System/390 Division continues to do its own thing.

Nebulous Workplace

What exactly are Workplace technologies? As far as we can work out, the IBM definition goes thus: "Workplace technologies are any bits of system software which we think are really, really nice, will work well together and are objecty, in a distributed kind of way". Perhaps that is a little unfair, however, there are few terms quite so nebulous in the computer industry today. The parts that IBM likes to talk about most are: 1) the Workplace microkernel, based on Mach 3.0, which used to be called Workplace OS; 2) SOM and DSOM; the System Object Model and its Distributed extension which provide a flexible way of building object-oriented, distributed applications; and 3) A common look and feel. This is a tricky one, since we have recently been told that the Workplace Shell graphical user interface on OS/2 is not a Workplace technology.. Therefore there must be another Workplace graphical user interface hanging about somewhere (perhaps Taligent's People Places & Things metaphor?) There are probably some other Workplace technologies lurking somewhere, but we can't say what they are. Workplace may look a bit of a mess, but it does have a reassuring pragmatism about it: if there is a consensus that something is A Good Thing, it is dubbed a 'Workplace Technology.' and is spread around the systems. And as with the Systems Technology & Architecture Division, the Workplace push formalised work that was already going on. So, for example, the AS/400 and Personal Software divisions had already committed to using the Workplace Microkernel and various Taligent technologies - the announcement extended this formally into the RS/6000 camp. Similarly AS/400s, personal computers and RS/6000s will all be using the PowerPC chip by next year. But what about the mainframe? It is still looking lonely and out of place, despite all this work. IBM has stated baldly that MVS will not be moving to the Workplace microkernel. There are no plans to produce a System/390 based on PowerPC chips. Though the Enterprise Systems Division is working on larger parallel machine . using PowerPC processors, these will run a variant of AIX, not MVS. Well, on the hardware side, Hester's group will no-doubt find some way of rationalising mainframe technology a bit. This has already started with the move to develop CMOS versions of the System/390 processor. It is likely that the Systems Technology & Architecture Division will manage to design common memory cache architectures - or something else - that the CMOS mainframe as well as the other divisions will be able to use. No doubt, air cooled models, using the same chassis as large AS/400s or RS/6000s can be devised. And on the software side, there is a commitment to graft SOM and DSOM onto MVS. It will all help, but the fact will remain that the mainframe will be the outsider, forced to use different technologies to IBM's other machines. And perhaps here we have stumbled on a key difference between this year's announcements and those that characterised Systems Application Architecture. Systems Technology & Architecture and Personal Software Products are working with technology that is very much the product of the personal computer and Unix workstation community, whereas SAA was driven by the Enterprise Systems. Then the mainframe was central to everything, today it is peripheral. Perhaps that is a cause for hope.

ADOBE SETS ILLUSTRATOR 5.5 FOR SPARC

Adobe Systems Inc is readying Illustrator version 5.5 for Sun Microsystems Inc Sparc workstations, aiming to have production versions of the illustration and page design package ready in time for the Seybold show in November. Currently in alpha form, the release is built from the same code base as Illustrator 5.5 on Macintosh and shares the same functionality, although Unix versions of the software, unlike Mac and Windows releases, incorporate full PostScript interpreters for importing any PostScript file. Adobe's other Unix vehicle, Silicon Graphics Inc, is still driving on version 3.5, whilst Windows users are at release 4.0. Adobe has its eyes on the use of Sun boxes for producing technical publications and documentation with plenty of detailed technical drawings for commercial, corporate, government and retail markets. To back its two-horse Unix campaign it cites an RB Webber & Co report which suggests the Unix publishing market will grow to be worth some \$2,200m by 1995, from the \$767m it was valued at in 1992. By then it expects colour pre-press publishing to account for 34% of that market - up from 22% in 1992 - and document publishing to hold 66%, down from 78%. Adobe is aiming to create a common code base for each of its applications - *a la* PhotoShop 2.5 for Mac, Windows and Unix - though Illustrator will be a while longer getting there. Illustrator 5.5 runs under Motif in OpenWindows and will cost from \$1,000 for a single user to \$7,000 for ten users - upgrades are from \$300 and \$2,065 respectively. It requires a SparcStation 2 with an IPX processor or better, Solaris 2.3, 32Mb RAM and CD-ROM. Although Illustrator does provide some page design facilities, it isn't aimed at the document layout, Quark Xpress-type user. In any case Adobe will soon be able to count on its Aldus PageMaker acquisition to provide that class of product - it's likely to be up on Unix too. Adobe counts Corel Draw, Island Draw and Virtuoso as the Unix competition for Illustrator. It dismisses Island Draw as having no 24-bit colour support and Virtuoso as having no long-term future. It says its main rival, Corel Draw, isn't PostScript-based, has no PostScript engine, lacks comprehensive text-handling and is offered in an aging form (version 3.0) whilst Windows users get a much newer product (4.0). Unlike PhotoShop, Illustrator hasn't been rewritten specifically to take advantage of Sun's multithreaded operating system and SMP hardware as the package utilises existing floating point units. However Adobe says it was able to dramatically improve PhotoShop performance on Sun SMP boxes by rewriting the application using Posix user-level threads interfaces. The SGI version of PhotoShop isn't multithreaded as SGI doesn't support Posix user-level threads interfaces, Adobe says. Neither Illustrator or PhotoShop run on Solaris x86, which according to Adobe requires a whole new recompile, and doesn't have the volumes it requires in any case.

VOLUME EV5 ALPHAS DUE BY YEAR-END...

Informed sources say that on or about Monday September 12, DEC will announce that its EV5 semiconductor process has produced 21164 Alpha chips initially worth over 300 SPECint and close to 500 SPECfp, according to our sister publication, *ClieNT Server News* (UX No 498). The parts, which should start to sample in October in a 266MHz version, are regarded as a redesign of the Alpha architecture. The 266MHz variant should reportedly ship in volume by the end of the year. A 300MHz 21164 chip should ship in volume in the first quarter of next year. The silicon is a CMOS 5 quad-issue superscalar with 9.3 million transistors. They're likely to appear in workstations and high-end servers first.

...SON OF MUSTANG, 275MHz SABLEs DUE

Rumour now has it that DEC could announce its low-end 21064 "Son of Mustang," the box it's been putting together to replace the ill-fated 20166-based Mustang, in October, with delivery to follow shortly thereafter. Mustang was aborted when DEC realised the PCI-integrated 21066 was too low-powered and could not hold its own against the 90MHz/100MHz Pentiums on the integer side. Mustang in turn replaced Morgan which was to be 21064-based. DEC killed that idea a year ago and are now resurrecting it. Meanwhile, a 275MHz 21064-based Sable machine is also expected to be announced in the October time frame.

ICL NUTURES SCO RELATIONSHIP (AGAIN)...

Having steadily downgraded the status of its relationship with Santa Cruz Operation Inc beginning two or three years ago after it started to get heavy about its Sparc/Unix strategy and excited about the prospect of other Unix-on-Intel solutions, including Novell Inc ~~UnixWare, ICL is doing some pretty rapid bridge-building.~~ Further to its decision to offer pretty much whatever operating system the customer chooses on its latest TeamServer and SuperServer ranges (UX No 477), ICL is extending some of its popular technologies to the SCO-based platforms it offers, including High Availability Manager, the Content Addressable File Store-based (CAFS) database Search Accelerator and TeamOffice office automation groupware. All are slated for delivery on SCO-based TeamServers next year.

...AS SCO SIGNS DIGIBOARD FOR LAN/WAN CONNECTIVITY

Meanwhile, pursuing its pledge to develop new flavours of its SCO Unix, in this case for use as communications servers (UX No 473), Santa Cruz Operation Inc is teaming with DigiBoard Inc to work on remote access to LANs for mobile workers and remote offices. As a first step the two are to integrate their respective technologies, including SCO Unix, SCO Global Access Mosaic products and DigiBoard's LAN/WAN connectivity solutions. First fruits will apparently be a complete Internet access system using DigiBoard's ISDN, X.25 and serial stuff and SCO's Global Access.

SANTA CRUZ SLICE OVER PIZZANET

If you live in the Santa Cruz, California area, and if you really are that desperate, you can now order a pizza over Internet via PizzaNet, a pilot service created by SCO and Pizza Hut Inc. Any local Internet Mosaic user can access PizzaNet at Pizza Hut's Wichita, Kansas, headquarters, which, running on an Intel system with SCO Open Server, puts up a menu ordering system. The order is relayed from Wichita to the nearest Pizza Hut which will call first-time users for verification (and presumably to avert instances of pizza-flaming). Pizza Hut already runs its home delivery applications on SCO servers. *See back page.*

TANDEM, DRAGGED TO UNIX SCREAMING "OPEN IS DEATH"

After clashing with some of its largest telco users about the absence of a Unix strategy back in the late 1980s, the *Wall Street Journal* reports Tandem Computer Inc president James Treybig's initial response to the prospect of developing a Unix version of its proprietary Guardian operating system as "Open is Death." Now, with prices already slashed right across its traditional Cyclone line, Tandem's new Himalayas (still for the most part running Guardian) systems still come in at a third or a quarter of the price of similarly-performing Cyclones. It'll be late 1995 before Himalayas will be able to run Unix in any real sense, although it's gradually building open systems technologies on top of Guardian now. Tandem reportedly picked up 76 new accounts in its third quarter to June, selling some 500 Himalayas - twice the number it shifted in each of its first two quarters - with profit margins of some 8%. Meanwhile, the Journal also reports that four California state agencies are investigating state officials who were paid or hired by Tandem after they approved cost overruns on Tandem's failed four-year effort to upgrade the state's \$50m Department of Motor Vehicle computer system - even after it became apparent the project wasn't working.

NOVELL, LOTUS READY MOSAIC BROWSERS

Novell Inc is to announce a Mosaic-based browser of World-Wide Web (WWW) servers on the Internet, hears *Computerworld*. Novell will also provide support for Mosaic on NetWare, so that a LAN Workplace DOS client will be able to use the same front end to access either NetWare or an Internet Web server, says a source close to the company. Recent Novell acquisition Wordperfect Corp is also working on a Mosaic-based product, so the Web products could turn out to be an example of the synergy Novell is hoping for. Meanwhile, Lotus Development Corp also plans to integrate Notes with the Internet, and Oracle Corp and Sunsoft Inc are working on software to integrate their products with WWW.

Software Roundup

Microlink Technologies Inc, Davis, California has added a new TCP/IP file transfer package called NetWizard it says works with FTP and offers GUI, encryption, compression, access control, batch operation and firewall support in one package. On Solaris, SunOS and HP-UX it is priced from \$500. +1 916 757 1180

Red Brick Systems Inc, Los Gatos, California, is integrating **IRI Software Inc's** Express on-line data analysis software with its data warehouse products. +1 408 399 3200

UK company **3DLabs Ltd**, Egham, Surrey and San Jose, California, is supporting **X Inside Inc's** Accelerated-X, a high-performance X server on its Glint 3D graphics processor. Accelerated-X is designed to replace the X servers supplied with PC Unixes such as SCO OpenDesktop, Solaris or UnixWare. X Inside +1 416 762 3778. 3DLabs +1 408 436 3456

Relevant Business Systems Inc, San Ramon, California, is offering a new Informix 4GL-based financial and manufacturing control package called Infimacs. +1 510 867 3830

Saros Corp, Bellvue, Washington, is incorporating **Verity Inc's** text retrieval system into its document library technologies.

Freedman Sharp and Associates Inc, Calgary, Alberta, is offering PowerBroker, a tool for auditing the root account without knowing the root password, which also creates an indelible log of programs running as root. +1 403 264 4822

CogniSeis Development Inc, Houston, Texas, is putting its oil and gas exploration data processing software up on HP workstations.

IntelliCorp, Mountain View, California, has put its Object Management Workbench development system up on HP-UX. Already up under Solaris, the system uses Unix for development and Unix and Windows for deployment. +1 415 965 5500

Seattle, Washington-based **PageAhead Corp** is shipping version 2.1 of its SimbaLib development kit with support for ODBC 2.0. It allows vendors to develop ODBC drivers for any SQL application, the company claims.

UK firm **DataLogic Ltd**, New Malden, Surrey, is offering **Bellcore's** SysGuard Unix security management and Pingware security testing software in Europe from £5,000 and £8,000 respectively. +44 81 715 9696

KL Group Inc, Toronto, Ontario, has a new version of its XRT/Graph widget for Motif; its library is 15% smaller than previous releases and has new zooming, rotating, scaling and axis controls; full C++ API; improved shading and is priced from \$2,000. +1 416 594 1026

Princeton, New Jersey-based **OMR Systems** has ported its multi-currency Trading Assistant global trade processing software to Solaris and signed a VAR contract with Sun Microsystems Computer Corp to sell and support Sun workstations and servers integrated with its software. It is aimed at the treasury and capital markets departments.

Now **CNT/Brixton Systems Inc**, Cambridge, Massachusetts has put its SNA connectivity software up on UnixWare.

Although **AT&T GIS** has sole responsibility for future versions of **Microsoft Corp** LAN Manager for Unix - the so-called Pegasus implementation - **Bull HN Information Systems** has begun selling its version of the current 2.2 release on **IBM Corp's** own RS/6000s; it's offered the software on the RS/6000s it rebadges as the DPX/20 line since last year.

OOPS! What we meant to say was that **US West** the telecommunications company, not **US West** the airline, has signed for **IXI Ltd's** X.desktop on its workstations (UX No 499).

Informix Software Inc has announced availability of Informix-Gateway DRDA 6.1 to support IBM databases.

The **Microsoft Corp** FoxPro 2.6 relational database will ship on SCO Unix and Xenix this month from \$1,350: FoxBase+ users can upgrade for \$550.

VMark Software Inc, Framingham, Massachusetts, has an ODBC driver for use with its HyperStar client/server connectivity tools.

ParcPlace Systems Inc's much-anticipated VisualWorks 2.0 SmallTalk development environment is now shipping (UX No 484). In November, the company will ship a freebie graphical data presentation system for 2.0 it says allows charts and graphics to be incorporated into VisualWorks applications.

Lynx Real-Time Systems Inc, Los Gatos, California, is offering a 10-user cross-development environment for embedded PowerPC 603 system development hosted on AIX, including the LynxOS real-time Unix and licenses for two target systems from \$45,000 now. A PowerPC 604 version will be available by the time the chip ships in volume, the company says.

Mainframe house **Genesys** is readying a Unix server/PC client version of its personnel and payroll system based upon **Sybase** System 10 for the Autumn.

Magic Software Enterprises, Irvine, California, has an Informix gateway for the Magic 5.6 client/server development environment and is up on DEC Alphas with a new RMS gateway. +1 714 250 1718.

Digitalk Inc is integrating its Parts toolset with **Softlab GmbH's** Maestro II development environment. The firms hope it'll allow developers to bring legacy applications to Unix. Maestro will identify re-usable components of legacy code - Parts (Parts Assembly and Reuse Toolset) wrapper technology will create GUI desktop applications out of it. SoftLab Inc: +1 404 668 8856. Digitalk: +1 714 513 3000

Tandem Computers Inc is putting **CaseWare Inc's** software configuration management up on its fault-tolerant Unix line.

Atlantis Software's stock and securities analysis software is up on **Cray Research SuperServers**. +1 415 321 4825

Liant Software Corp, Framingham, Massachusetts has put its Open PL/I mainframe-to-Unix application migration system up under DG/UX.

ParaSoft Corp, Pasadena, California, has a new release of its Insight++ C++ debugger from \$1,500. +1 818 792 9941

Unify Corp is shipping its Vision object development tool for **Informix Corp's** OnLine Dynamic Server 6.0 from \$4,000 for a development license.

Novell Inc has French, Spanish, German, Portuguese and Japanese language versions of its DOS-to-Unix LAN Workplace 2.4 and NetWare-to-Unix LAN Workgroup 4.2 TCP/IP-based connectivity software.

Fault-tolerant Unix hardware manufacturer **Sequoia Systems Inc** has licensed **Liberty Software Corp's** Open Database Connectivity software to enable its customers to access Pick databases using **Microsoft Corp** applications. Sequoia has the right to optimise and enhance the software, which is available now, for its own systems, although pricing has not been finalised.

El Segundo, California-based **Inference Corp's** CasePoint customer service software is up on HP-UX from \$1,300.

Already working on an **Oracle** version of its database query tool which requires no SQL programming (UX No 485), French firm **Business Objects SA** has now won the attention of Oracle rival **Sybase Inc**. Sybase will be using BusinessObjects internally as its end-user query and reporting system from the end of the year.

Folsom, California-based **CP Software Group's** **InText Systems** say Unix versions of its PC-based InText cross-platform system for linking and retrieving text and documents - including CP's Island's Write, Draw & Paint - will be available by year-end.

Version 4.0 of **Keyword Office Technologies'** Windows-based Keyview document viewing and conversion system now supports **Lotus Notes**: Keyview allows users to see and print a range of WP, spreadsheet and graphics files sent over e-mail in their original formats, even if the user doesn't have the application that created it, including Unix. +1 403 250 1964

AT&T International and its **Gobal Information Solutions** unit are to use **PeopleSoft Inc's** personnel software to manage 53,000 non-US employees; in addition to the 31,000 domestic staff already administered by PeopleSoft HRMS. PeopleSoft is embedding **MITI's** SQR database reporting system in all of its software.

Banyan Systems Inc will use HP OpenView for Windows for all of its future Banyan Vines management applications; HP will support the Banyan IP protocol in OpenView for Windows from late this year.

Bridge Technology Inc has moved its DB2-based Bridge/Fastload software for moving large amounts of host-based data onto a database LAN to Sybase. +1 617 424 6266

HP WILL OFFER DISTRIBUTED NETWORK NODE MANAGEMENT IN OPENVIEW 4.0

Last November some of the largest OpenView users got together and drew up a shopping list of stuff they wanted to see Hewlett-Packard Co implement in its network management environment. HP's OpenView programme manager, Gordon MacKinney, says the company will begin delivering the first of those requirements next June or July with the release of OpenView 4.0. On top of the user demands list is the ability for OpenView to support and manage a much larger number of sites, or nodes, than it is currently capable of. The problem, as described by MacKinney, is that even with polling rates set to minimum time frequencies, say once every half an hour, a central management site is generally only able to cope with network information generated by a maximum of four or five thousand nodes. Some users have networks with many more nodes that need managing.

Distributed managers due next year

Next summer HP will begin offering a distributed version of its network node manager so that the collection of network information can be off-loaded to satellite sites, freeing-up resources at the central site. The distributed managers will feed information back into a common database of network information - HP's recently announced Meta-Schema data repository (UX No 500), also due next summer - at a central site, which will synchronise collection operations. MacKinney believes central site resources saved by farming-out much of the leg work of network information collection - which he claims will also filter out as much as 99% of the "junk traffic" - should allow tens of thousands of network nodes to be supported in a single management topology. HP also plans to offer a mechanism for distributing OpenView's user interface processes so that operators in different sites can access the same network displays to monitor and review status information. Users, meanwhile, are calling for other improvements, such as better automatic detection, recognition and mapping of networks that are added to a system, report generation, relational database connectivity, SNMP remote network monitoring support and Japanese language support. Now up on HP-UX, Solaris, AT&T and a range of other platforms, HP is promising support for other Unixes down the road - RS/6000 and DEC versions would make sense - plus its anticipated Windows NT OpenView implementation by end of next year.

HEWLETT ADDS ENHANCED RELEASE OF HP-RT FOR 9000 743

Hewlett-Packard Co has a new release of its HP-RT real-time operating system for the HP 9000 743rt VMEbus single-board computer introduced in June. The enhanced computer is aimed at emerging applications such as multimedia, as well as traditional applications such as hospital intensive-care systems. It is designed to provide data and control functions for manufacturing, automotive, telecommunications, aerospace, medical and laboratory applications that require faster computer systems that deliver predictable real-time responses. The Model 743rt is a 6U VMEbus single-board computer using the 7100LC Precision Architecture RISC at 100MHz, making it 90% faster than the old 742rt and is claimed to combine the responsiveness and functionality of a real-time kernel with the ease of use and cost benefits of Unix workstation. HP-RT 2.0 is designed to co-exist with HP-UX, providing a real-time front-end engine to perform time-critical input-output functions while the HP-UX system provides the graphical user interface and data-server functions. Hewlett rates the machine at 77 MIPS and 25 MFLOPS clocked at 64MHz, 121 MIPS and 37 MFLOPS at 100MHz. It costs \$4,355, the HP-RT Developer's Kit is \$10,000, VME Backplane Networking is \$1,500, OTSrt is \$3,000, STREAMSrt is \$2,000; they ship immediately.

HEWLETT OPENS JOINT LAB WITH SYBASE

Sybase Inc and Hewlett-Packard Co have now opened their planned engineering laboratory for very large databases. It operates at Sybase's site in Emeryville and Hewlett's in Cupertino and will enable the pair to integrate HP 9000 Series 800 Unix business servers with Sybase SQL Server for handling Terabyte-class databases. The laboratories are jointly staffed by Sybase and Hewlett-Packard engineers, and use customer applications and data as the basis for database research and integration testing.

UNISYS TO UPGRADE TOP-END SEQUENT MULTIPROCESSORS

Sequent is set to expand its OEM relationship with Unisys, and has outlined a future hardware strategy which will see it merging its Winserver and Symmetry lines. Unisys currently takes the Symmetry 2000 line as the basis for its U6000 Model 75 and 85s, but now plans to replace them with Sequent's recently launched Symmetry 5000s (UX No 484). Unisys' UK subsidiary will now work direct with Sequent rather than through its own US parent, so that the two firms can work more closely on services. Sources within Sequent also said that Unisys will be rebadging the NT-based Winserver machines, which Sequent itself OEMs from Tricord Systems Inc. This wasn't confirmed by Unisys. Sequent is still planning to merge the Winserver and Symmetry lines as it said in October (UX 458), placing a hardware abstraction layer between the operating system and the CPU - it should have had this work completed last month. Meanwhile, company sources deny accusations that NT isn't selling, claiming that it has sold "multiple-box" Winserver installations into 15-odd UK accounts, but adds that NT still can't scale up to 30 processors. Unisys' own Intel development should yield the U6000 Series 500 Model 80 - an eight-processor Pentium box to join the five-Pentium Model 50, by the end of the year, said the firm.

NOW INFORMIX HEADS FOR TIVOLI

Following Oracle Corp (UX No 483) and now Sybase Inc like a shadow (UX No 501), Informix Software Inc has taken itself off to Tivoli Systems Inc and will embed the Tivoli Management Environment in its parallel database, OnLine Dynamic Server to provide distributed database administration.. An integrated product is due in the second half of 1995 which will allow administrators to manage multiple Informix servers. Informix has also licensed Tivoli's development system to build distributed applications.

EASEL MAPS OBJECTS TO RELATIONAL DATABASES

Burlington, Massachusetts firm Easel Corp has added what it calls "persistent object mapping" to its Synchronicity tools for managing collections of objects. It says the new 2.0 release removes the need for developers to write specific SQL code for allowing object models to access relational databases. Synchronicity - formerly Synchrony - is part of Easel's Object Studio object development system and works with its Enfin SmallTalk and GUI development environment. The software stores mapping between object models and relational databases in an atlas; Synchronicity-generated object request brokers uses the atlas to link objects and data automatically, Easel says. Changes to either the object or relational models are also made to the atlas. The tools can generate SmallTalk object classes from database entities - class attributes can be mapped to relational items. Version 2.0 has an object query builder, object cursor editor and SQL editor. Windows versions are from \$5,000.

PARALLAN SEEKS POST-IBM FUTURE

Parallan Computer Inc, jilted by IBM Corp back in July (UX No 499), has cut its staff by more than 50%, eliminating all positions outside a newly-created server software business unit and an acquisition search team. Parallan has created the new unit to focus on potential OEM customers and licensees for its value-added server subsystems, and with \$36m in cash and marketable securities, is looking to diversify by buying one or more high-technology companies. The Parallan product line currently includes a remote management system, a multi-channel RAID-5 disk array subsystem, and an automated server software installation and configuration system.

HP CLAIMS NO 1 MAINFRAME FOR UNIX SOFTWARE REWRITE SPOT

Yes, but we kind of knew that already, didn't we - you only had to look at the company's figures: Hewlett-Packard Co is the number one choice of leading software companies that rewrite mainframe applications for Unix, according to Aberdeen Group which has done a report called "Mainframe ISV Software: Transitioning to Unix Servers with HP. It finds that "most mainframe software companies entering the market for Unix system-based servers - including Computer Associates, IRI, SAG and SAP - derive more revenue from Unix system-based software for HP's computers than from those of IBM or Sun, the nearest competitors," the report says.

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Novell Inc has now done its sums and decided that it needs to shed 1,100 jobs worldwide in the fourth quarter to October 30, when it will take a big hit to cover the cost, and an additional 650 in the first quarter of fiscal 1995 as it completes the process of consolidating Novell with **WordPerfect Corp.** Of the total 1,750, 400 cuts will be in field offices, 700 in corporate functions, and 650 in duplicating. Its restructuring is due on the 12th of next month.

AT&T Global Information Solutions has won a monster contract with Delta Air Lines, agreeing in principle to form a joint venture to provide computer services to Delta - effectively handing its operations in the computer area over to the AT&T Corp unit; under terms of the agreement, Delta will buy an estimated \$2,800m in technology products and services from the joint venture over the next decade; the joint venture will also market and sell computing and communications systems to others in the travel and transport industries, excluding only airline and travel agency computer reservation systems.

A change in command is taking place over at **AT&T GIS Large Computer Product Division** with VP Bill Eisenman pushing on to take over Global Support, replaced by Bruce Armstong.

On the lighter side, the exhibitors-only show party hosted by **Unix Expo** this year will be the occasion of a fancy dress contest. Everyone is to come dressed as their favourite nerd or as themselves whichever is nerdier. The winner of the "Best Nerd Costume" will get two tickets compliments of American Airlines to any place they want to go in the "Lower 48," an appropriately nerdy destination. The party is Wednesday night October 5. Circle it in red on your calendar. There will doubtless be side bets placed as to whether the winner is actually in costume.

UniMicro Systems Inc, the little Sparc cloner that now has Korea's 29th largest conglomerate **Haitai Electronics** backing it, is working on a Sparcstation 20 prototype it expects to have ready in a couple of months. Its version, however, will have Turbo GX rather than 24-bit graphics. Although, as it says itself, its version of Sparcstation 10 was relatively "anonymous," it figures it can sell 2,000 units of the 20 in its first 12 months out, mostly in Korea and Europe. UniMicro is also doing a line of NT-on-Mips boxes.

Brother, when we goof, we goof. Contrary to what we reported last week, **Tivoli** didn't get \$40m from **IBM** when it launched. Initial investment came to \$3.5m from three venture capitalists, Kleiner Perkins, Matrix and Austin. IBM wasn't even in on it.

They say the Components operation at **DEC** is an unsung hero, having done better than systems.

Challenged to get specific about its plan to develop a fault-tolerant Unix SVR4 with **Novell Inc**, **Sequoia** says the project is just one of a number of new generation Unices Novell is working on.

OSF is holding a jobs fair next month, hoping to drum-up interest in some employment opportunities for the engineers it's losing in the re-org, PST and outsourcing programmes. It's got a DCE Developer's Conference in Boston this week.

The **Micrografx Chilli** for Children Cook-off, the Comdex-staged industry charity benefiting missing kids, should be a raging success this year having snared country music legend Willie Nelson as its headliner. It's scheduled for Tuesday November 15 starting at 6pm with the concert set for 8:30.

Silicon Graphics Inc got its flying visit from President Bill Clinton, **Sun Microsystems** got one from California Governor Pete Wilson when it opened its new 57-acre office complex in Menlo Park, to house 3,500 staffers.

Rebel Brown, past director of marketing at **Unix System Labs** and now erstwhile director of business development at **OpenVision**, still the most highly leveraged start-up with \$68 million in VC money to its credit, is turning up her nose at offers to steal her away and striking out on her own to set up **Cognoscenti**, a new-style market strategy outsource focused on NT and Unix. She's good, call before she's all booked up +1 415 961-9828.

Prudential Securities now figures **Intergraph** will lose \$1.25 a share this year or \$56 million and just about break even in 1995. It had reckoned on a loss of only 75 cents a share for '94 and 30 cents a share profit next year. The brokerage house recommends holding the stock and says it finally sees a glimmer of light at the end of the tunnel in part because of the big government contracts **Intergraph** won recently. It also cites gradually increasing NT sales as offsetting the eroding margins on hardware as the last Clipper boxes sink from view.

If **Compagnie des Machines Bull SA** and **IBM Corp** have finally stopped their bickering, then it looks like Bull will get first bite at introducing the initial symmetric multiprocessing PowerPC technology it's been developing at IBM's behest when it debuts the Pegasus technology in London on September 21. IBM's expected RS/6000 implementations of the PowerPC 60/1604 technology in one-to-four processor configurations is slated for the first day of Unix Expo on Oct 4.

The widely-reported rapprochement between Robert Frankenberg and Bill Gates will include wide-ranging information sharing, possibly covering NetWare 4.1, UnixWare 2.0 and Cairo.

Europeans were the largest single group at the 8th annual **SCO Forum** at the University of California at Santa Cruz campus last week.

SCO now claims a 62% market share on Unix-on-Intel, and say it's the number one Unix server supplier with a 37% market share. In 1993 **SCO** shipped more servers than **IBM, Sun, HP** and **DEC** combined.

Despite **IBM's** thinking it would be a sure bet, we hear ISVs are not exactly rallying to the new AIX 4.1. Instead they're waiting for it to pick up steam in the marketplace - and it may be a while. Remember the Solaris experience? Well, IBM has to prove the 3.2.5 software runs.

Congratulations to **Sun Microsystems** chief Scott McNealy and his young bride Susan Ingemason who will tie the knot this weekend during four days of wedding festivities (not counting the bachelor party on Wednesday night) from where we'll be reporting this week.

Sun Microsystems Inc will debut a full-blown Internet server with all the net goodies, including Mosaic, running upon Solaris 2.3 on the first day of **Networld+InterOp** in Atlanta on September 12th. Sun says it'll ship it in September, sometime ahead of **Dell Computer Corp's** own Solaris x86-based Internet server.

While we're still waiting to hear from **Novell Inc** about its anticipated **Iona Technologies Ltd**-based object strategy, the Dublin firm promises some interesting news this Tuesday. Iona is also hosting an **OMG** meeting this week which will consider an API for linking transaction processing systems to object request brokers. The API, being proposed by nine vendors, including **DEC, IBM, Sun HP, Novell, Transarc** and **Tandem**, was formulated at **OMG's** meet back in June.

Unix and mainframe OLTP application development house **Magna Software** (see front page) expects a Corba extension for TP objects will resemble existing transactional APIs, just expressed in a different way. It says it could make transactions available to objects via a Corba API but what it really wants is objects under the hood.

Novell Inc's long-awaited symmetric multiprocessing UnixWare 2.0, now being tipped for announcement at **Unix Expo (UX No 500)**, has reportedly gone into beta.

AT&T GIS last week introduced its much-heralded next-generation LAN Manager for Unix (**Pegasus**) as **Advanced Server for Unix**, the equivalent of NT's networking componentry.

To bring ISVs queuing-up, a 40-year industry veteran wrote to **Computerworld** last week suggesting **IBM** should lay down AIX and its proprietary operating systems in favour of Solaris and NextStep on PowerPC, whilst Sun should can Sparc and go PowerPC.

DEC wouldn't comment on widespread speculation that it has now concluded an agreement with **Oracle Corp** for purchase of its Rdb database business, said to be worth around \$100m to a buyer, which has been on the block for some time (UX No 499). Oracle is said to have promised Wall Street higher margins; Rdb is seen as the way to deliver it. We hear **DEC** will also team with Oracle on clustering software.

Meanwhile, **Oracle Corp** is reportedly ready to roll-out plans for low-end database products this week that'll compete on the desktop with PC products (UX No 476). Project X is a development environment aimed at **Borland's** dBase and Paradox as well as **Microsoft Corp's** Access and Fox-Pro. EasyLAN, for departments with less than 100 clients, has been described as a stripped-down Oracle7 with stored procedures and parallel query. Project X runs under Windows, Mac System 7, and Unix and will be integrated with EasyLAN.

Bob Dylan is apparently suing **Apple Computer Inc** over a software program it has been developing under the singer's name.

The first Internet pizza - see page 5 - was a plain cheese and tomato! It was good! It also arrived about a half hour late because **SCO's** account had the office address on it and not the UCSC campus address where all and sundry waited.

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PEACE BREAKING OUT ALL OVER IRELAND

Ironically, on the same day that another kind of ceasefire went into operation in Northern Ireland, Microsoft Corp presented itself to the Object Management Group's meet in Dublin asking the body to issue an RFP for a specification linking its Common Object Model (COM)-based Object Linking & Embedding architecture to OMG's Common Object Request Broker Architecture (Corba). Although the technology is strategic, it's understood Microsoft is keen to avoid the kind of "plumbing war" which has threatened to engulf the embryonic object industry from its birth. Indeed, not only did Microsoft - in conjunction with its COM partner DEC, and Candle Corp - ask OMG to issue an RFP, it furnished the assembled OMG crew with one it had prepared earlier, topped by a specification based upon the OLE/COM-to-ORB connection being developed in Candle's Omegamon tools (UX No 498). OMG voted 38 to 1 to issue the RFP, which should be pulled together in time to be issued from its next meet in Nashua, New Hampshire, next month. Initial reaction to the Microsoft submission was that the notion of a Windows client simply feeding a Corba server, described as a kind of cut-down DCE, doesn't go far enough, and that there has also to be a mechanism to pass information back so that the client is not constantly polling the server. In any event Microsoft won't have the field to itself; most of the usual suspects are expected to field their own solutions, including Dublin's own Iona Technologies Ltd, which has already developed a way of generating COM code from IDL objects. It would prefer not to have to use great chunks of DCE code at all, but that in part depends upon the outcome of the Corba 2.0 interoperability negotiations, see below. Indeed, it says potential COM-to-ORB and ORB-to-ORB mechanisms are not a million miles apart. Once all the compromising and deals are complete, in the typical style of OMG processes, a single merged specification could be on the table by the middle of next year.

DEC IS THE FLY IN CORBA 2.0 OINTMENT

Perhaps most the important element of the COM-to-ORB interoperability RFP for OMG's public persona is the endorsement by its leadership of the object world, and its processes, that the Microsoft initiative brings with it. What OMG needs least, right now, is yet another brouhaha in the delicately-poised Corba 2.0 interoperability process. But this is the Unix vendors, so here we go again. The companies submitting interoperability technology specifications have apparently found a compromise solution to the thorny problem of whether or not to use the Distributed Computing Environment RPC as the basis of a joint submission - namely a single wire protocol based upon TCP/IP and DCE. DEC however, has sailed off from the fleet once again, raising "DCE or nothing" colours. Remember, there's no peace without justice.

OMG EXPECTS A BEVVY OF SPECs

Apart from the ORB-to-COM and Corba 2.0 shenanigans, OMG will end up with four or five new specifications from its Dublin meeting. Its task force approved a specification for Corba C++ mapping created by Iona, Expersoft, Sun, IBM, NEC, DEC and others, the so-called "compromise from hell," which goes forward to a formal vote. Also adopted to vote on was a specification for bringing transaction processing into the object world as part of OMG's set of common object services. The specification was developed by Bull, IBM, Tandem, Novell, Iona and others, apparently driven by IBM and Tandem who had decided that TP services must happen at the first bite. The two are said to have put a huge amount of effort into getting the TP spec done; possibly more than has gone in to any other OMG technology so far, one insider said. Concurrency control, externalisation and relationship specifications were also passed forward to be voted on by the Object management Group committee.

AIX PROXIMITY PUSHES PREP RS/6000s DEEP DOWN

As long as IBM Corp's RS/6000 hardware developers are rubbing shoulders with the AIX team in the same division, there's unlikely to be any public mention of the PREP-compliant PCI boxes that are being put together by at the division. They're part of assistant general manager, worldwide marketing at IBM's RS/6000 Division, Jeff Mason's recently detailed strategy for getting PowerPersonal 'client' operating systems, including SunSoft Inc Solaris, up on RS/6000 'servers'. Any displacement of AIX as the exclusive Unix within the RS/6000 unit would undoubtedly have Donna Van Fleet's team screaming. It's a different kettle of fish over at the PowerPersonal unit, where AIX and Windows NT, plus a host of other operating systems are being supported to propel IBM's PowerPC clients to market (see page3)

POWERPERSONALS AWAIT SOLARIS 2.5

The Solaris port to PowerPersonal is understood to be two or three months ahead of schedule and although it's still only slated for delivery on the boxes by the middle of next year, SunSoft's Solaris group, headed by general manager Janpieter Scheerder, is keen to get a Solaris angle worked into the October announcement of IBM's initial AIX and Windows NT PowerPersonals. Although the port is ahead of time the release has to hang back until mid-1995 to wait for Solaris 2.5; there's now said to be a growing band of ISVs sniffing around Solaris-on-PowerPC (not to mention RS/6000, see below). Solaris 2.4 was due to ship last week, but it has been put off for another month or so, the version currently running on IBM's PowerPC 601s, is derived from the single Sparc and x86 source base SunSoft's been working towards. However, it still lacks an integrated Common Desktop Environment and other stuff SunSoft requires for the PowerPersonals, including X Windows R6 and extra functionality to support Sun's next major hardware release. That'll all go into the Solaris 2.5. Although all of that could well be ready by next April or May, SunSoft's playing a conservative hand these days and probably won't announce the OS until its ready to ship out of the door, as promised, by mid-1995. At the same time, SunSoft is also getting more interested in the idea of Solaris on the RS/6000, especially now there appear to be one or two large US accounts asking for that combination. However, SunSoft is reluctant to pull engineers off the PowerPC project to do RS/6000 work. There's also a potential conflict in-waiting, were IBM to begin selling a Solaris box aimed directly at Sparc customers, though all's quiet for now as IBM's current marketing position is that it doesn't have any products that compete directly with Sun.

ORACLE ACQUIRES DEC's RDB

As expected (UX No 499 & 502), Oracle Corp officially announced its intention to acquire Digital Equipment Corp's Rdb relational database for \$108m in cash last Friday. For the money, Oracle also gets DEC's CDD repository and the suite of DBA Workcenter database administration tools. As part of the agreement, Oracle will port all its major product lines to DEC Alpha Windows NT machines, including Oracle Media Server, Cooperative Development Environment and Cooperative Applications Environment. Plans for future Rdb development include building a gateway between Oracle7 and Rdb for interoperability and adding support for Rdb to DEC's Alpha OSF/1 and Windows NT systems.

IDC SEES STRONG GROWTH FOR SYBASE, PROGRESS AND ORACLE IN RDBMS MARKET

Market researcher IDC estimates the Unix relational database market was worth \$1,530m last year, up 35.9% on \$1,130m in 1992, with database licences accounting for \$1,000m and tool licences the remainder. ~~IDC forecasts a compound annual growth rate of 17.5% for the total market through 1998 to a market worth \$3,445m.~~ Combined international markets were again worth more in 1993 than the US market - Europe accounted for \$769.5m, up 21.2% on 1992 but down from the 51% growth registered from 1991 to 1992; the rest of the world, including Japan which grew 58.1% to \$253m and the US market grew 54.5% to \$765.6m. The leading supplier was Oracle, with 38.3% of the total market in 1993, down from 44.3% in 1992, though its 1993 share was worth \$588.3m, up 17.4% from \$501m 1992. Informix's software licensing revenues grew 22.6% to \$247.7m in 1993 from \$202m last time, although its overall share of the market decreased to 16.1% from 17.9%. Sybase earned \$228.9m on product license revenues, up 63.5% on 1992's \$140m, and increased its overall share of the market from 12.4% to 14.9%. Ingres (now owned by Computer Associates) achieved revenues of \$114.7m, up 18.2% on 1992's \$97m, though its share declined to 7.5% from 8.6%. Progress's licensing business grew 57.8% to \$63.1m from \$40m and increased its share to 4.1% from 3.5%. Unify hit \$30m license sales, up 11.1% on 1992's \$27m, with 2% of the market, down from 2.4% last time. Sales of other Unix relational database software licenses grew 113.4% to \$262.5m from \$123m in 1992, a share of 17.1%, up from 10.9% in 1992. In the regions, Oracle made \$229.4m from a 30% share of the US market; \$194.1m for 37.6% of the European market and \$164.7m for a 65.1% share in the rest of the world (excluding application and personal productivity licensing revenue). Informix split \$118.9 US (15.7%), \$101.6m Europe (19.7%) and \$27.2m Japan (10.3%), again without applications or personal productivity software license revenues. Sybase did \$169.4m in the US (22.4%), \$45.8m in Europe (8.9%) and \$13.7m in Japan (5.2%). Ingres hit \$57.4m (7.6%), \$50.5m (9.8%) and \$6.9m (2.6%). Progress was at \$27.1m (3.6%), \$26.5m (5.1%) and \$9.5m (3.6%) and Unify split \$18.9m (2.5%), \$6.9m (1.3%) and \$4.2m (1.6%). IDC notes the uptake of Sybase System 10 in financial markets, driven by its relationship with Sun, the popularity of the Progress 4GL and the momentum in medium to large businesses generated by Oracle7. Sun platforms accounted for 27.2%, or \$272.1m, of the \$995.5m generated by sales of Unix database engine/server software licences. IBM (AIX) was second at \$195.9m (19.6%), HP \$181.1m (18.1%), PC-Unix \$99m (9.9%), DEC Ultrix/OSF/1 \$57.4m (5.7%) and other \$193.9m (19.4%). IDC expects little serious competition from Windows NT until Daytona with SQLserver 95, plus robust database engines and tool solutions emerge late in 1995 or early 1996.

- Of the four object markets IDC watches, object programming is the largest, worth \$320m in 1993. Object database sales were around \$75m, object CASE tools \$40m and distributed object management \$10m or so. All are expected to grow at a compound annual growth rate of more than 30% between 1993 and 1998 - object databases at as much as 80% - when it is estimated the object market will be worth \$4,000m.

- IDC reckons the worldwide market for applications, tools and system software was worth \$69,500m in 1993 against the \$71,100m it had forecasted: \$29,150m was spent on applications; \$19,560m on tools and \$20,740m on system software.

- IBM mainframe, other mainframe, VAX, other mini, AS/400 and 16-bit PC operating systems accounted for 73% of worldwide software revenues according to operating environments. All will lose share between now and 1998 (although 16-bit DOS and Windows losses will be small), by which time they'll account for 56% of the platforms for which software is bought, according to the market research group. Network operating systems, Macintosh, NT, OS/2 and Unix will all increase their total share from 27% of the market in 1993, to some 44% in 1998, with Unices increasing more than other OS.

- In the regions, the US software market was worth \$32,000m last year, Europe \$24,000m, Japan and the rest of the world \$7,000m each. IDC predicts the Japanese market will grow at a compound annual growth of 17.7% to 1998, the rest of the world at 14.7%, US 12.7% and Europe 9%. US vendors supply 89% of software bought in the US, 72% in the rest of the world, 62% in Europe, 54% in Japan and 75% of all packaged software worldwide.

MOTOROLA REVEALS IONA DEAL

Motorola Inc has finally disclosed its deal with Iona Technologies Ltd to use the Dublin firm's Orbix object request broker for building and controlling the ground station part of its Highway-in-the-Sky global cellular network Iridium project (UX No 496). The ~~\$3,400m project is due to go live in 1998. Orbix is being used in an application to control Iridium's 66 satellites from earth.~~ Meanwhile, Iona's Orbix for Windows 3.1 is completing its beta process and will ship this quarter - AIX, OSF/1 and OS/2 versions are due.

AT&T DECIDES TO SELL NCR'S SEMICONDUCTOR BUSINESS

In a bizarre move, given that it could have absorbed what is widely seen as an innovative chip company into its AT&T Microelectronics, AT&T Corp has instead decided to sell its NCR Microelectronic Products Division - last hiding place of the NCR name - on grounds that 95% of its output is sold on the merchant market rather than used in-house. The division is even profitable, on sales of \$372m last year. It is based in Fort Collins, Colorado, with disk array and printer design and manufacturing operations in Wichita, Kansas, and does wireless local network components in Utrecht, the Netherlands.

4th DIMENSION JOINS X/OPEN GROUPS

Like it has just seen the light, little heard-of Unix, VAX, MVS and AS/400 systems management house, 4th Dimension Software Ltd, headquartered in Tel Aviv, Israel, but with a much larger development and marketing unit in Irvine, California, has joined X/Open Co Ltd's ISV council, distributed systems management workgroup, and security workgroup. Eleven-year-old 4th Dimension has a range of Enterprise Control Architecture systems management tools that it recently brought to Unix (UX No 463) and plans to integrate unspecified third-party tools into its framework.

ROUNDUP

Cornerstone Software Inc, Nashua, New Hampshire, whose Piccolo messaging software has been the basis of Tandem's Remote Server Call for the last three years, is now also offering its technology for HP-UX, AIX, Solaris, SCO Unix, OS/2 and Windows NT, with other ports promised by year-end, plus support for X/Open XATMI, ODBC and Win Sock APIs. +1 603 595 7480

Mosaic creator, the **University of Illinois**, has turned over all future commercial licensing rights to its NCSA graphical Internet browser to **Spyglass Inc** following in an the two agreement signed last week.

Wyse Technology Inc is targeting Sun workstation users with two new Mips R3000-based colour X terminals, the 19" WX-19LC and 17" WX-17LC in 1,152 x 900 resolutions which come in below the 1,280 x 1,024 models. Prices are from \$3,600 and \$3,100 respectively.

Meanwhile, **Tektronix Inc** will this week add entry-level R3000-based X terminals as the XP200 series. The 14" monochrome XP214 is from \$1,100, the 14" colour version is \$1,500 and a 17" colour screen is \$2,500, with from 4Mb RAM and two PCMCIA slots and Tektronix's XpressWare software

IBM Corp will announce the PowerPC-based upgrade machine for System/36 users at Unix Expo.

IBM Corp's PowerParallel division says it'll move over to AIX 4.1 sometime next year.

DEC is claiming top spot in AIM Technology performance ratings for configured Unix systems priced between \$100,000 and \$500,000 with a peak performance measure of 515.7 for a five-way Series 7000 Model 650 server.

Object Management Group has hired **DEC's** strategic marketing manager for object systems, Lydia Bennett, as its new director of marketing.

Hewlett-Packard Co has picked-up iXOS-Archive, iXOS Software GmbH's integrated optical storage system for SAP R/3 systems, for use on HP-UX.

PEGASUS IN THE STARTING GATE

Groupe Bull will introduce the long-awaited symmetric multiprocessing, PowerPC-based RS/6000 Pegasus technology it has been working on in London on September 20. IBM and Bull have been jockeying for position on the launch of the stuff for some time because whilst the two have a joint development agreement, no marketing agreement was struck. They are doing their own manufacturing of what effectively will be separate product lines and it's a straight fight once they are both out of the gate. Bull has been signing-up OEMs for the systems through a recently established US OEM division, and says it did 75% of Pegasus hardware and 25% of the software. It's thought Pegasus (to debut under another name) will support four-way processing initially, six-way by mid-1995 and eight-way by the end of next year. Scaling beyond eight CPUs will be provided by Mississippi clustering solutions.

SOLARIS-ON-POWERPC STEALS THE SHOW ON SUNSOFT TOUR

The PowerPC port of Solaris reportedly stole the show on a recent roadshow SunSoft Inc did around the Asia/Pacific. Interest in PowerPC in places like Tapei, Hong Kong and Singapore was "unbelievable," according to one of the party, helping to draw larger than expected attendees at all locations, especially from the Far East PowerPC builders. Solaris 2.4 was shown running on IBM Corp PowerPersonal Systems division's PowerPC 601-based desktop - the notebook had to be left behind, lacking some serial numbers it fell foul of US export customs regulations. Then, returning late last month, SunSoft threw open its doors in Mountain View to Solaris-on-PowerPC developers and had 30 or so ISVs, including Oracle and SAS, coming round to kick the tyres. Solaris 2.4 on PowerPC is currently being touted to early developers.

IBM POWER PERSONALS NOW SEEN FOR OCTOBER AT \$3,000

Some additional intelligence on IBM Corp's Power Personal Systems comes in part from *US PC Week*, which reports that the machines will be launched in October - but without the "human-like interface that literally turned heads" at the Comdex/Fall show last year. Only a portion of the talking head interface will appear initially, and it joins a growing list of features IBM has promised for the PowerPC systems but won't deliver in the initial incarnation. The talking head is an on-screen face that talks, smiles, nods, and responds to spoken commands.

There will be 601s and 603s

The three PowerPC machines due next month are expected to include speech recognition, but other components in the interface will be phased in over the next year. As for operating systems, only AIX and Windows NT will be available this year. There will be models using the PowerPC 601 and 603 with prices starting at about \$3,000, but they won't run any faster than 90MHz Pentium machines already selling for less than \$2,800 - indeed one user who has seen a 66MHz 601-based model sent out to a developer says that NT on the machine feels like Windows on a 50MHz 80486. The same source says the box is black and the cabinet and feel of the machine is decidedly cheap and unimpressive. It comes with 16Mb standard expandable to 192Kb and external cache of 256Kb is also an extra. The CD-ROM drive is built in, and the machine has both AT and PCI interfaces. There is a 1Mb "Standard" graphics adaptor that does 16 colours in 1,280 by 1,024, and a Performance Graphics Adapter that has 4Mb video memory and can manage 256 colours at 1,280 by 1,024. But it is not clear that either of these is in the base price, and there seems to be no monitor in the base price either. The new machine has a 3.5" floppy and a 270Mb drive, with larger options available. A microphone and a 2 Watt 2.5" loudspeaker are built in. Our source says that 32-bit applications would run fine under the IBM implementation of NT - the only problem being that there are no 32-bit applications for it. The 16-bit ones, such as Microsoft Word and Excel, are expected to be rather sluggish.

INFORMIX GETS DCE CONNECTION FROM OPEN HORIZON

After turning to Tivoli Systems Inc for distributed database administration (UX No 502), Informix Software Inc has gone to Open Horizon Inc for Distributed Computing Environment connectivity services (UX No 486), licensing the Belmont, California-based company's Connection/DCE technology which will feature as Informix-DCE/Net from the end of the year. It'll come with a range of DCE services, including RPC, security and directory support and will be integrated with OnLine Dynamic Server and the NewEra 4GL toolset. With client and server components, DCE/Net clients will work with any ODBC application whilst client applications will be able to connect to Oracle and Sybase databases as well as to Informix. Informix is still working to integrate its database with DCE.

TIVOLI AND PLATINUM TEAM ON DISTRIBUTED RDBMS MANAGEMENT

Having recently embraced Unix with its mainframe-based relational database access tools (UX No 494), Oakbrook Terrace, Illinois-based Platinum Technology Inc has turned to Tivoli Systems Inc to provide a distributed management platform for its technology. Platinum will move its current toolset on to TME and base future tools on the Tivoli technology. The two will develop a multi-platform console for managing a range of relational databases. In the first instance, Platinum will develop adapters to forward information from its Detector and Datura SQL Spy mainframe and Unix database monitoring devices into the Tivoli/Enterprise Console. The two will team on joint sales and marketing.

NETWISE HAS WINDOWS-BASED APPLICATION BUILDER

Netwise Inc, Boulder, Colorado, is offering a Windows development tool called Application/Integrator Workbench in its TransAccess mainframe procedural and SQL access family of software. The product provides application design and code generation for ObjectView, PowerBuilder, VisualBasic, C and mainframe Cobol. According to Netwise, Application/Integrator eliminates the need to build application programming interface code into client or server applications for such things as data type mapping and automatically converting designs into corresponding client or server programs. It is available now, but price details were not given.

COMPUTER ASSOCIATES SLASHES UNICENTER TAGS ON SMALL BOXES

Islandia, New York-based Computer Associates International Inc has set in place a determined campaign for market share, slashing prices of CA-Unicenter for both entry-level client-server users and on volume sales for larger enterprises to end artificial cost hurdles stopping small and medium-sized firms from automating. Some analysts say the move could begin to propel CA into becoming the "Oracle of systems management." On the HP 9000 G40 CA-Unicenter is cut 76.1% to \$14,400 from \$60,200. On the RS/6000 Model 570 it is down 67.5% to \$24,600, and on the Sparcserver 10/40 its slashed by 82.5% to \$12,000.

POWERHOUSE CONCEDES TO COGNOS, BECOMES FIREPOWER

PowerPC start-up and Next Computer Inc spinout PowerHouse Systems Inc, Menlo Park, California, has relented to pressure from Cognos Inc and dropped the PowerHouse name after the two were unable to reach agreement on its use (UX No 477). PowerHouse Systems becomes FirePower Systems and says it's moved introduction of its desktop PowerPC boxes forward from the first quarter of 1995 to the fourth quarter of this year. It plans to offer the same operating systems as IBM's PowerPersonal unit, including AIX, Windows NT, Solaris and others, on \$3,000 to \$6,000 systems.

NOVELL ADDS SUPPORT FOR DCE SERVICES TO TUXEDO

Novell Inc is adding direct support for Distributed Computing Environment services to its Tuxedo OLTP system as Tuxedo/DCE. The new module will allow DCE applications to be compiled and run on ~~Tuxedo using X/Open Co Ltd's TXRPC interface, the Transarc Corp/DEC remote procedure call mechanism.~~ The extension provides access to some DCE services, such as remote procedure calls, security and naming (Tuxedo already provides APIs to some services) plus connectivity to applications such as relational databases running on DCE. The extension (incidentally, built using Hewlett-Packard Co's DCE implementation) will feature as a standard component of Tuxedo - though its use is optional - and it doesn't replace X/Open's XTAMI API, which is based upon Tuxedo's alternative 'RPC-like' distributed mechanism. Tuxedo/DCE includes support for transactional DCE Interface Definition Language and runtime routines which allow DCE code to be layered above and run by Tuxedo. Novell says an application written using TxRPC in Tuxedo/DCE can run DCE services or on Tuxedo (where it will run faster) and can even be split to run part on DCE and part on Tuxedo. Applications can utilise more robust DCE services as they are delivered without having to be completely rewritten. New libraries will allow Tuxedo domains and DCE cells to communicate seamlessly. Support for other DCE services - DCE includes files services and threaded processing too - and additional "tight" integration with DCE is expected next year. As, in its estimation, DCE doesn't yet offer adequate performance for OLTP, Novell is positioning Tuxedo/DCE as a means of providing access to DCE services and connectivity now, with a built-in ability to use DCE wholesale when it appears in a fully transaction-enabled form. DCE, it maintains, is fine for general purpose application use, but wasn't designed with OLTP in mind. Tuxedo's Unix rival, the (IBM-owned) Transarc Corp DCE/Encina OLTP environment, which enforces the use of DCE RPC, simply can't deliver enough TP performance, Novell argues. DCE version 1.1 (which goes out of the door on November 30th) will address some of Novell's concerns. It includes the anticipated X/Open Generic Security Service API for distributed authentication (which X/Open adopted from the Internet Engineering Taskforce), providing access to DCE security services without the need to use the DCE RPC. OSF board member Novell also expects to be involved in future DCE efforts. With XTAMI and TxRPC APIs already under its belt, Novell is seeking a third, object transactional API for use and is eyeing up the TP object standard, which was being voted on at OMG's Dublin meet (see front page). Novell says it's not in the tool business and won't be creating its own ORB-type environment, but is looking at Iona-type technology (UX No 496). Initial versions of Tuxedo/DCE are out with Novell's 40-odd Tuxedo source licences, general ships are due as part of a new packaged Tuxedo release in the fourth quarter, one of three additions Novell plans to the environment before year-end.

...DCE FOR UNIXWARE, NETWARE IN HAND

Meanwhile, Novell is still working with PC-DCE supplier, Gradient Technologies Inc, Marlborough, Massachusetts, on a UnixWare port of DCE for year-end, and a DCE gateway to NetWare (UX No 492). SysV-DCE for UnixWare will be out in the fourth quarter - SysV-DCE Gateway for NetWare servers is due mid-1995. The former will allow UnixWare clients and servers to run DCE code and access networked applications which use DCE services. The gateway product will initially provide NetWare users with access to DCE services, though tighter integration is planned.

STERLING IN KNOWLEDGE REVISAL

Sterling Software Inc quickly agreed a crash revision of the terms of its KnowledgeWare Inc acquisition (UX No 499), and it will now pay only 0.1653 of a share for each KnowledgeWare, down from 0.2893 - worth \$80m instead of \$140m, and bought \$15m of secured debt from IBM Credit Corp. And KnowledgeWare Inc followed up its revised merger agreement with Sterling by restating downwards its figures for the first, second and third quarters of fiscal 1994 and saying it plans to take a \$5m to \$6m charge in the first quarter of its fiscal 1995 ending September 30: net profit for the first quarter was cut to \$1.4m from \$1.6m, second quarter to \$278,000 from \$2.1m, and the third quarter was revised to a loss of \$5.3m from a profit of \$807,000.

SUN STB HAS 50MHz SUPERSPARC SET

Sun Microsystems Inc's Sparc Technology Business division in Sunnyvale, California has announced a new 50MHz chip set, describing it as the company's highest-performance chip set based on the SuperSparc RISC, and accompanied the launch with a 22% ~~price reduction on its 40MHz SuperSparc chip sets.~~ It says the new set will enable customers to offer Sparcstation 20 performance for a Sparcstation 10 price. The 50MHz chip sets cost \$720.15 when you order 5,000 or more of them; the 40MHz version falls to \$550.85 for 5,000-up. Both are fully compatible with MBus-based Sparc systems, so designers can use their current designs. The 50 MHz MBus-50 and 40 MHz MBus-40 sets include an MBus-to-SBus interface, direct memory access controller, memory controller, SBus-to-EBus interface and a clock generator. They are available immediately.

CONCURRENT RAIDING PARTIES STORM ENCORE, HARRIS BASES

Oceanport, New Jersey-based Concurrent Computer Corp, whose own base cannot be any too solid, has decided that the bases of both Encore Computer Corp and the Harris Computer Systems arm of Harris Corp - soon to be spun off to shareholders as an independent company, are ripe for plundering, and thinks the users can be persuaded to convert to its new Maxion multiprocessor system and RTU Version 7.0 version of Unix System V.4.2MP. It has established a Migration Programme Center at its Oceanport headquarters to provide custom migration plans to users. Concurrent reckons that the target bases are vulnerable because Encore is attempting to redirect its resources into commercial computing and has turned its customer maintenance over to a third-party contractor. It believes that Harris will be vulnerable as a small stand-alone company - something Concurrent itself found when it was spun out of the company whose name is the industry's last great unexceptionable expletive, Perkin-Elmer Corp. A team of Concurrent hardware and software engineers, working with a team of rehosting and conversion experts from nine alliance programme partner companies, will work with users and integrators to develop migration action plans.

DEC'S OLIVETTI DEAL ON THE ROCKS

DEC's recent offloading of its 7.9% stake in Olivetti means that it has now sold all of its 98.5 million shares, bought in 1992 for close to \$288 million, fetching between \$140 million to \$150 million on the sale. DEC, however, reckons it came out ahead on the deal because it actually paid only \$83.8 million for the shares. The other \$204 million was what it paid for the strategic alliance with the Italian company. DEC is now rating that alliance a failure since it didn't prove to be worth what it paid let alone bring more as it was intended to do. DEC was able to write off its losses on that deal last quarter as a substantial part of the \$380 million in restructuring charges it attributed at the time to the carrying value of intangible assets but didn't identify further. (It wrote off a total of close to \$1.8 billion.) DEC claims its product and technology relationship with Olivetti will continue, though the Italian company has been able to do very little with the Alpha AXP line so far, has been disappointed with the DEC's NT-on-the-desktop debacle and has dipped its toe into PowerPC. Olivetti expects to break even at the operating level this year but "No estimation has been made on net profit or losses for the end of the year," it said. Turnover rose 7% in the six months to June; personal computers now account for 20% of its turnover.

400 GO AS ADOBE COMPLETES ALDUS TAKEOVER

Mountain View, California-based Adobe Systems Inc completed its \$450m paper acquisition of Aldus Corp last week, and immediately said that 400 people, 20% of the combined workforce, would lose their jobs. The company will operate under the Adobe Systems Inc name, be headquartered in Mountain View, and retain an Application Products Division, with engineering, sales and support run from Aldus's Seattle base. It is now the fourth largest personal computer software company with sales of over \$500m. A Unix version of the Aldus PageMaker page layout software is expected to join Adobe's Illustrator and PhotoShop publishing applications (UX No 502).

HP TO MERGE DEVELOPMENT TASKS WITH CORBA 2.0 ORB, SOFTBENCH 4.0 FIRST OF DISTRIBUTED RELEASES

By William Fellows

Tooling up for the introduction of its anticipated Corba 2-compliant ORB-Plus object request broker, which is based upon OSF Distributed Computing Environment services, Hewlett-Packard Co has unrolled its long-term plan to bridge the worlds of procedural coding and object development with the launch of a Distributed SoftBench program. HP will use ORB-Plus to provide full object interoperability between its Distributed Smalltalk and SoftBench development systems, though there's much work to be done to get the environments to Corba 2.0-readiness. The idea is to provide a way of using objects for development that's independent of the language. First up under the scheme are enhanced versions of the SoftBench application development toolset, which come with some basic distributed functionality. The expected SoftBench 4.0 (UX No 495), comes in guises for C, C++ and Cobol, Cobol/C and Cobol/C++. HP is gradually moving tools from the more advanced distributed development environment, Distributed Smalltalk (a distributed implementation of ParcPlace System's VisualWorks) to SoftBench, beginning with a distributed debugger, though components like an IDL code generator are lacking.

Merge SoftBench/Taligent tools

Like other SoftBench releases, 4.0 uses SoftBench Framework to provide basic messaging for some 80-odd tools currently available for use under it. There have been some minor changes to the new release, HP says version 4.0 is integrated with its SynerVision/ChangeVision process management software, HP's implementation of the UIM/X interface builder and a range of configuration management packages. Enhancements to C and C++ SoftBench 4.0 includes a new graphical performance tool that's meant to identify bottlenecks in an application under development. HP says it generates profile reports at function and statement levels in a report windows that can be printed to a file. There are three static analysis tools that use colours and shapes in various graphical displays to depict code components and their relationships, including functions, classes and files. A particular criticism of previous SoftBench iterations was that they couldn't handle large amounts of code at one time (UX No 495). HP says version 4.0 performs at up to six times faster than previous versions (depending on the type of query) and can work on up to one million lines of code at a time. The new C and C++ versions come with a debugger that's been re-integrated with the HP distributed debugging environment and is common across HP and Sun platforms where SoftBench runs. Version 4.0 is also tightly-integrated with Pure Software Inc's Purify run-time error and memory-leak detection tool. There are links to HP DCE/9000, OODCE/9000 and the Oadapter data store, providing C++ developers with object access to DCE services, a new interface, tear-of menus plus concurrent network user licence. Cobol/C++ SoftBench includes Micro Focus' Cobol Compiler, Cobol Animator debugger and Profiler

performance analyser. HP says it will add support for Taligent and Rogue Wave frameworks and libraries to SoftBench to increase the number of object available to developers and plans to enhance graphical editing and application design rule-checking facilities. First it will add Taligent's frameworks, thereafter Taligent libraries, towards a merged set of development tools incorporating it says, the best of both worlds. Softbench 4.0 for HP-UX is out now and is priced, with a compiler; pricing from \$2,400 for C, \$5,500 for C++ and \$8,000 for Cobol/C++. Solaris 2.3 versions will ship next month from \$1,400 for C and \$3,500 for C++. Prices are down by up to 35% on previous releases. Upgrades are on offer at from \$400 for C and \$800 for C++ versions until the end of the year. HP is also offering those upgrade prices as trade-in price carrots for CenterLine Software CodeCenter or ObjectCenter, Sun Sparcworks 3.0 or SunPro Workshop and Lucid Energize users to move to SoftBench 4.0. HP claims 27,000-odd SoftBench users.

ORB-Plus

The Distributed Object Management Facility developed in conjunction with Sun Microsystems Inc many moons ago is a component of Hewlett-Packard Co's forthcoming Distributed Computing Environment-based ORB-Plus Corba 2.0-compliant object broker. The static/dynamic binding technology it uses is similar to IBM Corp's DSOM and is being used only for evaluation purposes until OMG Corba 2.0 stuff is handed down. HP says it'll be a whole lot easier to add stuff to ORB-Plus based on what OMG comes out with in terms of Corba 2.0 interoperability and C++ bindings, than trying to retrofit or swap-out pieces of technology put in place ahead of time.

FUJITSU TAKES STAKE IN ICL INDIA PARTNER

ICL Plc has held 40% of International Computers Indian Manufacture Pte Ltd, a Poona-based company traded on the Bombay Stock Exchange, ever since India's foreign exchange act of the late 1970s required multinationals to sell majority stake Indian subsidiaries to local interests. Now, however, the UK company's controlling shareholder, Fujitsu Ltd, is getting serious about India and is to take a 10% stake in the company, popularly known as ICIM. It will invest about \$500,000 for the stake, the money being put up by Fujitsu Ltd and Fujitsu Australia Pty Ltd, its leading overseas subsidiary company. The name of the company will also be changed to Fujitsu ICIM. The reason for the interest is that a string of other Japanese companies are now opening for business in the liberalised Indian market and a visible Japanese connection at ICIM will give the company a big head start in winning their local information technology business. Fujitsu and ICIM will also set up a joint venture in Australia, Fujitsu ICIM Software Technology, headquartered in Sydney, to market Indian software development services in Japan, Australia and the Asia Pacific region. ICIM's annual turnover has nearly trebled to \$50m from \$15m over the last six years. Fujitsu's first major investments in India are two telecommunications equipment ventures: in March, it set up Fujitsu Optel Ltd, to manufacture optical transmission equipment. It also formed Fujitsu India Telecom Ltd to make telephone exchanges following the government's decision to make it a preferred supplier last year.

- The Internet Engineering Task Force has settled on the specification to use as the basis for its next-generation Internet Protocol standard. A new version is required to extend the number of available Internet addresses and it will expand the address size from the current four bytes to 16 bytes.

MICROSOFT ALMOST THERE ON WINNING WINDOWS AS A TRADE MARK

It looks as if all the people that insist on calling the X Window System X Windows might have to change their ways or risk a stiff letter from Microsoft Corp. The US Patent & Trademark Office, which initially refused trade mark protection for the name Windows has now bowed, and IBM Corp, which for some reason has always treated Microsoft with kid gloves where every other partner, let alone competitor, gets the iron fist, says it will not oppose the decision. In order to protect its position Microsoft has over time acquired the rights to several little-known programs that already had trade mark rights to the Windows name, including Windows For Data, Dynamic Windows and Polestar Windows. Microsoft Corp's new keyboard for Chicago Windows 4 and Windows NT is being made for the company by Key Tronic Corp, Spokane, Washington, and will be launched next Monday, the firm has confirmed. It adds three new keys to the AT keyboard, an Applications key, a Left Windows key and a Right Windows key. Applications replaces the mouse button in applications that use it, Left and Right Windows keys activate features in Chicago. It will not be essential for Windows users to have the board. And Microsoft is now saying only first half 1995 for Chicago ships, with *PC Week* saying February, and *Infoworld* suggesting it may be May.

BULL TOP BRASS FLY OUT TO NEC

A team of high-level executives from Compagnie des Machines Bull SA are on its way to Tokyo for discussions with Japan's NEC Corp on "all aspects of their ongoing relationship". And speculation is rising in Paris that NEC will raise its 4.43% stake to something approaching control.

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The weekly information newsletter for the UNIX™ community worldwide

The latest word on the **Santa Cruz Operation's** next generation Everest operating system (UX No 502) is that it will include a journalling file system, and there have also been some hints that it will use the Chorus microkernel, already used on SCO's Fusion real-time offering (UX No 463).

Peter Gottlieb, ex **SunSoft UK**, has now rejoined **Tetra Ltd**, the accounts software house in Maidenhead, Berks where he worked in the '80s. Tetra has just established an office in Houston, Texas.

With its president of retail systems, Rod Powell, already out there, **ICL Plc** is uprooting the headquarters of its worldwide Retail Systems division in Bracknell, Berkshire and transplanting it to Dallas (UX No 493). **Fujitsu-ICL Systems Inc**, also in Dallas, is a unit of Retail Systems that provides computer systems to North American retail and financial industries; it claims to be the world number three in retail with an annual turnover of \$700m.

Judy Estrin and William Carrico, the husband-and-wife team that has run X terminal pioneer **Network Computing Devices Inc** since soon after its foundation in 1988, have quit. Edward Marinaro takes over as president and CEO from Ms Estrin, and Edward Staiano, NCD board member since 1990, replaces Carrico as non-executive chairman. Marinaro has been a director and a consultant to the firm since January; Staiano remains an executive vice-president of **Motorola Inc**. Ms Estrin is to continue to act as a consultant for NCD indefinitely.

Wall Street seems to spend most of its time trying to beat **Sun Microsystems Inc** down (it doesn't give much guidance to analysts, which means they have to do their own work), so it's news that Bear Stearns & Co raised Sun to strong buy from buy after the company held a conference call with analysts: the firm's Clifford Friedman reckons the company has many areas of growth opportunity, including PC network management, Internet services and video servers for business applications; the analyst likes the fact that IBM is to distribute Solaris on PowerPC - it will be available on Power Personal Systems in the first half of 1995.

Hewlett-Packard Co has a lusty \$10m contract to supply **Nippon Telegraph & Telephone Corp** with several large-scale Unix servers and workstations for research and development in its Service Information Management System labs in Tokyo.

Larry Reeder, newly appointed president and CEO of **Kendall Square Research Inc**, has poached Jerry Clay from rival MPP outfit **nCube** as VP sales and marketing.

UK firm **RenderMorphics Ltd** is integrating its Reality Lab 3D rendering API with Egham, Surrey-based 3DLabs Ltd's GLiNT graphics processor.

DEC has named DDB Needham Worldwide as its new corporate ad agency charged with improving its tattered image. It's supposed to do global brand campaigns and drive the company's integrated communications strategy. **Young & Rubicam** gets to keep the PC Business Unit advertising and work with DDB Needham. DDB is also going to be called in to advise on non-advertising marketing/communications in concert with Maritz Inc of Fenton, Missouri and The Ryan Partnership of Westport, Connecticut.

Herndon, Virginia-based **Legent Corp** bought for cash privately-held Digital Analysis Corp, a neighbour providing systems, network and applications management products for open systems. Terms not disclosed.

VMark Software Inc now has a Uniface drive for its uniVerse post-relational DBMS so application developers using Uniface tools can deliver their programs with uniVerse.

Novell Inc says **Magna Software Corp's** characterisation of its Tuxedo/Host OLTP mechanism as 'unpopular' (UX No 502), is unfair and untrue: it says Tuxedo/Host may well be unsuitable for what Magna is doing - two-phase commit between mainframes and Unix - but it's being used by many Tuxedo sites.

DEC has moved its Alpha EV5 announcement up to September 7 (UX No 502). As we went to press Oracle also announced the sale of its Rdb database to Oracle (see front page).

Holiday Inn was unimpressed by a recent *Information Week* piece effectively saying it dumped **Sybase** for **Informix**: the hotel group says Sybase remains its standard corporate database, and Informix was picked for one decision support application in the reservation section of its Worldwide Hotel Systems project worth \$200,000.

Former DCE business area manager, Ram Kumar, has turned up at **SAP America** as corporate director of technical marketing and strategic alliances.

HaL Computer Systems' Austin, Texas-based **HaL Software Systems** is putting its graphical DCE cell management system up on DEC OSF/1 (next quarter) and OpenVMS (during the first half of next year), prices start at \$5,000. DCE Cell Manager is already up on Solaris and SunOS. (UX No 479).

IDC notes that **IBM** has worked hard to get AIX install time down to less than one hour for AIX 4.1 (there are no .0 versions according to IBM naming conventions), down from the current 4 hours for AIX 3.2.5 - still some way behind **SunSoft's** Solaris JumpStart capability.

Siemens Nixdorf USA has appointed director of sales at Sun Microsystems, Joe Maguire, as VP Unix systems.

It seemed overly-ambitious at the time, and *Computer Reseller News* now hears that **Novell Inc** plans to transfer development of its bug-infested AppWare Foundation layer to a third party and fold the higher-level AppWare Builder APIs into another Novell business unit.

Burlington, Massachusetts-based software design tools developer **Easel Corp** is to cut 12% of its staff as part of a plan to cut expenses, which will see some sales and marketing functions moving into the company's two business units. The restructuring is intended to cut operating expenses by 10%; at a cost between \$1.4m and \$1.8m.

Apart from Internet browsing tools and set-top system software, **Sun's** low-profile **First Person** unit is trying to attract content providers for future platforms by developing tools to control the use of information once it reaches its destination, *Electronic News* hears.

Fujitsu Ltd is shipping the first **Ross Technology Inc** HyperSparc boxes in its S series of Sparc desktops. The 80MHz S-4/20L with 32Mb RAM starts at around \$23,000 but is only available in Japan for now.

Having finally scaled many of the Unix summits, casting off burdensome hardware along the way, **Next Computer Inc** boss Steve Jobs is now talking about doing a Windows version of OpenStep/NextStep.

DEC has garnered XPG4 branding for its OpenVMS operating system - ahead of many Unices, including Solaris and AIX. Meanwhile, DEC watchers say four VAX systems unveiled recently should lay to rest rumours of the architecture's imminent death. Although it's no longer a strategic architecture for Digital, the company is making good on its promises to keep updating the line for existing customers.

Novell Inc has announced the upgrade to WordPerfect Office 4.0 as Novell GroupWise 4.1; up on 12 desktop client systems, 10 servers and 23 gateways it costs from around \$2,700 on Unix.

Information Builders is to port its EDA/SQL data access middleware product to **ICL's** DRS range of Unix servers and the firm's Goldrush Megaserver massively parallel machine. The deal also includes adding support for Information Builder's Focus 4GL product.

Paris firm **Business Objects SA**, also based in Cupertino, California, has filed for an initial public offering in the US, and will put up 2m shares for sale (each one representing two ordinary shares) at around \$15 each, which will leaving 15m ordinary shares outstanding. 500,000 shares of the issue will be offered internationally.

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UNIGRAM.X ASKS COURT TO UNSEAL OPEN SOFTWARE FOUNDATION ANTI-TRUST RECORDS

Unigram.X last week, acting on behalf of the industry, asked the US federal court in Massachusetts to unseal documents filed with the court in the anti-trust suit brought by Addamax Corp against the Open Software Foundation, Hewlett-Packard Co and Digital Equipment Corp. Virtually all the documents amassed and filed during the course of the three-year-old action - currently some 250 documents and motions, only six of which are accessible by the public, according to the court docket - have been put under seal one-by-one at the insistence of the defendants. Addamax and its lawyers Kelley Drye & Warren and Warren & Stackpole had to agree to such terms in order to conduct discovery and depose hostile witnesses. The court is currently considering how it will deal with the defendants' motion for summary judgement. It will decide either to dismiss the case or let it proceed to trial. Legal opinion sought by *Unigram.X* in this matter suggests that sealing documents on which a court will base such a decision is highly unusual and we remain sceptical of the defendants' sketchy assertion that the seal protects any dated-if-true "trade secrets" or "proprietary information." According to our petition to the court, legal precedent holds that the documents, including Defendants Statement of Undisputed Facts, Addamax' Statement of Material Facts in Opposition to the Motion for Summary Judgement and the Appendix of Documents filed along with it - the crux of the case against OSF, DEC and HP - cannot be sealed merely to avoid "bad publicity and commercial embarrassment." Since the courts could rule at any time on the summary judgement motion and since the facts of the matter have had such a tremendous impact on the computer industry, *Unigram.X* and its counsel Donnelly, Conroy & Gelhaar sought to act at this time so that the industry might know just what those facts are. The whole business has changed history and created the world we now work in.

CORBA 2.0 "WILL USE ICL INTER-ORB PROTOCOL" - AS HP, DEC DITHER ON SUPPORT OF DCE EXTENSION...

We understand that the proposed Common Inter-ORB Protocol (CIOP), forged in order to meet the Object Management Group's Corba 2 ORB-to-ORB interoperability requirements, will be based upon ICL Plc's original gateway and protocol-level specification, derived from the UK firm's DAIS object request broker framework. Indeed, of the original submissions, only ICL's approach encompassed both mechanisms (UX No 476). The CIOP as it stands now uses nothing from Distributed Computing Environment itself, and we're told that Hewlett-Packard Co, as well as DEC, is dissenting from the proposed specification for that reason (UX No 503). IBM Corp, it's understood, will accept a specification that includes an additional piece of DCE specification, although it is worried that HP and DEC don't intend to implement it themselves. If IBM doesn't get assurances then this game is off and that piece of DCE won't make it into the final specification.

...AS WIDER OBJECT INTEROPERABILITY SOLUTIONS ARE ANTICIPATED

Meanwhile, last week's proposal for a COM-to-ORB interoperability RFP put to the Object Management Group in Dublin by Microsoft Corp characteristically puts the cart before the horse. It's no secret that Microsoft privately has little use for OMG or its goals, and is believed to be playing footsie with it at this juncture only to further its own ends - essentially by making the anticipated CORBA 2 spec subordinate to OLE and the Microsoft object model. If the Microsoft proposal were to be accepted, a possibility said to be extremely unlikely, at least in its present form, Unix developers would wind up developing to a Redmond specification, patently an anathema in Unix circles. In the coming months, alternatives to the Microsoft proposal are expected to come forward - some from seemingly unlikely places and perhaps more embracing than what is at hand. Indeed COM-to-ORB solutions are seen as only part of the problem of object interoperability. One mechanism that's already attracting the attention of leading vendors is under development at Canadian interface software house, Visual Edge Software Ltd. The company is cautious of talking in detail except under NDA - although it's itching to tell - claiming patents have yet to be filed. Visual's solution, which is only around in evaluation form, is said to run something like this. If COM and CORBA are thought of as just a couple of slices of the object cake, its stuff is expected to allow a user to go in through any one slice and out through any another. Moreover, Visual's object cake isn't restricted to OMG or Microsoft models and is expected to embrace many other object paradigms, including OpenDoc, Lotus Notes groupware and document interchange. At least a couple of firms have apparently already agreed to take the stuff, and it's not restricted to Unix.

NOVELL PLANS COMMON SUPERNOS KERNEL FOR UNIXWARE, NETWARE...

Novell Inc CEO Robert Frankenberg, who has been told in no uncertain terms by software developers to start saying Unix loud and often, will next week at Networld+Interop in Atlanta, Georgia, set about explaining how the company intends to do what it's been threatening to do from the beginning, namely move UnixWare and NetWare to share a common core (UX No 467). Frankenberg, who we're told, is henceforth likely to utter the word 'Unix' more often than 'UnixWare', will describe a modular, distributed microkernel known internally as SuperNOS, due in 1997. With Microsoft Corp making no commitment to a future version of DOS, upon which NetWare is founded, Novell has to look elsewhere. The question is whether what it proposes can be done, whether SuperNOS will be able to run Unix and Win32 programs efficiently, or whether Novell is taking another step on a short walk to a high cliff. Frankenberg's statement of direction on UnixWare was pushed back from Sept 7th to the 13th.

...UNIXWARE TO GO POWERPC
Meanwhile, Novell Inc looks to be about ready to abandon its requirement that a platform have a million-plus units in the field before it'll consider moving UnixWare or NetWare to it. We understand work will commence as soon as this week or next to port the forthcoming UnixWare 2.0 SMP release to PowerPC. The task is apparently an outside job being undertaken by a specialist porting house. UK firm Unisoft Ltd, which has been used before for test suites, springs to mind. Novell maintains it's just a prototype and that it's not yet got plans to productise the implementation, but it's hard to see it being left in a drawer after good money's been paid out.

SUN DEBUTS READY-TO-GO INTERNET LAN SERVERS

Figuring it can't afford to be left out, and that it needs to play to be a credible enterprise-wide provider, Sun Microsystems Inc's hardware arm will wade into the LAN server market this week at Networld/Interop with a new line of pre-configured, easy-to-use Unix servers aimed at the application sector of that market. For November delivery there are two Netra machines running Solaris 2.4, one an Internet server, the other tailored for systems management, with groupware (by mid-1995) and database-oriented configurations to follow. *Details on page three.*

NETVIEW/6000 RE-NAMED NETVIEW FOR AIX WITH NEW RELEASE

IBM Corp has announced the next version of NetView/6000 - now rechristened NetView for AIX - which adds support for multiple relational databases, and includes other enhancements. IBM claims the new release vindicates its decision to divorce itself from the marriage to Hewlett-Packard Co's OpenView network management technology, saying that it is providing now what HP is only promising for the forthcoming OpenView version 4.0, which is due to ship towards the middle of next year. NetView for AIX, which is built upon OpenView 3.3, is also the basis of Digital Equipment Corp's Polycenter Manager on NetView V3 for DEC OSF/1, announced at the same time last week. With the new version, IBM says that it now provides support for DB2/6000, Informix, Ingres, Oracle and Sybase databases and that they have been integrated into a single point of control through NetView's GUI. The intention is to enable users to utilise their existing databases to analyse, report and present IP topology, event-logging and SNMP data. Also new is a feature enabling the system to be configured to automatically switch management control to a user-defined network subset, either if the current manager fails, or when a shift change occurs, for example. Other additions include autodiscovery of IP address ranges through a seed file; a new series of authorisation traps; expanded discovery and storage of a greater number of node interfaces, now up to 2,000 per node; and the capability to access General Topology Manager data through a GTM API. NetView now also supports IBM's AIX Trouble Ticket/6000 V3 product for enhanced trouble-ticketing, system inventory and notifications, and allows the management of SNA resources when used in conjunction with AIX SNA Manager/6000. IBM has also furthered the product's distributed management features with a new Systems Monitor for AIX V2 Mid-Level Manager and System Information Agent, which are said to reduce network traffic by distributing tasks such as discovery and polling. Finally, the new release now also supports the IBM Systems Monitor for HP-UX, Solaris, and NCR Unix. NetView for AIX V3 runs under AIX 3.2.5 and costs from \$16,500, and is out now. An entry-level version for networks of up to 32 nodes with identical functionality minus relational database support is \$5,000. DEC's Polycenter Manager on NetView for DEC OSF/1 v3.1 will ship at the end of the month, priced at \$15,500.

ORACLE READIES CDE VERSION 2

Oracle Corp is set to announce version 2.0 of CDE, its Cooperative Development Environment CASE solution, at its international user group meeting in San Francisco on 20th September. The company will also introduce two other products, including TextServer, a text retrieval product using the firm's Context technology; and Road Warrior, which is part of the firm's Oracle in Motion project. This will address Remote SQL capabilities. Oracle in Motion is a development framework for building mobile applications and linking mobile users to Oracle's database server across WANs and wireless networks. Oracle is currently integrating CDE with the IBM/Transarc Corp Encina, Novell Tuxedo and AT&T Top End on-line transaction processing monitors. Oracle has postponed its desktop announcements, originally scheduled for 7th September, until the 19th October. Project X, the firm's GUI builder development, is not expected to be until the tail end of the year.

VERSANT GETS CLOSER TO SMALLTALK

C++ object house Versant Object Technology Corp, Menlo Park, California, has decided it needs to get more serious about the burgeoning demand for Smalltalk and is getting closer to ParcPlace Systems Inc for Smalltalk technologies. It's agreed to market a version of ParcPlace's VisualWorks Smalltalk development environment as Argos through Miramar Technology. It's also joined the Object Technology International group, which peddles the Smalltalk-based Envy/Developer management tool. Versant says it will work to ensure the tool can be used in conjunction with its object database and is integrated with Argos. Versant has also introduced a version 2.0 of its SmallTalk interface for connecting its ODBMS to VisualWorks. 2.0 includes the ability to change schemas on-line, to store Smalltalk methods in Versant ODBMS, create and store embedded objects and static data checking. Sun Sparc versions are out now, Windows NT, Windows 3.1 and HP-UX and other versions will follow. Prices start at \$2,400.

IGEL TO OFFER ETHERNET TERMINAL MODULE WITH X

German firm Innovative Gesamtlosungen in der Mikroelektronik GmbH, (IGEL), Ausburg, will this month announce Etherterminal 3X, an X Windows version of its desktop module which acts as an Ethernet terminal, print server and terminal server all in one. The unit, which sits underneath a monitor, comes with 4Mb RAM, a parallel printer port, the three Ethernet connections, mouse connector, serial port, PC keyboard connector, connector for VGA colour or mono monitor and power supply. Built-in software includes a local X Windows X11R5 server, window manager and desktop tools. It offers VT220 and ANSI emulation - Siemens 97801 is coming. The Mips RISC unit, which expands on the alphanumeric 2C, costs from \$1,250. IGEL also plans 4W, a version which will come with Windows in ROM, for year-end or by the time of next spring's CeBit Hannover Fair, and has an ISDN-enabled product in the wings. 1989 start-up IGEL says it's got 4,500 Etherterminal 2C users and estimates 1994 revenue at some DM6m. The 15-person company has a US operation in Easton, Pennsylvania, with a couple of staff. IGEL, which plans to market entirely through distributors and resellers has partners in most regions, is still shy of a handful of European outlets in the UK and Spain for example. US: +1 610 258 4290, Germany: +49 821 7200 200

DR MATERNA PROVIDES PC MANAGEMENT TOOLS FOR TIVOLI'S TME

Dr Materna GmbH or Dortmund in Germany is integrating its DX-Union network management software with the Tivoli Systems Inc Tivoli Management Environment version 2.0. The merge is designed to help customers manage large, geographically dispersed networks of PCs and Unix systems, and, according to the company, will result in full PC management capability for TME. Dr Materna will also distribute Tivoli products in Germany, Switzerland and Austria. DX-Union, which has been out since 1991 (UX No 356) and has been installed on around 10,000 clients to date, provides intelligent printer management of all printers on the network, centralised control of PCs from a Unix server, user authentication and user management. The company claims to offer reduced complexity through use of a management by subscription paradigm. Beta versions are out now, with general availability set for the fourth quarter. Platforms supported will include Sun Solaris and SunOS, HP-UX, IBM AIX, Motorola SVR4, Data General DG/UX, NetWare, Windows/NT and AT&T GIS System 3000. Dr Materna takes its name from founder Dr Winfried Materna, who set up the company in 1980 with Helmut an de Meulen to focus on systems integration and software development, communications and network and systems administration (UX No 356). +49 231 5599 225 or Internet: tb@Materna.DE

LEGENT EXTENDS PROBLEM MANAGEMENT

Legent Corp is offering version 2.1 of its Paradigm/XP problem management software which now includes interfaces to XPErtware, the middleware in Legent's XPE distributed systems management environment that provides access from applications running on different platforms. Paradigm/XP now also supports Oracle, Informix, UnixWare, Solaris 2, Cabletron's Spectrum and IBM NetView network management. It can translate graphical data to character form for alphanumeric terminals and is due next quarter. Prices, with a server and administrative client, database interface and four-user license, are from \$17,500.

STAR ADDS FAULT-TOLERANCE TO SCO UNIX

Star Technologies, Laguna Hills, California, is offering fault-tolerant software for SCO Unix that allows networks of systems to be configured so that file systems can be mirrored between them. The Sentinel-MRA (Modular Redundant Architecture) includes the ability to switch users to a mirrored file system on another networked computer if the system they are using goes down. The software includes load-sharing support across the network - disk performance and allocation efficiency is monitored from a graphical interface. Sentinel-MRA runs across Ethernet or FDDI, and can use all SCO drivers and operates with SCO-supported boards and peripherals. Uniprocessor versions are from \$3,000, MPX versions are from \$5,000. +1 714 768 6460

SUN TARGETS PRE-CONFIGURED NETRA LAN SERVERS AT INTERNET, SYSTEMS MANAGEMENT

Figuring it can't afford to be left out, and that it needs to play to be a credible enterprise-wide provider, Sun Microsystems Inc's hardware arm will wade into the LAN server market this week at Networld-Interop with a line of pre-configured, easy-to-use Unix servers aimed at the application sector of that market. For delivery in November there are two Netra machines running Solaris 2.4, one an Internet server, the other tailored for systems management, with groupware (by mid-1995) and database-oriented configurations to follow.

The company isn't aiming to usurp NetWare-dominated file and print LAN servers, but to compete with the various solutions on offer in the PC application server space. It points to IDC numbers suggesting 1.2m LAN servers will ship this year, 27% of them into the application space (the rest as file/print servers) rising to 40% of the total by 1997. Sun's hardware unit has taken standard Sparc-server architecture (SS5 or SS20) and optimised it for use by non-experts, providing stuff like a 30 minute, voice-driven installation procedure and easy-to-use administration and configuration tools on top of Solaris 2.4 (discarding or hiding stuff that isn't required), for providing application services to PC networks. The Netra Internet server offers e-mail, file transfer, LAN connectivity, some Internet browsers (with more to come), standard security plus an optional Checkpoint Software Technologies Ltd's firewall. There's a step-by-step guide to finding an Internet provider and building Internet services, though Sun won't offer a bundled Mosaic implementation until there's a commercial implementation available. The Netra system management server is preconfigured with SunSelect's SolarNet networking system for integrating and managing TCP/IP-based PCs networks running DOS or Windows with SolarNet clients from Unix. SolarNet, previewed last October (UX No 456), is ending its beta run and is due in November. It includes Sun's NIS+ naming, dynamic host configuration protocol, SNMP support and authentication. Both these and future Netras are aimed at small businesses or departments that don't want or need, or can't afford to buy the Unix skills a full-blown Sparcserver would require. But isn't a box with pre-tuned Unix system software and applications something more than the LAN server community could use? Sun concedes that marketing Netras will be more challenging than doing the technology, figuring it needs to be in the top three in that sector within a short space of time to give the effort a reasonable chance of longevity. Groupware servers will be kitted with Novell Inc IPX/SPX stacks and future database servers will be offered more ease of use features for low-end database technology. Eventually the SMCC software will be unbundled and passed to SunSoft, from where it'll eventually feature in Solaris x86 and other releases. Prices for the Internet Netra i5 (Sparcserver 5) start at \$6,150 with 70MHz microSparc II, 16Mb RAM and 535Mb disk or \$8,500 with an 85MHz CPU, 32Mb RAM and 1Gb disk. The one-to-four 60MHz SuperSparc Netra i20 (Sparcserver 20) start at \$13,200 with 32Mb RAM and 1Gb disk. The 85MHz Netra s5 systems management box is \$10,400 with 32Mb RAM and 1Gb disk, the Netra s20 starts at \$18,300 with similar memory. Netras are VAR-only products (except in Japan) and Sun is easing VAR qualification restrictions for this product so it can go against Cisco, Compaq, IBM, HP and the like in the channel. Sun OEMs are currently in talks for Netra - Sun hopes to sell thousands by year-end.

OMG PASSES OBJECT TRANSACTION SERVICES SPECIFICATION

OMG will today officially announce its object-based OLTP specification voted on by its Object Services Task Force in Dublin last week (UX No 503). The specification for the Object Transaction Service was pulled together by Groupe Bull, IBM, ICL, Iona, Novell, SunSoft, Tandem, Tivoli and Transarc. The OMG technical committee and the OMG board will approve the service by year-end. We understand most of the core specification was written by SunSoft's Alan Snyder. IBM Corp did a lot of the editing work (even if, as we're told, it didn't contribute much new material), whilst Tandem Computers Inc added the User's View chapter. ICL Plc did the portability and interoperability specification, fixed the recovery and nested transaction material. Observers say the solution ended up looking more like the original Sun and ICL submissions than any of the others. Other Common Object Services Specification 2 (COSS 2) services recommended by the task force were concurrency, relationships and externalisation. The concurrency spec is Transarc's, the relationship submission came from Bull, HP, IBM, Olivetti, SNI and SunSoft, the externalisation proposal was developed by IBM and SunSoft.

NEW DEC ALPHA CHIP IS A CORKER, BUT IT NEEDS HOMES

DEC announced last week that both the 266MHz and 300MHz versions of its 21164 Alpha chip will sample in October with volumes expected in January for the 266MHz and March for the 300MHz versions. They are unlikely to get into boxes for another nine to 12 months when they are expected to power OSF/1, NT and OpenVMS machines, DEC said. The pity of it is that with these next-generation chips, like their predecessor, the 21064A, DEC can rightly claim performance leadership yet they really have no place to go. The beleaguered New England company has still failed to capture any major OEM to offer the chip significant volume. DEC's putative second source, Mitsubishi Electric Co, which DEC says is developing the four-layer metal manufacturing skills needed to build these things, won't make the 21164 unless there's sizeable volume demand. DEC called the announcement the most important one it's made since the Alpha was first introduced, claiming 330 SPECint, 500 SPECfp and 600 TPS performance for the 300MHz part, worth, it believes, an unprecedented - albeit these days meaningless - 1.2 billion instructions per second, or 1,200 MIPS. (The 266MHz 21164 is reportedly worth 290 SPECint and 440 SPECfp.) DEC said the single piece of silicon was twice as fast as a Pentium, PowerPC or Mips chip, and 75% faster than the previous 21064A. It said a prototype single-processor 21164 box delivered twice the performance of a four-way Compaq Proliant fitted with 66MHz Pentiums and one and a half times an eight-way Sun Sparcserver 1000. Half the chip's real estate - and it dissipates a hot 40 watts at peak - is dedicated to a unique two-level on-chip cache that eliminates external cache in most desktop applications. Prices will be \$1,865 for the 266MHz and \$2,669 for the 300MHz for 5,000-up. DEC claims that because of the way the 9.3 million-transistor chip is made it has "zero yield loss." It also promises to degrade its manufacturing techniques to a three-layer process to produce lower cost higher volume microprocessors. In answer to a question, DEC CEO Bob Palmer swore that nothing would persuade DEC to give up control of the architecture which he anticipates will be unchanged "for the next 20 years." DEC is supposed to provide potential OEMs with a 21164 reference board as well as a 21171 core logic to PCI chip.

NEW AMDAHL ALLIANCE, SOFTWARE EXPECTED

Remaining tight-lipped, Amdahl Corp is promising new software and details of another strategic alliance this week. The company has been promising availability of its A+ Edition commercial middleware extensions to SunSoft Inc's Solaris for several weeks now (UX No 496), which are due to feature on Solaris 2.4, also due imminently. A new revision of the company's UTS Unix is due by year-end - and a statement of direction has been expected for some time. Meanwhile, first fruits of the company's storage subsystem alliance with Encore Computer Corp are promised within 90 days (UX No 481).

SCOTT MCNEALY IN STRATEGIC ALLIANCE

Sun CEO Scott McNealy, perennial batchelor, retired over the Labor Day weekend to become Scott McNealy, married man, much to the relief of his darling mother and assembled staff who are hoping this new strategic alliance with Susan Ingemanson will slow the boy down a bit. Our society editor reports that the wedding, held at the Stanford University chapel, was attended by a glittering throng of 400 including McNealy's new pal, NeXT chief Steve Jobs. The bride wore a white Valentino gown and her 12 attendants a rich purple set off by the Stanford gold mosaics. Scott's crew included best man Sun chief information officer Bill Raduchel and former SMCC marketing VP and jockey player Curt Wozniak. The wedding party and guests then repaired to the redwood splendours of the Family Farm for an outdoor reception under the stars. *See back page.*

ORACLE READY WITH ORACLE IN MOTION FOR CELLULAR DEVICES...

Oracle Corp is due to unveil Oracle in Motion, a development framework for building mobile applications linked to the company's ~~database server, at the Network/InterOp show in Atlanta this week.~~ Oracle in Motion is intended to enable developers to use existing tools, such as PowerBuilder or the Oracle Co-operative Development Environment tool kit, to build applications designed to run across wide area and wireless networks to connect mobile users to corporate databases. The tool will use agents to search databases for requested data, and existing applications will also be able to be adapted to support mobile access.

...BUYS 15% OF DATALOGIX TO TACKLE SAP AG'S SUPREMACY

Oracle Corp has targeted German software giant SAP AG in its European stronghold - the process manufacturing industry, Ray Lane, the database vendor's chief of worldwide operations, indicated Wednesday at a Paris press conference. To that end, Oracle has quietly purchased 15% of Vallhalla, New-York-based Datalogix Inc, a \$240m turnover process manufacturing applications specialist. "They will integrate their application with Oracle's Financials and we will hire 15 specialists in Europe, because they don't have a salesforce in Europe, to sell their solution", Lane said. In the context of the conference on Oracle's recent agreement to buy Digital Equipment Corp's Rdb business, Lane acknowledged that "over time, I do believe that the database business will consolidate," but added that Oracle intends to bring out new versions of Rdb for the next few years. "It's the customer who will decide," he said. Lane said also that Oracle will introduce a Visual Basic-based object-oriented development tool for the desktop in January and that Oracle7 for Windows will be available in October.

HP ADDS FIRST ATM PRODUCT, PREVIEW SWITCHING PLANS

Hewlett-Packard Co got in on the Asynchronous Transfer Mode act this week with the first interface products for linking HP 9000 Unix computers to high-speed Asynchronous Mode networks. The switched networking technology is attractive for multimedia users because it provides full, guaranteed bandwidth to every user, supporting fixed-length, 53-byte cells - the small cell size makes it good for transmitting video simultaneously with speech and data. The adaptor for the HP 9000 700 workstation supports the 155-Mbps standard over multimode fibre and is soon to support unshielded twisted pair Category 5 copper wire. The Hewlett offering is an EISA bus adaptor with software drivers designed to optimise efficient use of the system and network connection to maximise network speed and minimise system overhead. Hewlett is also working on a new switching technology as the basis for its line of switching products, including frame switching for Ethernet and 100VG switching hubs, and cell switching for Asynchronous Mode campus and workgroup switches: frame switches using the technology are planned to ship in mid-1995. It will then turn to developing its own Asynchronous Mode campus or workgroup switches, and is committed to providing seamless integration of its low-cost 100VG technology with Asynchronous Mode networks. The ATM adaptor for Series 700 is expected in November at \$2,000.

MOTOROLA'S £250m EAST KILBRIDE EXPANSION IS SCOTLAND'S BIGGEST

Motorola Inc last week brought a wee dram of cheer to Scotland's Silicon Glen when it announced that it was investing a further £250m - \$387m - to expand production at its East Kilbride chip plant. The expansion will create 250 more jobs in the region by the end of 1996 and marks the second largest inward investment ever made in the UK after Toyota Motor Corp's decision to build its £700m European production plant in Derbyshire five years ago. Motorola announced the planned expansion at the official opening of the new £50m semiconductor fabrication facility in the Glasgow suburb. Motorola already employs some 2,300 people in the town, and 2,000 more at plants in Livingston and Easter; the planned investment will enable it to fabricate the most complex silicon wafers ever made in Europe.

POWERSOFT USES ADMIRAL VENTURE FOR UK CLIENT-SERVER MARKET PUSH

Powersoft Corp has unveiled details of its UK company, formed by the joint venture between itself and Admiral Plc announced earlier this month. ~~Powersoft will buy out Admiral's interest by 1996, for no more than £14m.~~ Thus far, Powersoft has paid Admiral £2.1m for a 51% share of the business of the distribution and provision of support, maintenance and training for Powersoft products Admiral has been handling. Admiral estimates this part of its business has a turnover of £2.4m a year. Powersoft will buy a further 25% of the company for cash next summer and the remaining 24% by June 30 1996; this sum will be calculated in relation to future turnover. Thirteen of Admiral's staff now work for Powersoft UK; 12 from Powersoft Europe have joined from the Maidenhead, Berkshire offices and new staff have been taken on to bring the total to 32 people. The new company will be based at Admiral's offices in Camberley, Surrey, but Powersoft Europe says it is out of space at its offices and will be relocating. When it does, Powersoft UK will join it. Admiral claims it is happy with the deal, which will see it losing a chunk of its business. It will still deal in Powersoft's products but as a software developer, trainer and commercial applications developer. Powersoft has formed the company to take advantage of the growing client/server market. It says that Admiral was excellent at bringing in high-end corporate customers but it needs channels for volume distribution. Powersoft UK plans to keep its current customer base and expand out of corporations and into the personal computer market. It will have what it calls PowerChannel Partners; enterprise level systems developers with training and consultancy capacity; Admiral is now one of these. Other planned relationships will be with what Powersoft describes as commercial application partners, application builders and systems integrators who use PowerBuilder, the graphical user interface development tool on which Powersoft has prospered. Powersoft also promises to offer levels of support to suit all types of user: 30-day support after installation; automated technical support such as bulletin boards; infrequent written information; traditional annual contracts; and customised support.

NEC TAKES ITS UNIX SERVERS TO INDIA

NEC Corp has joined the rush to tap the newly liberalised Indian market with plans to market its UP4800 R-series RISC-based Unix servers there; the company says it hopes to place 1,000 of the boxes over the next four years. NEC's move follows a recent sales agreement between its subsidiary in Singapore and Tata Elxsi Pte Ltd, the computer sales firm based in southern Bangalore, Reuter reports. NEC will supply servers to Tata Elxsi for sale in India through NEC Singapore. It has sold five general-purpose mainframes to government-related organisations in India, but no smaller machines.

SYSTEMS UNION TO ACQUIRE MANUFACTURING SOFTWARE

UK accounting software house Systems Union is buying itself into the manufacturing market, and has acquired exclusive UK distribution rights for the MadiSun manufacturing assembly and distribution software from long-term collaborator Productivity Solved Ltd of Yorkshire. The company's SunSystems software range has begun to make inroads into large corporates needing multi-language and multi-currency features, but unlike competitors such as Tetra, Oracle and SAP, it has not been able to offer a system that integrates the financial software with manufacturing resource planning and stock control. PSL realised the necessity of aligning itself with an accounts company a few years ago, and Systems Union has now begun what appears to be a two-tiered acquisition of the product. The current version 5.1 of MadiSun, which runs on the IBM RS/6000, SCO Unix and Xenix and PC networks, will be marketed via indirect channels in the UK, and worldwide by the corporate sales team. Version 6, due out in the first quarter of 1996 will be marketed both direct and indirect on a worldwide basis. More platforms and more interoperability will be added, and the interface integrated with SunSystems. The final wish-list for the new version is due to be finalised next month. PSL will continue to work with Systems Union on development and maintenance. MadiSun currently has 70 user sites in the UK, while Systems Union, of Mytchett in Surrey, claims to have 8,500 customers in 160 countries, making it the number two accountancy software company in the UK, and in the top ten worldwide: it recently launched version 4.1 of SunSystems.

WHAT FATE FOR RDB UNDER ORACLE?

By Alison Hawkings

As reported (UX No 503), Oracle Corp finally agreed the acquisition of Digital Equipment Corp's Rdb relational database in a move which will see Oracle consolidate its worldwide market leader share and also buy it a majority stake in the DEC VAX mainframe database market. So what are Oracle's Rdb plans? According to the company, Oracle and Rdb will eventually become one product, with pieces of Rdb's technology being subsumed into Oracle7. Exactly what it will look like is unclear, but Oracle could use a layered approach, similar to its object-oriented overlay development. However, other database watchers believe Rdb will simply cease to exist. The reason being that the technical investment involved in making an old VMS technology work with Oracle7 would prove too costly and is irrelevant to Oracle's open systems strategy. But in the short term, it seems, the firm will offer a dual database strategy. It says it will continue to invest in Rdb technology and improve its performance, and there are plans for new releases, if there is enough demand.

Customer options

For existing Rdb customers there are several options, says Oracle. For those who wish to downsize to DEC-based open system environments, Oracle will complete the ports of Rdb to DEC's Alpha AXP OSF/1 and Windows NT machines. It will also extend its gateway technology to ensure greater interoperability between Rdb and Oracle7, using its existing Oracle Transparent Gateway product. But customers can also go to DEC for its DB integrator gateway product. For the immediate future there are no plans to enable Rdb-based applications to run under Oracle7. But Oracle will offer customers full consultancy, training and technical support to help move applications over to the Oracle7 platform if required. To facilitate research and development and support Oracle will create an Oracle New England Database Centre and a new Rdb support centre in Colorado Springs. It also hopes to retain the majority of the 250 DEC Rdb software engineers, management and support staff. On the tools side, Oracle has also acquired DBA Workcenter, DEC's set of database administration tools and the CDD (Cohesion Data Dictionary) Repository. The DBA suite will continue to be supported and there are plans to integrate specific systems management features with Oracle's own tools. As to the future of the CDD repository and Oracle's CASE strategy there is not much news. The company admits that CDD and Oracle's Cooperative Development Environment don't have much in common. But it is likely that Oracle will write a direct interface between the two for CASE model design sharing in addition to support provided via CASE Exchange. Apart from that, Oracle says "it is just going to look under the covers and see what's on offer." Although, Oracle's Rdb product plans seem to be a little vague, the firm says Rdb and its toolset are currently under an operations review and complete product plans will be revealed after the acquisition has been validated by the regulatory authorities. In the meantime, for customers wondering about maintenance, DEC retains the responsibility on all existing contracts for the next 15 months. Thereafter, customers will have to negotiate new contracts with Oracle. But DEC will continue to offer Rdb consulting services and will add consulting support for Oracle7 products. Oracle has also promised to expand the range of products it offers on DEC hardware. It will put Media Server up on DEC's video server system; port Oracle7, Oracle Cooperative Development Environment and Cooperative Application Environment to DEC Alpha Windows NT machines; and add support for Oracle Workgroup Server to DEC's Intel-based NT boxes. Oracle also agreed to resell DEC's transaction processing and data integration lines.

FTP SIGNS DEAL WITH UNIPALM FOR TCP/IP MESSAGING SOFTWARE

Cambridge, UK-based internetworking specialists Unipalm Group is to license its Mail-IT Windows-based electronic mail technology to FTP Software Inc of North Andover, Massachusetts. FTP will use the software in its own OnNet product line to boost its messaging capabilities. Both companies say they will work together to enhance the Mail-IT core technology, adding such functionality as authentication, encryption and network news. FTP specialises in providing TCP/IP products to PC users. Unipalm's Mail-IT is based on the MIME and MAPI messaging standards, and was developed by Unipalm's XTech division, founded in 1990 from the remnants of Cambridge's Torch Technology (UX No 275). Unipalm's other subsidiaries include Pipex, a commercial Internet service, and Leaf Distribution which has separately signed up to distribute NetManage Inc's Chameleon TCP/IP product line.

BANYAN USES OPENVIEW FOR DISTRIBUTED NETWORK MANAGEMENT

Banyan is to consolidate its Enterprise Network Services (ENS) network technology (Vines minus Unix) with a network management architecture which will make its debut by the year end. The architecture, called Distributed Enterprise Management Architecture (DeMarc), is based on a Windows implementation of Hewlett Packard's OpenView network management technology and will be interoperable with OpenView for Unix. It is designed to keep network management data stored on the network rather than on the front-end management workstation, which the firm says will lower workstation costs and improve performance. Banyan has signed technology agreements with both SNMP Research and Hewlett Packard for the move, and it plans to sign partnerships with other companies to expand it into a systems management solution which will rival products from the likes of Tivoli Systems Inc and Candle Corp.

The product line

The DeMarc product family will work across Banyan, Novell, Microsoft and TCP/IP networks. It will use two types of SNMP2 agents from SNMP Research Inc of Knoxville, Tennessee, integrated into existing Vines and ENS systems. The network agent will roam the network acquiring information and storing it in server repositories, while the server agent will reside on the server and provide access to the management data. The front end of the system will be accessed using SQL or ODBC. DeMarc products based on the SNMP Research alliance will emerge early next year. The modules that will sit on top of the OpenView implementation are divided into three categories; Enterprise Resource Management will handle topics like capacity planning and optimisation. Enterprise Trouble Ticket Automation will develop Banyan's idea of the "self healing network", and will check server management data, merging event management with the rules system originally used in the BeyondMail product acquired by Banyan last February. Finally, the product architecture will incorporate a set of data distribution and storage management tools, the latter of which will be based on technology from Legato Systems, which Banyan announced a partnership with last autumn. That product will reach the market by the end of the year. To avoid problems caused by the divorce between IBM and HP over OpenView earlier this year, Banyan has also committed to support the NetView/6000 network management architecture and DEC's Polycenter/NetView derivative (see page two). Finally, the company is now shipping its ENS Management Tools product, which provides a Windows-based graphical StreetTalk management environment in Vines and ENS.

SYBASE USES TIVOLI FOR ENTERPRISE SQL SERVER MANAGER

As reported briefly (UX No 501), Sybase has announced Enterprise SQL Server Manager, a graphical database administration product designed for single screen control of SQL Servers across distributed environments. The software was developed using technology taken under license from Tivoli Systems Inc's TME systems management architecture. TME is used as the Enterprise SQL Server Manager backplane and Sybase has extended it to provide SQL Server specific object components, defined database specific events, introduced a message filtering system and a database management application programming interface. According to the company, the product allows administrators to configure SQL Servers, monitor server status and performance, manage server space and security and schedule and perform back up and recovery operations. It also manages database objects such as tables, views, indexes, stored procedures and triggers, Sybase says. Enterprise SQL Server Manager is currently in Alpha test and is slated for beta in the fourth quarter. Shipments will start in the first quarter of 1995 for HP-UX, AIX, Solaris and Windows NT. The firm also announced new versions of SQL Server Manager - formerly know as SA Companion - and SQL Server Monitor - originally dubbed Sybase SQL Monitor. SQL Server Manager now comes with a Windows front end, responsive database icons and drag and drop operation functions. SQL Server Monitor features object level data access and the ability to record and playback historical information. It also has an application programming interface for third party access. SQL Server Manager ships in the fourth quarter and the Monitor in the first quarter of 1995.

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Digital Equipment GmbH announced in Munich last week that it will lay off 2,200 staff to cut its workforce from a current 4,700 to around 2,500 as part of its restructuring. The announcement confirms the claims made by trades unions at the firm in July.

We hear re-fashioned **Network Computing Devices Inc** is readying what sources claim to be the fastest X terminal ever, the HMX, high-end modular Xstation, using the Mips R4400 RISC. It's said to do 180,000 Xstones - perhaps as many as 250,000 with the sneaky optimisation indulged in by some vendors.

IBM's Hans Olaf Henkel will retire from the group at the end of the year after a very short tenure - word is that Louis Gerstner was less than happy with the rate of reorganisation across Europe - and Lucio Stanca, the general manager of IBM Southern Europe/Middle East Africa, has been appointed to succeed Henkel - he becomes president and chief executive of IBM World Trade Europe/Middle East/Africa last week and will be nominated chairman in December.

At the Australian Unix show last week, **ICL Plc** was previewing the Merlin hybrid of its massively parallel Goldrush Megaserver linked to **Pyramid Technology's** Nile server via FDDI. Merlins are expected to be offered at between \$2m to \$4m each as information superhighway servers and real-time OLTP data analysers.

Computerworld reports that client/server decision support house **Metaphor Inc** will close down by year-end and fold its operations into two different parts of its **IBM Corp** parent. The paper reports Metaphor would be unable to meet its 1995 profit goals without cutting up to 40% of its 290-strong workforce, ending its ability to survive as a separate entity. The future of its Data Interpretation System is reportedly an "open question" as IBM has committed to supporting existing releases but hasn't decided whether it'll enhance it.

We might have been being a tad optimistic, saying the COM-to-ORB RFP could be ready by next month's **OMG** meet in Nashua, New Hampshire: in fact the nature of the **OMG** process, which require documents to be available three weeks ahead of a meeting mean the earliest possible date the RFP could be issued is at the Dec 7 get together at **AT&T's** offices in Redbank, New Jersey. The RFP, once formulated, may be significantly different to that proposed by Microsoft and DEC.

Novell Inc needs a few more weeks to straighten out its object strategy, but it's got one of the year's two remaining Tuxedo announcements set for Unix Expo.

Hewlett-Packard Co has added a Unix network traffic monitoring tool to its OpenView network management suite priced at from \$4,000.

Amongst **IBM Corp's** Power Objects (UX No 501) due at Unix Expo are said to be a bunch of application class library services; MVS is also expected to get the object treatment, with C++, Systems Object Model objects, Smalltalk and object-oriented Cobol going up on the mainframes.

XShell ORB house Expersoft Corp, San Diego, California, has opened for business in Boston and Denver.

Perhaps indicative of the industry's need to harmonise, if only for appearances, sources say that the lone holdout in the 38 to 1 vote in favour of doing a COM-to-ORB interoperability RFP (UX No 503), has notified the **OMG** it would like to change its vote.

Benchmarker **AIM Technology Inc** will be giving out hot iron awards at Unix Expo to top filer server, multi-user system and workstation performers.

Apple Computer Inc has lured Howard Lee, VP Sparc engineering at **Sun**, to be its senior VP, personal products division.

Saros Corp, Bellevue, Washington, is putting its Mezzanine document management software up on DEC OSF/1 and Windows NT machines from next quarter. +1 206 646 1066

Dynasty Technologies Inc, Naperville, Illinois, plans support DCE and Tuxedo in release 2.0 of its Dynasty development environment due in the first quarter of next year at from \$8,000.

IBM Corp has bought Eden Prairie, Minnesota-based **Apertus Technologies Inc's** ezBridge Transact middleware for its Hursley, UK-based Networking Software Lab. ezBridge is the basis of IBM's MQSeries transactional messaging middleware (UX No 487). Apertus, which merged with former Nynex company Systems Strategies towards the end of last year, will continue to develop ezBridge in conjunction with IBM.

HP wants us all to know it's shipped 1,000 of its high-end HP 9000 corporate business servers which currently go to 6 CPUs.

Sterling Software Corp, Irving, Texas, is offering a new Connect:Mailbox mail and data transfer package for a range of Unices. +1 214 714 2627.

MainSoft Corp is shipping version 1.1 of its MainWin Windows-on-Unix technology, which includes Microsoft Corp source, which now supports 32-bit Windows NT applications as well as 16-bit Windows software. Prices are from \$200 per workstation. A cross-development environment, MainWin/C-DK starts at \$5,000.

Munich firm **pc-plus Informatik's** National Directory Inquiry System directory assistance database is up on Solaris: pc-plus Communications is in Teaneck, New Jersey +1 201 928 1212

DCE users were bemoaning the lack of development tools and lukewarm support from some of the major vendors at their conference bash in Boston a few weeks back.

Object Design Inc's ObjectStore database will be up on Alpha OSF/1 in December and on OpenVMS from this month.

UK firm **Applied Computer Sciences Ltd**, which publishes the SBus Product Directory, is conducting a Sparc awareness survey to find out the current state of the Sparc market. If you want to take part, telephone +44 734 820880.

Sun says the new Netra series - *see front page* - is its first new hardware brand since the 1989 introduction of the Sparcstations/Sparc servers. It checked out 150-odd potential names before Netra - most dictionary names and names that actually mean anything are taken.

IBM Corp will debut LAN Server 4.0 today (Monday) at Network-Interop in Atlanta, Georgia.

Tip 'o the hat is apparently due to **Hewlett-Packard Co's** Steve Vinoski for doing much of the work on the **OMG C++** mappings "compromise from hell" specification (UX No 503).

At least one Unix vendor has observed that last week's characterisation of the **Microsoft Corp** COM-to-ORB interoperability proposal as a kind of "cut-down DCE" is too simplified. It tells us that the unidirectional or bidirectional nature of the internetworking itself is independent of the transport and that in any case both gateways and common protocols could provide both kinds of routing.

Texas Instruments is throwing open the doors of its proprietary Information Engineering Facility saying it'll publish APIs and other information, without royalties, allowing third parties to develop tools for it. A software development kit will be out next quarter for IEF custs. TI's IEF Open Initiative programme already has a bunch of ISVs signed for it.

Wabi 2.0, expected by year-end, will reportedly add support for up to eight new Windows applications, bringing the total to 20 or so, but won't run DOS software.

US papers report that **Novell Inc** is having serious problems with AppWare, its graphical applications builder. Dogged by bugs and delays, the AppWare Foundation layer is to be farmed out to a third party to finish and AppWare Builder is to be folded into another Novell business unit.

IBM Corp's SMP servers are being touted as the M101 and M201 minitowers, D201 and D401 desksides and R201 rackmount - four-ways going to 6,500 SPECrate_int and 7,500 SPECrate_fp92, uniprocessors doing 1,800 SPECrate_int92 and 1,980 SPECrate_fp92.

DEC and **Process Software Corp** are to merge their TCP/IP solutions for OpenVMS following a technology agreement signed last week; in the short term, DEC will use Process' TCPware in a new TCP/IP for OpenVMS release.

Baan International has won the biggest deal in its history - \$20m from Boeing for its Triton resource business planning and manufacturing software. The deal was won by the firm's Baan Inc US subsidiary. Boeing will use the software internally.

On the final day of five continuous party days at Scott McNealy's wedding (*see page 4*), the new groom was to be found teaching one of his wedding presents - a computer-aided stuffed parrot - to say the words: "Scott's a stud! Squwark, Scott's a stud!"

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BULL AND MOTOROLA FORGE NEW POWERPC PACT...

Motorola Inc's Computer Systems Group and Bull HN Information Systems' open systems and software division have signed a wide-ranging agreement on PowerPC that's expected to result in jointly-developed products using Bull's SMP PowerScale PowerPC technology and a new Peripheral Component Interconnect input-output interface on which the two will work. Although no-one at Bull or Motorola would comment, the deliberately vague agreement is also being regarded as a win for Bull's newly-formed OEM division, as sources say Motorola is likely to take system-level products from Bull over time as well as building PowerScale into its own high-end and mid-range PowerPC systems. Bull, on the other hand, will use Motorola's low-end systems technology in PowerPC boxes, which sounds as if it will buy PowerPC boards OEM from Motorola: up until now it has got them all from IBM Corp. Bull has a couple of small OEM customers so far, including General Automation and XL/DataComp. It claims a couple of other unidentified wins too, one it describes as "significant". Although Data General Corp has been mentioned in so many dispatches that we can't count them, it swears that it isn't the significant other. Although Motorola and Bull are showing more and more signs of discontent over their PowerPC agreements with IBM, Bull denies its deal with Motorola either downgrades or alters its existing ties with IBM. Bull is due to unveil its PowerScale systems (formerly known as Pegasus) this week in London, with IBM following on October 4th.

...AS TANDEM FORECASTS CLOSER TIES WITH BULL FOLLOWING SYSTEMS MANAGEMENT DEAL

Meanwhile, claiming it to be only the second time in the last 15 years that a US computer maker has chosen French-engineered software, Groupe Bull and Tandem Computers Inc last week unfurled a worldwide technical-commercial partnership for Bull's Integrated Systems Management software on Tandem's Mips RISC-based fault-tolerant Integrity Unix servers. Under the agreement, to be announced in New York at Unix Expo on October 5, Tandem will distribute the product worldwide. Whether the agreement will be broadened out to include hardware is unclear. Bull, a former Mips-house itself, wouldn't comment. However, David Van Antwerp, director of strategic relations for Tandem Computer Inc said "There is executive commitment on both sides for more co-operation between Bull and Tandem. I don't think this will be the last agreement you'll see between us."

IBM SHUTS POWER PERSONAL GATES UNTIL '95...

Although it appears IBM Corp has decided to ditch the October launch of its long-awaited Power Personal systems until next February, the reason, we understand, is not the fact that OS/2 isn't ready for them, but that it doesn't think there is enough software around to run on Windows NT, the only volume operating system platform that it could now hope to make available initially. Indeed, it's believed that development machines running NT will become available for ISVs over the coming weeks. AIX on the Power Personals is regarded internally as merely a diversion. The decision to launch or not to launch (which had seemed apparent to us for many months given the paucity of OS and software) has been reviewed on a week-to-week basis internally. Our sister publication, PowerPC News hears that in one European IBM subsidiary the news of the delay was broken at a meeting originally convened to discuss how the Power Personals and low-end RS/6000s would be marketed (because in Europe the same units will handle both). Until only a few days ago IBM was planning to launch a low-end RS/6000 at the beginning of October with the Power Personals following towards the end of the month. Now the RS/6000 will appear by itself.

...BUT MOTOROLA LAUNCH WILL INCLUDE DESKTOP POWERPCs

Motorola Inc's Computer Systems Group launches its first PowerPC-based machines on October 4 at Unix Expo - and the line-up includes desktop boxes as well as the servers that have been widely flagged. Motorola has not hitherto offered desktop computers. The company is expected to major on Unix as the operating system for the new VME bus line. CSG had been denying our report that its four-way Series 900 server launched back at UniForum would be its last 88110-based system before PowerPC (UX No 480).

SYBASE STRUGGLES FOR MOMENTUM, BUT PLANS END-USER TOOLS

Although Sybase Inc continues to make impressive gains in the relational database space (UX No 504), the Emeryville, California-based vendor is nevertheless experiencing some much less visible problems in other areas as it pursues its stated goal of becoming a full solutions provider. One area in which the company has been especially quiet is on the progress of its Momentum line of development tools. An obvious indication of problems became clear earlier this month when Cooperative Solutions founder Dennis McEvoy was brought in to take charge of the tools group from Sybase co-founder Robert Epstein; Tim Harmon came on board from Meta Group to direct tools marketing. By now, Sybase's existing Gain Momentum development environment should have been supplemented by Build Momentum, a core client/server graphical database application development tool (due earlier this year), and Enterprise Momentum, an object-oriented repository of tools and code for application design which should have been going into beta. Instead, the prototype Build Momentum ran into trouble at the end of last year and the company decided to completely re-engineer the kernel using Windows technology and other tools expertise it had to go outside and hire. Its tools strategy was in an admitted state of distress.

Build Momentum rebuilt

Now, however, it says the re-worked Build Momentum, designed for organisations to use internally, is well into a second beta round, with ships now due by year-end. The more ambitious Enterprise Momentum has been broken down into more manageable components, and although it's not yet clear how they will actually be delivered, first product is promised by mid-1995. Based on SQL Server, Sybase will use internally-developed and third-party technologies in it. An automatic server generator will create stored procedures, triggers and DDLs; a client interface will support Build Momentum and third party development environments, and an object repository will follow. As well as plugging SQL Server into its Open Server offering, Sybase says it will increase interoperability by allowing other servers to do the same. It expects to bring Corba ORB object servers in via this route too. Messaging, message brokering and other distributed services will be provided by the likes of Ilog SA and others and Sybase says it's working towards other long-term goals such as developing or acquiring a set of end-user tools.

Inside: Page 2: European OEMs evaluating Novell's UnixWare. **Page 3:** SunSoft's AnswerBook; Death Knell tolls for OSI. **Page 4:** Unix is alive and well Down Under. **Page 5:** Sybase to ship Navigation Server by year-end. **Page 6:** Oracle in Motion. **Page 7:** Frankenberg's vision of Novell Inc's future. **Page 8:** IBM, Apple and the PowerPC; Upmarket Internet address snobbery.

EUROPEAN OEMs EVALUATING UNIXWARE BINARIES OVER SOURCE

As members of the UnixWare Technology Group, set up in June to cheer on development of UnixWare, ponder the implications of the announcement by Novell that it is developing a common core for UnixWare and NetWare in the form of the SuperNOS modular distributed microkernel (UX 504), they are also examining the best way to dovetail the forthcoming UnixWare 2.0 SMP release, Novell's multiprocessing ~~version of Unix System V R4.2, into their Unix product strategies. Following its formal announcement in June of a three-pronged development and marketing agreement with Novell, ICL Plc is well down the line in development terms, with plans to put UnixWare 2.0 onto both its Intel and Sparc-based platforms. On the Sparc side, ICL says it already has the basic product, and only has to add the UnixWare 2.0 commands and libraries, with implementation due for release in the first half of next year. It's a reasonably straightforward but time-consuming task, says ICL, particularly the qualification stages it has to submit to with Novell. On the other side of the house, the company says it will be able to bring out UnixWare 2.0 for its Intel base within weeks of the release - though it's cautious about specifying just how many weeks might be involved. This will probably depend on whether ICL continues to license source code from Novell or opts for shrink-wrapped UnixWare.~~

Olivetti taking a long look

Its deal with Novell allows ICL to sell shrink-wrapped binary versions of UnixWare for Sparc. Indeed the source versus binary question is one also being considered by the company's co-UTG members, including Ing C Olivetti & Co SpA. Olivetti has taken the classic route to market for the past three or four years, buying source from Unix System Labs as it was then, and turning it into Olivetti SVR4 Unix with a little help from its technology deal with Pyramid Technology Corp. The Pyramid deal is still in place - and Olivetti says it is still developing that product - but the Italian is now taking a long look at its strategy into the next couple of years. It is selling the single processor version of UnixWare as shrink-wrapped software, given, it says, that the market today pays a lot more attention to the bits being added on than the core technology itself. When UnixWare 2.0 is finally released, Olivetti plans to migrate to the multiprocessor OS and is weighing-up whether to carry on taking source code or to buy the product shrink-wrapped from Novell. The balance looks like leaning the way of the package, since Olivetti sees the way the market is moving in demanding more open systems, which Unix was supposed to provide in the first place. The mathematics of the decision lie of course in the margins, and whether Olivetti will be able to make enough profit from sticking network and systems management on top of shrink-wrapped UnixWare 2.0. It is a question that will exercise the calculators of several other companies.

IBM BUYS OUT ITS MQSERIES TECHNOLOGY

As briefly reported last week (UX No 504) IBM Corp has consolidated its relationship with New York-based Apertus Technologies, which now owns Systems Strategies and its ezBridge Transact middleware technology. IBM has bought all the rights to the Apertus/Systems Strategies middleware products, which form part of IBM's MQSeries development (UX No 487). At least IBM has stopped referring to MQSeries as the thinking person's TCP/IP, now preferring to define its strategy as a communications and messaging facility, a level up from the communications protocol layer. The company has been carrying out joint development work with Apertus for about 18 months, but this latest consolidation of the deal means it will develop, sell and support the ezBridge Transact technology, while Apertus is left to develop other products that will, it says, complement the MQSeries line.

DIMENSION SELLING GUPTA TOOLS TO UK ORACLE CUSTOMERS

The rivalry between Gupta Corp and Oracle Corp, which intensified this summer when Oracle unloaded its remaining 2.4% stake in Gupta after its unsuccessful bid to buy the company, has not prevented third party companies from forming their own alliances with the two warring parties. UK Oracle software house Dimension Systems International has signed a deal to distribute Gupta's range of Windows-based client-server tools, including SQLWindows and Quest, to its Oracle customers. Dimension said its existing relationship would not be harmed, adding that Oracle recognises the importance of third party tools. The move of Mike Evans, previously Oracle's UK marketing director, to become managing director of Gupta UK was not a salient factor in the deal, according to Dimension's managing director Zag Asghar.

TENON'S FIRST HOMEGROWN X-SERVER IS NOW SHIPPING

Tenon Intersystems Inc began shipping its promised X-server software for the Apple Macintosh, the MachTen XServer Release 3.0, at the end of last month (UX No 481). It is the first X-server available from Tenon that is fully integrated with its microkernel-based MachTen operating system for the Macintosh, which is built on top of Carnegie Mellon's Mach operating system. Tenon used to OEM the eXodus X-server software from White Pine Software Inc of Nashua, New Hampshire, but says its own version is "order of magnitudes faster". Power Macintoshes "will make excellent X-terminals" says Tenon's Anita Holgren, especially once the software is running native rather than in emulation mode, later this year. It'll be a free upgrade. A standalone version of the XServer is underway, so Macintosh users will have the option of running just the X-server or the whole Mach environment. Tenon, based in Santa Barbara, California, says it received a big boost in sales when Apple de-emphasised A/UX, and a further boost when the PowerPC Macs came out: Apple has shown little interest in providing a Unix implementation for desktop PowerPCs, though it is fighting back on the X-server side, having recently struck up a cross-licensing deal with Age Logic Inc for an upgraded version of Mac X later this year (UX No 497). Tenon says MachTen will be made Spec 1170-compliant some time during 1995.

BT PICKS £17m HP/ORACLE UNIX MIX

British Telecom Plc's largest Unix installation to date is a system called Workmanager that will automate the sending out of BT engineers, and is to be run on HP 9000 T500 servers, with software from Oracle Corp. The deal is worth £14.5 million to HP and £2.5 million to Oracle, which is supplying both its relational database and Cooperative Development Environment software. The application will run on six clusters of HP servers, supporting BT engineers within separate regional areas. The Oracle software will co-ordinate job schedules for the engineers, who will access the system via handheld terminals for work orders and reporting. There will be 30,000 engineers connected up to the system when it is fully complete, but concurrent use will be kept well down. BT says it tested the system with up to 1,500 concurrent users but says that is an absolute maximum and expects average concurrent use to be fairly well below that figure. So far, 2,800 engineers have been hooked up to the system since implementation began in mid-February. It is due to be finished by next March. HP snatched the deal from Sequent at the last minute, say sources.

...AS SUN, DEC BATTLE OVER NHS DEAL

A group including Sun and Oracle is locking horns with DEC over a series of NHS contracts which could be worth £80m over the next three years. The contract, part of a deal won by Syntegra, the systems integration arm of BT, involves solutions put together by the two teams which will handle the UK National Health Service's messaging system. Both will be put in a catalogue to be made available to NHS hospitals; this catalogue will contain roughly 20 other vendors offering solutions or components. The NHS, which sends out an estimated one billion paper-based memos per year, is said to use Oracle in 40% of its installations already. The Oracle/Sun Solution will consist of a SparcServer 1000 or Sparc-Centre 2000 server running X.400 software from OSIWare, and the IMX EDI software from Wick Hill. Oracle will use its Cooperative Development Environment (CDE) product to help the system link into existing NHS applications, which range from 20 year-old legacy systems to open systems boxes. DEC's solution will use low end Alpha workstations with its Mailbus 400 Message Transfer Agent, Mailbus Message Store and Dec X500 Directory. DEC is also supplying the kit for the backbone of the messaging system. The pilot consists of two Series 3000 Alpha machines, although this is likely to progress to 10 Sable servers later on.

BY 1997 A QUARTER OF ALL IT SPEND WILL BE ON OPEN SYSTEMS, SAYS X/OPEN SURVEY

Findings from X/Open Co Ltd's fourth annual worldwide survey anticipate that spending on open systems will account for at least 25% of all IT expenditure by 1997. 82% of organisations it surveyed said they are now using open systems - up from 68% in 1991 - a figure expected to rise to 96% by 1997. Europe seemed to lead the way back in 1991, when 84% of survey respondents said they were using open systems, against 47% in Japan. This year, 91% of European organisations said they are using open systems alongside 65% of Japanese ones. Meanwhile, X/Open is adding three new board members: two directors are to come from its 89-strong User council and one from the 29-member ISV council. The criteria is financial and is based on the collective contribution of each council. There are 15 X/Open shareholders - Geoff Morris, president and CEO retains his board seat.

AMDAHL'S A+ SOLARIS EXTENSIONS ARE FINALLY REVEALED

The first fruits of Amdahl Corp's alliance with Sun emerged last week with the release of the A+Edition for Solaris Enterprise Server, an extension for Solaris 2.3 it says enhances throughput and scalability on large SMP Sparc servers. It points to forthcoming SDET and KENBUS SPEC benchmarks which show 200% and 500% performance increases respectively on 16-way SparcCenter 2000s. It includes enhanced FTP authentication, and extended error logging, the company says. Prices go from \$1,500 to \$2,500 per CPU on SparcServer 1000s and SparcCenter 2000s. A typical system cost will go from \$3,000 to \$50,000 on a fully-configured 20-way 2000. A+Edition has been gestating a while. It was announced at UnixExpo last year and has been ready to ship since March, according to Amdahl, but was held up in the politics over the details of the alliance between the two companies inked before last year's Unix Expo. The delay means the second release of the software, with further enhancements to security and multiprocessor performance, will be hard on the heels of the first, since release 2 of A+Edition is scheduled to coincide with the release of Solaris 2.4. This is going to be a little tricky, since Solaris 2.4 is due anytime soon, having already been put back from last month - a fact which Amdahl does not seem entirely cognisant of. But then, co-ordination has hardly been the hallmark of this alliance so far; expect the second release of A+Edition by the end of the year. Amdahl also claims its work on A+Edition will have no direct input on the development of UTS, its mainframe Unix operating system, version V4.3 of which is due by year-end. How this tallies with the company's admission that there will be "commonalities" derived from the work of both companies on A+Edition is unclear. Further product announcements are expected shortly (UX No 504). Meanwhile, there remains a question mark over whether the rest of Amdahl's family - parent Fujitsu Ltd and cousin ICL Plc - are going to garner any benefits from the Amdahl/Sun work, following the decision by the three companies to shelve their common Unix application environment (UX 496). Amdahl claims its enhanced Solaris will be of interest to Fujitsu, ICL and other Sparc vendors, though how this can be levered into other product lines is unclear; Fujitsu has forged its own Sparc development alliance with Sun and ICL is putting UnixWare 2.0 up on its Sparc boxes. Amdahl is set to reveal the latest of its multitude of alliance this week.

DG EUROPE REGROUPS BACK IN BLIGHTY

Data General Corp will next month relocate its European head office from Paris - on which it got a generous deal when it set up there - to its existing UK headquarters in Brentford, west London right by the M4 motorway flyover to Heathrow. The move, apparently sparked by the expiry of the lease on the existing office space occupied by DG Europe, will see the 25 or so head office staff, under vp and general manager for Europe Claes Nordwall, move across the Channel. The move is more than just about buildings - although there is a considerable amount of space in Brentford - and is being seen as a consolidation of a number of European central functions into the UK, where the field centre that supports the company's internal data processing, for instance, is already located. Nordwall reports directly into the US, and UK managing director Terry Radford will continue to report in to Nordwall. Fewer cross-channel journeys for him, then.

SUNSOFT PLANS NEW ANSWERBOOK TECHNOLOGY, UNIVERSAL VIEWER,

SunSoft Inc has signed with Electronic Book Technologies Inc, Providence, Rhode Island, to help it develop what it is calling a universal document viewer that will allow Solaris users to view, browse and annotate documents published on their networks stored in a range of formats. At present, support is envisaged for Standard Generalised Markup Language (SGML), World-Wide-Web's HTML, the Adobe Acrobat Portable Document Format, Common Desktop Environment's SDL on-line help, Electronic Book's SGML-based DynaText publishing system and the protocols used by SunSoft's existing AnswerBook on-line document delivery format, including PostScript and ASCII. The aim is to provide a single tool that will ultimately recognise and display all structured documents published in these formats automatically, though at least initially users will likely have to select a particular display format from menu of options. SunSoft has licensed Electronic Book's SGML-based DynaText and systems integrator toolkit technology to use as the basis of the new AnswerBook universal document viewer, a prototype implementation of which is promised before the end of the year. It will the existing FrameMaker-based AnswerBook tool which is specific to Sun's own on-line documentation services. The finished viewer will be up on a future version of Solaris, presumably 2.5, though whether it'll be bundled or an add-on option has yet to be determined, according to SunSoft's director of information products, Mike Rogers. Development will be split between Mountain View and Providence. In the interim, SunSoft will offer the DynaText viewer to Solaris users, ISVs and OEMs for viewing and publishing on-line documentation. DynaText is described as technology for automatically building a dynamic electronic book, including hyperlinks, tables, equations and graphics from SGML documents - it can also launch external sound and video applications. DynaText is the delivery tool, DynaTagT is an SGML conversion tool, DynaBaseT is its SGML management repository and DynaWebT is an SGML World-Wide-Web Internet server. Electronic Book, a 1989 spin-out from Browns University, sells its tools to end-user organisations and vendors such as Sybase and Novell for publishing internal documentation and reference material. It plans new generations of products that'll provide access to other document protocols, presumably based upon some the stuff it'll be doing with SunSoft.

DEATH KNELL SOUNDING FOR OSI

Proposed changes to Federal Information Processing Standards (FIPS) being recommended by the US Department of Commerce will drive another nail into the coffin of Open Systems Interconnection (OSI) technology. If adopted, the changes - now open to a period of public comment - mean there will no longer be a requirement for government procurement agencies to specify OSI-based Government Open Systems Interconnections Profile (GOSIP) protocols when buying communications and networking kit according to FIPS 146-1 and FIPS 179 regulations. Although government systems will still have to be Posix-compliant under other FIPS standards, the DoC is effectively saying that agencies can use whatever communications and networking protocols are appropriate - including recommended Internet standards. It won't however be mandating any particular mechanism under the proposed arrangements. Specifically, FIPS 146-1 (GOSIP version 2) will be replaced with FIPS 146-2, or Profiles for Open Systems Interconnection Technologies (POSIT). FIPS 179, the Government Network Management Profile, will simply lose its mandatory GOSIP requirement. Observers say that only an unprecedented public outcry in support of GOSIP will prevent the changes and that in any case the majority of OSI technology bought under GOSIP was simply left in its wrapping. At the beginning of this year the US Federal Internetworking Requirements Panel issued a report calling for an end to GOSIP, saying the four-year-old project to solve interoperability issues between different government departments had failed in its mission (UX No 471). The comment period runs until October 27.

• This year marks a pivotal transition for network protocol traffic, according to a report from Newton, Massachusetts-based Business Research Group. *The Future of Interworking*, based on 354 interviews, says that the current momentum of TCP/IP - measured by the percentage of total network traffic it accounts for - means it will be more popular than IPX by the end of 1996.

UNIX IS ALIVE AND WELL DOWN UNDER

From David Frith in Melbourne

~~Unix is alive and in rude good health in the Antipodes, it seems. In~~ better health, in fact, than many of its proponents had imagined. Some 633 true believers paid up to \$A620 a head to attend the recent AUUG 94 conference, the annual get-together of the **Australian Unix Users Group** held this year in Melbourne. The numbers were a good 25 percent up on the 504 who attended the last Melbourne shebang in 1992, though as it turned out precisely the same as registrations for AUUG 93, which was held in Sydney.

Local analyst Graeme Philipson of **MIS Research** confirmed the patient's good health. Australia is experiencing a massive movement to client-server computing, he told the conferees. An MIS Research survey earlier this year had shown more than 70% of all enterprises ambling down the client/server path: at least one-third of the market had already adopted client/server; a further 10 percent planned to move this year and 18-20 percent within the next 12 months. Only 25% had no current plans to move. MIS has found about 50% of Australian groups already use Unix somewhere in the organisation. The bigger the outfit, the more likely it is to be a major user. Location is also a factor. Canberra and Western Australia lead with around 60-70% penetration; the more populous Victoria and New South Wales drag their feet with around 40%.

But it wasn't dry stats the locals had flocked to hear. Megastar speakers have become a feature of the AUUG bunfights: last year Clifford Stoll, the US hacker-busting author of *The Cuckoo's Egg* was the crowd-puller. This year a bigger cast for the three-day 40-lecture event included **AT&T Bell Labs** guru Dennis Ritchie, billed as the co-father of Unix; privacy watcher Prof Gene Spafford from **Purdue University**; Bob Glass, **SunSoft Inc** interface whiz; **Silicon Graphics Corp's** chief operating officer Tom Jermoluk; and the Three Tenors of programming — Tom Christiansen, Linus Torvalds, and P. J. Plauger. Still a local got top billing. The opening day's keynote, titled "IT - just another business tool" was a case study by Joe Adamski of **Barwon Water**, which turns out not to be yet another wretched Antipodean soap opera, but the trendy new moniker of the born-again Geelong Sewerage Disposal Authority.

Plan 9 update

Second-batter Dennis Ritchie got the biggest cheers, however — especially when he pulled on his famed propeller-head cap to discuss his latest love-child, the Plan 9 system. Ritchie, otherwise soberly clad in dark suit and a striped regimental tie that appeared to predate the 1960s origins of Unix, told delegates Plan 9 was an attempt to adapt older Unix system ideas "to the world we live in today, including increased CPU speeds, the existence of large networks, distributed computing and bitmap graphics." Unless someone responds to the technical and social changes of the past decade, he implied, Bill Gates and Andy Grove may yet run away with the end-user market. Plan 9 - named after Plan 9 from Outer Space, claimed by some to be the worst science fiction movie of all time - is a macro-kernel operating system that's remarkable for its size in an era of memory-monsters: the kernel text takes but 3Kb and the whole thing fits on a single floppy disk. It has three essential features: everything is a little file system; all communication with files uses a protocol that can be sent over a wire or network; and the file name space (a set of visible files) can be adjusted to suit a particular application, wherever it resides. This means, says Ritchie, files on other machines can be accessed in the same way as local ones. It becomes dead simple to attach all the files on a big server to a local machine. Internet connections are a breeze: "you can have a program running locally but using devices on the remote machine. FTP directories of Internet machines appear to be local." When will Plan 9 become a commercial product? Not in the immediate future, says Ritchie, though more licensees will apparently be welcome to help work through some ideas. He sees possibilities in use for running desktop boxes, and maybe a database back end, but the Bell Labs team still sees its role as researcher rather than mass market developer. The propeller keeps turning . . .

Another visionary to draw a big crowd at AUUG 94 was Bob Glass, **SunSoft Inc** director of human factors engineering, who gave an entertaining look at the interface of the future. Yes, some people may wear their computers woven into their sweaters, he said, drawing on an Alan Kay dream, but most of us will play with interactive multimedia at video conferencing workstations. Glass showed Sun Micro's vision of the future interface, a video titled Starfire which demonstrates such a system based on intercontinental video conferencing with interactive multimedia tools. Office workers were able to peep into each other's offices, scan, snatch and manipulate all kinds of documents, and build fantastic business presentations at intergalactic speeds. What about privacy? What about copyright? What about costs? "I don't know," said Glass with an enigmatic shrug. "What's slowing (the interface of the future) is political issues raised by bean counters and lawyers. There's going to have to be changes on the international level, or we just won't make any progress."

Maybe the wrong folks are making all the progress. Gene Spafford told the delegates the global bill for computer crime had passed \$7,000m a year, while the rapid expansion of network communications was leading to exciting new opportunities for "criminals, spies, lunatics and fanatics," as well as the good guys - and law enforcement agencies and governments were beginning to react. One major reaction: the US Government's move to force the Clipper chip encryption standard on the US public, and the social, political and legal issues it might raise. Spafford warned that the IT industry would have to strike a proper balance between the free flow of information and the need for privacy. "We have charged full steam ahead into the computing age without deciding how society should market these devices," he warned. "Now governments and multinationals are getting too worried to let us make those decisions any more."

Merlin in Melbourne

Upstairs in the attached exhibition hall of Melbourne's World Congress Centre, some 2,800 attendees turned up to ogle the latest and hottest on 53 exhibitor's stands. Merlin, the sexy composite Unix system put together by **Fujitsu**, **ICL** and **Pyramid Technology**, made its Down Under debut. The ICL GoldRush MegaServer massively parallel system was hooked up to a Pyramid Nile SVR-4-based front-end capable of handling 6,000 transactions a second (UX No 504). Precisely what sorcery was being cooked up by this potent combo was not revealed. No sales have yet been recorded, either, though Fujitsu's Will Burns hinted the outfit was angling for big fish in the telco, financial and social security sectors. **Silicon Graphics** gave the first Aussie demonstration of its new Indy Presenter flat panel display, claimed to be the first to offer both direct view display and overhead projection facility in a single device. Across the way **Sun Microsystems** personnel looked cool and dapper in yachting blazers and caps: Sun is to spend \$40 million on technical aspects of a new Australian bid for the Americas Cup. Australian Internet commercial service provider **Connect.com.au** was signing up new clients hand over fist, some intrigued by news that Connect.com had signed a cooperative agreement with **EUnet** aimed at making it easier to provide links for international organisations operating in both Europe and Australia.

Tank girl

The prize for best stand went not as expected to Merlin's spells but to the small locally owned software house **Australian Information Processing Centre**, which is deeply involved in the Australian Army's AustACCS tactical command support system to be deployed next year, using **Applix Inc's** Applixware. Somehow, AIPC's energetic founder and CEO Lorraine Beck had borrowed an Army M77a armoured personnel carrier and manoeuvred it to the fourth floor of the World Congress Centre. Next year, when AUUG moves to the maritime environment of Sydney's Darling Harbour, the well connected, Canberra-based Beck promises a Royal Australian Navy frigate, bristling with Applixware. Match that, Merlin.

SYBASE TO SHIP NAVIGATION SERVER BY YEAR-END

Sybase Inc says it'll begin shipping production versions of its long-awaited Navigation Server parallel relational database from December on AT&T GIS 3600 parallel processors. There are currently four beta users of the software, aimed at high-end decision support and data analysis applications, developed in conjunction with AT&T and originally scheduled for delivery this summer. An exclusivity deal the two have means ~~the parallel offering will always be available on AT&T platforms six months before it features on other machines. Planned IBM Corp SP2, Sun Microsystems Inc SparcServer 1000 and SparcCenter 2000 and Hewlett-Packard Co 9000 versions won't be around until the middle of next year.~~ Sybase claims those porting tasks are underway at its Emeryville, California base, and that it'll have a beta programme established in the first quarter when a version will also become available for AT&T's 3550 symmetric multiprocessors. AT&T will be paid a royalty for every Navigation Server licence Sybase sells and the two remain committed to future joint development of the environment. Although the market for parallel-enabled databases is relatively small at the moment - combined hardware and software revenues are no more than \$500m - Gartner Group forecasts the total parallel market will be running at \$5,000m by 1998. The Sybase/AT&T technology goes up against rival offerings from Oracle Corp (Parallel Server) and Informix Software Inc (OnLine Dynamic Server) where each claims superior functionality over the others. In particular, Sybase offers-up a collection of features in Navigation Server it says Oracle 7.1 Parallel Query Option (PQO) doesn't have, including parallel insert, update and delete; parallel index access (PQO doesn't parallelise index access on tables that have been indexed); intelligent optimisation (applications and data structures must be hard-coded to be PQO-aware); application transparency and flexible data partitioning; plus configuration and management modules. In Navigation Server SQL requests to the database are accepted, managed and prepared for execution by a control server; a parallel optimiser generates parallel SQL; multiple SQL Server database engines execute the SQL code on their part of the data, in parallel; and results are returned to the user.

Shared nothing

Sybase claims Navigation Server's shared nothing architecture can - at least on the Pentium-based AT&T 3600 - provide linear increases in performance and throughput as processors, users, workload and data are added to the system. Because IBM Corp implements a shared-nothing arrangement in its parallel SP2 line, Sybase claims big blue won't have to add an emulation layer to run Navigation Server as it has to for Oracle Parallel Server. To client users, Navigation Server appears as a single Sybase SQL Server relational database. Management tools includes a configurator, which analyses workload requirements and recommends system configurations and a graphical utility manager. AT&T is marketing Navigation Server and the configurator as Parallel Navigator and Parallel Architect respectively. Navigation Server's partitioning allows replicated data to be accepted, although as it can't yet slice-up individual tables of data to output to replicated sites. Sybase promises additional replication features in subsequent releases, plus other tuning options for the optimisers and greater mapping to SQL Server. It anticipates the use of parallel databases expanding beyond decision support to operational requirements and OLTP. Navigation Server supports configurations with up to 500Gb stored data and is priced at from \$150,000 - the company recommends a minimum of four or six CPUs. Beta Navigation Server users are Chase Manhattan Bank (customer data warehouse), US West (market analysis), AT&T itself (consolidated reporting) and Kwasha Lipton - an unidentified securities house and one other user will be made public this month. Chase Manhattan, a \$7.5m account for AT&T/Sybase, expects its Navigation Server implementation, now up across four 8-node systems - with eight and 16-system configurations planned - to have paid for itself within a year.

INFORMIX SHOUTING ABOUT MASSIVELY PARALLEL DYNAMIC SERVER 8.0

Meanwhile Informix Software Inc, determined to somehow make its voice heard above the Oracle-Sybase din, says plans for its own clustered parallel implementation, Informix-OnLine Dynamic Server 8.0 Project XMP (extended Massively Parallel processing) are on track and that it will begin shipments by the middle of next year. It's already signed to develop Project XMP Dynamic Server on AT&T GIS' 3600 and IBM Corp's SP2 and says it's got other arrangements in the works. 8.0 will be the third iteration of OnLine Dynamic Server. The multithreaded, symmetric multiprocessing-enabled 6.0 arrived at the end of 1993; 7.0 includes a parallel data query engine and other features which will be migrated to massively parallel and loosely-coupled clustered systems as 8.0.

CA CUTS INGRES TAGS BY UP TO 79%

Clearly up against it with its new acquisition, Computer Associates Inc has taken what it believes is a long-awaited initiative to "match Ingres' acknowledged technological superiority with drop-dead affordability." It has cut licence prices and is offering two options, one based on number of concurrent users, the other based on a flat fee across organisations. It says "Success Packs" of all-in-one, bundled Ingres products are cheaper than the previous cost of the database alone. "If the ASK group had been able to afford this kind of pricing, there would be a lot fewer Sybase or Oracle users today," CA trumpets. Seven-day, 24 hour service is also on offer, including a first year of free support for new licencees. A 16-user CA-OpenIngres Success Pack developer model with OpenIngres, Server NET, Asynch API, Precompiler for embedded SQL, Q&R tools and OpenRoad is now \$13,440 for a concurrent licence - or \$33,920 for a flat site-wide licence (\$840 and \$2,120 per user), against \$31,500 and \$79,500 (\$2,000 and \$5,000). The Advanced Success pack - same as above plus STAR, Replicator and DBMS gateway for VAX or Unix - is \$21,840 and \$55,120 (\$1,365 and \$3,445) against \$45,000 and \$113,420 (\$2,800 and \$7,100). CA-OpenRoad Success Pack, with OpenRoad, Server NET, embedded SQL precompiler, Asynch API and Q&R tools is \$6,720 for the concurrent option or \$17,000 for the flat fee option (\$420 and \$1,000) against the old price of \$19,000 and \$47,700 (\$1,200 and \$3,000). A 16-user runtime model of CA-OpenIngres with Server NET is \$8,000 for both versions (\$500 per user) against \$8,000 and \$20,100 under the old pricing scheme. An Advanced runtime with OpenIngres, STAR, Replicator, Server NET and DBMS gateway is \$11,200 for both versions (\$700 per user) against \$21,420 and \$54,060. OpenRoad runtime with ServerNET, Asynch API and Q&R tools is \$4,000 for both options (\$250 per user) against \$5,000 and \$11,700 (\$315 and \$700). OpenIngres DB2 and IMS gateways are also marked down heavily.

LEGENT ADDS AGENTWORKS FOR FULL SYSTEMS MANAGEMENT

Legent Corp has announced a set of software agents it claims will allow systems administrators to manage groups of Unix systems, networks, applications and databases from SNMP and CMIP management consoles. AgentWorks includes a single-view system manager that uses local agents running on managed systems to compare presets with status information, alerting managers when thresholds are exceeded and generating reports on activity. A domain manager allows groups of servers and networks to be configured into local domains. AgentFactory includes tools to develop SNMP agents for use by the system and domain managers; DB manager monitors database and application behaviour (Oracle is supported now, Sybase in future). An enterprise view running under Motif is the central hub for monitoring and controlling all system resources, and runs under SunNet Manager, Open View, and NetView for AIX. It includes an SNMP/CMIP platform, a data repository, map editor and an autodiscovery mechanism for preloading relational databases. System Manager, DB manager and AgentFactory are out in November. Domain manager and enterprise view are due in December. Prices are from \$5,000 for system manager and DB manager, \$10,000 for AgentFactory and \$12,000 for enterprise view. Domain Manager is free, and agent pricing starts at \$100 per agent for AgentFactory, \$200 for DB manager, \$300 for system manager and \$400 for domain manager. AgentWorks is based upon the OS/Eye*Node technology of Legent's recent Digital Analysis acquisition (UX No 503).

ORACLE OFFERS ORACLE IN MOTION AGENT-BASED SYSTEM

Oracle Corp, Redwood Shores, California last week launched its promised Oracle in Motion agent-based system designed to enable users of handheld devices to access databases while on the move. Oracle in Motion will be available this week for the RAM Mobile Data Inc radio packet network, and eventually will run over other wireless networks such as Cellular Digital Packet Data and Motorola Inc's Ardis Inc. Oracle in Motion is made up of three components; Message Manager, Message Gateway and Agent Event Manager. Message Manager resides on the mobile client and interfaces with Windows-based applications via Object Linking & Embedding 2.0 or dynamic link libraries to run both wired and wireless communications between the mobile users and the home office, enabling users to queue messages to be sent later or invoke an application when a new message arrives. The Message Gateway and Agent Event Manager will run either on separate servers at the home office or on the main corporate database server. They work together to handle incoming messages and make queries on Oracle databases using intelligent agents. Once a query is complete, the data is sent back via the Message Gateway and out to the handheld device. Developers can create proactive events that automatically generate messages to a mobile user at a pre-determined signal such as when a partner puts a key into the electronically operated front door, or, more prosaically, when a share price hits a pre-set level. Message Manager is \$100 per copy, Message Gateway is \$400 per user, and Agent Event Manager is \$100 per user. Oracle has a string of other gateways under its Open Gateway Technology programme and added SQL*Net 2.1.

LOTUS LAUNCHES LOTUS NOTES EXPRESS

Lotus Development Corp has announced Lotus Notes Express, a new Notes client that enables organisations to deploy groupware broadly at a price expected to be less than \$100 per copy for purchases of 100 units or more. Available in the US now, it combines five communication and collaboration applications, including client-server-based electronic mail, discussion databases, news and references databases, and a shared phone book. It provides organisations with a single infrastructure for Notes applications and local network-based or mobile electronic mail. It runs on Windows, OS/2 and Macintosh operating environments and supports local network-based or mobile users, who may be occasionally connected from remote locations. The Notes Express clients will interoperate with all Notes Release 3.X servers for Windows, OS/2, Sun Solaris or the Novell Network Loadable Module. Upcoming Notes Release 3.2 servers for Windows NT and HP-UX, IBM AIX, Sun Solaris 2.x and Santa Cruz Operation Inc also will support the Notes Express client. Customers have to upgrade at least one of their servers to Notes Release 3.2 to get the new Name and Address book and system administration tools needed to support the Notes Express client. Lotus Organizer 2.0, also announced, can be used with Notes and Notes Express to provide group diary and scheduling. German, French and Spanish versions of Notes Express will be available next month, with Italian, Norwegian, Swedish, Japanese, Dutch and Finnish language versions to be out later this year. Further languages will be added early in 1995.

NOW MKS ADDS POSIX TO VM

Canadian Posix and XPG specialist Mortice Kern Systems Inc has won its third account with IBM Corp. This time big blue has licensed MKS' InterOpen/XPG4 Posix shell (commands) and utilities for version 2 of the VM ESA 3090 mainframe operating system released last week. The standards have already been applied to MVS, an OS/400 implementation is underway. Meanwhile, MKS has begun a standards watch information service that it'll deliver as and when needed. The first bulletin notes FIPS (US government standards) for Posix.2 has completed its review and comment period with no problems, has passed from the National Institute of Standards (NIST) to the US Secretary of Commerce and is expected to be passed in November. NIST is evaluating FIPS Posix.2 test suite providers. The XCUTS test suites for X/Open Co Ltd's XPG4 specifications under development at Palo Alto, California firm Mindcraft Inc has been renamed VSC. MKS has also poached former SunSoft Inc Europe manager Doug Miller from Information Foundation as InterOpen Account Manager, West Coast Division.

SUN IS TO BUY AT LEAST 20% OF PHILIPPINE SYSTEMS

Sun Microsystems Inc is to acquire at least 20% of Philippine Systems Products Inc, the local distributor of Sun workstations. Sun says it will also soon open offices in China, Bangkok, Thailand and India, and new headquarters will also be set up in Seoul and Hong Kong. The company declined to reveal the cost of the Filipino stake or to say how much the expansion across Asia will cost. Philippine Systems recently received a \$33m contract to set up a computer system for the Bureau of Internal Revenues. Among its clients in Manila are Citibank, Asian Development Bank, Texas Instruments and Far East Bank & Trust Co, Sun noted.

DG OFFERS MIXED MEDIA STORAGE

Westborough, Massachusetts-based Data General Corp has added new hierarchical optical storage systems for its AViiON Unix systems. The new storage management software within OpStar 2.0 offers users highly optimised access to large volumes of data stored on mixed-media systems using optical and other types of storage, the company claims, adding that optical disks and jukeboxes within the announcement offer twice the storage capacity at 20% to 40% price savings over its previous offerings. OpStar 2.0 is aimed at archival and imaging applications, and high-end storage applications for client-server networks. It consists of new data storage management software, with a transparent interface to the DG/UX operating system, coupled with the new family of optical disks and jukeboxes. The storage management is based on MastarMind software from QStar Technologies Inc, which integrates magnetic, optical and off-line storage media into a single, centrally managed resource. There is a new line of 5.25" erasable optical drives and jukeboxes, with capacities ranging from 1.3Gb for a single drive unit to 72.8Gb in a 56-platter jukebox at \$5,000 to \$35,000 including OpStar 2.0 software. The OpStar 2.0 12" write-once optical devices with 6.5Gb to 504Gb including OpStar are from \$30,000 to \$230,000. OpStar 2.0 is out now.

382 JOBS GO AT CRAY RESEARCH

Cray Research Inc is to cut 382 jobs and lay off up to another 1,000 of its employees for two months as it upgrades some of its plants in Chippewa Falls, Wisconsin; the exercise will cost \$8.5m against its fourth quarter figures. It is suspending some operations to install new processes to cut production time by more than half, to 16 weeks, for its hardware products. The new systems will be in place by the end of the year. The 300 full-time jobs to be cut at the parent company will be specified from November 7, after workers are given a week to volunteer to resign for the same severance package as will be provided for involuntary lay-offs.

MIPS T5 'IS AN ALPHA AXP BEATER

Mips Technologies Inc's superscalar, out-of-order execution T5 Terminator RISC is already being touted as an Alpha AXP-beater. Our sister publication *Client Server News* reports that Mips and its partners have been tweaking T5 to the point where it'll come close to matching Alpha's performance, though Mips says these kinds of measurements are meaningless in terms of real applications and that bandwidth and caching parameters must be considered too. T5, which includes a new generation high-speed bus and is near to tapping-out, will be described at next month's Microprocessor Forum in San Francisco. Other highlights should include more details of Sun's 64-bit, bi-endian UltraSparc, expected to execute up to four instructions and two MPEG-2 video decompressions at once.

GEJAC ADDS SYSTEMS RESOURCE TOOLS

US company Gejac, Laurel, Maryland, which has its roots in DEC systems management and which quietly branched out into Unix two years ago, is shipping V3.0 of its ARSAP system accounting resource management and chargeback software. The company has sold about 200 licences for ARSAP running under Unix so far, with US government sites and engineering companies such as Boeing and Westinghouse on its list of customers. Despite Gejac's DEC background, the company says demand for its Unix software is greatest from Sun, HP and IBM users, and it's had a surprisingly high level of interest in the OSF/1 version and from DEC users intending to move to Unix from VMS. Prices start from \$3,500 for a single workstation.

MOSAIC UNVEILS COMMERCIAL INTERNET SERVER, WORKS WITH SUN ON SECURITY

Mosaic Communications Corp, the six-month-old start-up out of Mountain View, California, founded by NCSA Mosaic creator Marc Andreessen and Silicon Graphics Inc founder James Clark, has introduced Mosaic-based software for creating Internet information exchange centres. Mosaic NetScape is a front-end browser for Windows, Mac or X Windows, that's claimed to offer at least ten times the performance of the NCSA Mosaic prototype. The Mosaic NetSite server line includes a NetSite communications server and commercial server for setting-up systems to act as information distribution centres. The communications server is aimed at organisations that need to deliver large quantities of on-line documents. Commerce server includes the RSA Data security encryption and authentication technology and is designed for online transactions and electronic data exchange. NetScape will be available next month. Communications server is on offer at \$1,500 from next month until the end of the year when the price will rise to \$5,000; commerce server is due in November at \$25,000. Mosaic's technical staff comprises practically the entire team of engineers that created Mosaic with Andreessen at the University of Illinois National Center for Supercomputing Applications last year. Mosaic will enhance its servers next year with new authentication, security and billing technology it is to develop under an agreement with Sun Microsystems Inc. As well as offering the results to standards bodies, it's understood the idea is to provide the ability to process secure credit-card transactions over the net.

UNISYS OVERHAULS U6000 UNIPROCESSORS

Unisys Corp has added four uniprocessor 80486 and Pentium EISA bus servers as U 6000/200 and 6000/400 series machines, replacing existing 6000/100 and 6000/300 lines. The 6000/210 uses a 66MHz 486DX2 and can be upgraded to the 220, which uses a 66MHz Pentium. In larger cabinets for more expandability, the 6000/420 is a 66MHz Pentium affair, again upgradable to the 430, a 90MHz Pentium box. All ship with Unix SVR4 now, UnixWare in future. Prices go from \$2,800 to \$8,000.

LOOX HAS NEW OBJECT X SYSTEM

As promised (UX No 480), Loox Software Inc, Palo Alto, California, has introduced version 3.0 of its object-oriented X Windows graphics development tool. Loox 3.0 includes a set of ready-to-use dynamic objects in LooxLib such as push-buttons and thermometers, plus other vector objects. There's a new communications protocol and two-dimensional charts and LooxMaker now generates code for linking interfaces to applications and comes with a new drawing browser. Out now, a Loox 3.0 development licence starts at \$10,000 on most Unixes with no runtimes. +1 415 903 0942.

FUJITSU LAUNCHES NETWALKER IN US;

Fujitsu Ltd is to begin offering its TCP/IP NetWalker network management solution in the US through its Fujitsu Open Systems Software unit in San Jose, California. The SNMP-based NetWalker, in development for three years and already used in Japan, allows users to view, control and manage networks from a single point, Fujitsu says. It includes map editing, fault management, a tool for generating a graphical network map at any point and performance management. It runs on SunOS 4.1.1 or higher and on Fujitsu's DS/90 Sparc-compatibles (UX No 459). Prices go from \$4,500. Fujitsu has also signed with Syntax Systems Inc, Federal Way, Washington, to develop a version of NetWalker incorporating Syntax's interface to PC and Mac environments. The two are also finalising a distribution agreement.

UNIX IS DOOMed

The hugely popular iD Software gorefest Doom is now up on Linux under X Windows - the executable can be used for the forthcoming Doom 2 as well. Doom 2, due for Windows on October 17, isn't expected to hit the streets in Macintosh form before the end of the year. Other Unix versions of the game include Silicon Graphics Inc Irix - which like Linux and DOS versions does not support music - QNX (with music) and Omni Group's NextStep version currently being updated for sound and music. There won't be many more Unix ports the company says, and that users should instead wait for the company's next-generation game which it says will blow Doom away and be available for lots of high-powered Unix boxes.

ROBERT FRANKENBERG OUTLINES NOVELL INC'S FUTURE DIRECTION

Novell Inc chief executive Robert Frankenberg outlined his vision of the future - and Novell's place in it - at Networld+Interop last week, and rehearsed it a few days before in a teleconference to analysts. The basic thrust was that Novell should be in the network infrastructure, rather than the applications business. There was much talk of Pervasive Computing, with the network seen as the essential infrastructure that will make computing "an integral part of everyone's daily life", and thus expanding the number of worldwide computer users from an estimated 100m today to as many as 1000m by the end of the decade. What was less than pervasive were any details about the two new initiatives that were announced. For instance, no word on the technology underlying the first new item, SuperNos (UX No 504), the common micro-kernel base that will underlie both NetWare and UnixWare in a few years time. The candidates are, of course, Chorus Systemes and the Mach kernel, both of which Novell has been working on. Apparently the business decision has been made, and will become public "fairly soon". SuperNos will be the basis for a three-phase move towards what Novell describes as a "fully distributed fault-tolerant object-enabled network operating system" by 1997. Some of the developers currently working on the nearly-completed NetWare 4.1 and UnixWare 2.3 development efforts will be transferred to the SuperNOS effort, though a separate team working on UnixWare 3.0 will be maintained. Frankenberg confirmed that NetWare 4.1 and UnixWare 2.0 will be in fully available by the year end. The second new item, Advanced Client for Services, comes out of the much-rumoured Corsair and Expose efforts that once seemed likely to evolve as a separate desktop operating system. Instead, Advanced Client Services is a new user interface and client API set due out in 1995. Working with existing desktops such as MS-Windows, Windows 95 and Macintosh, it is all about providing client systems with better access to the network, allowing users - including mobile users - to point and click to reach network destinations and access network services and resources. Included will be NetWare, Internet and AT&T NetWare Connect browsers. Frankenberg said Novell would continue its NEST embedded network initiative, a lower-level networked alternative to Microsoft at Work. Novell networking will soon start appearing in a wide range of consumer, business and industrial products, including such things as air-conditioners, security systems and cars. Novell also has its eye on the interactive entertainment business and set-top boxes.

DR-DOS halted, UnixWare desktop de-emphasised

Other than that, the main interest was centred around what Novell is not continuing with. There will be no more developments to DR-DOS (the developers are moving onto Advanced Client Services), UnixWare Personal Edition (as opposed to the server version) will be de-emphasised, and the development of AppWare Foundation, the cross-platform application tool set, will be halted: Visual AppWare, which provides applications programmers with access to network resources, remains as a standalone product or as a part of Perfect Office, the network-enabled office suite derived from Borland International Inc, due next month. Tuxedo will be developed as an AppWare Loadable Module and used as a technology for both transaction processing and distributed computing. GroupWise, previously known as WordPerfect Office and (briefly) Symmetry, is the calendaring, group scheduling and task management e-mail package that will be expanded next year to include a common address book, electronic conferencing and integrated voicemail.

In Brief

Olivetti UK Ltd, Manchester, is to operate a **Kendall Square Research Inc** KSR parallel processor running Oracle7 for UK insurer **Guardian**, formerly the Guardian Royal Exchange, taking data from Guardian's existing IBM mainframe running MVS and DB2.

Network Partners Inc, San Jose, California, has a version of its **Trapper agent** for Sybase, which collects and saves status, configuration, performance and capacity information from the database for use by SNMP managers such as SunNet Manager, OpenView, DiMons and Spectrum. It's priced from \$800 per workstation. +1 408 526 9200

Pittsburgh, Pennsylvania-based **NetStream Inc** has put its Network File System software up on **Hewlett-Packard Co** systems as eNFS/9000, which the company claims will improve an NFS server's write performance by up to four times over normal NFS. Prices go from \$1,000. +1 412 276 9600

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The *New York Times* went big with the story that **IBM Corp** and **Apple Computer Inc** have failed to agree a common specification for the PowerPC Reference Platform last week, asserting that this had derailed the strategy to create a single alternative to **Microsoft Corp** software on **Intel Corp** hardware - a strategy that has in fact been dead in the water for at least six months. The paper points out that all the three people that signed the PowerPC agreement - Jack Kuehler at IBM, John Sculley at Apple and George Fisher at Motorola - have since departed. The thing that is really holding back the PowerPC effort is Apple's prevarication over licensing Macintosh System 7.5 - and the Cupertino company says that it now intends to clarify the position today, Monday.

Tadpole Technology Plc expects to announce a "major US defence-related contract in the next few weeks," and significant turnover increases.

Attrition and early retirement incentives are insufficient to meet **IBM Corp's** purpose these days, and last week the company said that it plans to cut 3,000 jobs from its US operations this year as part of the programme to reduce the worldwide workforce by 35,000, - most of the cuts will be compulsory redundancies.

Sequent Computer Systems was set to announce a systems management solution this week, but has now decided to hold off for a few more months.

Irvine, California-based **4th Dimension Software's** RS/6000-based Enterprise ControlStation systems management software for managing multiple platforms from a single console is going up on HP-UX this week.

MasPar Computer Corp chairman Jeffery Kalb has stepped down and is replaced by one-time **Teradata Corp** president and CEO Kenneth Simonds - already MasPar vice chairman. Kalb remains a director. Jim Heldman, former VP at Teradata-owner **AT&T GIS** has been appointed MasPar VP sales and marketing.

According to the **Open Software Foundation Research Institute** there's already a waiting list for its World-Wide Web conference set for October 17-20 in Chicago. Last May's event was at Web-designer **CERN** in Switzerland.

Grumman Systems Support Corp, Bohemia, New York, has taken over support of former Sparc-compatible builder **Solbourne Computer Corp's** installed base in the US now that Solbourne has flip-flopped into a Sun/Oracle Financials reseller.

Data General Corp has won a much-needed \$52.3m damages suit filed against **Grumman Support Systems Corp** back in 1988.

At the Interex **Hewlett-Packard Co** user conference Denver this week, **Information Builders Inc** will announce interfaces from its Focus 4GL and EDA/SQL data access software to the **Red Brick Systems Inc** data warehouse. The interface will translate Focus code into Red Brick Warehouse language and retrieve fulfilled requests into reports. The Focus for HP-UX interface is from \$400 to \$16,000 on a 128-user system. The Red Brick Warehouse data driver for EDA/SQL is from \$1,100 to \$16,300 for unlimited users.

Mainframe-to-relational database access tool provider, **Platinum Technology Inc**, Oakbrook Terrace, Illinois, has acquired privately-held **Dimeric Development Corp**, Woodland Hills, California, on undisclosed terms. Dimeric has a database reorganisation tool for **Oracle** called TSreorg, and easyDBA a Unix and VMS **Oracle** admin tool that requires no SQL coding.

German board maker **Force Computers GmbH** has launched **Force Telecom**, a separate division designed to push sales of its embedded Unix systems into the thriving telecoms market. Munich-based Force, whose systems are based on Sun Sparc technology, believes the telecoms suppliers form the single biggest market for embedded Unix.

Sun Microsystems Computer Co has signed a further three-year deal for Synopsys Inc's system design tools; the two are working on variants for Sun's next generation machines. SunSoft Inc is shipping its PC Protocol Services, aka IPX/SPX access to Solaris, at from \$400.

OpenVision Inc is offering a software distribution package from ViaTech Development Inc as OpenVXfer.

Former **Hewlett-Packard Co** MPE-only distributed management house **Operations Control Systems**, Palo Alto, California, is moving into the Unix world now it has got HP-UX under its belt, with versions of its Express job-scheduling and management software for Solaris and AIX due at Unix Expo in October; it expects to go up against CA-Unicenter.

Hewlett-Packard Co says it is now shipping 12-way T500 servers - although it wouldn't tell us how many it's delivered: it says it's beating the drum about its 1,000-up sales of the one-to-12 CPU line because of negative attention the company has been afforded by analysts recently (UX No 504).

CICS Implementors Forum member **Hewlett-Packard Co** will unveil its anticipated CICS implementation for its HP 9000 server on Monday 26th.

Chris Sarfas, ex-marketing manager at seriously haemorrhaging **DEC UK**, turned up three weeks ago as the marketing manager for **Sun Microsystems UK**.

Oracle Corp says that 19 network management vendors have joined its **Systems Management Tools Initiative** to put mainframe-style network admin tools up under Oracle7, including **American Computer, Banyan Systems, BGS Systems, Cabletron Systems, Cheyenne Software, Concord Communications, Firefox, FTP Software, HP, Legato, Legent, NetLabs, NetManage, Network General, Peer Networks, Shany, SunSoft, SynOptics** and **Wandel & Goltermann**.

SunSoft Inc staffers are certainly not being encouraged to think about a non-Sparc future at Sun, although they are being encouraged to port software to non-Sparc platforms.

Insiders say the **Open Software Foundation's** Motif 2.0 is of little interest to users outside of the academic community and that rather than trying to figure out what may go into version 2.0 of the **Common Desktop Environment** shouldn't we be asking why so few companies are building applications to CDE 1.0?

On October 3, as part of its parent company's new overall assault on the US market, **Fujitsu Computer Products** of America is going to launch DynaServe, a storage server with integrated storage management software for NFS, as a part of the Sparcstation 10s the firm OEMs and resells to integrators. The system, the only configuration it's got right now, will sell for \$140,000. It's a cache'd RAID 3 with 4GB capable of handling 40GB on optical and 260GB on tape. An HP optical library is coming. It can backup any kind of clients.

If the \$60,000 **X/Open Co Ltd** was set to charge for the Spec 1170 test suites being designed for it by ApTest Inc seemed exorbitant (UX No 501), we understand that in fact there'll be little change from \$100,000. Apparently three sets of test suites will be required to test for compatibility at \$20,000 a shot - XPG4, the incremental deltas (1170), plus curvise libraries. Add \$10,000 for support on each and the bill is heading towards the ton-up.

What, us worry? **Hewlett-Packard Co** might want to ask for a redefinition of the phrase "open systems." Next week, for the first time in history, **IBM** will be showing stuff at Interex, the HP user fest. So naturally HP asked the same indulgence at the IBM Common meet the week after. IBM, however, said no though it might let HP rent a booth so long as they don't show anything.

At last we stand revealed. *NewsWeek's* new Cyberscope page last week delineated the snooty class structure of e-mail addresses beginning with the aoi.com of the hoi-polloi and culminating in those ending with .net whose owners it aptly describes as "Internet gods". *Unigram.X* modestly wishes to point out that its e-mail address ends in .NET which of course explains why we are asked to be omnipresent when we're not busy being all-knowing.

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SUN CRACKS 64-bit BARRIER WITH ULTRASPARC...

Introducing its first 64-bit attempt, also a first cut of the Scalable Processor Architecture RISC V9 design, Sun Microsystems Inc will attempt to shrug off the notion that Sparc has run out of gas, offering UltraSparc I as a 140MHz to 200MHz bi-endian part doing between 200 and 300 SPECint92 and 250 to 350 SPECfp92 initially, climbing to 400 SPECint92 and 500 SPECfp92 by rev II, around the middle of 1996. First silicon, running at 167MHz, is now expected by the end of October, doing as we thought (UX No 499), 250 SPECint92 and 310 SPECfp92. By comparison, first samples of DEC's hot new Alpha, the 9.3m transistor 21164, is expected to reach 290 SPECint92 and 440 SPECfp92 in October. First UltraSparc samples are slated for the first quarter of next year, general deliveries by mid-1995 and system implementations toward the end of the year. That's around three to six months behind original expectations (UX No 460). The part, designed by Sun's Sparc Technology Business (STB) is being fabricated by Sun's long-time CPU partner Texas Instruments Inc in 0.5 micron four layer-metal CMOS process that'll shrink to 0.35 micron, which should halve the UltraSparc's meaty 315 square millimetres die size next time. It dissipates a toasty 30 watts of power, although that's less than DEC's 21164. The UltraSparc family is expected to house a pipeline of bi-endian parts for systems above the very low-end, where microSparc - including its forthcoming 100-125MHz third iteration - will now be retained. It'll supercede the next SuperSparc II revision (*see below*) although that part is expected to remain Sun's volume Sparc for at least a year after UltraSparc's debut. There are no prices yet, but a one-year-old UltraSparc is expected to cost around a tenth of its starting price.

Four-way superscalar

UltraSparc is a four-way superscalar part - supporting up to four instructions per cycle, a maximum of two integer, two floating point and a single load/store or branch - and includes Sun's next-generation bus technology, a 128-bit affair running at one half or one third of CPU speed-at 167MHz that's 1.3Gbps peak, 600Mbps normal. While 32-bit system software and applications will run on UltraSparc unchanged, that new bus puts the whole notion of upgrading out of joint. However, Sun is investigating Mbus bridging technology. No need any longer for a dedicated video processor, UltraSparc includes on-board processing for up to two MPEG-2 video decompressions and video manipulation simultaneously. However, to save space for all that work, Sun has also included on UltraSparc what it describes as a Visual Instruction Set, or common denominator of what it believes to be 30 oft-used graphics instructions, presenting them as an extension to Sparc V9. Even without a major partner Sun reckons Sparc can out-survive other RISCs, saying it'll be fighting for the number two CPU spot with PowerPC which it says it'll better on price/performance. STB has had 100 engineers and a third of its resources tied up in the \$50m UltraSparc effort. With a claimed 400 engineers working on Sparc up and down Silicon Valley, it claims to have as much grey matter attuned to Sparc development as PowerPC's Somerset Labs. Although it was suggested that Sun's other Sparc partner, Fujitsu Ltd, may eventually fabricate UltraSparc too, the \$500m the two plan to spend on joint Sparc development over the next five years concerns mostly what's beyond UltraSparc, Sun claims (UX No 485).

...supersparc II within next few weeks

Meanwhile, Sun's SuperSparc II, the long-anticipated SuperSparc merchant follow on is already to go. Sparc Technology Business says it's trying to find a convenient hole in the choke of industry announcements schedules planned over the next few weeks, but expects to unveil the part by the end of November with initial deliveries by year-end. As reported (UX No 499), first SuperSparc IIs will be 90MHz affairs (125-130 SPECint), 10% less than the 100MHz mark that wasn't part of the documentation, but was nevertheless an official expectation.

OUT OF THE IBMS STRAITJACKET, BULL FLIES TO PCI, SOLARIS, NT, NETWARE

Freed from the pen of its IBM Corp development agreement on SMP PowerPC courtesy of Escala (*see page 7*) - Compagnie des Machines Bull SA is bolting to what it hopes will be more lucrative pastures. With, at least in its estimation, volume sales likely to be driven primarily by a multiple operating system strategy, it'll speed development of PCI bus versions of its Escala range that'll run AIX, NT, Solaris and eventually native NetWare, based on the PCI interconnect it is to develop with Motorola Inc as part of their wide-ranging agreement (UX No 505). First pass at such a box may be out by mid-1995. Below these, which together with Escala must ultimately replace its rebadged RS/6000 DPX/20s, Bull will offer other entry-level PCI bus PREP-compliant PowerPC boxes sourced from Motorola's Computer Group under the same agreement, which Motorola is supposed to debut next week, again running AIX and NT initially. Bull's decision is yet another blow to IBM's PowerPC hopes as Bull had originally planned to cut a deal for the entry boxes with the PowerPersonal crowd, apparently deterred by the unnerving experience working with IBM on Pegasus and its desire to leverage the gain of a broad marketing pact with Motorola. In return, Motorola will take Escalas, presumably to supercede its 88110 lines. Bull has gone to SunSoft direct to cut a Solaris deal, and is working with Motorola on terms with Novell for NetWare, though there's no detail to speak of yet bar intent.

IXI MIXES UNIX AND WINDOWS WITH EYE2EYE

Bowing to the inevitability of users struggling to cope with integrating Windows and Unix desktops, the impending dollar-driven Common Desktop Environment, and having foreseen the end of the bundled X.desktop products as we know it some time ago, UK, Cambridge company IXI Ltd, is rolling over and taking its core business one step beyond Unix this week into a nether world that is, for all intents and purposes, somewhere between the two. Next month it will begin to offer a new desktop technology dubbed Eye2eye that anticipates mixed Unix and Windows desktops rigged to Unix servers as the norm, plus the growing demand for access to Internet services. The software comes with an integrated Mosaic Internet viewer and, when running on a PC over a local PC X server, gives Unix applications and utilities the appearance, and behaviour, of Microsoft Windows software. It's not just a Windows look and feel for Unix applications *à la* Wintif, Eye2eye includes a DOS program (some of which runs on the server) allowing PC applications to be read and written and forces Unix applications to submit to Windows controls. It includes the ability to cut text from Unix software and drop it into Windows applications via an automatic format converter that translates between clipboards. It distributes the software down to PCs and Unix desktops from Unix servers too without the paraphernalia of a bundle of disk. *Details on page 5.*

IBM POSITIONS AIX POWER PERSONAL AS LOW-END RS/6000

Although IBM Corp has canned its PowerPersonal Power Series for now, some of the technology will come to light next week in the low-cost PowerPC, PCI bus-based desktop that the RS/6000 division has, as reported (UX No 492) had spirited away for quite a while. The AIX system uses the same Reference Platform-compliant hardware as the Power Series but reportedly includes two-dimensional graphics and Ethernet support.

DEC READIES ARGON BOX

Sources say that DEC, which has apparently moved all its October announcements into November, has an OSF/1 box up its sleeve code named Argon, reported to be an OSF/1-based DEC 7000 700 quad that could actually be fitted out with six 275MHz 21064A Alpha chips.

Inside: Page 2: Apple to widely license Mac OS. Page 3: Wang to pay \$160m for Bull US. Page 4: Oilmen strike for open systems. Page 5: Eye2Eye from IXI. Page 6: ICL and Pyramid's Merlin. Page 7: Bull's Escala. Page 8: Peacock ships RS/6000 variants.

APPLE WILL NOW LICENSE MAC OS WIDELY; NEW LOGO

Apple Computer Inc has decided to throw caution to the winds and license its Macintosh System software and Power Macintosh boards ~~and design widely. The company also indicated that several deals~~ have already been struck; it is setting an initial limit of six, and it appears that they are already signed, suggesting that Motorola Inc may well include an announcement about Macintosh System - to be renamed Mac OS - when it launches its first PowerPC-based computers on October 4. Apple is hoping that the move to licensing will increase the market share of its standard by 1.3 percentage points a year. The company suggested that Mac OS products will not be announced until the second half of next year, the unconvincing suggestion being that it will take this long for third parties to design in strange-shaped Apple boards or components to create machines they can build. The company also unveiled a new Happy Mac OS logo for the licensees: it is a little square smiling face, with Mac OS written underneath. "The face, in addition to being conspicuously IBM blue, appears to face two directions at once," says *Reuter*. Major US firms will be among Mac licensees, and there will be no geographic or language restrictions, and the programme includes 68000 as well as PowerPC Macs. The company also began shipping the Macintosh System 7.5 yesterday. Apple expects to manufacture the boards for all the early Macintosh clones, but is also prepared to license all the key technologies. For inscrutable reasons, Apple says it will take 30 months to adapt Mac OS to run on machines built to the PowerPC Reference Platform. Names canvassed as being among the first six include Ing C Ollivetti & Co SpA, Vobis Microcomputer AG, Fujitsu Ltd and Toshiba Ltd. IBM Corp is not expected to license Mac OS as such or at once, but to offer it as a WorkPlace OS personality sometime in the distant future.

SUNSOFT PLANS PROCEDURAL/ OBJECT ENVIRONMENT

SunSoft Inc's Developer Products Group (née SunPro), has enhanced a bunch of its software development tools and bundled them up into a new release 1.1 of its Workshop C, C++ and Fortran environment. Although an incremental release for Solaris 2 users, WorkShop 1.1 is the first version of the environment that's been made available to Solaris 1 and Solaris 2 developers at the same time. It includes a revamped set of tools for building multi-threaded Solaris applications - SparcWorks/Impact 2.0 - which includes LockLint synchronisation error finding and a thread analyser; a C++ compiler that's claimed to be 30% faster with QuickLook header processing; new Fortran development tools with global error checking and Posix bindings, and support for XEmacs editors, plus the existing C compiler. WorkShop lacks some of the distributed capabilities of rival Hewlett-Packard Co's SoftBench, such as a distributed debugger, although an Interface Definition Language code generator that will eventually feature in WorkShop is shipping with early versions of the Distributed Objects Everywhere. SparcWorks, Impact, C compiler and TeamWare tools are \$2,200 as WorkShop 1.1 for C. With a C++ compiler the price is \$3,000 - Fortran versions are \$3,200. Following the current fashion for trying to win over users of rival development environments - a tactic HP is already aggressively promoting (UX No 503) - SunSoft is offering discount trade-ins on HP, Centerline and Lucid environments. It's too early to say whether any of the trade-in programmes are having any effect, SunSoft claims. After announcing its existing WorkShop tool set for HP-UX and UnixWare (UX No 503) - with other COSE implementations, presumably IBM Corp, to follow - it'll be some time before the 1.1 release makes it on to these platforms, or on to Solaris x86. Aiming to dispel some of the confusion that surrounds the issue of support for SunSoft's various object initiatives, the group says it'll eventually offer an integrated environment for developing procedural and object applications and already has plans to add an Objective C compiler to support development under NextStep/OpenStep APIs. In answer to questions about the use of available multiprocessing, Sun says there are now over 30 applications that employ multi-threading techniques, including Adobe, Facet Decision, Informix, Oracle, ISIS, SAP, Sybase, Transarc, Vantage, Marc Analysis, ISEC, SunSITE, Computron, Dakota Scientific, Cadence, Atlantis, Cognition and others.

BRISTOL FINDS FAVOUR WITH MICROSOFT SOURCE CODE CLUB

Little Connecticut-based Bristol Technology Inc is the latest of only four companies known to be admitted by Microsoft into that select circle known as the WISE programme and to be privy to actual Windows source code. Bristol, a charter member of the Windows-on-Unix gang that includes MainSoft, Insignia Solutions and Locus Computing, said it took a year and a half for it to negotiate a source license with Microsoft and estimated that it was only Redmond's realisation that the move could put an obstacle in the way of Wabi that made its terms gradually more palatable. Bristol intends to use the code to enhance its Wind/U Windows-to-Unix portability toolkit, adding OLE 2.0, Microsoft's distributed object schema, later this year. Wind/U already supports Microsoft's WIN32s API and 32-bit Visual C++ letting developers write applications that run natively on Windows, Windows NT and Unix/Motif from the same Microsoft-dominated base. Products like Bristol that are based on real Windows source make life more difficult for Wabi as Microsoft well realises. Empowering developers to do OLE - and it's important to remember that the operating system wars have shifted to the objects arena - is generally viewed as another nail in Wabi's coffin since it will reportedly be almost impossible for Wabi to duplicate - along with the other new stuff in Windows95 - and might force it to stick at running only Windows 3.1 apps, a poor comparison if folks like Bristol and soon MainSoft as well, are running native OLE 2.0 programs on Unix. Bristol's deal with Microsoft includes the Microsoft Foundation Class library and future technology from Chicago and the just-released Windows NT 3.5. Bristol partner Insignia Solutions, which owns 10% of the Connecticut company, is so unintimidated by Wabi and its prospects these days, Bristol says, that it has ceased the development work with Bristol's Red Baron technology that it once thought it would need to leave Wabi in the dust. At press time, however, it still remained unclear why Insignia would abandon Red Baron - which it was looking to to increase its emulation speed - when its SoftWindows technology and the stuff Microsoft is using to emulate 16-bit Windows programs in NT is still stuck at 286 emulation.

INTERGRAPH DIVIDES INTO TWO

Intergraph Corp has decoupled its software operation from its hardware unit in an effort to make their business activities appear more autonomous to the outside world and to be able to sell their gear separately. There are now two internal divisions. One is Intergraph Software Solutions, responsible for applications and systems software, under newly named president Tommy Steele and the other is Intergraph Computer Systems, the hardware arm, under EVP John Thorington. Steele and Thorington, both Intergraph veterans, report directly to Intergraph chief Jim Medlock. Intergraph Software Solutions, acknowledged to be the largest NT development site in the world, estimates it now has 150 of the roughly 300 packages it intends to port to NT in the can. Although Intergraph has some 1,200 packages all tolled, the balance won't make the jump from Unix to NT. This week at Windows World in Dallas, Intergraph is to announce Daytona versions of its PC-NFS and Diskshare Unix/NT interoperability products developed in concert with SunSoft. Over 50% of the efforts of Intergraph's hardware arm are NT-directed. In addition, Intergraph has released its anticipated NT-Unix interoperability packages (UX No 486). It's tuned up and repackaged its PC-NFS and DiskShare programs and released an X-Window System server for NT which allows NT nodes to emulate an X-Window terminal in order to run X-based applications on Unix servers. PC-NFS 2.0, which connects NT system to Unix network file systems servers, is revamped with an NT version of the Telnet and ftp packages found in the Sun's PC-NFS which was jointly developed with SunSoft, rights for the NT version which SunSoft then gave to Intergraph. PC-NFS is \$1,950 for a five-user pack. The eXalt X server for NT \$500.

FUJITSU PLANS STORAGE SERVER FOR US

On October 3, Fujitsu Computer Products of America will launch DynaServe, a storage server with integrated storage management software for Network File System, as part of its parent company's new overall assault on the US market. The product is part of the Sparcstation 10s the firm makes as an OEM supplier and resells to integrators. The system, the only configuration it has got right now, will sell for \$140,000. It is a cached RAID 3 system with 4Gb, capable of handling 40Gb on optical disk and 260Gb on tape.

HP OFFERS CICS FOR HP 9000 SERVERS

Hewlett-Packard Co will this week reveal its implementation of IBM Corp's CICS/6000 for the HP 9000 HP-UX servers. CICS/6000 is based on Transarc Corp's Distributed Computing Environment-based Encina OLTP software, also the basis of HP's Encina/9000, DEC, SNI and other Unix OLTP environments. CICS/6000 was developed to allow its mainframe customers to integrate Unix OLTP systems, business HP is now after. Now, says HP, any CICS or CICS/9000-based system can initiate a transaction in the other's environment and CICS/9000 users can develop OLTP applications for IBM mainframes via the PPC Gateway and employing two-phase commit launched back in February (UX No 472). It also allows Encina/9000 and CICS/9000 TP monitors to use CPI-C over IBM's SNA using PPC Executive and TCP/IP. CICS/9000 Bundle includes DCE, Encina and CICS components and costs between \$24,000 on E, F and G servers, from \$57,400 on H and I servers and from \$177,000 on T500 one-to-12 way Emeralds. An autoconfigurator to get DCE/9000, Encina/9000 and CICS/9000 working once installed costs extra. A CICS API for 9000 servers costs \$10,000 to \$90,000, clients are \$150. It's all available now. A Japanese language version will follow by mid-1995. Software partners for CICS/9000 include the usual database vendors, connectivity suppliers and systems integrators plus ISVs such as CA and AMS. HP's Cobol, Cobol/C and Cobol/C++ SoftBench 4.0 development toolsets are also now shipping for use in CICS/9000 and DB2 for HP-UX development. Prices start from \$2,800.

WANG TO PAY \$160m FOR 20% OF BULL US

Underlining the position of strength conferred on a company by a clean exit from Chapter 11 bankruptcy protection, with all debt replaced by paper, Wang Laboratories Inc now feels strong enough to start buying, and last week it announced a deal with the troubled Compagnie des Machines Bull SA under which Wang will pay about \$160m - \$110m in cash, \$25m in Wang shares for a 4.9% stake, and \$25m in short-term notes - for Bull's workflow and imaging business, its US field maintenance services business, the Bull subsidiaries in Australia, New Zealand, Canada and Mexico, and its Honeywell Federal Systems Integration business. Each will be combined with Wang's activities in the same fields. The businesses are expected to generate revenues of some \$450m in 1994, of which about \$320m are in the US. Wang expects the proposed transaction to increase its per share earnings and cash flow. The two also agreed reciprocal distribution agreements in enterprise servers, Unix systems, PCs and workflow and imaging products. Bull's greatly contracted US business will then concentrate solely on GCOS enterprise servers - mainframes by another name - PowerPC Unix systems and software, Zenith Data Systems micros and commercial systems integration. Bull will reinvest the proceeds to strengthen its US business, where it still expects to do \$1,200m this year.

AMDAHL ADDS TO A+ PERFORMANCE TOOLS

More software was expected out of its A+Edition programme of commercial Unix enhancements following the Solaris Enterprise server extensions (UX No 504), and Amdahl Corp last week introduced its A+Open Watch Distributed Threshold Monitor, a performance monitoring application, with some 150 parameters that will work with up to 100 servers. The software measures CPU performance, queuing, disk activity and potential bottlenecks (UX Nos 478, 480). Data from servers running A+Edition for Solaris, SunOS, HP-UX, AIX or Amdahl's mainframe UTS Unix is collected with the A+UMA Performance Data Manager. There are optional links to SNMP Managers for notifying systems administrators over SunNet Manager or OpenView if thresholds are exceeded. The offending data is displayed by the Motif-based A+OpenTune Performance Monitor. The software uses the Performance Management Working Group's emerging Universal Measurement Architecture standard for performance data collection and management. Amdahl says it will licence the software to other performance management ISVs. A+OpenWatch, which monitors servers running Amdahl's A+UMA Performance Data Manager from a Sun workstation or UTS 4.1 system, is from \$3,500. A+View Performance Management comes as a packaged offering; A+View PerfPack includes A+OpenWatch, A+OpenTune and one to four copies of A+UMA priced from \$21,980 to \$23,220 depending upon the number of A+UMA copies required.

IBM HAS TRITEAL DO CDE TO AIX 3.2.5

IBM Corp is having Carlsbad, California-based TriTeal Corp build it a Common Desktop Environment implementation to run on AIX 3.2.5 using its CDE source tree which has been licensed to TriTeal for this particular development only. IBM will market the resulting TriTeal Enterprise Desktop 3.5 (TED) to its AIX 3.2.5 user base. TED 3.5 will include a bunch of application enhancements to the standard CDE that TriTeal is also licensing to IBM. Most are derived from the add-on technologies TriTeal developed for Hewlett-Packard Co's Visual User Environment and which it is building into other HP CDE source code-based CDE offerings. They include a graphical workspace and support for multiple front panels so that vendors can maintain their particular look and feel without violating CDE compliance. TED 3.5 is expected by year-end and will be on show at Unix Expo. As yet there's no plan seen to have TriTeal do the same for IBM's latest AIX 4.1. That operating system release already comes with a CDE front-end, indeed the industry's first commercial CDE implementation, based on the preliminary CDE code release and developed by IBM itself. Since TriTeal's CDE enhancements don't prejudice the standard CDE source tree that is supposed to remain common across implementations, there appears to be scope for TriTeal to licence its applications to IBM for the AIX 4.1 implementation too.

MKS OFFERS "FULL-SERVICE" SPEC 1170 TESTING

Having crept towards the inevitable with a succession of new standards compliance programmes (UX Nos 501, 505), Canadian Posix house Mortice Kern Systems Inc has done the inevitable and set itself up as an X/Open Co Ltd test centre for Spec 1170 and now has the right to carry the Unix brand. MKS, now a self-described "full service" shop, has paid \$75,000 to X/Open for a verification buyout, an annual fee it pays for use of what is now four sets of suites needed to determine Spec 1170 compliance. At \$20,000 each, plus \$10,000 on each for maintenance, the Spec 1170 testing suites now come to a cool \$120,000, that's minus the work itself. Although MKS expects many of its existing Posix and XPG4 customers, which include IBM, DEC and HP, to come to it for Spec 1170 testing - though it won't say which ones or which others - most vendors are likely to also have their own suites in any case for quality and assurance purposes. MKS won't say what it'll charge to do a Spec 1170 test for a Unix wannabe, but insists standards-testing is not a lucrative business and that X/Open, despite the fees it's charging is not operating the stuff as profit centre. The four suites are VSX4 (XPG4), VSC4 (commands and utilities), VSU4 (Spec 1170 stuff) and VST4 (xti sockets and stuff). It expects first Unix branded systems by the end of the first quarter, although X/Open has yet to complete a procedure for doing the actual testing. New business brought by Spec 1170 will account for less than 10% of MKS' revenue, the company estimates. Look for more Spec 1170 news at Unix Expo, the company advises.

ORACLE CDE 2.0 INCLUDES NEW DATA ACCESS AND CASE TOOLS

Our sources at Oracle Corp last week revealed some details of version 2 of the company's anticipated Co-Operative Development Environment, which will be launched at the company's user conference today. The structure of CDE 2.0 hasn't changed, with component products organised into three categories; data access products, tools and CASE software. There will be some new modules including the rumoured Project X low end graphical user development package, which will appear at the end of the year to compete directly with Microsoft's Visual Basic and Informix New Era. There will also be the Oracle Process Modeller, a Business Process Re-engineering tool, the Oracle Translation Manager, which will translate applications into other geographical languages, the Oracle Procedure Builder, which will enable users to debug client and server tools developed using Oracle's PLSQL development language, and the Oracle Client Adaptor, delivering an interface directly into Microsoft Corp's ODBC connectivity standard. Other enhancements include OLE 2.0 support under Windows, and an NT version currently in development. There will also be links into third party products such as Lotus Notes. The products will appear over eight-to-10 months roll-out.

OILMEN CLAIM TO HAVE STRUCK TRUE OPEN SYSTEMS

That formidable oilman's user club, the Petrotechnical Open Software Corporation, founded four years ago to bludgeon suppliers into putting together open systems that did what they said they would, has popped up again to give us a view of its progress, described as a "glimpse of true open systems". The first two phases of POSC's Industrial Pilot Project, one run in the organisation's head office in Houston, Texas, and the other in London, have been completed, and reveal, according to POSC, that moving to common open standards can save up to 25% or 30% in better use of scientists' time. Oil companies such as Mobil reckon that their geophysicists spend up to 80% of their time simply finding and formatting data and then, in the words of Lance Johnson chairman of Mobil's North Sea operations, "Putting it back into the database for the next user." Improving that figure will mean a tremendous fillip for the bottom line of oil companies, so it's easy to see why the major oil companies, including BP, Elf, Shell, Texaco and Chevron, have been keen to back POSC. The big prize, according to Johnson, is not just an incremental improvement in the way the companies do business, but a giant step forward. And no, this outbreak of harmony in search of common IT standards, won't stop the notoriously competitive oil industry from competing in other areas, says Johnson. If the prize for the oil industry is clear, however, what is not so obvious is what the benefits are going to be for the IT industry. Since the oil industry spends a heck of a lot on its computers - between \$5 billion and \$10 billion every year - the suppliers are keen to be seen to support POSC and its initiatives. They are not the only ones; of POSC's list of almost 90 members, only 17 are oil companies. The rest are computer vendors, service companies in the oil and gas industry, and government and research bodies. So will POSC's work, described by Larry Gahagan, the organisation's IPP director in Houston, as "taking things that already exist and fitting them into the world of exploration & production", make a difference to vendors' existing open systems strategies and products? There are signs that the biggest impact is going to be on some of the smaller, more specialised vendors involved in the project (see below), rather than on the larger suppliers. Nonetheless, the demonstration by POSC, with both of its IPP projects, that its system tying together various open systems models actually does work is an important step forward in its roadmap.

Four parts

There are four parts to the POSC view of open systems: base standards, the data model, data access and the user interface. The London-based part of the IPP project tested the practical viability of this approach in one of the main oil industry processes, prospect evaluation, where the risks and costs of drilling a particular area are weighed up. Using its Epicentre common database model (UX No 471), the project demonstrated that it would be possible to cut by up to a third the time taken to carry out such a process, according to project manager Gerard Huard. The details of both the first pilot phases are freely available from POSC in book form, and so far, according to Gahagan, 500 copies of the Houston project results have been sent out. POSC itself is acutely aware that it has to produce more than a couple of books to justify the investment in both staff and money being made by its members on both sides of the fence. Mobil, for instance, is ploughing \$1.2 million a year into POSC in the hope that something concrete will emerge. It is, acknowledged Johnson, an act of faith, but he says Mobil is expecting "significant results" from its investment. And if POSC doesn't deliver? Johnson said the whole project would be backed as long as it was making process and holding out the promise of business benefits. If it stops looking that way, however, he made it clear that a couple of years down the line the industry would have little hesitation in pulling the plug, so POSC knows it still has a lot to prove.

UNISQL SEEKING LONG-TERM PAYOFF FROM OILMEN

One of the major beneficiaries of the latest POSC (Petrotechnical Open Software Corporation) initiative - see above - is UniSQL of Austin, Texas. UniSQL, the object-oriented relational database outfit, funded by Nippon Telegraph and Telephone Corp, has successfully positioned itself as the central data store for the Industry Pilot Project. The financial rewards will hardly set UniSQL accountants jumping for joy, but the prospect of a market which spends between \$5 to \$10 billion annually for IT services is not to be ignored. POSC criteria is based on the need to reduce the cost and improve the efficiency of the exploration and production industry. With the majority of the POSC members and affiliates consisting of vendors, the IPP is an ambitious attempt to validate the standards of POSC. Larry Gahagan, IPP Project Manager and System Architect for BP Exploration, places the future success of IPP squarely on the shoulders of vendors "willing to meet us more than half way". In practice, companies such as UniSQL, have devoted much time, effort and no doubt resources, in attempting to woo the oil companies. If their investment pays off, they are hoping for a 5% to 10% leverage in the overall market. Larger companies such as Oracle Corp are more resistant to the possibilities of POSC fulfilling its aims. As a result, it is hedging its bets, providing Oracle solutions with UniSQLs middleware.

DG SEEKS UK MARKETING DIRECTOR

The relocation of Data General's European head office from Paris to Brentford, west London, as noted last week (UX No 505), has also brought promotion for UK marketing director John Coon, who becomes director of enterprise marketing for Europe. Coon, who has been in the job for just over two years after turning down a move to California with previous employer Sun Microsystems UK Ltd, won't now have to cross the Channel to take up his new position. Meanwhile, the DG UK board is making up its mind about who to appoint in his place, with some strong internal candidates to choose from, including erstwhile Computer Associates marketing stalwart Mike Maunder who joined DG a couple of months ago as UK enterprise marketing manager - the UK equivalent of Coon's new European role. An announcement is expected in the next few weeks.

UK INTERNET PROVIDERS TEAM UP

Further indication that the ad hoc way the Internet runs is being tightened up comes with news that UK Internet providers have set up a formal arrangement for their existing Internet interconnect point. The five suppliers involved - BT Internet Services, Demon, EUnet, Ukerna and Pipex - have had an informal interconnect arrangement for some time, but this is now being replaced by a formal deal in which Linx (London Internet Neutral Exchange) will be set up and paid for via an annual membership fee. The Linx hub will be based in London Docklands, at the Telehouse telecommunications facility, and will be managed initially by the five suppliers, although they say Linx membership will be open to future UK Internet providers.

CHORUS ANTICIPATES NOVELL CALL-UP

Michel Gien, vice-president of technology and marketing for Paris microkernel house Chorus Systemes SA, is a happy man. The recent announcement by Novell Inc CEO Robert Frankenberg that UnixWare and NetWare are to share a common microkernel core (UX No 504), could spell the beginning of many good things for Chorus. Its eponymous Unix microkernel has been the focus of UnixWare development work, whilst until now, NetWare development has been focused more on the Carnegie Mellon University Mach microkernel. It's not been officially confirmed by Novell which microkernel it will support, but Gien interprets Frankenberg's words as an indication that Novell will be extending its use of Chorus/Mix. Novell has run prototypes of both Mach and Chorus on NetWare systems; Gien feels Chorus has the edge in the decision because of its commercial exposure. The next step for Chorus will be to assess how to support NetWare most efficiently; it's already working with Novell and others, including Siemens and Alcatel, to build UnixWare MK, based on UnixWare 2.0.

IMP ISSUES PROFIT WARNING

Integrated Micro Products Plc, Consett, County Durham warns that it expects 1994 revenues to be below previous estimates due to a slight delay in the shipment of its ftSPARC-based computer system and lower than expected sales of the SeriesFT 88k product to Motorola Inc's Motorola Computer Group; sales of its 68k product to Motorola's Land Mobile Products Sector have met expectations and it expects ftSPARC to be a significant revenue source in fiscal 1995, but initial revenue ships start in October, a month later than planned.

EYE2EYE OFFERS WINDOWS FEEL AND USE UNIX APPS

Nodding again towards what it now believes is the inevitability of a Unix world populated by mixed Unix and Windows desktop environments, plus the growing demand for access to Internet services, ~~UK firm IXI Ltd will this week roll out the next generation of its~~ desktop technology as Eye2eye. The software comes with an integrated Mosaic Internet viewer and, when accessed from a PC through a local PC X server, gives Unix applications and utilities the appearance and behaviour of Microsoft Windows. IXI already offers a way of giving Motif-based Unix applications a Windows look and feel via its Wintif technology. Although Wintif runtimes are included in Eye2eye, the new software also incorporates a new IXI technology called Intelligent Agent Extension (IAX) a DOS program which provides the ability to cut text and graphics from Unix software and drop it into Windows applications via the automatic conversion of Motif and Windows clipboard formats.

Gopher

Some of the work is done on the PC, but IXI regards IAX as a kind of gopher which sends code to and from the server, from where most of the work is done. As well as file conversion, the first IAX iteration supports colour changes and the ability to read or write PC files to accommodate those and other changes. It allows objects pulled out of the Mosaic viewer to be put onto the Windows desktop or into an application, and Unix software on the server to be modified from the Windows control panel. IAX works over local PC X servers and has been integrated with Hummingbird and Visionware implementations so far, with others to follow. The integrated IXI Mosaic viewer is a version of the University of Illinois code its Santa Cruz Operation Inc parent recently licensed for the Everest programme (UX No 487), enhanced for both the Unix and PC versions of Eye2eye. Net information, including URLs, can be stored as desktop objects in both environments and the software will view the contents of any desktop object dropped into it. Additional IXI APIs allow the viewer to be controlled by other applications. IXI has built Eye2eye on top of release 4.0 of its X.desktop file and object manager engine which has sets of Motif/Common Desktop Environment and Windows-style objects. Other bundled stuff includes a MIME-based message system, IXI text and graphics editors, extensions to support its Panorama virtual workspace and on-line documentation stored as World Wide Web pages. IXI deems Eye2eye the most important component yet of its "Windows Friendly" strategy, but it's still shy of selling software that actually loads on to PCs.

No floppies here

It claims its customers asked specifically that it not give them yet more floppies to load. This means Eye2eye should be able to evolve quickly without the need for getting every upgrade out on PC disks. Eye2eye is downloaded from a Unix server to Unix and Windows desktop clients. In fact, Eye2eye could quite easily be used to send executable code down to PCs from Unix servers as the IAX also includes an unmentioned distributor object. It could send stuff like a

HP WOOS AS/400 - NOT MPE - USERS TO UNIX,

Rather than trying to tempt IBM Corp's proprietary AS/400 users to just another proprietary environment, namely the MPE-based 3000 Series, Hewlett-Packard Co appears to have turned some kind of ideological corner, having established an "open mid-range alternative" programme to encourage AS/400 users to move instead to its HP-UX-based 9000 Series 800 servers. It's touting its Unix boxes as either replacements for AS/400s or as viable servers to AS/400 sites. HP has concocted a list of the obvious and oft-regarded shortcomings in AS/400's architecture and has pulled together a set of communications options it says can be used for linking one environment to the other in a network environment. In addition it's got a slew of ISVs to back its programme, claiming 11 of the top 15 AS/400 business partners also offer HP 9000 software. It's offering 30% trade-in prices on the older B, C, D, E and F series AS/400s - but not the latest Advanced Series - and is creating seven transition centres around the world with channel partners. HP says it'll offer single source, one-time code conversion and full AS/400 emulation services for migrating AS/400 applications.

virus checker down to the PC, however, IXI is adamant that it's not in that market, and has no interest in conflicting with anything the Desktop Management Task Force is doing. The software runs atop Common Desktop Environment implementations, as upgrades to X.desktop or as new X.desktop installations at X Windows-only Unix sites. Eye2eye is \$600 from November on SCO and Sun servers, with IBM, DEC, HP and SGI versions to follow. The price includes two client licences - runtimes are \$250 and \$150 for each additional Unix and Windows client respectively. Existing X.desktop users can upgrade. IXI estimates there are between four and five million PCs on Unix networks. It says between 30% to 40% of Eye2eye is souped-up X.desktop, 10% is Mosaic, 10% is Wintif and the rest is Common Desktop Environment and SCO stuff. There will be a further Eye2eye releases to support Chicago (Windows95), greater OLE and OLE2 conversion functionality, IAX2, low bandwidth X, MAPI messaging and LAN Manager. For Unix, it'll add CDE compatibility and X/Open compliance. Much will be posted to customers over Internet, the company anticipates.

...moves core business beyond Unix desktop

Eye2eye is the most fundamental change in IXI Ltd's product strategy to date because it moves the UK, Cambridge company's core business beyond the realm of the Unix desktop manager for the first time and into a nether world which straddles Unix and Microsoft Corp. Although it's not a world IXI chief Ray Anderson particularly wanted to be in - meaning that if the desktop had evolved into a predominantly Unix kingdom then that would've been fine - he believes every user will end up with some kind of Windows strategy. That world, seemingly premeditated eons ago by users installing waves of Windows desktops across their organisations, has already been embodied in such places as X/Open Co Ltd's Desktop Requirements group which recognises the inevitability of Windows as the dominant desktop in organisations which also either have or foresee open systems platforms as central to their strategic, long-term core data processing requirements. IXI built X.desktop and with it won the battle to put an easy-to-use desktop interface on top of the Motif X Window management system. But X.desktop as a bundled product has had its day in the Unix world. Although IXI will continue to support its 260,000-odd X.desktop users with subsequent iterations (and why X.desktop is the engine for Eye2eye). When planning for Eye2eye began two years ago, IXI recognised the inevitability of its traditional market evaporating into Windows and being superceded by the tens of millions of dollars being pumped into a common Unix front-end initiative called the Common Desktop Environment. Although it has always been in and around the CDE effort, in part because of the participation of its parent Santa Cruz Operation Inc, neither IXI or SCO plan to offer their own CDE implementation(s). IXI will work with one of the CDE ISVs, possibly, thought not necessarily TriTeal Corp, to bring CDE compliance to X.desktop and Eye2eye, but it must convince its existing X.desktop customers, such as IBM Corp AIX 3.2.5 desktop users, to move up to Eye2eye rather than on to a CDE implementation like the one TriTeal and IBM will be offering to AIX 3.2.5 users (see page 3).

KENDALL SQUARE MAY FILE CHAPTER 11

Massively parallel business systems builder Kendall Square Research Corp, Waltham, Massachusetts has given up the unequal struggle and has abandoned manufacture and marketing of its KSR/Series machines. The company intends to reduce its work force to about 50 employees from about 180 at present. Kendall Square said the action was authorised by the board after reviewing the prospects for the KSR business "in light of the failure to receive expected orders and the inability of the company to raise additional capital to finance this business". The company will continue to service and support computers installed with its customers and will try to license its Allcache to third-party computer and networking manufacturers: with the Allcache system all memory is shared by all processors. Kendall Square warns that it may be required to seek protection under US bankruptcy laws if it can't find new cash - most of its recent \$28m in new equity financing only covered loans to the company from investors and had been used already to finance continuing operations, and so only \$3.4m of the \$28m was unencumbered.

MERLIN, SINGLE IMAGE, DOUBLE STRENGTH?

The decision by ICL Plc and Pyramid Technology Corp to unveil their single image box, tentatively named Merlin and incorporating ICL's Goldrush MPP system and Pyramid Nile servers in Australia (UX No 504), caused the raising of more than a few eyebrows. Particularly as by the admission of both companies, the appeal of the system is to a fairly limited set of customers. The reason for the ploy, it seems, is a question of ownership; ICL is 80% owned by Fujitsu, Fujitsu manages the Australian business for both and wanted to show the stuff at the Unix "down under" fest, so ICL relented to pressure from Tokyo. Merlin integrates symmetric multi-processing and massively parallel operating environment technologies to create a view of the system as a single image, regardless of how many processors are under the hood. System management software is wrapped around it. The increasing co-operation between ICL and Pyramid is predicated on the businesses in which each organisation operates. ICL specialises in the public sector, utilities, finance and retail, Pyramid is geared more towards the commercial market.

Load imbalancing

The idea behind parallel processing is simply to build big systems from lots of small processor chips. A parallel processor links tens or hundreds of cheap microprocessors into a big system. A massively parallel system can link thousands together. However, for the system to work at anything like its full potential the work has to be divvied up, the problem being one of load imbalancing or time and space sharing. There are three ways in which this problem is tackled; divide the problem into horizontal domains which match the architecture, divide a problem into geometric domains or use temporal (farming) parallelism, in which the problem is a set of independent but equivalent tasks. However, even when the application has been split up, no single part can perform faster than it would on a single chip; hence the move within the industry towards parallel vector processors, systems in which small numbers of processors are running in parallel. Because of these complexities, use of parallel processing has been confined, mainly to academic and research communities. So what's changing? The adoption of low-cost client-server SMP technology and the takeup of relational databases, MPP proponents argue, is creating bottlenecks. Shared memory means the more processors that are added, the worse the bottleneck. The solution is to give each processor its own memory, as in the parallel model. A switch that works like a telephone exchange enables the processors to talk to each other. There are competing versions, however. In the AT&T Teradata model processors deal with their own data. In others, disk resources are shared out by a global lock manager and the switch.

ORACLE GOES TO VALHALLA WITH \$4.5m FOR DATALOGIX

Datalogix International Inc has become more than just a business-partner of Redwood Shores, California-based Oracle Corp: the Valhalla, New York firm is now an affiliate after Oracle agreed to invest \$4.5m for an undisclosed minority stake to seal an agreement under which it gets the right to resell Datalogix Global Enterprise Manufacturing Management System as Oracle GEMMS. The product is tightly integrated with the Oracle Co-operative Applications suite of client-server financials, manufacturing, human resources, distribution and project control applications. Oracle GEMMS is out now worldwide on Hewlett-Packard Co HP 9000, IBM Corp RS/6000, Digital Equipment Corp Alpha, Data General Corp AViiON, and Unisys Corp U6000. Pricing for GEMMS is user- and configuration-based.

IBM FOLLOWS MOTOROLA WITH POWERPC MICROCONTROLLER

IBM Corp and Motorola Inc are competitors in the PowerPC-based microcontroller business (to sow fear, uncertainty and doubt, IBM insists on calling them embedded controllers) and so IBM yesterday launched PowerPC Embedded Controller 403GA or PPC 403GA, and Motorola reannounced its MPC505 competitor. IBM is aiming the 403GA at office automation, networking equipment and consumer applications: it has a superscalar RISC core and delivers 72K Dhrystones per second at 33MHz while integrating a four-channel DMA controller, DRAM controller, input-output controller, two-way set associative instruction and data caches, serial port, multi-level interrupt controller and multiple timer facilities. The bus interface means little glue logic is needed for memory and peripherals. The 25MHz is \$48.91 for 1,000-up with samples.

VERSION 2 OF ADOBE ACROBAT ADDS PHOTOGRAPH AND GRAPHICS

DISTRIBUTION; RECEIVERS NO LONGER PAY

Adobe Systems Inc, Mountain View, California has launched version 2.0 of Adobe Acrobat and with it is aiming to capitalise on the Portable Document Format standard it established with Acrobat 1.0; analysts believe the new version could give Adobe a considerable revenue boost. While the first version was able to distribute text to a variety of machines in the same layout, typeface and format, version 2.0 sends photographs and graphics with the same clarity. Adobe has also changed the pricing, so that document receivers no longer have to pay to read them. The new version has graphics and hyper-text linking capability, enabling the access of other windows in detail and is better integrated with software such as Lotus Notes/FX. Acrobat 2.0, at £160, also includes Acrobat Search, Acrobat Exchange and PDF Writer for creating Portable Document Format from common business applications and a compact disk with the Acrobat Reader for Macintosh, Windows, Unix and MS-DOS. Acrobat Reader 2.0 enables users to view and print Portable Document Format documents, and use navigation features: article threads, thumbnails, annotations and links. The Article Threads facilitate reading multi-column documents on-screen and Thumbnails offer a miniature page overview with copy, paste and replace facilities. The Reader is also available free from on-line services and the Internet. Acrobat Pro 2.0, £485, aimed at commercial publishers, also includes Acrobat Distiller for Macintosh 68000, Power Macintosh or Windows. Distiller converts any PostScript language files from MS-DOS, Windows, Macintosh or Unix applications into Portable Document Format files. The PostScript files can contain high-resolution or Encapsulated PostScript language artwork or images, or documents containing complex blends or gradient fills. Acrobat Catalog 2.0, for £400, is a Windows application for full-text indexes for collections of Portable Document Format documents from a network of Macintosh and Windows users, enabling an instant search with Acrobat Search. Acrobat for Workgroups 2.0 has Acrobat Catalog, 10 Acrobat 2.0 licences, Acrobat Distiller and Reader and costs £1,300. Acrobat boasts more than 500 open Application Programming Interfaces for customising the product, and the Acrobat Software Developers Toolkit from the Adobe Developers Association which enables users to develop their own plug-in-play products. All the products have English, French, German, Italian and Dutch versions included. Adobe also discussed its merger with Aldus Corp, which was completed at the beginning of this month (CI No 2,429) to create the fourth largest personal computer software company in the world, pointing out that it not in the suite wars that embroil the top three: Microsoft Corp, Lotus Development Corp and Novell Inc.

IBM TALKS TO APPLE OVER PC MACS.

IBM Corp's James Cannavino says the company is in active talks with Apple Computer Inc over the possibility of building a personal computer that would run Macintosh System, the *San Jose Mercury* reports, adding that he stopped short of promising that that IBM would actually create and sell a Macintosh clone: Cannavino, who was speaking in Scottsdale, Arizona at the Agenda '95 event, said what we all know, that "We could see Macintosh capabilities in our systems down the road, and we welcome it;" when pressed by an audience member to indicate if IBM would make a clone, Cannavino said, "Yeah, we're working on it," but in a briefing an hour later with reporters, Cannavino softened his remarks, indicating that IBM considers it "important to have a lot of technology" in its Workplace environment and that Macintosh might be one such technology - "We're still talking with Apple, and I'm encouraged," he said.

BULL CALLS IBM'S POWERPC SMP TUNE WITH ESCALA...

Compagnie des Machines Bull SA last week unveiled the fruits of its Pegasus SMP PowerPC development programme with IBM Corp as the Escala range, on which the loss-making French company is pinning many hopes as it attempts to climb back into the black by the middle of next year. Escala, Italian for scale - in music or to climb - is based on Bull's PowerScale SMP architecture and the 75MHz 601 PowerPC chip from Motorola Inc housing IBM's micro channel architecture (MCA) bus. It uses Bull's Data Cross Bar ASIC set the company claims distributes data across CPUs without burdening the bus. The range so far comprises five models: two mini-towers, two deskside servers and one rack-mounted server. With Escala, Bull has stolen a small, but perhaps symbolic march on its development partner IBM, whose own SMP PowerPCs are due next week. Nonetheless, despite a launch of gallic verve for its new Escala systems, marred only by one or two small details, such as the fact that it was clearly news to Bull chairman and CEO Jean-Marie Descarpentries that the Pegasus development label had been superseded by the Escala nameplate on the new boxes, Bull is still fighting from the back foot over how it will be able to compete with IBM now the development work is largely over and the marketing gloves coming off. The pricing war for the new machines should become clearer this week, but already the systems are looking expensive. A one-to-four CPU M101 mini-tower with a single CPU, 500Kb Level 2 cache, 32Mb to 512Mb RAM, 1Gb to 18Gb disk, 4 or MCA I/O slots, SCSI 2, CD-ROM and Ethernet starts at \$20,000. A typical four CPU machine with 256Mb RAM, 4Gb disk and 15 I/O slots will cost \$90,000. M201 is a two-to-four way affair. The two-to-eight CPU D201 deskside has 1Mb Level 2 cache, 64Mb to 2Gb RAM, 2Gb to 36Gb disk and up to seven MCA slots. The D401 four-to-eight way as a deskside or cabinet has 1Mb Level 2 cache, 256Mb to 2Gb RAM, 4Gb to 99Gb disk and up to 15 slots. The R201 is a rackmounted D401 with more disk available. Bull quotes typical prices of \$30,500 for a two-way M401 with 128Mb RAM and 4Gb disk, and \$92,000 for a four-way deskside D401 with 256Mb RAM and 4Gb disk. The systems all run SMP AIX 4.1 and are slated to ship by year-end, bar eight-way configurations that require the Mississippi clustering due mid-1995 - see below. Uniprocessor 604 configurations are promised at the end of the first quarter of next year, SMP 604 by mid-year and 620 systems by the third quarter. Bull touts Escala with its Distributed Computing Model over SMP RS/6000s, and is pushing this message to its indirect channel through a new Powerful Advantage reseller scheme. Custom OLTP versions with Bull's UniKix for CICS downsizing and HVX for getting up to Bull's DPS 6000 are due by next June. At least one large deal for the product was signed before the announcement; sources at the Parole Office in England, with which Bull has just signed a £50m, seven-year deal, have said that the majority of the servers supplied as part of a Case Management system will be Escalas - perhaps as many as fifty.

...PROMISES 140-WAY MISSISSIPPI CLUSTERING

Although its symmetric multiprocessing PowerPC development agreement with IBM is ended, the French company, which has already ploughed \$100 million into the Pegasus, says it has 600 people working on further development of its own. It's proceeding with systems based on PowerPC 604 and 620 and, as expected, will have a clustered option ready during the first half of next year that'll raise Escala's four CPU bar to an eight via FDDI links. It may also collaborate to deliver IBM's High Availability Clustered Multi-Processing software that Big Blue will use to cluster its own RS/6000 Pegasus boxes, though it claims it doesn't know the answers to any future IBM development questions right now because of conflict between the IBM divisions each doing PowerPC stuff. The clustering technology is part of the Mississippi project which was uncovered at Bull long ago (UX No 449). Beyond eight-way, Bull is also promising to show a higher-speed ISL interconnect by next summer that'll feature in systems by the end of 1995, eventually scaling to 140 processors.

CENTURY TOUTS LOW-COST PC-TO-UNIX CONNECTIVITY

Century Software Inc, Salt Lake City, Utah, is up to release 2.1 of its TinyTerm Plus PC-to-Unix connectivity software for Windows and DOS, which now includes FTP and Wollongong's TCP/IP stack. The terminal emulation software uses Century's network transport system and, hoping to capitalise on the current wave of support for TCP/IP-based networking, the company says TinyTerm Plus provides users with the ability to run Unix applications remotely from their PCs over any TCP/IP network. With a bunch of firms now offering more than just terminal emulation in broad PC-Unix integration environments, including SunSelect and Locus Computing (which bundles Tiny Term with its PC-Interface environment), Century is putting up a case for using its stuff as a low cost solution - \$400 for a five user licence as opposed to the several hundred dollars per seat that other environments can cost. Century is up against the likes of Esker Systems and James River that have directly competitive products, although president Greg Haerr believes TinyTerm is complementary to solutions offered by companies such as JSB Computer Systems Ltd, Beame & Whiteside and FTP Software technologies. There are Tiny Term Plus versions tailored for NFS sites - \$800 for five users, including network printer support - where the Unix server appears on the desktop as an additional network drive for use, plus Tiny Term X for X Windows. The entire market, Haerr reckons, is set to change with the arrival of solutions like NetManage Inc's Chameleon - which he says is killing higher-priced solutions from FTP, Locus and the like - plus the surge in take-up of TCP/IP and Internet technologies and the increased role of the operating system vendors as providers of TCP/IP stacks. Century has added a graphical file transfer system, plans Win32s supports and an e-mail system sometime in the future. The privately-held 40-person outfit does around 35% of its less than \$10m-a-year business outside of the US and has distributors in 23 countries.

VIRTUAL COBOL: MICRO FOCUS WOOS SUPERSCAPE, SENS8

Micro Focus Plc wants to explore virtual reality and related exotic technologies and has signed up Superscape VR Plc and Sense8 Corp as partners in its Emerging Technologies Programme. Three-dimensional visualisation is the first of several advanced computing technologies that Micro Focus is evaluating as part of the new programme, which was announced last month and is intended to identify and meet user requirements for the next generation of computing technologies. Micro Focus wants input from the two on the tools that will be needed to develop business computing applications in three dimensions to run on a range of different systems. The Newbury, Berkshire company will subsequently evaluate speech recognition and synthesis, object-oriented databases and object assembly tools, which are also seen as critical technologies for enabling the Cobol language. Sense8 provides virtual reality application development software, systems and consulting services to corporate, education and government application developers, and under the pact, Micro Focus will team with Sense8 to develop a version of Sense8's World-ToolKit tailored to the Micro Focus Workbench. With Superscape it will provide corporate clients with an environment for developing robust three-dimensional visualisation applications for commercial deployment and Micro Focus will distribute Superscape Visualiser, Superscape VRT, Superscape Networks and the Superscape Developers Kit.

AT&T BUYS IN EXTERNAL TECHNOLOGY

AT&T Global Information Solutions is buying all its third-party microcomputer products - the add-ons it doesn't make itself - through one worldwide master distributor for direct shipment to its end-users so that it doesn't have to clutter up its own warehouses with other people's products. El Segundo, California-based Merisel Inc, wholesale distributor of computer hardware and software products and provider of channel services, will be the preferred worldwide distributor for the first three years.

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Peacock AG, the Wuennenberg, Germany-based PC manufacturer is shipping variants of the RS/6000, using motherboards from IBM, reports *PowerPC News*. Following a deal signed with IBM around March, the company is fitting IBM motherboards into its own cabinets. The CTM9664 is not just a straight RS/6000, Peacock configures its boxes with more expansion slots, dual power supplies etc. Kuno Hartmann, who heads up Peacock's server operation says that the may have a PReP-compliant PowerPC desktop in the first quarter of '95. Currently he is evaluating motherboards from IBM, but expects some samples from Motorola in a couple of weeks. The main factor, determining whether Peacock builds PReP-compliant machine is (surprise surprise) operating systems. Novell dominates the conservative German PC server market to an even greater extent than in some other countries and Windows NT has made virtually no impact. Even Novell users have a tendency to stick with the tried and tested Netware 3.2. "Do you know how many users of Windows NT there are in Germany?... you can count them on your fingers", says Hartmann. Moreover he is not too happy with the performance of NT on PowerPC at the moment; describing the port as "weak". He points out, however that he is playing with an early beta.

Digital Equipment Corp has finally hit a little bit of paydirt with its Alpha AXP machines with a \$20m two-year order from **Hughes Aircraft Co**, which wants to standardise on the machine for its Enterprise Server Project: the servers will run OSF/1 Unix and will support manufacturing resource planning, product data management, database, data warehouse and communications applications; Alpha AXP servers, including the 2100 Server, are already installed in Hughes' Fullerton and Long Beach, California locations.

The downside of the **Wang Laboratories Inc-Bull HN Information Systems Inc** deal is that it will result in some layoffs: Wang's workforce will grow to about 8,500 from about 5,200 now, but it says that all the businesses it will acquire from Bull are profitable and will result in higher earnings per share and cash flow in the first quarter of fiscal 1996 beginning July 1 1995; Bull is still looking for someone to share its manufacturing plant in Billerica, Massachusetts, which is the old DPS 6 minicomputer factory.

Sequent Computer Systems Inc and **Unisys Corp** duly announced that they had renewed and expanded their three-year OEM agreement, which will run for another three years: Unisys adds a new family of servers based on Sequent systems as the U6000/600 family, based on the Sequent Symmetry 5000, which support from two to 30 66MHz Pentium CPUs; they can also be configured as clusters of up to four machines.

In other real estate news this week, **Data General Corp** has sold and leased back its Westborough, Massachusetts HQ in a ten-year rental agreement with **Carruth General**, which paid DG \$17m for the 110-acre site. DG will shrink to use under half of the 750,000 square feet within 18 months.

The importance of Escala, (*see front page*), to **Compagnie des Machines Bull SA**, lies in their potential to boost the company's mid-range Unix-based revenues. Last year, half of Bull's turnover came from its proprietary base, and the company is anxious to push up the percentage of its turnover from its Unix-based range. Alain Couder, president of Bull's open systems and software division, said new sales of Unix systems were up by 30% in the first half of the year and added up to \$500m in turnover, of which \$300 million came from hardware sales and \$200 million from associated services. He wants to get Bull's direct sales revenue, currently at 18% up to around the 30% mark.

Whole forests of trees are breathing sighs of relief at the news that **IBM Corp** is now putting its Ivories - Customer Letters on product announcements - on the World Wide Web, and consequently will no longer make the voluminous tomes available in hard copy.

AT&T GIS is putting OpenVision Inc's distributed systems management software up on its System 3000 line.

Interface outfit **Open Software Associates Inc**, Nashua, New Hampshire, has got a new version of its OpenUI for developing cross-platform applications and GUIs using Cobol, C, C++, Pascal, ADA or 4GLs. OpenUI 3.0 is up on Unix, VMS, OS/2, DOS and Mac. +1 408 730 2626.

Eye2eye and the rest of the "Windows Friendly" strategy is inflicting a change of culture on the **IXI Ltd** organisation itself, which founded with the express purpose of making Unix desktops easy to use. As well as hiring Windows expertise, the company has apparently even lost an engineer or two that didn't want anything to do with the Windows. More than that however, it's found that doing Unix and Windows development is very hard and would've been happier had it been able to remain a Unix-only ISV.

The PowerPC 620 will be detailed at the forthcoming Microprocessor Forum and **Motorola Inc** doesn't want to use the name PowerPC 630 for that other Power 3 part (UX No 489)

IBM UK Ltd last week announced that it has dumped **Computer Associates International Inc's** Ingres relational database from its £450m project for the Royal Air Force and will use Informix instead: reason given is that Ingres, now under CA, will not be up to scratch to meet the deadline.

Up to a year and a half ago, **IXI Ltd** says, when it was going in to customers sites with the likes of IBM and Sun, it and the vendors were still imploring people not to install desktop Windows clients. It wasn't until organisations started saying they couldn't prevent the Windows wave and demanded vendors do something that Unix-Windows integration strategies were really considered, although many of the vendors still haven't made that ideological shift.

MainSoft Inc is promising OLE 2 on Unix by mid-1995.

The courts have found in **Baan International BV's** favour, saying **Computer Associates Inc/ASK** only has rights to a early beta version of Triton tools 6.0a tools source for the express purpose of supporting ASK's existing Manman/X customers. ASK can't sell or licence the stuff and has had to post a bond payable to Baan in the event it breaches the restrictions. Now Baan says it'll offer an upgrade to ASK Manman/X users to get to Triton 3.0.

Little-known **Ochre Development Inc**, of Sydney-Australia, is setting-up in Burlingame, California, offering Ochre Platform for developing and managing enterprise-wide client/server applications. Introduced down under in April 1993, the company says the object-oriented platform can be used to develop and deploy applications across Unix, NT, Windows and VMS. Prices start at \$15,000, more details next week. +1 415 696 8680

IBM has bowed to a storm of press criticism and pulled the October launch of the PowerPersonals. It is now not even committing to first half 1995 availability. IBM noted that it is shipping and will continue to ship models to corporate developers and independent software developers as expected (UX No 505). Meantime, *PC Week* hears that the line is now the Power Series and will include Power Series 400 desktops, Power Series 600 ergonomic desktops and Power Series 800 ThinkPads.

Given the state the company is in, it sounds as if it should remain at the site and become a resident: **Digital Equipment Corp** has found a new headquarters base in Maynard, and has agreed to sell its existing facility to Franklin Lifecare Corp, a private company formed to create an elder care complex at the site.

Folks who have been by **DEC** lately say that even if its three parts - systems, components and semiconductors - aren't officially independent entities they might as well be. It's gotten so that if you sign a nondisclosure agreement with one you can't reveal anything you learn to the others. Since each seems to be charged with doing their own thing - and they don't seem to like each other that much anyway - observers suspect they run the risk of duplicating each other's efforts.

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SMP AND \$4,000 UNIX HERALDS SOLARIS, NT AND END OF MCA REIGN AT IBM RS/6000 DIVISION...

IBM Corp made its belated entry into the worlds of symmetric multiprocessing and low-cost desktop Unix in New York last week, offering no real surprises and apparently little that's likely to raise a sweat amongst its main competitors in those markets, Hewlett-Packard Co and Sun Microsystems Inc. There are three 75MHz PowerPC 601 servers; the two-way minitower G30, the two- and four-way deskside J30 and two- and four-way rackmount R30, all set for general release at the beginning of next year. IBM's first sub-\$4,000 Unix desktop is the 66MHz entry-level, bi-endian, PowerPC Reference Platform-compliant 40P workstation which ships at the end of this month. All run server or client implementations of a new rev 4.1.1 of AIX for PowerPC. In addition to AIX 4.1.1, and OS/2 when it eventually arrives, the new bi-endian systems will also be offered with Windows NT and SunSoft Inc's Solaris factory-installed on request, though according to RS/6000 assistant general manager Jeff Mason, the division won't "merchandise" these configurations. The same operating system choices will be offered as the bi-endian PowerPC architecture spreads up and down through the RS/6000 line. Meanwhile, the arrival of the PCI bus into the formerly Micro Channel Architecture-only line - "introduced where it does the least harm," according to IBM - is expected to become dominant bus mechanism across the range. Although it's not the end for MCA, the end is in sight. In future IBM admits MCA will play only a supporting role for I/O tasks, hanging-off and being driven by PCI. By the time PowerPC 630 arrives, expect MCA to be well tucked away.

...NOW THE COMMERCIAL BALANCING ACT

Although the new servers were launched without so much as a nod towards Compagnie des Machines Bull SA, on whose Pegasus technology they are largely based, the guts of the new machines are perhaps their least interesting aspect, as the ground has already been widely covered. Observers are focused more on IBM's intriguing marketing balancing act. Traditionally IBM has offered RS/6000s as "technology solutions" and its AS/400 machines as "business solutions." With the new servers pitched directly at commercial users and the newest AS/400s incorporating PowerPC and greater Unix interoperability, IBM is attempting to broaden the client base for each, without harming the other's business or confusing its customers. It is also entering a market in which the likes of HP and Sun already have well-established SMP Unix offerings that scale well beyond what IBM is offering here, or will be able to offer by mid next year when the Pegasus technology moves up to support six processors, to eight-ways in the second half of the year and PowerPC 604 somewhere in between. AIX 4.1.1 lacks critical commercial functions such as HACMP/6000 clustering, which won't feature on 4.1.1 until sometime in 1995. SNA services and DCE are missing for now and there are lingering doubts over 4.1.1's scaling and backwards compatibility. IBM looks to have priced itself uncompetitively against Bull's implementation of the same Pegasus technology. Its machines appear to be as much as \$10,000 more expensive than similarly-configured Escalas (UX No 506). *More details page three.*

BULL PLOTS SUB-\$3,000 TO 144-WAY POWERPC LINE

Compagnie de Machines Bull SA believes it's got a strategy mapped out that'll take it from sub-\$3,000 units to systems utilising a home-grown 144-way Interconnect Serial Link. As well as OEMing Motorola PowerStacks (UX No 505), the company says it's also got rights to dicker with the things as it chooses, planning to get systems out for \$3,000 or less, fashioned as Novell Inc NetWare servers that could rival Intel-based offerings. Solaris, Windows NT and AIX also figure in its low-end plans, although it says NetWare is the key. Above those sit its re-badged, low-end RS/6000s (although it says it hasn't yet decided whether to embrace the 40P desktop). Atop those, in the \$20,000 to \$150,000 range come the SMP Escalas, with future Mississippi clustering anticipated beyond that. Further up the scale will be parallel systems linked by its ISL connection now under development.

APPLE AN ACQUISITION TARGET, THINKS WALL STREET

When we heard this rumour the week before last we didn't credit it but as we went to press the yelling was getting louder. A report was circulating on *Reuters* that there had been acquisition talks between Apple and IBM that would have had the latter buying the former for around \$35 a share. They are supposed to have fallen through because IBM thought it was too expensive. Earlier in the week Wall Street figured it was Motorola instead of IBM and sent Apple stock up 12%. There was also talk of AT&T. *Reuters* thinks Apple may be an acquisition target and may have hired an investment banker to explore the issue within the last month.

X/OPEN AND OSF PLAN "SINGLE-IMAGE" PROJECTS

Having learnt - and apparently still learning - from a bitter experience with the Common Desktop Environment, X/Open Co Ltd and the Open Software Foundation are expected to work jointly on "single-image" projects in future. Their (unspecified) future initiatives will be coordinated in such a way that from the outset the two will be able to say exactly who is doing what, when, where, and, more to the point, how much it will cost and who's going to pay. Requirements, specification, definition and product development are expected to proceed in a much more symbiotic fashion. CDE was driven by the managementless COSE (un)organisation and delivered low quality specification work, according to X/Open. It was the catalyst for, and was eventually rescued by, the new-look Open Software Foundation's and its pre-structured technology process at the beginning of 1994, and the hiring of IEEE guru Hal Jepsen to manage the thing. Neither wants a re-run, however the new X/Open-OSF relationship isn't exclusive; they will both pursue other projects separately. Under the plan to work more closely together the two are currently looking at the information they get from their respective requirements feedback processes to figure out if those tasks can be merged to save time and resources. Their distinct requirement definition processes - X/Open's from business and OSF's from the industry - will be retained. X/Open says it's no longer interested in desktop issues like common GUIs and Windows interoperability and has no plans for a Windows API of any kind, quoting "the industry" which has told it that Windows can't be bettered. It's more concerned with the creation of specifications for data structures that will be able to deliver common information services across a range of platforms, from television sets to PDAs, PCs and Unix boxes.

Single Unix Specification

Meanwhile, X/Open has published Spec 1170 - now christened the single Unix specification - through Prentice Hall in four glorious 2" thick tomes - or on CD-ROM, at \$250. The set of four Spec 1170 test suites themselves have apparently taken less than one day to run on the fastest machine, compared to a week or so on an Intel/SCO box. X/Open is shy of revealing details of its Unix branding scheme which it will introduce at the same time as the first brands are awarded - sometime next quarter. It says it has market-tested a handful of branding schemes - including \$11-a-shot for every licence - that'll allow it to re-coup what it claims is a \$1m investment in the Spec1170/Unix effort (a figure nearer \$700,000 we hear). It's settled on a figure but isn't saying what that is.

AMDAHL SPINS OFF UNIX LANGUAGE TOOLS INTO NEW LEXA SOFTWARE FIRM

Amdahl Corp has decided to shrink itself further by spinning off its Unix programming language tools into a new privately-held company, ~~Lexa Software Inc, in Santa Clara, California.~~ In exchange for a financial interest in the new company and a three-year contract allowing Amdahl to distribute Lexa products, Amdahl has transferred its Unix tools, which are designed to enable the development and deployment of applications across Amdahl's UTS mainframe Unix operating system and Sun Microsystems Inc's SunOS and Solaris. Thirteen Amdahl employees have joined the new company, arrangements for which were completed back in June, we understand. Lexa will offer C and Fortran native compilers, cross-compilers and attendant software development tools that work on and across System/390 UTS and Sparcsystems. Lexa focuses on providing identical tools for each environment that are designed to make it simple to carry out the various tasks associated with development in the most logical location. First products are expected next month.

EDINBURGH WORKS ON PARALLEL COMPILERS WITH TAS

Edinburgh Portable Computers (EPC) the Edinburgh, Scotland vendor of compilers and tools is to develop and market a family of parallel service compilers in conjunction with Transparent Application Servers Inc, (TAS) St Louis, Missouri. The first parallel service compiler resulting from the agreement will be the ParallelSAL. Based on the SQLWindows Application Language (SAL) from Gupta, TAS has licensed interpreter source code and embedded it in ParallelSAL. EPC has developed the core compiler technology. ParallelSAL is intended to allow PC developers to move up to application partitioning and commercial processing using the 4GL skills they already possess. TAS, whose president, Rod Zimmerman, is a former director of channel development and five year veteran of Gupta, is targeting the client server market by offering tools for application software which partition the software across multiple micro-processors, within single computers and networks of computers. At Unix Expo last week TAS was recruiting resellers for both Europe and North America who have strong experience with Gupta and Novell products as well as SMP application servers. Both TAS and EPC are presently evaluating the markets for parallel service compilers based on additional languages. ParallelSAL will be offered on a variety of pre-configured application servers that have two to twelve Intel Pentium processors, along with Novell's upcoming UnixWare v2.0, a CORBA-compliant request broker, and the ParallelSAL compiler and remote debugger. Application servers can also include SQL database servers such as Oracle, Sybase and SQLBase. Eventually ParallelSAL will be available on most SMP operating systems in the PC-LAN market, including Sun Solaris and MS Windows NT. It will also run on a variety of processors, including Sun Sparc and the IBM/Motorola PowerPC. ParallelSAL will be available from TAS in the first quarter of 1995.

APPLEBY HAS REAL-TIME APPLICATION, DATABASE FAILOVER TOOL

New York city firm Appleby Technologies Inc has released SafeNet Message Bus, which it describes as a fault tolerant bus-type technology designed to eliminate application downtime resulting from hardware, network or other software failures. SafeNet is said to monitor and switch client-server processes in real time. In the event of an application or database failure, the Unix-based bus mechanism distributes all clients of the failed component to remaining instances of the same service. Once the failed service is restored, clients are switched back to their original service, maintaining load balancing. SafeNet maintains multiple synchronised copies of database services in real time so that users all see the same data even if the server they are using for their queries goes down. It also maintains a copy at a remote site to aid disaster recovery. SafeNet has been in beta for around two years - Appleby sees financial corporations who are going to Unix as its primary customers. No prices.

TEXAS DELIVERS FIRST TOOLS FOR OBJECT REPOSITORY

Texas Instruments Inc has announced Composer, a client-server application development tool that will ship in the next quarter. ~~It is one of the first products to conform to the Texas Instruments/Microsoft Corp object repository design~~ the two companies announced they'd develop last May (UX 486). Texas says Composer will enable end users and developers to reuse application components and includes a graphical user interface supporting multiple clients, servers, development methodologies, and network topologies. Composer developers and users can access data from a variety of sources and clients can access data from and partition data out to multiple servers. Texas has embedded PeerLogic's Pipes Platform middleware for network independence. However, the real fruits of the joint development won't be realised until Composer supports the creation and manipulation of component-based objects. Composer Workstation toolset starts at \$11,000; Composer LAN Encyclopedia at \$20,000.

MOTOROLA SIGNS ROGUE WAVE AND ALSYS GUI BUILDER FOR HIGHWAY IN THE SKY

Motorola Inc has signed for Corvallis, Oregon-based Rogue Wave Software Inc's C++ libraries for use in its Iridium "highway-in-the-sky" project. Motorola has paid \$500,000 for a batch of licenses for libraries spanning basic tools, interfaces to Motif, numerical programming, graphical programming and more. The deal with Motorola has also led to a joint venture with San Diego, California-based Alsys Inc to integrate its libraries for use under Alsys' TeleUse graphical user interface builder. Rogue Wave says the partnership was spurred by Motorola which has struck a separate deal with Alsys as part of Iridium. The Rogue Wave/Alsys product is code named RWCUIL - Rogue Wave Code Generator - and will be launched in January. It links TeleUse to View.h+++ and obviates the need to hand code access to the library. Both companies will market the product. Alsys will also sell Rogue Wave's libraries with it. The two firms say they are likely to work with each other in the future. The Rogue Wave has also launched DBtools.h++, a library to support C++ developers creating SQL database applications. Rogue Wave claims it will allow developers to move applications from relational to object databases via a cross-architecture interface, and database access libraries embedded in the software that bridges the two topologies. Rogue Wave has encapsulated relational constructs like rows, columns and so on in C++ classes. There are 36 publicly available classes in the release which is fully integrated with Tools.h++, which has 100-odd data structure and utility classes. The product will ship by the end of this month and supercede the first iteration DB.h++. Oracle7, Sybase SQL Server, Microsoft SQL Server and Open Database Connectivity are supported.

IST TAKES THE WINDOWS ROUTE

Imperial Software Technology, Reading, England, is spreading from its base in X to the Windows world. The company launched a cross-platform GUI-builder for Motif and Windows applications at Unix Expo last week. X-Designer 4 enables developers to produce applications that can be ported between Motif and any version of Windows. Company president, Derek Lambert claims that his company has found the solution to the problem of tracking the different versions of Windows by targeting the Microsoft Foundation Class Library (MFC). Since Microsoft has a class for each version of Windows - now and in the future - X-Designer 4 can support all the versions. There is also support for Macintosh within the MFC, so IST's software can support that platform as well. While this makes the package distinctive, Lambert is realistic about the difficulties of getting any product above the noise-level in the GUI-building market. For that reason, he has made the product entirely non-proprietary. As with a compiler, the developers will own the code that they produce, and will not have to pay royalties on applications developed or ported using X-Designer 4. Lambert claims that his company is now in the top-three in the world in GUI design and might be in second place. "These things are so hard to put a figure on, but I believe we are the Avis of the GUI-design world," he said.

IBM's \$4,000 UNIX DESKTOP...

The much-anticipated RS/6000 Model 40P PowerPC desktop is out from IBM's Power Personal division. It's the first PowerPC Reference Platform-compliant unit, and the first use of the PCI bus in the formerly Micro Channel Architecture-only RS/6000 line. The 66MHz machine sits below the 25T and 25W and is the first of a claimed line of PREP-compliant PCI bus machines that the Power Personal crowd will supply lower down and higher up the RS/6000 range. It comes with 16Mb to 192Mb RAM, 360Mb to 4Gb disk, SCSI, two PCI slots, three ISA slots, optional 256Kb level 2 cache and an AIX 4.1.1 client. It's upgradable to PowerPC 604 - supposedly due in volume by year-end - and starts at \$3,995 with 16Mb RAM, 360Mb disk, floppy drive, Ethernet, 13" colour screen and AIX pre-installed, which is a price point already achieved by HP and Sun. It performs 63.7 SPECint92 and 67.8 SPECfp92 without level 2 cache, 75.1 and 77.0 respectively with.

...TWO AND FOUR WAY POWERPC SERVERS

The two-way or four-way G30 minitower comes with up to 0.5Mb second level cache per CPU, 32Mb to 512Mb RAM, 1Gb to 13Gb disk and has five available MCA slots. An entry-level configuration with a two-user AIX licence is \$41,000. A four-way with 64Mb RAM and 4Gb disk is estimated at 1,100 TPC-C and 7,500 SPECrate_int92. The J30 deskside, available as a two- or four-way - as a six-way during the first half of 1995 and an eight-way from the second half of 1995, the functionality is all a question of software, IBM says. It comes with up to 1Mb second level cache, 64Mb to 2Gb TAM, 2Gb to 18Gb disk and six available MCA slots. An entry system is priced from \$70,500. The \$114,000 model with four CPUs, 128Mb RAM and 8Gb disk, is estimated at 1,250 TPC-C and 8,000 SPECrate_int92. The R30 rackmount is the same configuration with 1Gb or 2Gb disk and 15 available slots, starting at \$84,000. A four-way with 128Mb RAM and 8Gb disk will do an estimated 1,250 TPC-C and 8,000 SPECrate_int92. IBM may be in trouble with its numbers, we hear, having provided only estimated TPC-C figures against the reported figures of equivalent HP and Sun machines on graphs in its overheads. There are various storage expansion units available. To tempt customers to the 1995 machines, IBM is offering users that buy existing 300, 500 and 900 series RS/600s a route up to R30, J30 and G30 respectively for what it says will be \$10,000 less than the cost of waiting and purchasing the PowerPC 604 when that arrives. Software licences, adapters and storage can be transferred up to the new servers. Bull meanwhile, which rebadges RS/6000s as the DPX/20 line, is additionally allowing upgrades from lower-end RS/600 servers to its G30 equivalent M series minitower, as well as leg-ups to G30 and J30-equivalents from RS/6000 300s. IBM says it hasn't decided whether it'll take Bull's in-development Mississippi clustering technology that will take Pegasus beyond eight-way scaling.

DEC TO SEIZE THE PCI MOMENT WITH NOVEMBER 3 SPLURGE

DEC has lined up November 3rd as the day it'll disgorge its PCI bus strategy plus at least a dozen machines counted so far, both Intel and Alpha, running OSF/1 and Windows NT, businesses that now lie within the new Systems Business Unit being run, amongst other things, by Enrico Pesatori. As far as OSF/1 goes, two low-end workstations at around \$10,000 and \$15,000 apiece are seen using 200MHz and 233MHz 21064s updated with PCI bridges. On the server side there's Mikasa and DemiSable (UX Nos 498, 502), the latter originally a two-way - and we presume still is - as is Mikasa, built around a non-Sable design that reportedly uses six EISA or PCI slots and a 21064, eventually going to a 21164. The standard Sable line of servers is also expected to be upgraded to the 275MHz 21064 as SuperSable, though that may come later in the month at the Supercomputing show. Sub-\$5,000 Unix desktop technology isn't seen until next Spring, although for November at least two laptops are expected, a 486/Pentium system and the Lean RISC machine that Tadpole Technology has been working on fitted with a latter-day pass at the 21066 Alpha chip.

SUPERSPARC II SAMPLES NOW AT 75MHz, 90MHz IN JANUARY

As anticipated (UX No 507), Sun Microsystems Inc's Sparc Technology Business unit will this week announce SuperSparc II, coming in above SuperSparc+ in 75MHz and 90MHz iterations and hitting 115 and 125 SPECint92 and 135 and 147 SPECfp92 respectively. The MBus- and XBus-enabled part comes as a three-way superscalar, 3.1m transistor BiCMOS affair drawing 19 Watts that will run existing applications and operating system releases unchanged. STB says it's improved performance by eliminating cycle time bottlenecks in the pipeline, register file, floating point unit and I/O. 75MHz samples are available now, 90MHz iterations in January, no word on general ships or pricing.

STARLIGHT PUTS VIDEO SOFTWARE UP ON SUN'S SPARCSERVERS

Sun Microsystems Computer Co has teamed up with Starlight Networks Inc, Mountain View, California to create a Sparc-based corporate video server combining the NetWare-based StarWorks video networking software with Sparcservers running Solaris Unix. StarWorks for Solaris video server is claimed to support video-on-demand services from a standard enterprise server and co-reside with other network services such as Network File System, and database and other applications, where the iAPX-86 version of StarWorks requires a dedicated 80486 processor. StarWorks for Solaris also runs on Sparcstation clients and includes Starlight's StarWorks Interface to Movie, enabling developers to create video applications for the Solaris operating system. The video server is due in November, with the initial version supporting only uniprocessors; multiprocessor versions are planned for spring 1995. StarWorks-12M supports up to 10 users at 1.2Mbps for \$8,750; StarWorks-25M supports up to 20 users for \$15,000 and StarWorks-50M supports up to 40 at \$25,000, all at the 1.2Mbps speed. StarWorks users can upgrade to Solaris for \$875 for StarWorks-12M; \$1,500 for 25M; and \$2,500 for 50M.

ILOG HAS VIEWS IN VIEWS

Paris, France, based Ilog SA will announce a new GUI designer later this month, to add to its collection of C++ development tools. Views 2.0, which had a sneak preview at Unix Expo, is the first C++ class library that tightly integrates GUI-building tools with structured graphics, according to Patrick Suel, the company's director of marketing in the US. "It offers all the basic components plus the structured graphics," he claims "and completely merges the graphics and GUI components". The source code produced with the package will be royalty-free, according to Suel, so there will be no on-costs for developers. The package will produce code that runs across all the major Unix platforms that support X-Windows as well as Windows, Windows NT and OS/2 Presentation Manager. Despite the company's prominent position in the object-technology market, Suel says he is very cool about the moves towards standardisation. "We are in the 'un-Corba' company", he said. "Corba adds too much real-estate. When you sell to developers you have to sell your products and then to try and sell them Corba is like trying to sell them another language." He says that despite the momentum behind Corba, ILOG is going to wait until the dust settles on the final specifications.

SNI APPOINTS NEW CEO

Siemens Nixdorf got itself a new president and CEO, Gerhard Schlumeyer, at the beginning of October and he's making everybody everywhere speak English all the time, declaring it to be the official language of IT. Meanwhile, the company's new US-based Enterprise Systems Division, set up to peddle SNI's RM200, RM400 and RM600 machines (UX No 507), figures its third year will be its hardest. It already has 40 RM servers installed in the states and figures it'll have 35-40 sales, marketing and engineering types working for it in year one and 120 people in year two. It should be at break-even by then because it doesn't have to foot any of the engineering or development costs though it intends to move a bunch of those resources stateside. Division head Joe MacGuire is pretty confident of his chances, he says, because this is the first situation he's been in where his budget is larger than his sales targets. Sales will be made largely through channels.

MOTOROLA TRIES ONCE MORE AT THE SYSTEMS BUSINESS WITH POWERPC MACHINES

Haunted by a past pocked with failure, Motorola's Computer Group last week revved its motors yet again for another try at becoming a main-stream box shifter. This time it is armed with PowerPC machines complements of its alliance with IBM and Apple, aggressive intentions and dubious possibilities. Like its mate IBM, Motorola will sell the boxes with every operating system that runs on them from the AIX 4.1 it just licensed from IBM to Windows NT and possible Apple's System 8. Initially, however, they are just Unix boxes, unlikely to make a significant dent in target Motorola has set for itself to sell between 250,000 and 500,000 PowerPC boxes, boards and chips next year. The company has written itself a roadmap, extending into 1996, of the boxes it will bring to market. The roadmap does not include workstations, a market it feels it couldn't elbow into successfully. Last week it began with a high-volume single-user desktop or mini-tower PC built around its own Ultra PCI motherboard and taking a 66MHz 603 PowerPC processor. Depending on some variables, the PowerStack DT603-66, which is immediately available, will sell for a comparatively aggressive \$3,300-\$3,500. It comes with 8MB-128MB internal memory, a maximum 4GB disk storage, PCI and ISA buses, SCSI-2, Ethernet interface, Super VGA graphics and three expansion slots plus a PCIMCIA option. The company also unveiled its first PowerPC servers, the E603-66P and the E604-100P, the first based on its Ultra board and the other on its Atlas board and using the 66MHz 603 and 100MHz 604 chips respectively. They include 16MB-128MB, SCSI-2, three PCI expansion slots, CD or tape drives, PCIMCIA and X.25 support and 32 optional serial ports. The units, which will be available later this year, can handle 9GB of internal storage and will sell for \$6,000 and \$8,000 respectively. Motorola says they can support 1289 clients. As anticipated, Motorola also showed up with a PowerStack MP family that derives from its new alliance with Groupe Bull and its decision to OEM Bull's SMP Escala technology. Like Bull, it has MCA/601-based 75MHz two- and four-way boxes, the MP601-75-2 and MP601-74-4, that begin under \$50,000. These are eventually supposed to expand to eight-ways. Motorola is also talking about having fault-tolerant machine targeting OLTP and database applications by the middle of next year. All its products are supposed to be sold indirect through VARs, integrators, distributors and OEMs. In the next 90 days, Motorola expects to seed ISVs with hundreds of machines to cultivate development of PowerPC NT applications which are scarce.

ONTOS GETS RESCUE \$5M FUNDING

Daimler-Benz AG, which has a big stake in Sogeti SA, controlling shareholder of Cap Gemini Sogeti SA, has invested what sounds like a life-saving \$5m in Burlington, Massachusetts-based object database pioneer Ontos Inc. Ontos does not talk about its database these days: instead it describes itself as a provider of component object technology for distributed, network-based applications. The computer business is getting more and more nebulous, so we shouldn't be surprised that Ontos and Daimler-Benz have formed what they are calling a "virtual corporation" in which they will work co-operatively to explore ways to integrate next-generation object technology with existing information systems, so that users can create, share, and distribute active network applications across the enterprise. Ontos is to provide technical expertise to assist Daimler-Benz in designing an object-based information infrastructure to support applications developed specifically for the company's various lines of business. Ontos says that the cash and support from Daimler will enable it to continue to create new commercial products for its Object Cohesive Enterprise strategy in real-world business environments.

OBJECTS TO SAVE THE IBM MAINFRAME

In what looks like a substantial investment, IBM Corp is mobilising all the forces of object-oriented programming as a major part of its campaign to save the mainframe, and buried under a morass of PowerPC prose in its kitchen sink announcement blitz last week was the introduction of a concerted strategy to persuade mainframe users that object-oriented Cobol was the way forward. The company's object request broker implementation makes it to the mainframe in the shape of SOMobjects for MVS, which should allow users to build object-oriented applications using the programming language that best fits their application development environment. SOMobjects for MVS provides a compatible development environment with SOMobjects Developer Toolkit for OS/2, AIX and Windows, providing a limited degree of application portability via Interface Definition Language, as well as providing an execution environment to run object-oriented applications under MVS. SOMobjects for MVS incorporates parts of the SOMobjects Developer Toolkit for AIX, which uses IBM's System Object Model as its architecture for defining and managing binary object class libraries.

PARCPLACE SELLS ITS C++ BUSINESS

Sunnyvale, California-based ParcPlace Systems Inc has decided to put all its object-oriented eggs into the Smalltalk basket and is selling its C++ Business Unit to Openware Technologies Inc. Openware will assume marketing, support and development of ObjectBuilder, the development tool designed to enable Unix C++ programmers to build object-oriented graphical interfaces compliant with both Motif 1.2 and Open Look. ObjectBuilder also includes the Object Interface toolkit C++ class library. Openware will retain all current C++ business unit employees; specific terms of the acquisition were not disclosed. Openware, Jacksonville, Florida integrates mainframe and Unix kit.

TANDEM ADDS TO INTEGRITY LINE

Tandem Computers Inc last week expanded its family of R-series RISC-based Integrity family of Unix System V-based servers with significantly lower-priced server models for both its general purpose Integrity NR line and its fault-tolerant Integrity FT line. Tandem also introduced Integrity HATS - High-Availability Transforming Software - as an option for its Integrity NR servers, which is claimed to reduce downtime "drastically" - drastic for whom? - for critical applications by adding fault detection and recovery capabilities to any server in the Integrity NR line and automatically detecting and recovering from system hardware, operating system and application failures. It also detects and recovers from an application hanging as well as from crashes, the company says. With the new software, any model Integrity NR server can be clustered in a high-availability configuration. No application changes are required, and only those applications requiring high availability can be targeted for protection. It also provides protection against loss of files or corruption of data through real-time remote data mirroring; a TCP/IP switchover to prevent session loss in client-server environments; and an optional Oracle database recovery kit to automate rollback and recover procedures, Tandem says. The new general-purpose Integrity NR server models are the NR/401, an entry-level uniprocessor at \$14,750, and the two- or four-processor Integrity/4404, Tandem's smallest and cheapest symmetric multiprocessing server, starting at \$69,950. The new R4400-based FT 1495 is from \$149,000. Integrity High-Availability Transforming Software is from \$4,000 - all are out next month. Signalling System 7 will follow in December, priced from \$75,000 up.

STI SUPERCOOLS HYPERSPARC

Santa Barbara, California-based Superconductor Technologies Inc, one of the clutch of companies formed to exploit IBM Corp's discovery of high temperature superconductivity, has along the way had to master cryogenic techniques, because the term high temperature is relative, and most high-speed superconductors still need to be cooled to liquid nitrogen temperatures to work. And it is its cryogenic skills that have won the company a \$1.9m contract from the US Naval Research Laboratory to evaluate high-speed cryocooled workstations in conjunction with Sun Microsystems Inc, the Ross Technology unit of Fujitsu Ltd, and privately-held nChip Inc. A hyperSparc subassembly put together by Ross and nCube will be packaged within Superconductor Technologies' cryogenic subsystem and used at the heart of a Sun Microsystems Inc workstation. The company says that when the nine-month programme is completed, it expects the chips in the workstations to run up to 40% faster than at room temperature before they have been optimised for low-temperature working, and that optimised ones will run at 100% faster. The programme is being funded by the ubiquitous Advanced Research Projects Agency, which says "We are looking at taking cooling one step further by applying it to commodity applications such as high-speed workstations and file servers. We believe that cryoelectronics could quickly grow into a large industry." Superconductor Technology chief executive Daniel Hu reckons that by broadening application of the cryogenic systems for conventional CMOS electronics, it will be able to increase sales for its cryogenic systems and bring down the cost of its high-temperature superconducting cellular and aerospace filtering systems.

IBM ADDS A TWO-PROCESSOR "PARALLEL" SP2 SYSTEM

As well as PowerPC servers and an entry-level desktop - see page 3 - IBM Corp also unveiled an entry-level, two-node Power2-based PowerParallel System SP2 last week in four configurations. In a cut-down 49" frame the 3A2 and 3A3 are special-order only systems with 66MHz thin and 66MHz wide nodes respectively. The 3A2 with 64Mb to 512Mb RAM, 1Gb to 9Gb disk and four I/O slots starts at \$145,000. The 3A3 wide node has up to 2Gb RAM, 18Gb disk and seven I/O slots. The 3B2 and 3B3 - again with 66MHz thin and wide nodes respectively - come in 79" cabinets. A two thin-node system with 128Mb RAM and 2Gb disk is \$173,400. The 49" box can accommodate up to eight nodes, the 79" cabinet up to 16. There's also a new 30Mbps switch for up to eight nodes that's being offered on the low-cost entry systems. In addition users can now scale up to 512 nodes; IBM says its Cornell University installation should have the full complement by year-end. New disk drives double the data transfer rate and up to 18Gb can be attached to each node. The SP2 now supports tape libraries, CD-ROM, storage subsystems and optical devices at very high speeds. New software includes version 2 of the single-point SP2 administration tool with support for up to 128 nodes (due in December); the parallel I/O file system for AIX to support files greater than 2Gb and other programming enhancements (in January 1995); HACMP 2.1 (3.1 by March 1995); LoadLeveler 1.2; and client input-output/sockets 2.0. It'll have the latest AIX 4.1.1 up on SP2s in the second half of next year. PowerParallel's current challenge is to develop a new tier of software that will allow it to utilise the RS/6000 division's four-way (and greater) SMP nodes to take it beyond 512 processors (it's not interested in the two-way stuff). The problem is that it must hide the SMP technology's shared memory topology - SP2 is a shared-nothing architecture. Oracle parallel server is already up and running on the SP2, DB2/6000 parallel edition is in beta, whilst Informix OnLine Dynamic Server and Sybase Navigation Server demonstrations are promised by year-end. PowerParallel claims 240 installs worldwide with a total of 4,600 nodes, 175 of them SP2s. A simple node average isn't really accurate as the unit has very large users - Cornell and the Maui supercomputer centre in Hawaii. PowerParallel resides in IBM's Large Scale Computing Division, even though its component technology is RS/6000s, and has some 200 full-time sales staff.

4th DIMENSION OFFERS SECURITY ADMIN FOR MIXED MVS, UNIX SITES

Formerly mainframe-only house 4th Dimension Software Ltd is building up a portfolio of systems management technologies that it's bringing to mixed environments as its Enterprise Control Architecture. Having put its MVS mainframe job scheduling software up on Unix, VAX and AS/400s, it's now introduced a sensible solution for organisations that need to manage security administration across mixed mainframe and Unix sites. Control-SA has an Enterprise SecurityStation which runs on a Unix workstation, providing a single point of control to manage any security products on incompatible operating systems. The GUI-based system can oversee functions such as automated user registration and enrolment, user and resource grouping and password synchronisation for single sign-on. It doesn't say as much in its literature, but the software can also remove all of a user's privileges when they move or leave without creating nasty holes in the system or requiring hours of investigation to see which applications and services they had access to. An administrator can define common security procedures across all platforms with a single command set, and the software maintains an audit trail of prioritised alerts and creates reports. A Control-SA agent sits on each platform and automatically translates instructions received from the console station to the security products resident on the platform via a Universal Security Administration API. Prices start at \$9,000 per platform on MVS, Solaris, Unix SVR4 and HP-UX. AS/400 and other Unixes will be supported next quarter. The front-end resides on Sun, HP or an IBM workstation. The Irvine, California and Tel-Aviv, Israel-based company created a 30-strong council of its mainframe users and asked them what type of security management they'd like to have for mixed environments. Control-SA is the result and it's just the kind of stuff that's missing from CA-Uni-center. The USA API has already attracted the attention of X/Open's security administration group which is forming specifications in that area - that group may eventually merge with X/Open's systems management effort under the rationalisation the standards organisation is pursuing (UX No 507 and see front page).

SUNSOFT PUTS SOLARIS 2.4 ON THE STREET

The upgrade of SunSoft Inc's Solaris operating system is finally shipping on Sparc and Intel. SunSoft says 2.4 can improve database performance by up to 15% and NFS work by 26%. On the desktop it says text scrolling, window manipulation and graphic image display are all speeded up too. A Cache File System enables the use of local disks to store remote data which can reduce network loads by as much as 50% and speed response times by up to 40%, it claims. 2.4 includes new graphical and network installation tools, network, C2 security and Point-to-Point Protocol. SunSoft claims 9,300 applications for Solaris 2.4. As expected (UX No507), Wabi 2.0 is bundled. Solaris 2.4 comes in four configurations: Solaris Desktop with NFS, TCP/IP, desktop tools, C2 security, Display PostScript, Motif and Wabi is \$450 for two clients. The uniprocessor Solaris Workgroup Server Lite with NFS, TCP/IP, Telnet/FTP, C2, naming services and remote system administration costs \$900 for unlimited users. Solaris Workgroup Server has all the Lite features with support for up to four CPUs plus Online DiskSuite tools, (Legato) Networker backup and recovery and AnswerBook online documentation. It is \$1,400 for unlimited users. Solaris Enterprise Server - also the OEM product - comes with all of the Workgroup features plus support for up to 32 processor, 5Gb of memory and 1Tb disk. No prices. A \$500 Solaris Developer Pack is available for Intel platforms until March 1995. Solaris 2.4 is available in nine languages. Online:DiskSuite version 3.0, which includes file system journaling, disk mirroring, disk striping and dynamic concatenation for online expansion is bundled with Workgroup and Enterprise packages or is unbundled at \$1,000. Upgrades are \$300.

TATUNG DISPUTES AXIL'S CLAIMS

Tatung Science and Technology Inc is furious over Axil Computer Inc's claim to be the first to market with Solaris 2.4 (UX No 507). The Milpitas, California-based SPARC-clone manufacturer claimed that it is the first to deliver the updated operating system. James J Hwang, Tatung's Director of Engineering, reckons that his company has the edge over Axil. "A copy of 2.4 came on my desk in September and we have been able to get everything ready to launch it at Unix Expo," he told *Unigram*. Exactly what difference a week makes in the delivery of a new operating system he was unable to clarify. Sun announced Solaris 2.4 at Unix Expo last week. Hwang also said that the company will be launching a four-processor version of its SuperCompstation 20A in the near future. The system will have four 60 MHz, Superscalar SPARC processors with one megabyte of cache for each processor.

UK WATCHDOG BANS ORACLE'S "START YOUR SNAILS AD"

The British Advertising Standards Authority (ASA) this week upheld a complaint from Sybase (UK) over Oracle Corp's "Gentlemen, Start your Snails" ad. The ad, which has already run in US publications without incident, was considered "misleading" by the ASA. The ASA does not possess punitive powers, but relies on a "gentleman's agreement" amongst publishers to abide by its decisions. Sybase considered the advertisement misleading insofar as it was selective about the test results on its SQL server, mislabelled the test results, offered Workgroup Server for NT for sale when it was not the same product as that featured in the test results and omitted results in which Sybase was the winner. Oracle UK meanwhile has attempted to maintain a very British stiff upper lip by denying the advertisement is effectively banned, suggesting it merely needs tweaking.

WYSE TECHNOLOGY FIRES 126

Wyse Technology Inc, now owned by Taiwanese interests, is getting out of the systems business and will devote all its resources to its original core business, display terminals. Its offerings will comprise general purpose terminals, X-terminals and monitors. Although suspending - which in this context means killing - development of its system divisions' client and server products, it will continue to provide service for its full line of products, honour all warranties and provide service contracts on these products. The contraction will cost 126 people their jobs worldwide, 7% of the workforce. But Wyse hopes to build its display terminals business by creating a Strategic Business Development Center to identify and pick future technologies to complement the company's display products.

RATIONAL TEAMS WITH MARTIN MARIETTA ON OBJECTS

Rational Software Corp and Martin Marietta Information Group's Advanced Concept Centre (ACC) are to pool their object technology resources. Rational currently supports the Booch method of object-oriented analysis in its Rational Rose family of products - ACC supports the object modelling technique (OMT) of Rumbaugh, et al. Now the two companies have formed a strategic partnership in which each will extend support for the other's methods. Both companies claim that the move will help foster more co-operation and a unifying effect within the object-technology market.

DATA GENERAL PICKS PC-BASED SYSTEM FOR UNIX MANAGEMENT USING TIVOLI

Data General Corp has been slow to announce a decent set of Unix system management tools but hopes that a suite of personal-computer based tools and an agreement to take up Tivoli Systems' Inc management environment will put this right. The Enterprise Management Station is a set of graphical programs designed to manage Unix based systems. It comprises DG/UX Manager and DG/UX Clariion Manager with the option to link in off-the-shelf tools as well. Data General says these programs are the first in an on-going series of personal computer-based integrated management applications for open enterprise servers and networks that the company is developing. DG/UX Manager monitor Aviiion system resources from a personal computer; Clariion Manager manages Clariion disk arrays on Aviiion systems, either remote or local, from one personal computer. Both programs can be based at any point in a network to monitor and manage resources elsewhere on the network. Data General says that because the applications are based on Windows and HP/Open View users can take advantage of off-the-shelf tools to suit them. Its Enterprise Management Station runs on Windows or Windows NT PCs. The programs should be available by the end of the year with prices starting at \$2,150 for Clariion Manager and \$1,000 for DG/UX Manager. Under the deal with Austin, Texas-based Tivoli, Data General willship Tivoli's systems management with all of its Unix systems and will resell Tivoli's systems management applications under DG/UX. DG will use TME to develop its own distributed software products, the first of which will be on show at Uniforum next March. Data General will ship the management system on its DG/UX systems at the beginning of 1995 and will also begin distribution of Tivoli applications.

DG INCREASES CLARRION SECURITY

Data General Corp has launched GuardWare, a program that combines recovery procedures with the company's Clariion disk array technology. GuardWare monitors hardware and software failures and directs user-specified recovery procedures automatically. The product runs as an application on the Sun servers and requires no kernel modifications or system reconfigurations, the company says. It is SMP-enabled and application can run on two Sun servers at the same time, covering for each other in the event of failure. Neither server needs be designated as the back up, which means that sufficient capacity can be maintained for mission critical operations, says DG. GuardWare should be available in November at \$15,000 for two servers.

HP LICENSES SOFTWARE DISTRIBUTION TECHNOLOGY BACK FROM GRADIENT

After giving Gradient Technologies Inc the basis on which to develop its iFOR/LS software licensing suite, Hewlett-Packard Co has gone back to the Marlboro, Massachusetts company to license the value added product Gradient has created. The original product was Hewlett-Packard's NetLS, which the two companies worked on to develop as a industry standard. Gradient has since then developed it as a product for distributed client-server environments. Hewlett-Packard plans to provide forwards and backwards NetLS compatibility for the iFOR/LS and will bundle it with future versions of HP-UX. It will be fully interoperable with the NetLS product on HP-UX 9.X. The product is a system of controlling revenues for intellectual property; end users have a floating licence capability that matches their use and costs. The licence is acquired when the software is accessed and released when the user quits the program.

THREE TIER CLIENT/SERVER DEVELOPMENT IS HERE, CLAIMS MAGNA...

Client-server environments with a graphical user interface and a centralised database are outmoded and as restrictive as the mainframe ever was, claims New York-based Magna Software Corp. This two tier version, where the client makes a request for data from the server which then sends down the requested data, is fine for decision support but not for users wanting heavy duty transaction processing, claims the company. Instead, says Magna, users should be moving to a three tier system in which the application is partitioned across three environments: a desktop machine that runs only the graphical user interface; the logic resides on the server or servers which can access various data sources; and a database server. This would offer a scalable and secure system says Magna. The problems with the current environments are that applications are inflexible and monolithic and the technology is proprietary. The company's claims are backed by Digital Equipment Corp, IBM Corp, Hewlett-Packard Co, Novell Inc, Tandem Computer Inc and Transarc Corp. Magna argues that the way to gain database independence, network efficiency and heterogeneity is with three-tier message passing. To do that takes middleware between the database management system and the application's front-end. In steps Magna X (UX No 502), as the middle tier of the three tier architectures being proposed. It has a graphical system for designing the application and its relationships; a data definition facility to specify messages used, and an Extended Programming Language -XPL - source editor to build applications using Cobol-type English language statements. It works with Tuxedo and will shortly be available for Encina; a C version is slated for mid-1995.

...NOVELL SIGNS TUXEDO TOOL DEVELOPERS FOR THE JOB

Novell Inc has signed a bunch of firms to implement three-tiered environments using Tuxedo. Edison, New Jersey-based Four Seasons Software is introducing Tuxedo objects into its SuperNova object-oriented language. It'll allow developers to partition application logic across multiple servers without the need to write low-level code. Four Seasons claims this will raise productivity on servers to that associated with personal computers. The SuperNova client runs on Windows, Motif, Open Look and MS-DOS. The Tuxedo add-on is available now at prices starting at \$800 and rising to \$50,000, depending on configuration and licensing. SuperNova 4.0 costs \$2,200 per developer. New York-based JYACC Inc has integrated Tuxedo with its front-end software JAM, to create the JAM/Transaction Processing Interface which it says is ideal for a three tier architecture. The company says it has created a development environment for distributed applications and application partitioning because of the product's ability to construct client and application server components. The TPI/Client links the front end capabilities of JAM with Tuxedo's client facilities. TPI/Server links Tuxedo to the scripting language and database interface capabilities of JAM. JYACC is working on a product for Encina, due at the end of this year, and CICS/6000, due mid-1995. Naperville, Illinois-based Dynasty Technologies Inc has announced that its Dynasty Development Environment version 2 will have integrated Tuxedo when it ships in the first quarter of next year. The product will provide support for transaction processing for enterprise class client-server applications. This will be achieved, says Dynasty, as Tuxedo can support large user numbers and interconnection with multiple database management systems across heterogeneous systems. Dynasty says that because Tuxedo enables open transaction monitoring the cost per transaction can be pushed down by removing the need for proprietary transaction management implementations. The Dynasty/Tuxedo package will cost \$8,000 per developer. Tuxedo is available on more than 30 systems.

BULL WINS TANDEM, HAS TWO MORE ISM DEALS IN THE PIPELINE

With Tandem Computers Inc under its belt (UX No 505), Compangie des Machines Bull SA says it will be signing other deals for its Integrated System Management software with another US company and a European before the end of the year. Tandem is putting Bull's ISM on its Integrity Unix fault-tolerant servers. ISM version 3 is enhanced for framework performance, persistent object store, improved look and feel and more development tools.

AS/400 TO USE SEVEN-CHIP POWERPC 630

IBM launched its first AS/400 to be based on the Power PC processor last week and let out more details of its plans to make the range more open. ~~The AS/400 Advanced 36 is a repackaged upgrade to~~ the System 36 that uses a specially adapted version of the forthcoming 64 bit, Power PC 620. The adaptations include additions to the instruction set that made it easier to adapt the System 36's operating system to Power PC. The System 36 might seem an odd choice for the AS400 division's first Power PC product, but the company claims it was an ideal platform for this exercise, since they did not have to push the silicon very hard to produce fairly staggering performance increases for System 36 users. At the same time, proof that they could adapt the - relatively - arcane System 36 architecture to a brand new RISC processor should prove to AS400 users that their eventual transfer should be smooth as well.

- Meanwhile, the first integration of the PowerPC in the AS/400 this February will actually be a seven-chip implementation of the PowerPC 630 - Rochester apparently hadn't got time to wait for the single-chip implementation to gel.

- IBM will have a convergent system that brings all the AS/400 models, including Advanced 36, together on the same silicon in the third quarter of next year.

- Turns out that IBM Rochester was a major contributor to the design of the 64-bit PowerPC 620. The Minnesota Application Systems unit had designed a new processor four years ago, were told they'd done a superb job, but that the future now lay with PowerPC. With characteristic IBM resignation, they set to examine the PowerPC and found to their horror that it had no integer arithmetic, no string and array handling, and inadequate error checking and correction. Once they had persuaded the Powers that be that these things actually mattered, they were all retrofitted - at least in the version of the 620 that will go into the Advanced System 36 and into future AS/400s.

- In Austin three years ago, the AIX and PowerPC top brass was sceptical that even 64-bit parts would be required any time soon, but Rochester has other ideas: the AS/400 is to move to 128-bit addressing in 1997.

IBI HARNESSSES SMP UNIX BOXES FOR FOCUS APPLICATION PROCESSING

As anticipated (UX No 500), New York city-based mainframe middleware firm Information Builders Inc caught the downsizing bug last week at Unix Expo, unveiling betas of the next-generation version of its Focus 4GL which it will use to move into the client/server market. Focus for Open Environments, a Unix version of IBI's Focus 4GL, provides the ability to divide and run Focus database queries over symmetric multiprocessors, currently the hottest Unix boxes. The software apparently creates duplicate query images that can interrogate a Focus database in parallel running on SMP systems, providing faster throughput for large applications than when running on mainframes. The database can be IBI's own hierarchical system, which the company claims is the third most widely installed mainframe database, or Sybase, Oracle, Informix and DB2/6000 relational databases via a set of interfaces. IBI says the migration tools provided in the software will allow the biggest corporation to rightsize application processing on to Unix boxes. Focus Reporter for Motif allows developers to create GUI-based reports, and includes the ability to move applications transparently between Windows, character and Motif front-ends. Like the other Focus Reporters, the Motif version includes Report Assist and Report Painter for creating and formatting reports and Form Painter for creating prototypes or large-scale reporting applications using objects, forms and triggers. Focus for Open Environments will be up on Sun, IBM, AT&T and Pyramid servers in the first quarter of next year. Unisys, Sequent and other ports will follow by mid-1995. Prices start at \$1,900 for a single user to \$140,000 for 128 users running on eight systems. Focus Reporter for Motif is up on Solaris, AIX, SVR4 and HP-UX from the first quarter, and other Unixes by mid-year. Prices will range from \$2,200 to \$90,000. IBI has also announced an Alpha OSF/1 version of Focus 4GL 6.5 and an EDA/SQL client for OSF/1.

AXIANT SDKs DUE THIS MONTH, FULL SYSTEM IN APRIL

~~Originally promised last quarter, Ottawa, Canada-based Cognos Software Inc last week introduced early SDKs of its Axiant Developers' Workbench client/server application development environment.~~ However, a fully-deployable package won't be available until April next year, some four months late, according to the company. It's been working on adding VAX and HP 3000 support. This first phase of the Axiant roll-out, which the company has been talking about for a year or more now, uses a Windows front-end and includes the PowerHouse 4GL (now simply referred to as "a robust 4GL"), Cognos' Impromptu and PowerPlay reporting and analysis tools and utilises a home-grown object technology. Users can migrate straight up to Axiant from the current PowerHouse release only. Axiant applications can be deployed on either PCs or servers, or both - the fat and thin client approach. The Developers' Workbench is \$3,000 - the complete environment, will support Unix, DOS and OpenVMS servers with Mac, Windows and character terminal front-ends. It'll have links to most Unix and ODBC databases. The Q1 product, Axiant 1.1, will be followed by version 2.0 including support for OLE 2. Cognos has also added Oracle7 integration to its PowerHouse for Unix standalone 4GL application development environment. The software, already integrated with the likes of Sybase, InterBase, Allbase/SQL and Rdb, now supports the native Oracle Call Interface, plus SQL*Net, and Cognos.

PAGEAHEAD TAKES CLIENT/SERVER ODBC LEAD

Whatever the doubts about the future of Microsoft's ODBC standard, Seattle-based PageAhead Software Corporation is plugging ahead with an ambitious series of product launches and strategic announcements, centred on ODBC. The company can claim to have more expertise than most in this crowded part of the middleware market since, according to PageAhead Vice-president and co-founder Russ Aldridge, it was his company that first developed ODBC for Microsoft, as well as Apple's Direct Access Language. The company's principal product is the Simba Engine - a server product that attaches to different types of databases - including flat files - and enables Windows-based client applications to access the data. Simba C/S, which was launched in May, extended this concept to client/server systems. It can be used to build drivers that allow PC users to access data held in remote files. Like the Simba engine, it supports any kind of data source, not just relational information. With it, you can package SQL queries to interrogate non-SQL data. Primary support is for SCO and AIX systems but as of the first quarter next year, Simba products will support Solaris, HP/UX and Windows NT servers.

VISIONWARE DELIVERS NEW X SERVER

Version 5 release 6 of Visionware Ltd's XVision will ship in November, the Leeds, Yorkshire-based company says. Visionware claims it is the only personal computer X server that is compliant with Windows95 and X11R6. It is compliant also with IXI Ltd's recently released Eye2Eye, Motif-based environment. The enhancements are: support for X Image Extension and XTest; 32-bit performance with bundled Win32s; automatic network sensing and host-aware installation; drag and drop File Transfer protocol with File Manager look and feel. It takes about 20 minutes to install says the company because of the automatic network detection facilities, automatic graphics speed optimisation and configuration of host connections and XVision Desktop. As reported (UX 488), the latest version will cost \$500 for a single user license and with that comes a WinSock-compliant TCP/IP stack and XRemote serial connectivity. It costs \$245 with serial line connectivity alone. Those with the previous release can upgrade for \$100 unless they bought the package since September 12 then upgrades are free. Visionware has also begun shipping the latest version of SQL Retriever. This is a database bridge that is compliant with the Open Database Connectivity standard and links Windows to Unix. Version 3.1 uses a single Windows driver to provide concurrent links with Unix databases. It costs \$185 per personal computer seat. Visionware denies it's seeking a buyer.

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Once it gets its Merge product all sorted out, **Locus Computing** says it has to figure out what to do with all that Windows source code it's gotten as a participant in **Microsoft Corp's** WISE programme. It says maybe it'll do its own version of Wabi. It's given itself until Thanksgiving at the end of November.

The rumour mill claims **IBM** effectively has a bunch of natives with machetes running through Austin culling the headcount down there.

McGraw-Hill's *Open Computing*, the once-proud *Unix World*, goes from paid to controlled circulation with the November issue. Editor David Flack says the device got the pub 40,000 new names though it's still unclear whether all will qualify. It's more squarely targeted now at IT managers.

Bob Davis, once VP of marketing at **Novell Inc's Unix System Group** until he was shunted aside and made senior VP corporate marketing (UX No 469), has now reportedly left the company altogether, replaced in his role by Steve Markham a henchman of **Novell Inc's** new CEO Bob Frankenberg. Sources say the San Jose, California side of the company's Unix operation now also reports directly to Frankenberg.

John Hime has retired to his ranch in Texas to shoot poor defenceless little animals. His spot at **Tivoli Systems** has been filled by Russ Cacamisi, now VP of marketing.

IBM last week introduced a new POS-based object-oriented technology for the retail industry called StorePlace, with Woolworth's immediately moving to implement it in all its stores. The stuff initially runs on OS/2 but components already run on AIX, and IBM promises to put it on other operating systems including non-proprietary gear.

Tadpole Technology Inc is now going to sell as a second source the 50MHz AIX-run PowerPC-based N40 notebook it designed and builds for IBM. It's negotiating to sell the thing under its own brand.

Apart from **Compagnie des Machines Bull SA**, first taker for **Motorola Inc's** new PowerPC boxes is **Komatsu Ltd**, whose **Komatsu TEC Corp**, will be the sole distributor for the workstations and servers in Japan.

OS/2 was being talked-up at Unix Expo, with some suppliers maintaining they are seeing it more and more as "a Chicago that has been delivered."

Meanwhile, **Microsoft** came in for much abuse - even from its friends. One of Microsoft's partners wondered what the company would call its version of COSE - the committee it will eventually form to bring all the warring versions of Windows together - MOSES perhaps?

French GUI-builder **Non Standard Logics SA**, also in Boston, Massachusetts, has come up with a low-cost version of its XFaceMaker software, XFaceMaker/IDT 3.0, for developing static layouts of Motif interfaces. It doesn't however, provide for interactive testing of callback code which specifies a GUI's behaviour which is why it costs from \$2,000 instead of \$5,000 like XFaceMaker 3.0.

Continuing the bare knuckled brawl over leadership in the mid-range market, **IBM** has responded to **Hewlett-Packard's** "ASsault" marketing campaign by assuring all and sundry that it will meet or beat any offer that HP puts on a customer's table. Although ASsault has raised such a commotion over in Armonk, including the \$1million next day advertising response, HP tells us it only pulled the stuff together as a marketing exercise at the last minute and didn't figure it would raise such a storm.

As expected (UX No 504) **Network Computing Devices Inc** has come out with a family of superfast colour X terminals with 1,600 by 1,200 resolution using the Mips R4000 processor. The HMX family come in 17", 20" and 21" monitors. Prices start at \$2,900 for the base only and go to \$4,800 for the 21" monitor, all with from 8Mb to 136Mb RAM and NCDware X11 server software. NCD claims 200,000 Xstones performance.

"You-scratch my-back..." **Convex Computer Corp** uses HP's PA-RISC in its Exemplar Scaleable Parallel Processor Systems and now **HP** has signed an agreement to resell the systems worldwide.

DEC, HP, IBM, Novell and **SunSoft** are to offer ISVs a Common Desktop Environment support and porting service in San Jose at a Center for Software Development. Similar east coast, European and Asian facilities are being sought.

Oracle, Sybase and **Informix** say they'll have their respective Parallel Server, Replication Server and OnLine Dynamic Server SMP-enabled databases up on IBM Corp's SMP PowerPC machines when they ship.

Motorola Inc says it hasn't given up on its 88110 RISC - another iteration of the part is due imminently according to Ed Staiano, general manager of Motorola Computer Group.

Strange but true... Even though the 88000 CPU family is now three years old, Ed Staiano says the company still ships more 680x0-based systems than it does 88110 boxes. It offers the Unix SVR4, 88110-based Series 900 and SeriesFT, the 88100-based Series 8000 and the 68040 and 68030-based Series 4000 and 3000.

Whatever the outcome of the Corba 2.0 specification wrangle **IBM Corp** says it's committed to extend its Distributed Systems Object Model to run on DCE by the second half of next year. It promises object-oriented Cobol and Smalltalk on AIX during the first quarter of 1995. Other AIX object plans include OpenDoc, Taligent application environment and VisualAge betas in the first quarter; a TalAE beta refresh, OpenDoc and VisualAge in the second quarter and the full TalAE and VisualCSet++ towards the end of 1995.

Ottawa-based **SHL Systemhouse Inc** has launched SHL Transform, a suite of multimedia, object oriented software tools designed to train developers transferring an organisation's applications from mainframes to client-server platforms. Prices go from \$1,000-up.

Software development and management company, **Atria Software Inc**, Natick, Massachusetts, has put its ClearCase and Multi-Site configuration management tools up on **IBM Corp's** latest RS/6000s.

IBM Corp says AIX now conforms to 1159 of the Spec1170 APIs; it's offering Wabi and SoftWindows for running Windows applications and has a Hebrew version of the operating system due this week.

Concurrent Computer Corp has appointed Roger Mason CFO and Rock Maule VP strategy and business development.

PowerPC 604 RS/6000s will supercede Power-based RS/6000s and some Power2s; PowerPC 620 takes the reigns from there and Power3 is still touted as PowerPC 630.

Integrated Computer Solutions was showing its way of improving the execrable Motif GUI last week: its Enhancement PAK offers 14 new widgets which do much to improve the look and functionality of the interface. A single developer's license costs \$2,500 and there are no re-distribution charges. The facilities offered include the ability to incorporate text and pixmaps on the same button, 2D scrolling, toolbar and improved colour and graphics capabilities.

The **Linux** port to the Power Macintosh, due last month, has been delayed, because the two students carrying out the work have had too much homework to do: they are also having problems getting information out of **Apple** about its proprietary I/O technology.

If you find yourself having to shout at your Unix vendor, you know where he or she has been; at the Unix Expo exhibitors party being deafened by the Nerds.

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NOORDA BUYS INTO WABI COMPETITOR MULTIPOINT, OPENING NEW CHAPTER IN ANTI-MICROSOFT VENDETTA

In the last few weeks, Noorda Family Trust (NFT) Ventures, Ray Noorda's personal venture capital arm, has closed on a piece of Multipoint Inc, the linear descendent of the old DOS-on-Unix emulator house Hunter Systems Inc. The move looks suspiciously like Noorda intends to pursue his vendetta against Microsoft Corp chairman Bill Gates, long after Noorda's glory days at Novell Inc since, if it works, Multipoint's Wabi-like Windows-on-Unix technology could eat into Windows revenues. Resisting that characterisation however, Multipoint chief Rob Farnum last week hinted at some kind of eventual collaboration between his company and Microsoft's application arm which, he suggested, could sell more of its programs with his technology than without. Unlike competitors such as Locus Computing, MainSoft, Bristol and Insignia Solutions, now in the warm embrace of Microsoft and licensed to use its Windows source code, Multipoint says it will eschew using the official Windows source, though it could. The Mountain View, California company has been looking for capitalisation to produce its stuff since venture capital Technology Funding Venture Partners foreclosed on Hunter's assets and bought back its debt at public auction in the spring of 1993, creating Multipoint in the process (UX No 443). NFT has acquired its shareholding from Technology Funding and is now Multipoint's sole investor. Farnum would not detail the extent of Noorda's funding or his holdings other than to say it is sufficient for the task. Under the Noorda regime, Farnum said, it is not necessary for Multipoint to make lots of money. Its charter is to push its technology on to as broad a stage as it can, beginning with mainstream ISVs and OEMs including folks from the Public Windows Initiative (PWI), the anti-Microsoft scam kicked off by Sun Microsystems last year and gone awfully quiet of late.

Freely available

Though offered initially at reasonable cost to the larger houses, Multipoint's goal, Farnum said, is to eventually make its technology available free to all comers. Noorda is apparently involved with Multipoint's efforts and advising Farnum twice a week. Farnum suggested that Locus, which is a member of the Microsoft's Windows Interface Source Environment (WISE) programme and in possession of Windows source, might align itself with Multipoint under the auspices of PWI. Bristol, also part of WISE, however, is apparently uninterested. Currently Multipoint's technologies consist of an unnamed Wabi-like product that the company has been wrestling with to develop and is now due out in six months; a Mainsoft/Bristol-like "Source SDK" available immediately though its pricing is still unsettled to recompile programs and run them native on Unix; a piece of binary code meant to run specific though unspecified proprietary Windows applications; and source code deriving from the SDK and directed at developers of application development environments. Farnum says he will have implementations for Mac and OS/2 as well as Unix, all supporting Windows, Chicago now Windows 95 and NT. The SDK was demonstrated at Unix Expo the week before last, Farnum said, running a number of applications reportedly under nondisclosure. Multipoint said it did not need X11 to function and could do what its competitors could not: communicate with Windows applications running on other emulators. Multipoint has claimed in the past that its Win32 technology mimics Microsoft's DDE and OLE calls (UX No 468), sidestepping the hurdles that threw Wabi 2.0 for a loop and forced it to rely on Windows code to run its programs (UX No 507). It has also promised 486 performance out of the gate on all RISC platforms. Multipoint intends hiring its first marketeer in the next few weeks.

MIPS TO DEBUT R10000, THE T5 TERMINATOR

Mips Technologies Inc is due to reveal its T5 Terminator Alpha AXP-beater at the Microprocessor Forum this week. The T5, to debut as R10000, will be the successor to Mips' R4000 line of general purpose RISCs and has been under development since before Silicon Graphics Inc bought Mips. *Unigram.X* first learned of R10000 specifications doing the rounds of potential system builders as far back as two and a half years ago (UX No 377). The 64-bit part is a \$150m-plus development effort by Mips' fab partners, including LSI Logic, Integrated Device Technology, Toshiba and Siemens Nixdorf. Originally slated to do 200 SPECint92 and 300 SPECfp92 - performance marks which would now appear unremarkable - the fabs have revved the specification to compete with the fastest RISCs now on the market, anticipating a part that will compete with DEC's latest 21164 Alpha AXP which is touted at around the 330 SPECint92 and 500 SPECfp92 - or at least three or four times the performance of R4400. R10000 has a new bus said to perform at more than 1Gbps and has been designed - like UltraSparc, PowerPC 620 and other next-generation RISCs also expected to debut formally at MP Forum - from the ground-up for multiprocessing, whether it be on the desktop or in supercomputers and honed to run Unix and Windows NT database environments. Close to taping-out a few weeks back, first silicon is due early next year. Boxes won't be far behind as vendors have been designing R10000 systems using simulation techniques.

64-BIT POWERPC 620 UNVEILED

The IBM Corp-Motorola Inc Somerset team this week unveils the PowerPC 620 as its first 64-bit part, designed from the ground-up as a building block for high-end multiprocessing systems that will run 32-bit PowerPC binaries unchanged. The single-chip unit, which will clock at 133MHz rising to 150MHz in subsequent iterations, is estimated initially at 225 SPECint92 and 300 SPECfp92. Somerset, which claims it's got first 620 silicon in-house but that it's too early to estimate yields, says general sampling will begin in the second quarter of next year with volume production in the second half, so PowerPC 620 systems aren't likely to see the light of day until well into 1996. By comparison, Sun's 167MHz 64-bit UltraSparc starts at 250 SPECint92 and 310 SPECfp92, expected in volume by mid-1995. The Mips R10000 (see separate story) is due early next year. Somerset says the 620 will best whatever Intel can achieve with its next-generation, dual-chip P6. Fabricated in 0.5 micron, four-layer metal CMOS by IBM in Burlington, Vermont and Motorola in Austin, Texas, PowerPC 620 has some 7m transistors, dissipates 30W and measures 311microns. It includes 32Kb data and instruction cache and on-chip secondary cache control. The superscalar part can issue up to four instructions in parallel every clock cycle, performs some speculative execution, bus snooping and has six execution units; branch, three integer, floating point and load/store. It therefore has just one more integer unit than Somerset's previous design, the 604. Like the latest Sun and Mips parts, the 620 has an all-new 128-bit bus claimed to pass data at a peak rate of 1Gbps, so far nameless. Bridge processors will support PCI bus. It is seen primarily for use in two-to-eight way systems. IBM SMP partner Compagnie des Machines Bull SA is already working on Mississippi clustering technology for 620-based systems and Somerset claims other design wins too. Somerset will shrink its 5L PowerPC process to a five-layer VDR85 method with faster transistors and says there are performance improvements that can be made on local interconnects and all forms of memory and storage. Beyond that it's looking at a new RISC core and evaluating options like VLIW techniques already adopted by HP and Intel.

KNIVES OUT IN AUSTIN - AIX THE EXPECTED LOSER

Seems we weren't far off the mark when we talked about machetes being brandished down in Austin (UX No 508). We hear RS/6000 division boss Bill Filip notified employees late last week that 200 of them are to lose their jobs; they'll find out who within 45 days. Insiders claim many will be drawn from Donna Van Fleet's AIX team which only weeks ago apparently lost 200 staff to Personal Software Products to work on DCE and other application stuff. Is this the beginning of a shift of investment away from AIX?

EURO UNIX RDBMS MARKET TO GROW FOUR-FOLD OVER FIVE YEARS, SAYS OVUM

Suppliers of Unix relational databases can look forward to some good times in the next six years according to London-based market researcher Ovum Ltd, which predicts the European Unix relational sector will quadruple to \$4,500m by 2000, in an overall dbms market set to double to \$8,700m. Oracle is still outstripping its rivals, but is being followed closely in the Unix market by Sybase, with Informix not far behind. Meanwhile, IBM is going to work a lot harder in the Unix market with DB2/6000 to avoid being marginalised. It has the largest database revenues of any company today, but its main source of database income, mainframes and AS/400s, will have dwindled to only 20% of the market by the end of the century says Ovum.

HOLT GONE AFTER SAPIENS RESHUFFLE

Ed Holt, managing director of UK software house SmartSystems Ltd before its takeover by Sapiens International NV last summer (UX No 461), and former head of MSA before its merger with Dun & Bradstreet, has left his post running Sapiens UK after just nine months in the job. The move follows July's reshuffle by Sapiens of its European management structure, in which Europe was divided into three regions - north, central and south - largely in order to strip out some of the layers of middle management, particularly within individual European countries. With former head of Sapiens France, Saadia Esoudre now running the south, Albert Defosse looking after the central region (Benelux and Germany) and former head of European distribution Tim Shears allocated to northern Europe, and all three reporting directly to CEO Dave Bursiek, it appears there was a certain amount of redundancy in Holt's role as head of the UK operation. After discussion about potential Sapiens jobs "elsewhere in the world", Holt decided to quit rather than relocate his family. No details have been released about the nature of his send-off and he is now reported to be carrying out that activity beloved of Tory politicians recently and spending more time with aforementioned nearest and dearest, as well as doing "other things", according to a Sapiens source, though what these things are remains to be seen. Holt obviously spoke too soon last August, following SmartSystems' takeover by Sapiens, when he said that the Oxford-based company was independent and would remain so. By this January, Holt had joined the London-based Sapiens operation, which is working on pulling together the Sapiens mainframe-based application development environment and SmartStar's client/server GUI-building tool, Vision, now retitled Sapiens Vision, under its Objectpool technology strategy. Sapiens now has 36 people working in its UK operation reporting in to Shears, who continues to be based in the London office. The UK company is organised, as is IT companies' wont these days, into lines of business, with five managers heading up the UK units. Meanwhile marketing manager Nick Flook is looking after marketing across the whole of Sapiens Europe and reports directly in to Bursiek.

CONCURRENT ADDS ORACLE TO MAXION

Concurrent Computer Corp is putting Oracle and its Cooperative Development Environment up on its Maxion SMP servers. The Oceanport, New Jersey company has a database services team within its professional services operation to sell design, consulting and porting services. It hopes the addition to its range of third party software for Maxion will boost the hardware into new commercial markets.

SUN PLANS TO TRAIN AND CERTIFY UK RESELLERS

Vendors are continually looking for new wheezes to share with their resellers. and Sun Microsystems Ltd's latest idea is the creation of a training and certification programme for its UK resellers, because it doesn't already have one. The Competency 2000 scheme is a three-tier certification programme designed to give authorised resellers a piece of paper they can thrust before their customers to prove they have the requisite skills needed to sell Sun systems. The entry level certificate available now from Sun and expected to be gained by all its UK resellers has been titled Expert Level 1000, and covers training and skills in desktop systems. From 1st January, Sun resellers selling medium-sized workgroup systems will be able to apply for the intermediate Expert Level 1500, with only the top echelons, those selling enterprise systems, eligible for the top certificate, the Expert Level 2000, to be launched on 1st April 1995. The sales and technical training needed to gain one of these certificates will be provided by Sun and its training partners, particularly Sun master reseller Technology PLC. Outside of the doors resellers should form an orderly queue as the company seeks to get as many resellers as possible through the first stage of accreditation. Technical skills will be verified by Drake Training & Technology.

PROTEK TRUMPETS CENTERLINE OO TOOLS

UK distributor Protek Ltd, Maidenhead, Berkshire, which sells Bristol Technology Inc's range of Wind/U software and Visual Edge's Motif GUI builder UIM/X, is putting together a marketing effort for CenterLine Software Inc's strategic move into pastures new with the ~~ResourceCenter software reuse tool (UX No 507)~~. Boston, Massachusetts-based CenterLine's main products are CodeCenter and ObjectCenter, for C and C++ development respectively, but the company has found its market for these tools increasingly coming under pressure, notably from major vendors such as Hewlett-Packard and Sun, which share the advantage of being able to if not exactly bundle Softbench and SparcWorks with their hardware, at the least gain access for those products to a pretty wide market on the back of their systems sales. So CenterLine, despite its fast growth over the past four years, has had a look around the market and come up with ResourceCenter, on the grounds that the reason most corporates got into objects in the first place was because of the siren call of the reuse lobby. So far, that goal has proved elusive. The problem is that lots of bits of code are being built up into libraries, but there aren't many tools around to help programmers find the relevant bits of code, whether their own or from a third party. With ResourceCenter, says CenterLine, users can implement object reuse immediately, using current code, class libraries and other assets, because the tool does not require the implementation of a classification scheme for the repository of objects held. The software gets its UK release on November 17, and will be featured by Protek on its stand at next month's Software Development exhibition at the Birmingham NEC. ResourceCenter costs £16,000, which buys you a server with the repository and five clients. The only noticeable fly in the CenterLine strategy so far has come in the form of Hitachi, which has recently launched its own reuse tool, Object Reuser, with considerable fanfare, but Protek's marketing director Paul Fitzgibbon remains confident that his company's focused approach to the reuse market will prove successful. He says Protek knows which UK organisations are using C++ and are serious about object-oriented development. The number of such companies is not large, he acknowledges, but they're in the City, they're in the telecoms industry and Protek knows who they are.

MICROMUSE EYES US MARKET

London-based Micromuse Ltd has its sights on the US market, (where it has an operation called Acronym though no permanent staff yet), with its Netcool/OMNIBus line (UX No 507). Five-year-old Micromuse, the former Sparc-compatible builder turned Sun reseller has a turnover of £12 million and a staff of 55, now providing technical expertise and turnkey solutions for complex networks. Not network management in the sense of bridges, routers and hubs, but a three-tier system to run open systems, with SNMP-based agents at the bottom, the standard network management tools in the middle, and tools on top that range from help desks to security management and baselining tools. Having sourced its products from the US for most of its history, Micromuse has now set up a separate company, Omnibus Transport Technologies (OTT), to provide its technology base. This has resulted in the Netcool range. First out, six months ago, was Netcool/Legacy-Watch, which allows SNMP-based management systems to monitor non-SNMP devices. Micromuse says BT is using LegacyWatch to monitor a lot of its old switches and devices, and the product, which costs £35,000 for a development kit that includes a training course, can also be used to monitor AS/400s and VAX devices. Next up from Micromuse was Netcool/tools, which marketing manager Mike Silvey describes as not strategic, but useful. For £5,000, you get a suite of four tools that enhance Sunnet Manager, adding some of the features that Sun forgot, such as a more efficient ping agent and multi-user capabilities. And the final card in the pack is Netcool/OMNIBus, a fault information system that sits on top of the standard management systems and handles the fault information coming out of them. The listening part is handled by a piece of software called Probe (though Silvey says that name may change, as it sounds too much like a piece of hardware), which picks up the fault information and hands it on to an object server. This in turn looks at the faults being passed on and filters the information through to the desktop part of the system. OMNIBus uses the messaging services of the network management platforms to pass information between the probes and the object server, so the initial release is for the three major SNMP management platforms. It runs from Solaris and, soon, Windows clients. The software costs £35,000 for a base system, which includes the object server, two probes and two desktops. If you want to buy the bits separately, or add on extra bits, the object server costs £17,000, probes are £2,000 and desktops £5,000 each.

CHORUS SYSTEMES ADDS REMOTE DEVELOPMENT, DEVICE SUPPORT TO MICROKERNEL - TESTS COOL OBJECT INTERFACES

French microkernel house Chorus Systemes SA will this week make its basic but unwieldy Nucleus kernel more of a ready-to-use affair by providing the ability to develop and debug embedded and real-time systems on it for Intel Corp 386/486 target platforms from remote SunOS workstations. Chorus/ClassiX also allows real-time systems using the kernel to access external Unix devices and services. To achieve the desired effect, Chorus has added a `c_actor` server API for cross-platform development to the native Nucleus programming interface, providing access to Unix or Posix real-time extensions in subsystems such as its Chorus/Mix Unix services implemented on top of Nucleus. The API includes access to NFS, BSD sockets over TCP/IP and some 100 system calls to I/O and library functions, string, character and network handling. Disk drives can be integrated to access local disks. Applications written to the `c_actor` on Chorus/ClassiX are loaded, controlled and debugged from a Unix host using the GDB debugger which Chorus has previously extended for multithreading support. Applications are run in a user mode which provides full protection for debugging during development, or in supervisor mode allowing hardware events such as interrupts or traps to be managed by the developer. Applications can be distributed on to multiple targets using Chorus' kernel-to-kernel IPC connectivity services. Chorus will develop, maintain and support Chorus/ClassiX source development kits environments for Intel iAPX-86, Motorola 68k and Sun Sparc platforms. It will add support for HP-UX and Intel Unix host development boxes. Intel iAPX-86 evaluation binaries are available. Chorus's Nucleus customers will be upgraded to Chorus/ClassiX. Elsewhere CHOL is piloting its anticipated object interfaces at beta sites as COOL - the Chorus Object Oriented Layer supporting Corba-compliant object request brokers. It's currently formulating a packaging plan for the software. Its UnixWare microkernel development work is proceeding apace though Novell Inc has yet to choose the technology it'll eventually use for the SuperNOS UnixWare/NetWare kernel.

TANDEM PLANS PARALLEL UNIX BOXES, COMMERCIAL UNIX APIs FOR HIGH-END...

Tandem Computers Inc's latest Network Resource (NR) models (UX No 508), are of course more of the Silicon Graphics Inc Mips servers which Tandem OEMs at the lower end of its range. They are now kitted - as promised (UX No 495) - with Tandem's High Availability Transforming Software. SGI won't be carrying the software according to Tandem, but the stuff will go up on Tandem's home-grown Integrity Fault Tolerant boxes from next year. Tandem, which offers a range of NonStop-based massively parallel Himalaya systems going from 16 to several hundred processors, says it plans to offer Himalaya-type scalability on its Integrity line too, though it has a set of Unix considerations it must address first. Tandem carries SGI Irix on Integrity NR and its own implementation of Unix SVR4.2 MP as NonStop-UX on Integrity FTs. It's developing a NonStop-UX personality and other Unix functionality like Distributed Computing Environment on top of NonStop, a microkernel implementation of its proprietary Guardian operating system. To put a Unix operating system up on distributed, highly-scalable, loosely-coupled boxes it would like to have some common Unix APIs in these areas to work with. Indeed the notion of drumming up some common approaches to high-end, commercial, scalable Unix has been doing the rounds amongst a number of the specialised high-end commercial Unix vendors including Tandem, Pyramid and Sequent for some time (UX No 481), part out of concern that Novell's Unix interests may lie elsewhere and partly from the desire to avoid having to spend tens of millions of dollars each on parallel, replicated kernel development. Tandem is now openly seeking partnerships with other vendors on common APIs. It's also looking at the viability of using a Unix microkernel.

...AS PYRAMID READIES BETA MESHINES, CONCURS ON COMMERCIAL UNIX APIs

Pyramid Technology Corp, which has its own massively parallel agenda in the form of Meshine, a mid-1995 system that is slated to accommodate up to 1,000 Mips CPUs, is also interested in establishing some common Unix APIs for use at the high-end but denies the existence of anything more than ideas at present. Pyramid, which says it has no major product announcements planned for this quarter or next is nevertheless approaching a beta roll-out of Meshine. A system is already running over at Oracle Corp being kitted with Oracle Parallel Server - it'll won't come to market until there are at least two database offerings up on it.

NOVELL DELAYS UNIXWARE 2.0 UNTIL JANUARY WITH NETWARE 4.1, GROUPWISE

Novell Inc has pushed back the long-awaited debut of UnixWare 2.0 from November to January to get more bang for its buck, sources say. Apparently Novell CEO Robert Frankenberg pulled the plug in order to be able to push his newly articulated notion of "persuasive computing" with other key technologies besides UnixWare. As it stands now, sources report, Frankenberg in January will unveil UnixWare 2.0, NetWare 4.1 and something called GroupWise, a groupware piece from Novell acquisition Wordperfect that is understood to be the next evolution of its spoiled Office product and will allow UnixWare and NetWare to interoperate. Frankenberg is obviously hoping such an announcement will help justify the company's acquisition of Wordperfect which many, including Wall Street, considered ill-advised. GroupWise, which reportedly includes stuff like a replication server, agents, a calendar, forms and Lotus Notes-style technologies, is also seen as positioning itself against Microsoft's anticipated next-generation e-mail system Exchange Server. Novell will contend GroupWise, which will allow the server piece to reside on either UnixWare or NetWare, is more heterogeneous and Microsoft's product more parochial. The delay in the announcement should not impact on UnixWare's delivery schedule which wasn't set to kick in until January anyway.

...BUT WILL UNIXWARE 2.0 BE A STANDARD?

Roland Richter, Novell's Director of European Sales and Marketing in bullish mood, claimed that with the introduction of UnixWare 2.0 a Unix standard would be established. Rather cryptically he suggested that other companies would be forced to accept the standard as they were already using it by the back door. Quite how the likes of IBM and HP would be forced is unclear, but suggestions from some analysts suggest a potential squeeze on maintenance on what Novell is charging for the SVR4.2, or Novell clamping down on back door additions.

HP-UX 10 DUE THIRD WEEK IN JAN WITH V.4 FILE SYSTEM LAYOUT

Hewlett-Packard Co has been stalwartly defending its promise of binary compatibility between HP-UX 9.x and the forthcoming upgrade, HP-UX 10.0, originally due for release this autumn, but now scheduled for the first quarter of 1995 - or more precisely, the third week in January, according to one company source. David Scott, HP's software product line manager said categorically last week that HP-UX 10 is binary compatible with HP-UX 9.x, but declined to provide any technical details to back the claim. HP has come under fire recently, notably at last month's Interex user conference in Denver over both the delays and technical issues surrounding HP-UX 10, but the official HP line is that its competitors are deflecting criticism of their own records by pointing the finger at HP. Scott said HP had an enviable record over the past eight years in prioritising its customers' existing investment in HP-UX and said the only change in HP-UX 10 with any significant impact on customers will be the changeover in directory structure to adopt the common System V.4 file system layout. However, mindful of the potential impact of this change, HP has added a transition link layer to the operating system to intercept calls to old coded file paths and direct them automatically to the new file locations. Aside from the question of technical compatibility between HP-UX 9.x and 10, the company appears to be wrestling to keep a coherent party line on the issue, with UK managers spiriting out more detailed information on the forthcoming release than their counterparts in Palo Alto.

RECORD ATTENDANCE AT UNIX EXPO?

Unix Expo claims to have set a record with this year's attendance, a number it puts at 34,048. If it did, it was only a marginal increase over last year's 31,501 and a lot of them must have been at lunch because we sure didn't see them. Meanwhile, next year's show has been set for September 19-21 again at the Javits Center in New York.

WILL THE PREP BE APPLE-COMPLIANT OR WILL APPLE BE A PREP COMPANY?

Amid continued speculation that Apple Computer Inc has a number of suitors, including AT&T Co, IBM Corp and Novell Inc, IBM chairman Louis Gerstner last week admitted that his company is talking to Apple about a range of PowerPC-related software and hardware issues. At the heart of the matter is whether Apple can be persuaded to allow its Macintosh operating system to run on computers built to a PowerPC Reference Platform (PReP) hardware standard that the Cupertino, California company has yet to embrace, which ~~could help bring real volume to a PowerPC effort which is looking decidedly rag-tag presently. Unigram X's understanding is that a~~ basic agreement for Apple to support PReP has already been reached and that an announcement will be made before Comdex Fall which begins on November 14 in Las Vegas. What remains to be seen is whether the PReP will become Apple-compliant or whether Apple becomes a PReP company. Chris Rose, editor of *PowerPC News* examines some of the issues involved.

Some people think that, despite what Apple Computer Inc says, Mac OS could be adapted to run on the PowerPC Reference Platform in less than a year. The news that Mac OS will only be licensed to run on specialist, non-PReP hardware is a blow to the industry. This morning I received some electronic mail from a reader (let's call him Bob) who wanted to know what the big deal was with Apple and the PowerPC Reference Platform. He had read our comments about the problems that would be created if Apple did not adapt Mac OS to work with PReP vendors and wrote: "I am continually confused by why this is portrayed as a crucial factor." Bob is, we had better say, a knowledgeable chap, deeply involved in the PowerPC world, on the PReP side. There are several reasons why he, and the rest of the industry, should be concerned. But first, let's get one thing clear: *PowerPC News* doesn't think it matters an iota whether Apple's own machines are PReP-compliant or not. Apple has good business, economic and technical reasons for sticking with its own design. As long as it adopts the PCI bus and OpenBoot, it will benefit from common adaptor-board hardware support. The only other thing PReP could offer Apple would be the ability to quickly get Windows NT and so forth running on its machines, probably not a priority at present. On the other hand, we think that it is important for Apple to license Mac OS to other personal computer manufacturers for one simple reason - it is the only desktop operating system for the PowerPC that is (a) shipping and (b) successful enough to excite personal computer manufacturers into building clones. That was the consensus when we polled a selection of industry analysts in July. When the Power Personals were discussed in the early days users repeatedly asked IBM one question: "Will I be able to run Macintosh software on it?"

Get-out clause

The answer then, and the answer now, is "No." The news that Apple planned an aggressive licensing campaign to increase market share was welcomed, but the news that it would be limited to non-PReP hardware was not. We have no doubt that the Mac clone market will be successful one, and it will probably fulfil Apple's relatively modest stated requirements for an increase in market share. However, it will if anything divert manufacturers' interest from building PReP machines. Some might build both, but most given a choice of what to do with their research and development dollars will probably opt for the Mac. There is an interesting get-out clause, in that manufacturers may opt to build a Mac-architecture/PReP hybrid (call it PReP+), capable of running both types of operating system, which could become a unified standard. We'll discuss that later. But why hasn't Apple committed to adapting Mac OS to PReP? The company's answer to this one is simple - it is a technical problem. Open up an Apple Mac and you will see it is crammed with custom chips, it uses unconventional video and it uses the proprietary NuBus and ADB (Apple Desktop Bus) for expansion boards and keyboard connection. It loves SCSI drives. Moreover, the Macintosh hardware and system software form a closer synergy than any other personal computer in the industry - it is the Macintosh's strength. Don Strickland, who heads up Apple's licensing division, says quite simply: "Just to move people off ADB would be horrendous."

Technical smokescreen

But is it really that difficult? Apple itself has already solved the 68000-to-PowerPC processor conversion and it is already working on its own PCI-based machines. In fact, we assume that the Mac licensees will be building PCI, rather than NuBus boxes. That leaves video, keyboard buses, networking, disk drives and probably a few other horrors to overcome. However, we reckon

that a "good enough" port - as good as Macintosh Application Environment on Solaris - should be possible in a reasonable time. Glen Miranker, Technical Director at PowerPC Systems house FirePower (formerly Powerhouse) is more forthright: "These assertions by Apple are absolutely a technical smoke-screen" he says. "If Apple is willing to give me an unrestricted Mac OS licence, as described by Spindler in the *Wall Street Journal*; [good] pricing; and the usual and customary technical support, I will be more than willing to demonstrate it running on a machine in nine months." Miranker has around a dozen developers, lest you think he has a team of thousands hanging around in the back room. It wouldn't be an ultra-elegant port, he admits, and the Menlo Park, California-based manufacturer would probably have to put a software-controlled disk drive in its machine, but it would be, he says: "a good working version". Certainly good enough to attract software developers and let users run the occasional Mac program, a la SoftWindows. Others are not quite so sure. Over at Power Micro Research Inc, another PowerPC system house based in Austin, Texas, opinion is split. Jim Mott, software architect with the company, reckons nine months sounds about right: "It should be running in three to four months, with the rest of the time spent turning it into something you can sell." He points out that many of the nasty hardware dependency issues have already been faced with the Macintosh Application Services port to AIX - and if it can do it once...

Messy parts

The company's resident Macintosh expert, Andrew Donoho, is significantly more down-beat. Donoho has a history of building both software and Macintosh add-on hardware. He points out the messy parts such as the fundamentally different way that Mac video and VGA-type adaptors work, along with the difficulties that the close relationship between Sound Manager and system hardware may present. Given that caveat, it is our guess - and guess it has to be, since we are not engineers - that a well appointed (with SCSI and the right video adaptor) PReP machine could ship running Mac OS towards the autumn of 1995. Not long, in fact, after Apple says we should expect the straight clones. There are good reasons for Apple to be wary of a PReP clone. You can see the headlines now, can't you, as users find that Mac OS doesn't quite work properly on their machine?

Crippling for Apple

Small hardware-software incompatibilities could make using Mac OS nearly as nasty as using Windows, for example. And the technical support issues could become crippling for Apple. But perhaps the biggest factor is Apple's fear of losing control of its operating system. Porting to PReP would entail the scary step of committing Mac OS to disk, rather than keeping it safely tucked inside a ROM. Historically, people have argued that the Mac hardware is actually a sophisticated dongle designed to prevent software copying. Porting to PReP would strike at the heart of this policy. Apple would argue that this is pretty paranoid stuff: Strickland says that Apple is still working with IBM to define a new common platform more suitable for Mac OS. Certainly, the initial beta of PReP was devised with little or no input from Apple and the Mac manufacturer was right to feel aggrieved when it was presented as a virtual fait accompli. However, insiders to the PReP negotiation say that since then, Apple has been offered a number of concessions which would have eased porting, but turned them down. However, Apple's industry bargaining power will be immeasurably strengthened if the Mac clone business becomes popular, even more so if people begin to implement other operating systems for the machines. The phrase 'de facto standard' springs to mind.

DEC BEATS OUT SUN IN NHS DEAL

Digital Equipment Corp reckons it has beaten Sun Microsystems Inc to that big UK National Health Service subcontract from British Telecommunications Plc's Syntegra to provide a message-handling service that could eventually be worth \$45m to \$90m: if fully ~~deployed, the system would become one of the largest private messaging systems in the world, with up to 500,000 users, DEC says;~~ as part of the project, Digital has secured a pilot contract, worth more than \$700,000, for two Alpha AXP server systems, running MAIL-bus 400 and DEC X.500 Directory Services electronic mail software to manage the network; the full backbone network could eventually grow to 10 Digital 2100 Server systems, each capable of processing 1m messages a day; the proposed message handling service will link thousands of medical and dental practices and hundreds of hospitals and Health Authorities in the UK.

SYBASE SNUBS MICROSOFT

Novell Inc and Sybase Inc are teaming to push SybaseWare, tagged as an integrated client/server solution providing database and network technology. SybaseWare includes Sybase WorkGroup SQL Server 10 and Novell's NetWare or UnixWare operating systems. Observers noted that Sybase has effectively slapped Microsoft in the face by selecting Novell as its initial channel marketing partner and attempting to undercut Microsoft's SQL Server pricing. Microsoft was set to fight back on pricing as we went to press.

BAAN EXPANDS US PRESENCE

Flush with its success against Computer Associates Inc over rights to Triton tools for supporting ASK Manman/X (UX No 506), Baan International BV, Ede, Netherlands is expanding its North American presence, establishing a new silicon valley office that'll serve as dual corporate headquarters and product development facility. And it seems those ASK hiring fests paid off too. The Baan USA unit will be run by executive VP and CFO David Cairns, former Uniface CFO. Baan has tapped former ASK Group manufacturing systems division head Amal Johnson as president and Doug Sallen, former ASK director of channels marketing, as managing director of business development. Baan will also currently expanding its International Service Center in Grand Rapids, Michigan to support its US customer base.

SCO DEBUTS DISTRIBUTED SERVICES

The Santa Cruz Operation Inc has introduced its anticipated suite of Distributed Services for administration, security and DCE development (UX Nos 488, 497). SCO Security Services works with TCP/IP and DCE-based networks and costs from \$3,500. The new graphical SCO Distributed Administration system is from \$1,000, SCO X.500 directory costs from \$3,500, SCO DCE Executive with RPC is \$1,300, SCO DCE Cell Directory is \$3,500 and SCO DCE Development Kit is from \$4,200.

MORE GUI EFFORT NEEDED, SAYS KPMG

Management consultancy KPMG says organisations are using outdated, character-based methods such as SSADM and Prince for front-end application development and are not putting enough time or effort into designing GUI-fronted client/server systems, apparently. The answer? Use a method tailor-made for GUI building, such as the Structured User Interface Design for Interaction Optimisation, or STUDIO, which was released last year after having been developed by Dermot Browne who works for, er, KPMG.

HP GIVES NAWRATIL TOP EURO JOB AS MARIOTTI HEADS UPSTAIRS

Hewlett-Packard Co has appointed VP Franz Nawratil as Managing Director of Geographic Operations for Europe, the Middle East and Africa. Nawratil will assume full operational responsibility from November 1st, and replaces senior VP Franco Mariotti, who has led HP operations in Europe for the last 17 years. Nawratil, a 29 year HP stalwart has held his current position, as the head of HP's Computer Systems Organisation (CSO) since 1993. Previously he had spent a three year assignment in California as CSO General Manager for worldwide sales and marketing. Franco Mariotti is being kicked upstairs, remaining as chairman of HP SA, HP's European holding company in Geneva, and given the task of enhancing "HP's role and visibility as a major European company".

SGI PUTS TFP ON DESKTOP

Silicon Graphics Inc last week upped the ante in the world of Unix graphics processing, putting the floating-point intensive R8000 TFP processor used in its Power Challenge and Power Onyx graphics supercomputers on the desktop in the form of the 75MHz Power Indigo² (actually Power Indigo to the power of two). ~~It's offered with SGI's XZ (\$46,000) or Extreme (\$57,500)~~ graphics options with 64Mb RAM, 2Gb disk and 64-bit Irix 6.0 Unix performing at up to 256 MFLOPS, 270 SPECfp92 and 108 SPECint92 from this quarter. The company also replaced the processors in its existing Indigo² systems, raising them to 200MHz R4400 and 133MHz R4600 configurations. The R4400/200 does 119 SPECint92 and 131 SPECfp92, and comes with 32Mb RAM, 1Gb disk and the 32-bit Irix 5.2. It starts from \$24,500 with XL graphics, \$28,500 (XZ) and \$40,000 (Extreme). The R4600/133 goes to 109 SPECint92 and 72 SPECfp92, and with the same configuration as the R4400/200 costs from \$21,500 with XL graphics, \$26,000 (XZ) and \$35,000 (Extreme). Upgrades to the 200MHz R4400 microprocessor are now available for current Indigo2 system users. The company also added a 200MHz option to the R4400 version of its Onyx graphics supercomputer which supports up to 24 CPUs and up to 4Mb second level cache per processor, replacing the 150MHz model. It costs from \$104,000 for a dual-processor Onyx Extreme configuration and \$763,000 for a 24-way Onyx Reality Engine² system. There are also 200MHz versions of the R4400-based Challenge L and XL systems which go from two-to-12 and two-to-36 CPU configurations respectively. Challenge L is from \$89,000, XL is from \$139,000. The R10000, codenamed the T5 and being developed by MIPS Technologies, the SGI subsidiary, is to be announced in the next two weeks. It is expected to be only design complete at present and unlikely to appear until next year. SGI expect it to be general purpose and is seen as a logical extension of the R4400.

3D TO REVEAL ALL THOSE THAT GLINT

3DLabs this week is going to give out the full list of all the board and software vendors it signed up for its GLiNT chips, which it expects IBM Microelectronics to start delivering this Tuesday. Aires Research is planning to build an SBus graphics card around the chips Solaris 2.4 drivers for Sparc boxes. The board will also come in a PCI bus for Intel systems, also with Solaris 2.4 driver. Both boards will include 4Mb of video RAM. Barco Chromatics is going to include HP/UX, HP/RT-X/PEX driver for HP 74x-based systems, OSF/1 - X/PEX drivers for Alpha systems and Solaris-X/PEX driver for Sparc systems on a line of display generators using 6U VME form factors which will be part of its Integrated Visualization System. Barco figures on adding OpenGL support some time next year. On the software side, 3DLabs has signed up X Inside to design interfaces for its Accelerated-X server software for PCs operating as X Window terminals.

MOTOROLA AND HP BOTH ON TARGET FOR \$20,000m TURNOVER

It's going to be a close-run thing this year between Hewlett-Packard Co and Motorola Inc to decide which ends the year with the bigger turnover. Each is on target for well in excess of \$20,000m, and Motorola, whose figures are always the first cuckoo of the reporting season and harbinger of the flood-gates opening, seems to be growing slightly faster. Its third-quarter profit soared 50% to \$380m on \$5,660m turnover thanks to booming global demand for its cellular telephones and other wireless communication products. The results included a 63% jump in sales for the company's General Systems Sector, which makes cellular products, and the division accounted for half of total sales. Sales of Motorola semiconductor products, including the PowerPC, rose 18% to \$1,800m, the firm said.

JSB ADDS FASTER X SERVER

JSB Computer Systems Ltd has added version 4.01 of its X11R5 MultiView/X X Windows Server for Windows PCs, claiming a 25% performance improvement over previous versions. The new release supports a host of terminal emulators and communications protocols, including 35 TCP/IP stacks. MultiView/X is from \$500 with a TCP/IP stack, upgrades are from \$200.

OMG ISSUES COMPOUND DOCUMENT RFP

Object Management Group has issued its anticipated Request For Proposal (RFP) for Compound Document Facilities - including cut and paste and drag and drop between applications and the like as embodied in OLE and OpenDoc. One component of the RFP solicits proposals for a Compound Presentation facility. This provides a framework for both the sharing and subdividing of a display window into multiple parts and is independent of any window system or rendering model. The RFP also seeks technology for a Compound Interchanger facility. This will provide a framework for storing and interchanging data objects and supports the Compound Presentation facility. It too is independent of any window system or rendering model. Letters of intent are due by 5pm EST, Dec 20 1994.

PHILIPS JOINS MIPS RISC CAMP WITH HDL SYSTEMS ACQUISITION

Five years ago, it was announced that Philips Electronics NV would fabricate variants of Sun Microsystems Inc's Sparc microprocessor, since when the story has effectively vanished into a black hole and nothing more has been heard. Now however, the company's Philips Semiconductors has popped up in a rival camp, buying a company that designs microcontrollers based on the Mips Technologies Inc R3000 family of RISC microprocessors and taking over the acquisition's licence to use the Mips designs. It plans to take the microprocessor cores and combine them with specialised circuitry for a broad range of applications in consumer and embedded markets. The company Philips has acquired is HDL Systems Inc of Sunnyvale, California, a design company specialising in 32-bit microprocessor architectures for embedded applications; the value of the transaction was not disclosed. HDL Systems is said to be the first company to introduce a customisable Mips processor to the embedded market with the MR300, described as one of the few Mips cores that is a completely static design so that the clock can be stopped when the processor is idle, reducing power drain to zero. Philips now claims to be the world leader in the 8088-derived 8-bit 80C51 microcontrollers, leading the market in terms of dollar volume, units shipped, and number of derivatives including a new 16-bit extension of the 8051 architecture. HDL designed the MR300 from the high-level Mips architectural description as opposed to the physical design approach taken by other Mips licensees, and that enabled it to make major architectural modifications to the Mips design, while retaining full software-compatibility. The MR300 processor is being made and used in embedded applications in Japan.

IBM UNVEILS FRUITS OF RECENT BRIXTON DEAL WITH SNA-AIX INTEGRATION TOOLS

Furthering its strategy of SNA-AIX integration, IBM Corp has launched three products, two of which are the result of last month's licensing agreement with CNT/Brixton Systems Inc (UX No 507). IBM Systems Network Architecture Client Access for AIX - which runs on the AIX Systems Network Architecture Server/6000s - operates as a TCP/IP Telnet server, and is said to give Telnet 3270/5250 server functions to TN3270/TN5250 clients by converting Telnet client traffic to SNA format, and vice-versa. While the core Telnet server technology is sourced from Brixton, IBM says it has replaced the latter's Systems Network Architecture stack with its own implementation, and has also added various configuration options. Availability is from the end of the month, with prices ranging from \$2,500 for one to 16 users, up to \$138,500 for 2,049 to 4,096 users. Next up is SNA Application Access for AIX, also based on technology sourced from Brixton, which is said to enable SNA 3270 devices to access applications on the RS/6000. It is said to provide communications with any device running SDLC or Token Ring protocols, and to support all protocols supported by the SNA Server/6000. It will be available from the end of January with prices ranging from \$14,500 for one to 16 users, up to \$250,000 for 2,049 to 4,096 users. The final offering is Desktop SNA for AIX, which is essentially a cut-down version of the SNA Server/6000, designed to come in at a lower price point, and aimed at single users. IBM has stripped out wide area network and Logical Unit support, and implemented it as an Advanced Peer-to-Peer Network end node, rather than a network node/end node, as with the SNA Server. The product costs \$500 per user, and is available now.

SYBASE WINS ICTV FOR VIDEO-ON-DEMAND SOFTWARE

Sybase Inc, Emeryville, California is determined not to leave the video-on-demand database software business to Oracle Corp but to go head-to-head with the giant using its SQL Server 10 database and Intermedia products. And the Emeryville, California company has scored a significant coup by winning ICTV Inc, the Santa Clara company supplying Cox Cable Communications Inc with video servers for its interactive television testbed in Omaha, Nebraska, which will start offering interactive services to subscribers next year. ICTV is still only at the agreement in principal stage, but also plans to use the Sybase Gain Momentum and Gain Interplay products to develop interactive entertainment and information applications for its customers, reckoning that Sybase "is the only software vendor that has taken a truly open and scalable approach to the emerging interactive market." The company's wrinkle is to create a Smart Network system that enables operators to deliver interactive services without investing in expensive smart set-top boxes - the intelligence is located at the head end and not in the set-top box. SQL Server 10 will be the software engine for message routing, control and delivery of real-time data from video and multimedia servers, and integration with business systems for billing, customer service and such.

IBM SHIPS POWERPC 604, CUTS 601 PRICES

IBM Microelectronics is now sampling the 100MHz version of the PowerPC 604 chip, offering it at \$549 in quantities of 1,000; volume production is due to begin in December. The PowerPC 604 is designed for use in high-end desktop personal computers, mid-range servers and high-performance graphics workstations. Compared with the 601, the 604 has a redesigned floating point unit, separate instruction and data caches and multiple integer units. IBM is offering samples of the 100MHz 601 at \$399 and promises volume next month, and it has cut prices on the slower versions. The 50MHz is now \$165, the 66MHz is \$165 and the 80MHz is \$249, for 1,000-up in each case. It is available now in sample quantities and is set to begin production. The PowerPC 603, the least powerful member of the family and designed for mobile and energy-sensitive applications, is set to begin production in November, and it will cost \$165 for the 66MHz version and \$195 for the 80MHz version.

MOTOROLA "TO ANNOUNCE SON OF 604 SOMETIME THIS YEAR"

A change of emphasis appears to be emerging between IBM and Motorola's PowerPC processor requirements. While IBM's attention is taken up with 64-bit implementations, such as the 620 and 630, Motorola is rather more interested in pushing performance in the 32-bit arena. There are absolutely no details yet, but the source said that we should expect to see Motorola announce a follow-on to the 604 before the end of the year. Of course, it is always possible that IBM is cooking up something along similar lines. The move would mark the first of the expected divergences between the two companies' mainstream offerings. Until now they had contented themselves with competing embedded processors.

- A report in French newspaper *01 Informatique* had journalists reaching for their notes and regretting the large portions of Carbonara at lunch last week after it quoted Ing C Olivetti & Co SpA's Carlo de Benedetti saying Olivetti could supply PowerPC boards OEM to IBM Corp. Olivetti has found itself denying suggestions from suitably calorie controlled journalists that it would do anything of the sort, offering that the paper had mistaken Benedetti's use of the words Power Computing, the California PowerPC outfit Olivetti is bankrolling.

- The seven-chip PowerPC 630 (Power3) implementation destined for use in the next-generation AS/400 due in February is only a stop-gap CPU solution until a generic single-chip PowerPC 630 emerges with on-board AS/400 hooks that are outmoded for those that don't need them. But at the Somerset design unit there's a question mark over Motorola Inc's need to participate in AS/400 technologies; the two suggest development will be shared between Austin and IBM's Advanced Server development centre in Rochester, Minnesota.

INFORMIX TAKING CONTROL OF ITS DESTINY WITH A DIRECT SALES MODEL

by William Fellows

Informix Corp's recent decision to take its Japanese destiny into its own hands is another plank in the database company's plan to bring sales in-house as far as it can. Only by selling direct, the company believes, will it be able to generate growth rates in the 20% to 30% range over a period of time. It's a policy that's been in operation in the US for two or three years now, and has most recently been introduced to the UK from France. In the UK, where the Informix management structure has been completely overhauled over the last year or so, the company created more than a little consternation amongst resellers who suddenly found themselves without a product, incidentally, which Informix says they'd been doing very nicely thank you for so long. Informix shifted all of its resale business to Frontline Distribution Ltd. Although the UK unit anticipates doubling its sales force to 40 by year-end, it's going to take some time to reach the 50-50 direct/indirect sales split it is working towards in the medium term.

However, the company is still running with the ball after its interception of Computer Associates's, Ingres relational database at IBM Corp's £450m project for the Royal Air Force (UX No 506), and claims to have a bunch of large direct deals pipelined through this year and next. Germany, Informix's largest continental market, will be next to fall to the direct model now that it's been thoroughly tried a tested elsewhere. In Japan, Informix will hold 90% of a new company that will take over Ascii Corp's database division, which essentially markets Informix. Ascii will hold the other 10% of Informix Ascii KK. The price paid will be \$46m, for a business doing some \$44m annually. Ascii was responsible for Informix's Kanji products, a responsibility the new unit will assume. The reason for the move, according to the company, is its perception that Unix is now starting to make headway into Japanese corporations, and its wish, to be focused on those opportunities.

Technological hotseat

Meanwhile, although Informix is the number two relational Unix vendor in terms of revenue, it's still having a hard job selling itself as appropriate for anything other than small-to-medium sized businesses. The fact that it has as many as three times more licences as any other player is testament to where its product sits in the market. It desperately wants to be the logical alternative to Oracle Corp, a mantle currently afforded to Sybase Inc, which partly explains why the Emeryville, California-based rival is, on the receiving end of both the Informix and Oracle boots (UX No 508, 506). Informix says Sybase is long overdue a spot in the technological hotseat and is enjoying hearing the answers Sybase has to all the questions about delays in its parallel Navigation Server offering and incompatibilities with System 10. Because there aren't many organisations that don't have databases, and because (at least the way Informix sees it) there really isn't very much vanilla downsizing revenue at all, the database vendors are all attempting to win hearts and minds for their respective application development tools strategies, because where there is replacement or knockout business to be won, it's usually up for grabs when a company is deciding how to build or implement a new application. Like the rest of the relational community, Informix sees the long-term competition coming from IBM Corp's OLTP strategy that envisages a central transaction software layer applying queries across Unix, OS/2, OS/400 and mainframe databases. The relational vendors are each building distributed functionality into their basic product set. Informix anticipates 1996/97 as the start of the real battle.

Repository change

On the product front, Electronic Data Interchange (Informix recently bought into a Swedish EDI developer), security (it claims a secure database that is independent of the operating system) and smart cards (using part of the database, not just data on the card) are Informix's latest technology ventures. It's also changed its repository strategy, a fundamental database technology that never fails to gets software gazers so animated. Before it had specced out its New Era (4GL++) toolset properly, Informix plumped for Siemens Nixdorf Informationssysteme AG's repository schema. It wasn't until the stuff was in development, Informix claims, that it realised the SNI program was far too big for client/server development. So it's now doing its own repository which will be used for the majority of its product line. The SNI software is retained for top-end users on a project-by-project basis, it says. Informix expects to ship five new products in 1995: OnLine.7, the next generation of its OnLine.6 now available in the US; OnLine.6 for Windows NT; OnLine.6 for markets in Europe and Asia; NewEra software for Unix machines, and its standard SE database for OS/2. It'll show the scalability of its new Informix 8.0 Dynamic Server database in December, and is on track for a beta release in April or May.

NO SINGLE CORBA 2.0 SUBMISSION AHEAD OF NASHUA MEET

There had been no agreement reached on a single Corba 2.0 submission as we went to press ahead of this week's OMG meet in Nashua, New Hampshire (UX No 507). The two sides, DEC and HP, and SunSoft, ICL, Bell Northern, Iona, Expersoft and IBM, have apparently made headway on some technical issues over the last couple of weeks, but not enough to bridge the schism. Although the OMG was keen for the proposals to go to the vote at the meeting, if there are enough voices raised the vendors may be granted more time to go away and fix a single spec according to one Nashua-bound delegate. Meanwhile, one source described Open Software Foundation, DEC and HP making the Distributed Computing Environment RPC and IDL available free of charge (UX No 507 and see back page) to bolster their chances as simply a ruse, DCE applications won't run on a DCE request broker in any case because DCE's IDL doesn't support all of OMG's data types. Moreover, the Open Software Foundation is maintaining change control and copyright so the technology is not, actually in the public domain anyway.

DCE TECHNOLOGIES OFFERED FREE OF CHARGE

Open Software Foundation, Hewlett-Packard Co and DEC will, as anticipated (UX No 507) offer Distributed Computing Environment remote procedure call and interface definition language compiler free of charge - on October 15th. The RPC is the communications mechanism for building DCE applications that can talk to each other; the IDL generates client and server application components - or stubs - required for applications to run on DCE. Both were submitted by HP and DEC under OSF's original DCE request for technology. Meanwhile, technology submitted by the likes of Digital Equipment Corp, Hewlett-Packard, and others (UX Nos 485, 495) to the DCE 1.2 PST will apparently beef-up DCE's robustness for use in large mixed DCE/ONC environments and offer DCE application monitoring from SNMP network managers.

CONVEX WINS AT FORD; WILL "EXTEND HP RELATIONSHIP"

Convex Computer Corp, Richardson Texas, has won a \$10.4 million dollar contract with Ford Motor Company to provide a new technology platform for design research. Details of the three year contract with Ford's Alpha Simultaneous Engineering include the installation of a Convex C4640 supercomputer and two Exemplar Scalable Parallel processor systems. They'll be used in the new Advanced Vehicle Technology activity of Ford Automotive Operations in Dearborn, Michigan and are intended to be used to run advanced applications that predict crash analysis, air-flow simulations and vehicle system and subsystem performance. The C4640 is the newest version of Convex's C Series. The Exemplar SPP systems, which were introduced in March, are based on Hewlett-Packard's PA RISC technology and boast the ability to run conventional HP-UX operating system software. Both HP and Convex sell Exemplars, and Convex this week hinted that the relationship with HP will be further extended soon. Convex is hoping its fanfared Exemplar technology will solve the massively parallel processing malaise of lack of applications as well as pulling it out of its financial slide, which has seen report losses and a considerable number of staff lay offs.

uni gram X

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SunSoft Inc believes getting **Apple Computer Inc** on board the PReP effort is essential to building any serious PowerPC momentum, and has told **IBM Corp** so. So the news that Apple is set to declare a PReP strategy - see page four - should give it cause for relief.

Meanwhile, **SunSoft Inc** is apparently quite happy that **IBM Corp** pulled the plug on its October Power Personal launch. The delay gives it more time to get an application spread up on its Solaris-for-PowerPC port. We hear the kernel work is done and that betas complete, with C compilers have gone to IBM and others. Early access SDKs are being readied for next month to draw the ISV crowd.

When the RS/6000 division got to launch the Power Personal technology as 40P (UX No 508), the Power Personal division stayed away from Unix Expo. **SunSoft Inc** personnel went along to the **IBM** booth to ask what operating systems P40 would run, in the full knowledge that Solaris was already up on it courtesy of Power Personal. "AIX-only," was IBM's reply.

Less than a month after announcing it was buying the customer services unit of France's **Groupe Bull**, **Wang Laboratories Inc.** said last week it plans to let go of 700 workers.

Hamilton Rentals, one of the UKs largest **DEC** and **Hewlett-Packard** resellers, with a turnover of £20 million in 1993, is moving into the database solutions arena by signing a reseller agreement with **Oracle**. Hamilton has a 'Try before you buy' rental scheme and sees the move as a natural extension to its business claiming that over 30% of Oracle business will come through working with HP.

Chairman of **ICL's Technology plc**, Derek Lewis, is leaving the UK reseller at the beginning of next year and will be replaced by Ken Wallace, the present deputy chairman and logistics director. Sales director Marie-Anne van Ingen becomes managing director.

Sources believe those cuts we mentioned that **IBM Corp** is making down in Austin are oddly enough also coming from its prized OS/2 operation.

FourGen Software Inc has always felt that its technology was the equal of, say, Oracle's, but that it just couldn't get mind share. Now it feels it stands a better chance since it hired James Robb as VP, world sales, the man who four years ago took Wall Data from \$2.4m to \$63m this year. Previously he did the same thing with **Attachmate Corporation**.

Oracle Corp's Trusted Oracle7 is going up on DG/UX under **Data General's** B2 SMP Defense Security Option from summer next year starting at \$25,000 on servers, \$8,000 on workstations.

Canadian outfit **Faximum Software Inc** of West Vancouver has got its fax software up on San Jose, California-based **Qume Corp's** QX15 X Terminal; the two are touting the combination as a cheap fax solution for Unix users.

Four of **Sun Microsystems Inc's** SuperSparc II RISCs can be put into desktop SMP systems - only two SuperSparcs could be accommodated previously. The 75MHz SSs II will cost \$1,000 in quantity from the first quarter and will fall in price when 90MHz iterations become available in the second quarter, also priced at from \$1,000 in quantities.

The 64-bit PowerPC 620-alike used in **IBM Corp's** recent Advanced System 36 upgrade (UX No 508) is PowerPC-compatible because it runs the same instructions, however the similarity ends there, PowerPC's Somerset design team says. The part is not a PowerPC in the sense that it is physically a different chip and runs other AS-specific instructions in addition to PowerPC ones.

If we didn't make it clear last week, **IBM Corp's** RS/6000 division and Power Personal operation share the same research and development unit.

Sun Microsystems Inc is to bundle a **Lotus Notes 3.2** licence with every server it ships next year, plus a single Notes for Windows or Solaris.

European auto giant **Daimler-Benz** has joined **Object Management Group** as an end user member.

Tivoli Systems Inc has installed former **Convex Computer Corp** VP William Bock as senior VP operations; the new position consolidates finance, administration, customer and professional services and is apparently a preparation of Tivoli's infrastructure for future expansion.

We know the **OSF Research Institute**-sponsored second international World-WideWeb '94 conference in Chicago has been sold out for yonks, but for those who want to get a look in the organisers have set up a WWW home page and Internet publishers Webster is doing a daily newsletter from the show free by mailing: live@webster.tgc.com - issues of its supercomputing paper are available from 4free@webster.tgc.com

Distributed Computing Environment house **Open Environment Corp** has added Marshall Toplansky from US Robotics as VP marketing, and former Interleaf executive Randy Fisher as VP worldwide support. OEC has opened a hub in Dallas being run by Robert Martin from CompUSA and has added sales offices in New York and Washington DC.

Although **Informix** may have drawn a rather over-optimistic picture of its deal with **Holiday Inn** (UX No 503), it remains confident that it will, over time, knock **Sybase Inc** out of the hotel chain's core room reservation system.

Hewlett-Packard Co is revving its benchmark compilers and promises new TPC-C numbers in a few weeks.

Object Design Inc has been named America's fastest growing private company by *INC Magazine* with its 23,376% sales growth between 1989 and 1993 when it topped \$25m.

Unisys wants to develop its service business and has named James Corey, managing principal of Worldwide Information Services. He had been with **McKinsey & Company** where he led the West Coast information technology systems practice.

Business Week is expecting **Sun Microsystems Inc** to pick up some key pieces of parallel-enabling technology from **Thinking Machines Corp**, the Cambridge, Massachusetts-based MPP house now in Chapter 11, which was stringing Sparcs together in massively parallel systems. Sun, which reportedly spurned TMC's pleas for a buyout, has apparently hired as many as 40 TMC engineers for its Parallel Open Systems Group in Chelmsford, Massachusetts, including some engineers though not, as yet, TMC chief technologist and visionary Danny Hillis.

Business Object SA's front-end database access system now supports **Red Brick Systems'** data warehouse from \$600 per user, plus \$3,500 for the database administration module. The French software house, which has its US base in Cupertino, California, has also teamed with Red Brick rival **Prism Solutions** - the two are to offer integrated warehousing solutions. Business Objects: +1 408 973 9300

Intergraph Corp's Software Solutions unit has signed NT reseller **Tech Data Corp**, Clearwater, Florida, to peddle its PC-NFS and DiskShare Windows NT-to-Unix software in the US.

IBM Corp, which four years ago promised its RS/6000 newborns would outpace all the competition has so far delivered some 300,000 AIX workstations and servers, leaving it some way behind **Sun**, which is getting 300,000 units a year into the field, and **HP**. The division's customers were split 40% commercial, and 60% scientific and technical three years ago. They're divided 60% - 40% now and it's aiming for 70% - 30%.

Milpitas, California-based **Storage Dimensions Inc** is putting its SuperFlex disk, tape and RAID storage up under Unix, for **IBM** now and on **Sun** and **HP** systems next quarter. Prices range from \$6,200 for 1Gb entry level subsystems to \$40,000 for a 24Gb, RAID 5 offering.

Latest in its splurge of announcements, Cambridge, Massachusetts-based **CNT/Brixton Systems Inc** has now also implemented its networking software to link **Santa Cruz Operation Inc's** SCO Open Desktop 3.0 to **IBM** SNA environments over TCP/IP at from \$375.

IBM Corp has thought seriously about dropping the name Workplace for its eponymous microkernel technologies because everyone's so confused about them; but it's worried we'll think it's dropped Workplace itself. Perish the thought!

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OMG TASKFORCE RECOMMENDS TCP/IP PROTOCOL FOR ORB INTEROPERABILITY

The Object Management Group taskforce last week rejected the notion of using Distributed Computing Environment RPC as the basis of out-of-the-box object request broker interoperability, despite DEC and Hewlett-Packard Co's last-gasp rescue attempt (UX No 507). Meeting in Nashua, New Hampshire, the taskforce recommended a slightly-modified version of the TCP/IP-based Universal Networked Objects (UNO) specification proposed by Bell Northern, Expersoft, ICL, Iona and SunSoft for use as the specification for Corba 2.0. At the vote, UNO, effectively the General Inter-ORB Protocol (UX No 504) layered on top of TCP/IP, secured 18 votes; there were five votes against and eight abstentions. IBM, with its name on both submissions, was amongst the fence-sitters - the other no-votes were Microsoft Corp, OSF (apparently for procedural reasons) and Siemens Nixdorf. UNO affords DCE a special (but not mandatory) status as an environment-specific protocol, such that DCE-based ORBs can utilise DCE RPC to pass objects amongst themselves. UNO also includes a DCE bridging mechanism which will fire-up whenever a DCE ORB is encountered. Under the revised submission, however, use of the General Inter-ORB Protocol will be mandatory for Corba 2.0 compliance if, as seems likely, UNO is adopted. But these concessions remain unpalatable for DEC and HP whose business models are focused on a world in which DCE RPC is the dominant transport mechanism. Although neither appears ready yet to countenance DCE playing second fiddle - indeed DEC says it's committed to continued development of its ORB interoperability programme using DCE, whatever OMG adopts - UNO is the future both must live with or commit what would amount to commercial suicide. It's our understanding that OMG users were instrumental in the outcome, indicating they wouldn't be fobbed-off with an interoperability solution that came in two flavours, and demanded a single protocol. All taskforce users, ISVs and integrators voted for UNO. Beyond the smoke and mirrors Corba 2.0 has always been about a straight choice between protocols. Although DEC and HP were huffing and puffing at press time about the remaining ratification processes and claims that UNO is based on untested and undocumented technology, Corba 2.0 appears to be all but a done deal and OMG, its process now apparently vindicated, is wasting no time in pushing the submission along. A fax vote of the 85-strong OMG technical committee was underway as we went to press with around a dozen yes votes already counted - including IBM's. OMG is hoping the committee's decision will be complete in time for its board to vote Corba 2.0 into existence at its meeting on December 7 out at AT&T in New Jersey. Like everyone else, all six UNO submitters will have to alter their own architecture to fit the spec, which apparently amounts to some 40Kb of code. SunSoft has already prototyped the stuff and says there are several ways in which UNO could be incorporated into products, including the addition of UNO bridges - as will likely be the case for some existing product lines, plus emerging technologies that rely on proprietary transport mechanisms for now. But Sun says it hasn't decided how it'll commercialise the stuff.

...STAGE SET FOR MICROSOFT INTEROPERABILITY REQUEST

Meanwhile, IBM Corp's notion of tossing Corba-to-Common Object Model interoperability into the Corba 2.0 pot was thrown out as fast as it could be tabled at Nashua last week. OMG taskforce delegates wanted the Microsoft Corp issue kept separate from an already embittered submission process. Therefore, as anticipated, Corba-to-COM interoperability will be addressed by a Request for Proposal due to be issued at OMG's next get-together. Ironically, the creators of the draft RFP were DEC, IBM and Microsoft. With, in its estimation, an ideological threshold now breached with Corba 2.0, OMG anticipates the Corba-to-COM specification process will be a far less tortuous affair. It envisages three or four proposals being merged into a 'classic' single submission. The UNO crowd say their mechanism is already appropriate to build COM interoperability from and will form one or more of the proposals. Others from the Microsoft camp are also expected.

IBM's AIX UNIT DOWNSIZES FOLLOWING SMP DEVELOPMENT PEAK, BUT HAS A CHECKLIST OF THINGS TO DO

IBM Corp's director of RISC system software, Donna Van Fleet, denies that her AIX unit will bear the brunt of the latest RS/6000 layoffs or that IBM Corp is shifting investment away from AIX (UX No 509). Although she declined to provide any details, Van Fleet says the unit is undergoing a routine set of "resource actions" following a peak development effort - ie the SMP AIX 4.1 - but then went on to describe a checklist of AIX work scheduled that she must now find the staff to undertake, such as a bundled voice, video and multimedia "human-centric" environment, greater PC client and integrated object support, further scaling beyond eight-way and 64-bit application enablement for the forthcoming PowerPC 620. If AIX - and indeed OS/2 - really are so strategic to IBM, then why is it laying-off staff from both at all? Lee Reisinger's Personal Software Products group has already soaked-up AIX staff recycled for DCE-on-OS/2 and LAN Server development, the latest redundancies notwithstanding.

SECOND-GENERATION POWER PERSONALS

Although IBM Corp has already flunked the launch of its Power Personal unit's first raft of PowerPC hardware, the apparently undaunted operation has already moved on to develop a second generation of machines which it has been showing-off behind closed doors to key system software and application partners. It already has working PowerPC 604 hardware plus units using faster PowerPC 603 implementations. "Faster and cheaper," than the (unlaunched) first series is how they're being touted. Meanwhile, first generation Power Personals will, as expected, show up at Comdex in a couple of weeks' time, running Windows NT, Solaris, AIX and possibly OS/2, that's if the guy IBM has struggling to get an alpha version of OS/2 up on a 100MHz PowerPC 601 system is able to get the thing working in time.

SUNSOFT OFFERS MIX-AND-MATCH TCP/IP NETWORK MANAGEMENT

SunSoft Inc will this week fire its latest networking salvo with the release of SolarNet PC-Admin, a sort of do-it-all networking administration package that can oversee mix-and-match TCP/IP networks of Solaris and Windows PCs. The PC-Admin pack can run on either Sparc or x86-based systems. The stuff controls both network installation and administration, including installing new users and removing old ones. It can also configure individual PC software environments and establish administration. PC-Admin can also run alongside Windows for Workgroups, NetWare and LAN Manager but not NT networks, at least not yet. Included in PC-Admin is Sun's own e-mail for Microsoft Windows and Legato agent software for automatic backup archiving and restoring files. The Legato agent works with SunSoft's Networker for Solaris or other Legato servers. Price is \$2,250 for a server and one administrator client license, plus \$300 per client for licenses with a minimum 10 client purchase. The administrator runs on Windows. Meanwhile, SunSoft will also introduce a new NFS package for Windows-based systems, PC-NFSpro. The package, listed as part of the SolarNet family, gives high-performance TCP/IP and NFS access to Windows systems at \$375 for a single-user license. Upgrades from DOS-based PC-NFS are \$79 and competitive upgrades are \$115. The new NFS utility is built on a 32-bit VxD architecture and eliminates the need for DOS memory found in PC-NFS, which SunSoft had been selling for a higher \$500 price tag. SunSoft's also bundled its e-mail for Windows with PC-NFSpro.

NT CHOICE ON SYMMETRYs IS FOR "CUSTOMER COMFORT," SAYS SEQUENT

Work is still underway at Sequent Computer Systems Inc to put Windows NT onto its Symmetry line of Unix-only servers. Originally scheduled for completion sometime this autumn, work on the port started about six months ago, and a release is not now expected before the first quarter of 1995 at the earliest, with the official release date scheduled only for the first half of next year. The main development work involves writing a suite of peripheral drivers to handle the fact that the Symmetry servers are built around the VME bus, whereas Windows NT has been written for PCI and EISA architecture. It's not a difficult task, says Sequent, but it is time-consuming, especially at the quality assurance end. The company maintains that putting Windows NT onto its Unix range is largely a question of comfort for its Unix customers, many of whom want to know that if they ever want to switch to Windows NT, they will be able to do so without changing hardware. Sequent also says the port will not affect sales of its WinServer range, which is the hardware based on Tricord technology specifically to run Windows NT. According to Steve Wanless, UK product marketing manager for Sequent, people who want Windows NT now will buy the WinServer range and won't be hanging about for the release of the operating system on the Symmetry boxes. Meanwhile, Sequent's developers are also being kept busy in the area of distributed management software. The Symmetry series is already compliant with the Simple Network Management Protocol (SNMP), enabling the boxes to be managed in an SNMP environment, but there is, says the company, more work to be done on the WinServers, to bring the Windows NT SMS management software into the SNMP environment, even though SMS is based on SNMP.

CP SOFTWARE GROUP'S UNIPLEX UNWRAPS UBS V8.0

Uniplex Ltd, the Unix office software company sold by Birmingham-based IMI to Californian firm CP Software Group in July (UX 498), has released V8 of its Uniplex Business Software. Nothing in UBS V8, however, has come from the company's new owners, although work has started on bringing into the next release of UBS, due out in mid-1995, some of the technology CP Software bought last year, including the document analysis tools from Australian company Intext. The main enhancements in UBS V8 are the inclusion of the Informix V5 database as standard, improved word processing capabilities, with onscreen preview of documents, better mail features, and the ability to run Uniplex's OnGo technology as a client platform from UBS. A five-user licence for UBS V8 is £1,200, and the software is available now for HP/UX, AIX, SCO Unix and DG's Aviiion. The optional link to OnGo Office is targeted at large organisations that want to tie in their character-based terminal UBS users to become part of the larger office network. OnGo itself, on which Uniplex has been concentrating for the past two years, has now been given a lower priority in the scheme of things, according to business unit manager Johnnie Summerfield. The product's Write, Paint and Draw features have already been ditched and replaced with similar features from Island Graphics, another CP acquisition, and Uniplex has started selling the Island products alongside its existing product range. The company, now down to 150 people after the takeover from its previous level of 320, is officially based in Redwood City, California, but its main office, employing 100 staff, is still in the UK, in Hemel Hempstead, under general manager Patrick Register, formerly managing director of Uniplex Ltd. Worldwide, Uniplex claims 1.5 million users, of whom 60% are in Europe, with the UK accounting for about a third of its total business. Summerfield says the takeover has not made a big difference to the company's culture, but has acted as a spur to employees. Uniplex commands a healthy slice of the Unix office automation market, with more than 50% of the market, but faces the threat of companies moving away from Unix as a general office environment, with the rise of client/server computing, based on Unix servers and PC clients. It is this threat that OnGo was developed to fight, but the present de-emphasis on the OnGo range could leave the company weaker in this area. Its new owners are more interested in Uniplex's X.400 backplane, which it wants to use to make it easier to tie in its existing software range to enterprise-wide networks.

KALAMAZOO LOOKS TO HARDWARE GROWTH

The software and service divisions of Birmingham, Kalamazoo Computer Group Plc, nee Kalamazoo Plc, have been integrated into a single new operation launched last week. The official rationale for bringing together Kalamazoo Software Services Ltd, which bought E T Hi-Tec Ltd in July and the maintenance services unit into the newly-formed, 300-strong Kalamazoo Computer Solutions is that it will satisfy increasing customer demand for one-stop shopping, but the real reason is that Kalamazoo, founded almost 100 years ago by two Quakers, has found many of its major markets, which include the motor trade and printing, are static, and is looking to its computer arm to up the ante, growthwise. The group, which is publicly-quoted, but has 51% of its stock held by a company trust that distributes share dividend payments to staff, is emerging from a rocky few years in which it nearly went bust. Some tough policy decisions, including staff layoffs to bring the headcount down to its present level of 1,300, have pulled the company around. In the 1992/93 financial year it managed to climb back into profit, and last year made a £6.3 million profit on turnover of £61 million. The core of the newly-formed Computer Solutions arm is its business as a Tetra Ltd VAR, which brings in about £25 million a year, but the aim is to grow the division up to a turnover of £40 million by 1996. Over half this growth will come from acquisitions, and the division is sharing a £20 million war chest allocated by the group for acquisitions during the rest of its financial year, to the end of next March. One of the first products on its shopping list is a UK-based open systems accounting system that it will be able to sell at the top end of the Unix market, without conflicting too much with its existing Tetra business, where the bread and butter sales are in the tens, rather than the hundreds of thousands. Kalamazoo says integration is the name of the game at the moment when it comes to accounting systems. The days of stand-alone systems are over and accounts staff want to be able to share the desktop goodies used by everyone else. The company sells most of its current systems running under SCO Unix or HP or Acer Altos hardware, but also has considerable Novell expertise in-house and believes demand will grow for accounting applications running over distributed NetWare systems. It is keeping a close eye on the Novell statements about bringing UnixWare and NetWare together.

MICRO FOCUS ADDRESSES UNIX OBJECT COBOL HOLE - PLANS PRICE LIST OVERHAUL

Micro Focus has addressed one of the main shortcomings of its Object Cobol software, announced at its user conference in May, with the news that it will be releasing a Unix version of the product. The company has been more or less forced into the announcement, with few further product or pricing details yet having been decided, by the level of customer query about whether it would be releasing a Unix-based version of Object Cobol, so far available only under Windows and OS/2 as a 16-bit add-on to the Micro Focus Cobol Workbench. Object Cobol for Unix, when it finally ships next year, will also be something of an add-on product, rather than a leap into a total object environment, since the emphasis of the company's object-based development is firmly on keeping it compatible with the existing Cobol environment. Stuart McGill, marketing manager at Micro Focus, says the bottom line is that there are a lot of Cobol programmers out there and although they, and the companies they work for, want to take advantage of new technologies, particularly Unix-based client/server developments, they also want to leverage their existing experience. So Micro Focus is treating Object Cobol as an extension to Cobol syntax, enabling it to support procedural C dialects. McGill points out that most programming in C++ consists of C++ wrappers, and an awful lot of work is still being done in C. The aim is to provide object capabilities, he says, and enable customers to move into an object environment at their own pace. At the moment, and for some time to come, the mainstay of the Micro Focus product line will continue to be its core Cobol and Cobol Workbench product suites, but by 1997, the company aims to have a fully-blown object-based equivalent of Workbench, with all the surrounding tools and support, and the company, faced with a fall-off in growth in its bread and butter market for mainframe compilers, is now putting a lot of faith in the object market. Object Cobol for Unix will be available initially for the RS/6000 and SCO Unix on Intel hardware, with more details and beta releases out at next May's user conference, and the company says the Unix roll-out after that will depend on what customers want most, but it is already involved in discussions with European suppliers Bull, Siemens Nixdorf and ICL. In the meantime, a big pricing overhaul is due, not just for Object Cobol for Unix, which is highly unlikely to be priced in the same way as the \$40 add-on option of its Windows and OS/2 counterparts, but right across the company's products as they are shifted into the 32-bit environment during the next few months.

BULL UNDERCUTS IBM'S SMP PRICING...

The French unit of Bull has priced its products - the Escala range - to undercut Big Blue's tags by up to 17%. Joined at the hip on the SMP development work, the two have cut loose from each other to produce and market the technology. Bull is pitching a dual-processor mini-tower Escala M201 with 64Mb RAM, 2.2Gb disk and a two-user AIX 4.1 license with a guaranteed PowerPC 604 upgrade at \$37,800, some 17% less than IBM's G30 functional equivalent which comes in at \$45,300. A similarly-configured two-way Escala D201 deskside is \$59,700, against IBM's \$70,500 J30, whilst a rackmount Escala R201 drawer, with the same memory configurations is \$76,000 against IBM's \$84,000 R30. European pricing will reflect the same price differential, Bull says. The company also says it'll offer a greater range of Escala upgrade opportunities from its re-badged RS/6000 DPX/20 line than IBM plans to offer its own RS/6000 base. Bull is depending on its ability to turn its OEM relationships into volume, the build-up of indirect channels and differentiation from IBM, especially in the US market where it is at the same time cutting back in an attempt to regain profitability.

...FUTURE RELATIONSHIP UNDER A CLOUD

Meanwhile, there's a large question mark hung over IBM and Bull's future development plans. As well as supplying dual power CPU boards with external secondary cache, the multiprocessing system bus, Data Crossbar Switch technology and some AIX enhancements to IBM, development of the promised six- and eight-way Pegasus technology isn't yet complete. As well as other AIX tuning, acceptable performance scaling between four and eight processors - said to be dependent largely on AIX optimisation - has yet to be achieved. A four-way delivers around three times the uniprocessor performance eight CPUs reportedly offer only five times uniprocessor performance currently. Bull is also working on Mississippi technology to cluster SMP systems together and a highly-scalable Interconnect Serial Link for use beyond (UX No 506). It's not clear which, if any of these technologies, IBM will adopt or co-develop with Bull. Bull has said it may cooperate on the multiprocessing implementation of IBM's high-availability HACMP/6000, a piece of code said to be critical for commercial users that both will require and already promised for AIX 4.1.1, though not until sometime next year (UX No 508). Now that Bull has its own functional RS/6000 equivalents and an OEM license to AIX, it's also unclear whether it will continue to OEM IBM machines as its DPX/20s. Bull's made it clear that its existing DPX/20s will become obsolete during 1995 as Escalas are introduced. It expects to ship between 4,000 and 5,000 systems next year, according to IDC, similar to this year's DPX/20 shipments. It says it has also made no decision on whether to offer the RS/6000 division's entry-level 40P Power Personal-developed workstation, but has signed for Motorola's low-end PowerStack single-user desktop and server technology. Motorola, meanwhile, is offering Escala at the high-end of its PowerStack line, IBM OEM Wang Labs is offering the SMP technology too.

SOFTWARE AG EMBRACES OBJECTS WITH OO NATURAL...

Software AG, Darmstadt, Germany, plans to build object-oriented products and to incorporate object technologies into its existing products. In the second half of 1995 it'll offer object versions of its Natural 4GL and Engineering WorkBench development environment. OO Natural will be a hybrid language combining existing features and new object functionality. With help from methodology guru Ed Yourdon, Software AG says it's also developed a methodology for using objects in business computing following a two year research and development project. The results - now being applied in OO Natural - will be described in Yourdon's Prentice-Hall title "Mainstream Objects: A Practical Approach for Business", due next quarter.

...ADDS NEW DIMENSION GUI FUNCTIONS

Meantime, in preparation, Software AG has added full event-driven GUI capabilities to its development environment as Natural New Dimension for the creation of reusable GUI application code. It has additionally enhanced support for ODBC, remote database access, RPCs and messaging. It includes MDI Windows support now with VBX to be added next quarter. The company says New Dimensions can use components of existing non-event driven applications. Windows and OS/2 versions ship next month with Unix implementations slated for the first quarter of next year. Natutal 4GL, including New Dimensions costs from \$1,250 for a single Windows license.

IBM PLANS DISTRIBUTED DATABASE TOOLS FOR DB2/6000

From the new year IBM Corp is expected to begin offering its range of distributed data and replication tools for Unix and OS/2 DB2 implementations. Betas programs are already in place or will be by year-end. First seen is a reworked version of the DataHub/6000 DB2-on-RS/6000 database management as DataHub for Unix 1.0 with single-point control, new configuration functions, improved task scheduling and more. Integrated with third party tools it will provide management of Oracle, Informix, Sybase and Ingres databases - plus DB2 on AIX, HP-UX and Solaris, from a workstation. An OS/2 release will allow management of DB2 databases on AIX, OS/2, MVS, VM and OS/400. US newspaper *InfoWorld* also expects a DataJoiner for AIX which, supplied with a single SQL statement, can query relational and non-relational IBM and non-IBM databases. There's also thought to be a new graphical tool for tuning SQL statements for DB2 and DB2/6000, a performance monitor for both, an SNMP agent which will link the databases to network management system tools and a new version of the DataPropagator data replicator that allows data to be copied from DB2 and DB2/6000 to other networked databases - including Oracle and Sybase - when used in conjunction with DataJoiner.

MIPS CLAIMS FLOATING-POINT RECORD WITH R10000

Mips Technologies Inc and its silicon partners NEC Electronics and Toshiba America Electronic Components last week at the Microprocessor Forum touted their new four-way superscalar R10000 chip, formerly code named T5, as the hottest chip coming to market. As expected (UX No 505), the trio claimed simulated benchmarks on the chip produce performance over 300 SPECint92 and a record-setting 600 SPECfp92 at 200Mhz, better than DEC's 21164 at 300Mhz. The chip's new architecture has been dubbed ANDES, short for Architecture with Non-Sequential Dynamic Execution Scheduling. Under this architecture, non-blocking caches keep the processor active while waiting for data. There is also a next-generation bus christened Avalanche that reportedly enables split transactions, letting two or more operations overlap their execution at the same time. Mips says the R10000, which is planned to run in SMP machines, is optimised for database and visualisation performance. With Avalanche, a designer should be able to develop cost-effective MP systems with up to four R10000 chips tied directly together on a single cluster bus. Clusters could be clustered. Mips believes the feature could give rise to a breed of powerful, yet affordable, Unix or Windows NT desktops or desksides, a space Intel Corp's P6 and the PowerPC 620 is also persuing. The R10000 boxes, which Mips says would produce \$10,000-\$20,000 two-way systems, are said to already be under design. Mips also foresees up to several hundred R10000s being closely coupled in configurations to rival mainframes and supercomputers. The six million-transistor chip can apparently fetch four instructions and issue up to five instructions per cycle. It has five independent fully pipelined low-latency execution units. The processor supports large register files and a large on-chip primary cache with 32Kb for instructions and 32Kb for data. There is an on-chip secondary cache controller supporting anywhere from 512Kb to 16Mb of synchronous secondary cache. Both the primary and secondary cache are two-way set associative. It dissipates 30W at 3.3V. Besides Mips' silicon houses, Tandem, Pyramid, Siemens Nixdorf and Mips parent Silicon Graphics reportedly all had a hand in T5's design. Samples of the chip, which will be produced in a 0.5-micron CMOS process, are due in the first half.

IBM "TO BANKROLL APPLE'S REFERENCE PLATFORM WORK"

IBM Corp is now discussing paying Apple Computer Inc "well over \$1,000m" to cover the cost of adapting Mac OS to run on what is likely to be an evolution of the PowerPC Reference Platform, and to pay for a license to offer the Macintosh operating system on its own PowerPC machines, the Wall Street Journal believes. An executive "close to Apple" told the paper that IBM has agreed to provide Apple with cash to offset some of the costs of developing the Macintosh system to run on Reference Platform. The two sides have not yet signed an agreement, but the papers are in the hands of each company's lawyers, executives told the paper.

"FINANCIAL REPORTS"

SUN GETS BACK ON THE FAST-GROWTH TACK UNIT SHIPMENTS SOAR NEARLY 50%

~~Sun Microsystems Inc left its fans rather worried with its year-end figures,~~ for while profits were healthy enough, turnover grew by only 9%, and while a Unisys Corp or a Digital Equipment Corp would be over the moon to see 9% annual growth again, rather more is expected from a thrusting newcomer in a fast-growing market. With the first quarter rising profits up 131% to \$38.4m on turnover that climbed 32.6% at \$1,273.4m - net earnings per share jumped 150% to \$0.40 - things look a lot healthier, with sales up 33% and orders up 35%. First quarter unit shipments soared nearly 50% over year-ago levels, to 74,000 computer systems - but with the steady price attrition, units have to grow quite substantially just to enable you to stand still. "Our strategy is paying off," said Scott McNealy, chairman and chief executive, "We are seeing benefits of our investments in technologies such as multiprocessing and networking." The company plans to continue targeting the corporate networking environment, said McNealy, but down the road, the home entertainment market for video-on-demand and other services will grow. But, meanwhile, "a lot of money will be lost on the information highway over the next few years. We'd just rather not lose there." Sun does have its new Unix video server for companies that want to distribute training films or other data, and while early experiments have been delayed, "sometime down the road it probably makes sense to get into the home arena," McNealy told *Reuters* in a telephone interview. The SunSoft Inc system software unit distributed 82,000 Solaris licences during the quarter. The Mountain View company concludes by warning that "Orders and backlog are subject to customer cancellation with minimal notice and generally without penalty, and are not necessarily indicative of future revenues."

LOSS WORSENS AT DEC, BUT TURNOVER RISES

Digital Equipment Corp's fiscal first quarter figures show just the glimmer of a start of a turnaround, with the erosion of turnover stemmed. But the pre-tax loss before accounting changes was even worse than a year ago at \$190.7m compared with \$099.7m. The company says that revenues from its Alpha AXP systems and from personal computers nearly doubled in the fiscal first quarter, but gross margins were way down on those for a year ago, at 30.2%, compared with 36.1% a year ago. But the 30.2% figure compared with 29.9% in the previous quarter, the fourth quarter of fiscal 1994. The loss of 98 cents a share was better than Wall Street had expected, with the consensus averaging out at \$1.38 a share. Doubling of Alpha AXP revenue may sound impressive, but the machines still account for only 19% of product revenue, which came to \$1,650m in the quarter, up 6.4% on the year-ago figure. Even personal computers, a newly bolted-on activity for DEC, did better, accounting for 22% of product sales, and selling mountains of personal computers is never going to keep the company in the style to which it used to be accustomed. Service revenues were up marginally, at \$1,470m from \$1,450m. Operations achieved order rate growth in all major geographies, including strong growth in Asia-Pacific operations and moderate growth in the US and Europe. The head count was reduced by only about 5%, or 4,000, in the quarter, to 73,800 regular staffers. Sales, general and administrative expenses fell to \$836m in the quarter from \$872m a year ago. Research and development spending fell 9% to \$288m. The company ended the quarter with \$881m in cash, which means that it got through \$300m in the quarter. Cash usage associated with restructuring activities in the quarter was \$235m and covered actions that took place in the fourth quarter of fiscal 1994 and in the current quarter. In the quarter, 57% of product revenue was generated through indirect channels, up from 41% last time.

INTEL PROFITS UP, THOUGH MARGINS SLIP

Intel Corp has reported that third quarter net profits rose 12.8% at \$659m on turnover that rose 27.8% at \$2,863m. Net profit for the nine months rose 12.6% at \$1,916m on turnover up 29.7% to \$8,293m. Net earnings per share rose 14% to \$1.52 in the quarter, 13% to \$4.37 in the nine months. Margins were off 2.7%. The company blamed lower volumes as well as lower average selling prices for some older microprocessors, for the margin slippage, but said sales Pentium chips are robust and that it expects to ship 6m to 7m of them by year-end, or within weeks of year-end, a goal it set half a year ago. It also expects Pentiums to account for 25% of all the chips it ships by the end of the current quarter.

IBM REPORTS STRONG THIRD QUARTER

One key advantage Louis Gerstner has given himself over poor old ~~John Akers is that where Akers still whistled cheerfully under all~~ adversities like a boy scout however bad things got, and suggested that there were good times just around the corner, Gerstner repeats like a mantra "We've got to do better than this," however much things seem to be improving. The result is that every sign of progress in IBM Corp's fortunes is received as a pleasant surprise, and there were plenty of signs of progress in last week's third quarter figures as a sold-out position in mainframes enabled IBM to make prices stick, and Europe began to show real signs of recovery, while the AS 400 put on a spurt that most of the mid-range watchers thought was beyond it. The \$710m net profit for the quarter translates to \$1.18 a share after preference dividends are deducted, where the consensus average on Wall Street was for 94 cents a share. More dramatically, IBM was able to grow turnover 8.6% to \$15,400m compared with figures restated for the sale of the Federal Systems Division. Oddly, the only part of the world where turnover did not rise was Latin America, hardly a powerhouse of growth and volume for IBM at the best of times. Louis Gerstner allowed himself to concede that said the results were particularly gratifying, because in addition to margins stabilising, revenues were rising in most parts of the world, and "Equally important, there is evidence that we are moving into the second phase of the transformation of IBM," Gerstner said, before the mandatory warning "Nevertheless, we are far from our targeted levels of performance."

Exceed supply

European sales were \$5,300m, up 13% from last year, while Asia-Pacific business jumped 16% to \$2,800m as the tigers growled. In the US, things were a lot less rosy, with revenues up just 3% to \$6,000m; Latin America fell 3% to \$700m. Currency had virtually no impact on net results in the quarter, gains being largely offset by currency-related increases in costs and expenses. Gross profit margins continued to stabilise at 39.9%, compared with 39.2% a year ago as the cost-cutting begins to feed through to the bottom line. Hardware sales were up 13% in the quarter and mainframe revenues increased for the first time since the second quarter of 1992 - mainframe demand continued to exceed supply, and shipments increased significantly. The drama was in the AS/400, where the business grew by 25%, but once again, although great things had been expected of the RS/6000 last quarter, the business only "continued to grow significantly". IBM is still finding it hard to translate disk storage technological leadership into healthy sales and profits, and the company says that not only did demand exceed supply for storage products, but storage product revenues actually fell as a result of price cuts. Personal computer revenues increased internationally but the US results remained sluggish - that sounds like a euphemism for "were dismal". IBM Microelectronics is beginning to become a significant player on the world semiconductor stage and its performance was the key reason that OEM sales more than doubled, although no number was put on them. Software revenues increased 4% to \$2,800m and service revenues jumped 27% to \$2,300m. Maintenance fell 1% to \$1,800m and rentals and financing dropped 22% to \$800m; total expenses fell 13%, or \$700m from the third quarter of 1993. The good news was already in the share price, and it traded a few cents either side of the \$75.50 mark.

Mainframe manufacturing

IBM Corp chief financial officer Jerome York turned out to face analysts, saying that the company is planning its 1995 budget with flat gross profit margins and a slight rise in capital spending on the \$2,700m to \$2,800m it will have spent by the end of 1994. IBM is still on target to reduce its expenses by about \$3,500m this year as planned, but will likely not meet its previous goal of cutting staff to reach total employment of 215,000 and will probably end the year about 6,000 to 7,000 short of that goal - it needs more employees than expected in mainframe manufacturing - "It's clear that the demand for the bipolar mainframes is going to extend out at more substantial levels than we thought six to nine months ago," he said, adding that IBM will still end 1994 with a drop in mainframe sales due to tough fourth-quarter comparison.

TOSHIBA'S RIGHT TO FABRICATE POWERPC PARTS IS TIED TO CONDITIONS

Has Motorola Inc given the go-ahead for Toshiba Corp to make its own PowerPC processors? Apparently not. It had been thought that ~~once some red tape had been cut, Toshiba would be free to manufacture PowerPC chips for its own use, but the red tape in question turns out to be very tangled.~~ IBM Corp is saying that Toshiba will only be permitted to manufacture chips once certain conditions have been met. Apparently, all the conditions are confidential. However, an IBM characterises the agreement as purely a matter for Toshiba and IBM, and having nothing to do with Motorola. But, IBM could not even confirm that an agreement is needed between the partners before a third source is licensed. Meanwhile, Motorola is adamant that IBM would have to consult it before it allowed anyone else to make PowerPCs for either the merchant market or internal consumption. The spokesman said Motorola and IBM had spoken about the deal but could not say whether Motorola had given Toshiba - its joint venture partner on 68000s in Japan - its blessing to fabricate PowerPCs.,

ADVANCED RISC SINGLE-CHIP MULTIMEDIA CPU USES ARM CORE

Advanced RISC Machines Ltd's entry for last week's Microprocessor Forum was very hot property indeed: the ARM7500 is an ARM RISC core was integrated with most of the functions required for a television set-top decoder box or a minimum chip count portable computer on a single chip. Prototypes of the part are being used in the Online Media Ltd video-on-demand trial in Cambridge, and it is being fabricated by VLSI Technology Inc. The ARM7500 is rated at up to 30 Dhrystone 2.1 MIPS at 33MHz, has a 4Kb cache, write buffer, memory management unit, video and sound support and input-output. System engineers can specify separate clock rates for all the subsystems. The programmable video circuitry is claimed to drive large screens and produce photographic quality, and also directly drives liquid crystal diode displays. The stereo sound subsystem has 8-bit analogue stereo sound with a digital-to-analogue converter supporting stereo headphones. The four dynamic and two read-only memory banks can be individually programmed as 32- or 16-bit storage. The input-output subsystem will drive multiple peripherals including PS/2 keyboards, mice, joysticks and other such devices; it also directly supports 16-bit PCMCIA devices. It can be clocked at 3V for driving a flat-panel display, when it dissipates just 500mW, and it powers down to idle and stop modes. Samples, in a 240-pin quad flat pack, arrive next quarter.

ENCORE ADDS INFINITY R/T MODEL 380 WITH ALPHA

Fort Lauderdale, Florida-based Encore Computer Corp has added the Infinity R/T Model 380 to its real-time line: the machine couples a 150MHz Alpha AXP RISC Unix processor with a proprietary Encore RSX co-processor, the latter being compatible with the Concept/32 machines that Encore inherited from the old Systems Engineering Laboratories Inc, later Gould Computer Systems. Aimed at energy, range, telemetry and simulation, the Infinity R/T Model 380 reduces board count, operating costs and maintenance costs, while offering better system performance for Concept/32 users. The company did not give any prices for the new machine.

SERVICES LEAD WHILE GOVERNMENT BUSINESS DECLINES AT UNISYS

Unisys Corp third quarter figures showed net profits down 49.0% at \$42.9m on turnover that fell 1.0% at \$1,788.1m, bringing nine-month net down 65.9% at \$152.8m on turnover that fell 6.5% to \$5,276.2m last week. Unisys chairman and chief executive James Unruh said that, despite the plunge in profits, "For the quarter, we were encouraged by a strong increase in commercial orders and revenue, led by Europe and growth in our departmental servers and desktop systems business, along with continued very strong growth from our information services business." However, sales at the government systems division declined, but the company is holding to the objective of growing total revenue in the fourth quarter. The strongest business was information services, which grew 23% in the quarter and 22% for the nine months. Information services is Unisys' single largest business revenue stream with 25% of total revenue.

DICK PICK DIES AT THE AGE OF 56

Dick Pick, maverick creator of what was once called the Pick Operating System but was actually a highly workable database, died last Monday in Newport Beach, California of complications from a stroke suffered on October 6. He was 56-years-old; one of the last of the truly odd-ball ~~characters spawned by the US computer industry.~~ Pick's technology - good as it was - and it made a number of people millionaires - never made it into the mainstream largely because Pick was a lousy businessman, doing such things as letting his wives, who knew nothing about the computer business, run his operation. He also liked to party a bit too much. For the past 15 years that we've covered him, his business has wracked up a number of lawsuits and reorganisations. From time to time, he would decide to sell it, as he was thinking these last few months, then pull back from the brink and recant. Vice president of marketing Brian Stone has been named acting CEO of Pick Systems Inc. We understand his fourth and last wife Zion Pick (along with the Internal Revenue Service) is his sole beneficiary and inherits the business. His three children, all adults, have reportedly been cut out of the will. Dick Pick founded Pick Associates in 1972 after working at TRW Inc as a programmer before joining IBM Corp. The Pick operating system, with its integral database, first appeared as the environment of the Microdata Reality system in 1973, the concept of the integrated database predating IBM Corp's System/38, which evolved into the AS/400, by six years.

OMG FORMS TELECOMMS SIG

The Object Management Group has formed a special interest group to focus on the telecommunications industry. Its aim is to ensure that the standards the Object Group defines take into account the needs of the telecommunications industry, specifically that they satisfy requirements for scalability, performance and real-time and timely operation. The Object Group says the distributed nature of telecommunications systems makes the application of object technology ideal. The interest group will assess suggestions for extensions to the Object Group standards designed to satisfy the needs of the telecommunications market, and will recommend them for adoption where it feels this is appropriate. The interest group will liaise with telecommunications groups, primarily the TINA-C consortium of telecommunications carriers and equipment manufacturers that was formed to standardise the use of object technology in telecommunications systems. Its first meeting will be in December in New Jersey.

ORACLE RALLIES SET-TOP ALLIANCE

Oracle Corp says it has rallied 20 television set-top hardware manufacturers and related technology vendors into an Oracle Set-Top Alliance, which will promote interoperability and speed the delivery of interactive television services to consumers. The company has also set up a certification programme to ensure compatibility of television set-top boxes with Oracle's interactive multimedia software. The company made the announcement at the Innoventions Showcase at Walt Disney Co's Epcot '95 in Orlando, Florida, where an interactive television demonstration is to go on show using a video server based on nCube Inc massively parallel systems. Oracle's interactive multimedia software is currently in use by Bell Atlantic Corp, BellSouth Corp, British Telecommunications Plc, SIP SpA and US West Inc; it reckons that these trialists have potential access to 75m homes, making it the leading provider of software for interactive services. The new alliance is intended to complement the standards efforts under way in other industry associations such as the Digital Audio Visual Council.

TANDEM'S MIPS STRATEGY PAYS OFF

Tandem Computers Inc's strategy of replacing its proprietary machines with Mips Technologies Inc RISC-based models delivering more power at much lower prices seems to be paying off. The company expects to beat analysts' expectations for fourth-quarter revenue and earnings with sales of around \$600m rather than \$575m against \$553.8m a year ago. Tandem founder and chief executive Jim Treybig told Dow Jones & Co it actually sold out of its large computer systems for the first time in its 20-year history during the quarter and orders for high-end computers jumped to 660 processors for the quarter, up 17.6% from 561 in the fiscal third quarter. Orders for the low-end K1000s topped 1,000 processors for the quarter, up 37% on the previous quarter - and early next year the company plans to remake the product line all over again with cheaper, more powerful versions of its Integrity server and its K100, K1000 and K10000 systems. Next summer it'll ship a new mid-range Unix system.

DATAFLEX SERVER OUT IN UK

Data Access UK Limited, Watford, has introduced DataFlex Server Edition, described as a client/server solution for DataFlex 4GL applications. Data Access claims that the product is one of the first to give users the ability to re-deploy dumb terminals as clients, and as a result offer protection to existing hardware in the move to client/server. The initial release is for most Unices and OS/2, while clients currently available include all of the above plus DOS. DataFlex Server includes enhanced integrity, security, scalability and the ability to tailor system resources to fit the requirements of the user. Data Access UK is a subsidiary of Data Access Corp of Miami.

TEXAS SIGNS ARROW'S EURO DISTRIBUTION

Texas Instruments Inc, headquartered in Dallas, Texas, has signed Arrow Electronic Inc's subsidiaries in Scandinavia - Exatec, Denmark; Arrow-THS, Norway; Arrow-THS, Sweden and Arrow-Field, Finland - to distribute all of its semiconductor products. Arrow, based in Melville, New York, now boasts franchises from TI in all West European countries in which it is present. Arrow, which spent last year frantically acquiring European companies, is now turning its attention to the US, with the acquisition of Gates/FA Distributing Inc and San Jose firm Anthem Electronic Inc. When last we heard, Standard & Poor was considering upgrading Arrow's debt rating, saying the addition of Anthem's \$700m-odd in sales, the acquisition of Gates/Fa Distributing gave cause for optimism.

CTP OFFERS FORTE DEVELOPMENT SYSTEM

Cambridge Technology Partners (CTP), Cambridge, Massachusetts, is to provide strategic application development services and consultancy using Oakland, California, based Forte Software's application development environment. Forte is positioning itself as a second generation environment that lets developers use application partitioning to design software independent of hardware and software considerations. The second generation application environment has been long promised, but like the proverbial second coming, has taken time to respond to prayer. Forte argues a second generation application environment will be client/server, high performing, scalable and object-oriented. It needs links to legacy data, support team development and application partitioning. Application partitioning has proved the most difficult to master and is also the key to utilising an organisation's processing capability, the company says. Under it, code is independent of its physical distribution, operating system, window manager and database manager. Code is assigned to the partitions at the very last moment, with the partitions assigned to specific machines and environments and the application generated automatically. CTP is also evaluating software from Forte's rival, Dynasty Technology, Naperville, Illinois.

MOTOROLA'S EMBEDDED RISC SUPPORTS M68000 TOOLS

Motorola Semiconductor Group's High Performance Embedded Systems Division last week outlined a new embedded microprocessor RISC architecture designed it says from the ground-up for applications resulting from the convergence of computers, communications and consumer electronics, ColdFire. The company claims ColdFire combines conventional 32-bit RISC techniques - but executes a single instruction per cycle - with a variable-length instruction set whose operations are defined by 1, 2 or 3 16-bit words. The operations have been implemented using the machine language syntax of Motorola's 680x0-based M68000 embedded technology. As such ColdFire supports development tools already targeted for its embedded M680x0 lines. ColdFire - which Motorola calls a VL RISC - consists of a two-stage instruction fetch pipeline, a two-stage operand execution pipeline and a first in, first out instruction buffer to decouple the two pipelines. The company says using a variable-length RISC instruction set allows it to achieve significant code density advantages over conventional fixed-length RISC processor that restrict machine language instructions to the same size. Each fixed-length instruction has a minimum length (typically 32 bits), so simple instructions take up as much memory space as advanced instructions, resulting in higher memory requirements and larger compiled code, it says. ColdFire's variable-length design, which supports instructions of different lengths, allows code to be packed more efficiently in memory it claims. Product is due next year.

HP ENTERS THE UNINTERRUPTIBLE POWER SUPPLY MARKET

Shares of uninterruptible power supply manufacturers were spooked a couple of weeks ago when word got around that Hewlett-Packard Co was about to enter the business, and the company has now confirmed the worst fears by announcing its entry with systems including proactive power protection with integrated network management. The supplies are designed to offer reliable, manageable and flexible power protection even during disasters or disturbances that cause fluctuations in power, including surges, power cuts or what Americans call brown-outs, when the supply voltage falls below its rated tolerance. With the Hewlett-Packard devices, constant line conditioning provides a server with clean sinewave output that is isolated from any line disturbances, and multiple power levels and add-on battery packs for extended run-times enable the network manager to customise the supply to the network's needs. The standard back-up run time is 10 minutes at full load. The supplies are available in 1000VA and 2100VA configurations and the power-management software works with HP-UX, NetWare, Windows NT, OS/2, Santa Cruz Unix, Solaris and UnixWare. The 1000VA model is the HP C4275A and costs \$1,100 plus \$100 for the power management software, with an optional Simple Network Management Protocol board at \$500; they are available November 1. The 2100VA model, the HP C4276A, is \$1,800, and it is to be available early this winter.

HP ADDS IBM 5080 EMULATION

Remember the old IBM Corp 5080, a vast and expensive graphics display workstation that borrowed a lot from Sanders Associates Inc and plugged into a mainframe, offloading the graphics work so that computer-aided design programs would run at a reasonable speed? Following an agreement with Spectragraphics Corp, San Diego, you will soon be able to have all the functionality of a lumbering 5080 on a nippy little HP 9000 Series 700 workstation. Hewlett-Packard Co has signed Spectragraphics to put its GSE5080 emulator up on the Series 700, which attaches to the IBM host via a communications controller. The GSE5080 will also enable HP 9000 users to view and edit the mainframe CAD/CAM/CAE drawing or model alongside other applications in a multi-window environment. The main applications likely to be used with the system are Cadam, Catia, CAEDS, or in-house-developed packages. The partners reckon that they are looking at a market of 80,000 mainframe-attached terminals worldwide, but did not put a price on the software or say when it would be ready.

VIRTUAL CORPORATIONS TO POPULATE NEW IT WORLD, SAYS JAMES MARTIN

Offering a Nostradamus-like insight into the future, "father of CASE" Dr James Martin predicts an IT revolution which will dwarf the impact of the Industrial Revolution, namely the demise of the ordered hierarchies. Part of this new world will be populated by virtual corporations which will appear quite different in structure to that of its actual real world organisation. If this leaves you scratching your head in puzzlement then look at the practice of outsourcing, Martin recommends, where operations within a company can be outsourced, and are therefore not visible to the outsider. Those best suited to receiving, using and copying ideas and knowledge will be most likely to succeed. Copyright protection will be negligible. Dr Martin, who has been a consultant to the IT and telecommunications industry and governments is lecturing in London in November.

SNI OFFERS OUTSOURCING IN EUROPE

Siemens Nixdorf Informationssysteme AG is to offer network systems support and outsourcing facilities across the UK and Germany - in the UK from a new Systems Resource operation formed under its IT Services Business Unit, based in Bracknell, Berkshire. The service will cover user support, repair and maintenance, system management and system optimisation. Siemens offer a range of platforms and software products from other providers, including 3Com, Cisco and Microsoft - though it's shy of it hardware intent. US and Pacific Rim coverage is mooted.

POWERPC 620 - A LOOK UNDER THE HOOD

Chris Rose, Editor of PowerPC News, reports on last week's Microprocessor Forum conference in San Francisco

If there is one thing that the new PowerPC 620 proves it is that there are other ways to increase the speed of a chip than cramming in more functional units. After all, it only contains the same number of execution units as the 604, yet provides substantial, if not scorching, speed improvements. Factoring out clock-speed differences shows that a 133MHz 604 would get up to SPECint 212.8 and SPECfp 219.5 compared to the PowerPC 620 which is meant to achieve 225 and 300 respectively. SPEC marks are not the only benchmark of course. Time and time again, when the Somerset designers talk about their new baby, they emphasise that it is a processor optimised for commercial, transaction-processing work. They say the 133MHz 620 will deliver twice the TP performance of the 100MHz 604. How? Make no bones about it, a lot of this speed improvement is down to the enlarged cache - twice the size of the 604 and 8-way semi-associative, as opposed to the 604's four-way effort. A fractional improvement is also provided through a slightly faster transistor design. The rest comes through a number of relatively small nips-and-tucks.

To begin at the beginning, the 620 adds a pre-decode stage to the instruction pipeline. The stage categorises instructions as they are pulled from the instruction cache in terms of the resources that they will use: operands required; registers used; etc. The data needed by the pre-decode stage is actually held within an additional 7k bytes of cache. This, together with 1k used for parity information means that the chip's instruction cache is really 40k in size, though only 32k is visible to the outside world. The pre-decode is designed to eliminate an entire stage from the instruction pipeline, reducing the performance if branch prediction screws up and the processor takes a wrong turn. That's only an outside chance however, according to the designers. Motorola's Brad Beavers says that simulations show the 620 will get it right about 90% of the time. The branch prediction capabilities have been improved over the 604 through the simple expedient of bumping up the size of the branch history table from 512 entries to 2048. The BHT predicts the likelihood of any branch being taken from past behaviour. At the same time, the branch target address cache is increased from 64 to 256 entries, so that the chip not only knows whether it should branch or not but also where it should branch to. Speculative execution is also improved; the new chip can run past four unresolved branches, where the 604 could manage just two. Processor stalls have also been reduced somewhat by the addition of extra reservation stations in front of the Load/Store Unit and the Branch processing unit. But other than that, the main functional units look virtually identical.

Cache handling

The one area where the 620 really differs from its predecessor (other than the 64-bit data extensions) is its cache, its memory handling and the system bus. Big data sets and MP should be the 620's forte; in fact Brad Beavers says that they expect to be able to stick six PowerPC 620s into a machine with no additional glue logic. In addition to the bigger on-board L1 cache, the chip also has its L2 cache controller on-board, meaning that an external cache can be added with the minimum of glue logic. The L2 cache can be configured from anywhere between 1MB, and a chunky 128Mb. Address bus capacity is a classic problem with large multiprocessor configurations - each CPU needs to keep an eye on the memory that the other processors are modifying, to avoid clashing or trying to access the same piece of data. Usually this is done through a system of "snoops", querying other processors' caches. The 620 can essentially pipe-line snoop queries and responses so that it can put out new addresses every other cycle without having to wait for responses from the other processors.

NAT SEMI DEVELOPS RISC-CISC HYBRID

National Semiconductor Corp introduced a new RISC instruction set last week. Project "Piranha" looks conceptually similar to Motorola's ACE/Coldfire project - an attempt to combine the best of RISC and CISC models to benefit the embedded market. Piranha is described as a common RISC architecture that can scale from 8-bit to 32-bit implementations. Its brief - to avoid "RISC bloat" - the relatively high amounts of memory which RISC requires to store its programs. NatSemi is working from scratch - it says its core sizes will be significantly smaller than other RISC cores, will require less power and eliminates the complexity attendant with general purpose RISC. On the code size reduction front, Nat Semi has taken the unusual step of allowing variable length instructions - it says that the 32-bit implementation of Piranha has code densities similar to Motorola's 68Kb while the 16bit version produces even tighter code. Variable length instructions do not sound particularly RISCy, but NatSemi says that they are designed with a format that makes them easy for the chip to decode and dispatch. Piranha 16, built in 0.8micron silicon has a core size of just 3 square mm. The 32-bit implementation is 4.5 square mm. That is even smaller than the ARM-7 core. Because of the core's simplicity performance is not blazing - better than ARM-6 and an Intel 386 at 25MHz, but worse than the ARM-7. At 30MHz the 32-bit part manages 43k Drhystones/second; the 16-bit version 33k Drhystones/second. Product announcements will follow next year.

AMD SHOWS PENTIUM KILLER

Advanced Micro Devices unveiled the most impressive threat yet to Intel Corp's Pentium last week, in the shape of its K5 processor. The company claims that the new chip will be around 30% faster than Intel's chip at the same clock speed; however confirmation will be some time coming; Originally the company had hoped to tape the thing out in September. However at the Microprocessor Forum, AMD Director Mike Johnson amended this to "the next couple of days". Of all the x86 processors announced AMD's is the most architecturally interesting, diverging radically from the approach taken by Pentium's designers. At heart the K5 isn't an Intel-compatible chip at all - it is a RISC processor somewhat akin to AMD's superscalar AM29000 chips. However the RISC core and its instruction set (called ROPs - pronounced ar-ops) is hidden from the end user. Instead, x86 instructions are converted into these RISC Operations which are then handled by six parallel execution units: one floating point unit, two integer units, two load/store units and a branch unit. It is an approach similar to NextGen's Nx586, however AMD has included some extra technology at the beginning of the translation process, which the company claims will allow up to four x86 instructions to be despatched concurrently. This is pushing a bit, since only the very simplest x86 instructions will map directly onto an ROP. Still, its impressive, if it works. "Simplest" in this case, equates to instructions such as register-to-register adds. Most operations take two or three. The x86 instruction set like the whole CISC tribe, presents a couple of problems for the designer bent on producing an x86-RISC hybrid. The first big one is that x86 instructions are of a variable length meaning that the processor has to search the instruction byte stream as it comes in from memory or cache, looking for the start of each instruction. AMD uses an innovative approach to overcome this - the x86 instructions are partially decoded as they are pulled into cache. It might be thought that this process would slug the speed at which the processor pulls instructions from memory - but AMD points out that memory accesses are comparatively sluggish anyway, and says that it can hide the time needed to pre-decode within this bigger lag. As instructions are pulled from the cache the processor translates them into the appropriate ROPs which are placed four-per-cycle time into a byte-queue ready for dispatch. The queue will always attempt to dispatch four ROPs irrespective of the instruction boundaries of the original x86 instruction. This leads to the curious situation where the processor can actually be executing, say 1-and-a-bit Intel instructions. The RISC core offers full out-of-order issue and completion, and so it appears that AMD has more or less overcome many of the nasty issues which have previously been thought to hamper parallel execution of variable-length Intel instructions.

Smoke and mirrors

It looks so simple that the average cynical journalist might start looking for the smoke and mirror. Still, no-one stood on their chairs and cried "Foul" at, or after the Forum presentation - and they are the experts. What does remain to be seen is how the processor behaves with real-life code; if it turns out that users' applications are rich in x86 instructions that map onto three ROPs - well, AMD will kiss its claimed 30% advantage over Pentium goodbye. Not surprisingly AMD has been doing its own simulation, and reports that typical 16-bit x86 applications have an instruction mix that works out at 1.9 ROPs per instruction. But the even better news, as far as AMD is concerned, is their belief that 32-bit code brings this down to 1.3 ROPs per instruction. In other words, as 32-bit applications and operating systems become more popular, the K5, should begin to do better in Intel benchmarks. On paper it looks good, however two key things have yet to be seen. Number one is the silicon and number two is the price. Could it be that Intel will actually lose the performance lead in the Intel compatible market? That certainly wouldn't be a pleasant prospect for the world's number one of the desktop. However the company is promising systems based on the P6 by the end of next year - and that is rumoured to have a RISC core. What's the betting that internally, Intel's very own Pentium killer turns out looking rather like AMD's and Nexgen's?

unigram·x

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It doubtless speaks volumes that - in the wake of all the terrible layoffs at **IBM** and **DEC** - there has not been a swat of start-ups launched.

DEC's Argon box, aka the DEC 7000 Model 700 and not PCI-based, will reportedly be upgradable to the PCI/DECchip 21164-based TurboLaser which could appear in Q1.

Tivoli Systems isn't doing too bad. *INC Magazine* rated it the eighth fastest-growing private company in America.

Those strong fiscal fourth quarter figures from **Apple Computer Inc** won't divert the gossips for long, and a suggestion being canvassed is that rather than sell a stake in itself to another company, Apple might expedite its plan to turn itself into a software company by selling its hardware manufacturing and marketing business for cash, with **Motorola** again seen the most suitable buyer.

Hewlett-Packard Co is to close the old workstation manufacturing plant in Exeter, New Hampshire over 18 months. The 400 employed there will be offered transfers to Chelmsford, other plants or to a subcontractor.

Microsoft Corp has denied rumours to our sister publication *Client Server News* that it is funding a project at **NeXT Computer Inc** called Robin Hood that will reportedly see NeXTStep or more probably OpenStep ported to NT. Any number of people including folks at Microsoft believe the project is real though Redmond's G2 thinks NeXT hasn't started yet and that it's at the point of assigning people to it (UX No 503).

Securicor Alarms Division in the UK says it's going with **Sequent Computer Systems Inc** to set up twin clusters of Unix-based Symmetry 5000 machines linked to 10 operations centres equipped with NT-based WinServers. The systems will be deployed over the next 15 months.

Taligent has licensed Look!, a dynamic object-oriented debugger and C++ tool from San Mateo, California-based **OpenObjects** to use in designing and developing its Taligent Application Environment. Look! visualizes system flow at run-time and is expected to catch programming errors and unexpected compiler actions, reducing debugging time.

Start-up **Power Computing Inc** declined comment last week on published reports attributed to **Olivetti** capo Carlo de Benedetti that it would sell PowerPC boards to **IBM**. Olivetti is a minority investor in Power Computing which has yet to show the PowerPC boxes it is building (UX No 509). Meanwhile, Enzo Torresi, instrumental in Power and reputed to be its chairman, has retired from his post as CEO of **NetFrame** which was believed to be interested in Power's boxes. Carlton Amdahl, NetFrame's founder, has stepped into the breach in an acting capacity.

BSD Unix house **Berkeley Software Design Inc**, Colorado Springs, Colorado, is offering a version of its BSD/OS with a bundled Internet gateway server and services for Intel platforms priced at from \$550. +1 719 593 9445

IBM figures it's got 1,200 PowerPC machines out with ISVs right now and maybe a few hundred more with corporate developers. Companies must have more than one machine because IBM has only signed 500 confidential disclosures, meaning neither side will whisper a thing about the other until the time is right. IBM says all the ISVs are working on four software ports - to NT, AIX, Solaris and OS/2 - but that you can't depend on all of the 500, shall we say, coming to fruition because business cases change. The boxes themselves are mostly development-level beta machines. Motorola says it will have 500 boxes out with developers in 30 days.

DEC's second source **Mitsubishi** is supposed to produce a 200MHz 21066 as its first Alpha chip, a frequency **DEC** has yet to announce. According to the Microprocessor Report, it would be worth a SPECint of 85 and a SPECfp of 130, 20% better than the 166MHz though still less on the integer side than a 90MHz Pentium. The Japanese firm will use a 0.5-micron process and a die 26% smaller than **DEC's**. Power dissipation will remain around 20W. The chip will sample in the fourth quarter but not reach volume until the third quarter of next year.

The **Society for Worldwide Interbank Financial Telecommunication** (S.W.I.F.T.) has chosen **Sun Sparcs** to run its first end-user application targeting the securities market and will port its SWIFTAlliance interface to the Solaris platform.

Former **Hewlett-Packard Co** VP and latterly **Octel Communications** CEO Douglas Chance is to head-up embattled **Wyse Technology Inc** as president and CEO, replacing Daniel Wu, who becomes vice chairman.

Hewlett-Packard Co says its first truly 64-bit part, the four-way PA-RISC 8000 will compare favourably with the latest performance marks being set. The part, with 10 execution units, is due in desktop and server systems late 1995 or early 1996 and has nothing, it says, to do with its long-term **Intel Corp** development work. It's yet to unveil its latest PA, the 7200, which is due in systems in the first quarter of 1995 running HP-UX 10.0.

UK top people's bank **Coutts** has bought Nov*ix systems for 1,750 users from NetWare integration supplier **Firefox**. The order is part of a project to migrate away from dumb terminals, linked to the bank's central DEC VAX clusters over a LAT bridged network, to PCs running NetWare linked over a TCP/IP and IPX network. The £100,000 deal is based on seven separate 250-user Nov*ix systems and includes Nov*ix for WorkGroups. Installation starts this month, with the migration project due to be finished by December 1995.

We're given to understand there are other deals for the PowerPC like **Toshiba's** in the pipeline.

IBM Corp is now saying it'll have 300 of its scalable SP2s in the field by year-end; it claims 50% of orders for its Power architecture SP1 and SP2 are commercial wins.

Virginian company **InterCon Systems** is launching three new TCP/IP products at InterOp in Paris this week. InterCon has added to the technology it already sells for Mac and Windows Internet access, based on software from Pipeline. The new products include Pipeline Client for Windows 2.0, Pipeline Client for Mac 1.0 and Pipeline Server for Unix 2.0, available for Sun Solaris, with other versions due out in the first quarter of 1995. InterCon's Pipeline Server for Internet service providers costs \$7,500.

Compagnie des Machines Bull SA says it's getting closer to an agreement with **Novell Inc** for NetWare on its servers (UX No 508).

We can't count: PowerPC 620 has the same number of functional execution units as PowerPC 604 (UX No 509).

Epoch Inc's storage management and backup solutions are now available for **Auspex Systems Inc** NFS network file servers. EpochServer 6.1 server software for NetServers costs from \$15,000.

If it were looking to be acquired, UK PC X server house **Visionware Ltd**, Leeds, says there's no way it would be architecting the kind of long-term plans it's now hatching to evolve beyond core its X server technologies. With 150 staff spread across UK, Menlo Park, California, Bonn and Paris offices - and an Australian unit in the wings - the company plans to reveal strategic new directions at the beginning of next year.

American Software Inc, Atlanta, Georgia, is to offer Larkspur, California-based **Synon Corp's** Synon/2E toolset and Obsydian object development tool in its Supply Chain Management systems for AS/400 and Unix boxes.

Digital Tools of Cupertino, California is setting up a European subsidiary, **Digital Tools Europe BV**, Amsterdam, headed by Phillip Whalen.

IDC is concerned that **SunSoft Inc** still needs to notch up some significant Solaris x86 wins in conjunction with **Intel Corp** partners to convince ISVs and potential partners that it isn't using the iAPX-86 port as bait for hooking users into its Sparc nets. There's apparently a new distribution strategy in the pipeline that's intended to shift the focus from OEM sales to targeting the large distributors and VARs.

Meanwhile the general de-emphasis on single-user desktop Unix will require **IDC** to revise downwards its summer forecast that the Intel-based, single-user Unix market would grow from 108,000 in 1993 to 535,000 ships by 1998.

Sun Microsystems Inc folks agree with our estimations that it should about now, according to its own schedule, be ready to put some flesh on the bones of its five-year, \$500m Sparc development pact with **Fujitsu Ltd** signed back in May (UX No 484). Engineers we spoke to say the company is not quite ready to go with details of the initiative, itself some two-and-a-half years in the making - it's taking longer to get the agreements than the silicon these days, they observe.

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DEC LICENCE TO IBM MACH 3 POINTS TO BROADER MICROKERNEL ALLIANCE

A low-profile licence agreement struck by Digital Equipment Corp and IBM Corp last week involving a real-time microkernel for embedded systems could be the "smoking gun" behind a much wider effort to rally some of the original Open Software Foundation crew around a common microkernel strategy. DEC hasn't licensed IBM Corp's Mach 3.0 microkernel implementation merely to get itself a new real-time embedded operating system as some of its people would have us believe. It's also looking at using the thing to deploy OSF/1 and OpenVMS - and future operating systems - as personalities on the microkernel, IBM-fashion. The Auld Enemy won't say how far it's got putting AIX, OS/2, OS/400, MVS and other personalities on top of Workplace and DEC says anything it's doing in that regard is a long way out, although the two do plan to cooperate on desktop and other next-generation offerings. Insiders say their microkernel accord could ultimately mean that a computer from one would be able to act as a server to the other in heterogeneous environments, with software being portable across the two environments no matter what personality is running on top. DEC has paid IBM an undisclosed amount for its Mach 3 licence and will exchange technology, expertise and engineers with IBM. That's just the tip of the iceberg, because the two say they are already working with other Mach houses, including the OSF Research Institute - whose latest OSF/1 system software is Mach 3-based - to drum up a bunch of common Mach interfaces that developers can work with. A kind of a cousin to the Unix Spec 1170 initiative. They will certainly have fewer APIs to harmonise given that little Mach code is on the street. Taligent Inc, also an IBM Mach 3 licensee, looks likely to join the party - possibles include Convex Computer Corp, whose OSF Mach implementation also runs HP-UX binaries and IBM bedfellow Hitachi Ltd (UX No 488). A less likely nominee is Mach-house NeXT Computer Inc, whose horse is now roped in the Sun Microsystems stable. Hewlett-Packard Co told us in no uncertain terms that it is definitely not involved in any such microkernel effort. Indeed it's already shunned the Taligent OS and sources say it has had a less than useful experience with microkernel technology it has been exposed to. IBM admits that it might not be possible to round up all of the Mach players for the effort and that some may prefer to go down their own paths. Although DEC's sidling up to IBM looks like bad news for SunSoft Inc, which has been trying to get its feet under the Maynard table, it certainly makes sense of Bob Palmer's UniForum call for vendors to stop duplicating kernel efforts to save money. Initially DEC and IBM are building next-generation, Mach 3-based distributed real-time operating systems for Alpha, Intel and PowerPC. Where that leaves DEC's existing real-time, Mach 2.5-based OSF/1 implementation (UX No 477) is unclear - the company says the two are complimentary. The Mach microkernel was developed at Carnegie Mellon University and licensed to amongst others, OSF. It in turn handed a version over to IBM which brought its implementation up to Mach 3 and is adding commercial enhancements. Most of IBM's microkernel work is being done at the Personal Software Products Division - other units are involved for their respective OS personalities. With Carnegie's project over, Mach development now lies with its supporters' ability to create successful products and to pay for a future development strategy.

IBM RISC DIVISION CUTS JOBS TO GET COMPETITIVE

Some darling soul has dropped an authentic Bill Filip internal memorandum into our laps explaining why the IBM RISC System/6000 division is canning 200 people (UX No 510, 509). As you might expect, it's a matter of money. Bill, or rather WJ, as he signs himself, says the division's trying to get profitable in 1995 and "achieve competitive profitability in 1996" - which is described later as results equal to or better than leading competitors - for which read HP, Sun and Microsoft. The division has done a boatload of things in '94 to grow revenue, reducing spending rates and improve bottom line profits, such as reducing vendor spending, consolidating space, reducing workstation assets, eliminating expenses associated with service obtained from other IBM units, improving distribution costs, transferring staff to Workplace, improving product cost structures and reducing worldwide sales expenditures. But still 200 people will have to go. You see, WJ has an aggressive plan to grow 1995 revenues at twice the rate of the industry which, when combined with what's already been done, should position the business to "achieve 88% of the profit improvement necessary to meet [its] 1995 plan." For 1996 to be the way WJ - and no doubt LG - aka Lou Gerstner - wants, it will take continued focus on reducing both development and sales expenses as a percent of total revenue. IBM originally consolidated its Advanced Workstation and Programming divisions at Austin, Texas in 1989. There was talk around that time of the division being profitable within three years.

AT&T SETS LONG OVERDUE 3700 PIECES FROM MID-1995

There's mixed news this week for users of the parallel architectures AT&T Co inherited with its acquisition of NCR Corp, which form the high-end of the company's latest packaged solutions (see page 3). AT&T Global Information Solutions VP Andre Dahan told Unigram.X that next-generation BYnet parallel interconnect technology for hooking hundreds or thousands of processor units together, the basis of the long-overdue System 3700, will be fully operational by June of next year but it'll be the end of 1995 at least before it's integrated into boxes. Users of the commercially successful Teradata DBC/1012 back-end database engine bought by NCR in 1992, as well as users of NCR's own moderately parallel System 3600 were originally promised a migration route up to an all-new Teradata-based 3700. Instead of fork-lifting users up to a 3700 platform, AT&T GIS instead positioned 3700 technologies as a series of 3600 enhancements and began closing the Teradata door (UX No 462). New parallel customers are steered to 3600s. Dahan says the 3700 will feature one kind of node architecture, the same Intel-based technology found up and down its System 3000 line and will operate with existing, and new configurations of nodes that will be announced at the same time. DBC/1012 nodes will be history, but the Teradata database will continue to be supported. From December 1st AT&T will put it up on Unix-based 3500 SMP boxes lower down the 3000 line. The latest Enterprise Information Factory solutions - see page 2 - and the 3700 will, according to Dahan, be offered with Windows NT. AT&T claims 450 parallel installs at 250 sites. Higher speed versions of the existing Ynet interconnect, Teradata database Release 1.5.1, Pentium Access Module Processors, 3.5" disk storage technology and more are still anticipated as 3600 Release 3 next year, followed by Teradata 1.6, Oracle 8.0 and ATM as 3600 release 4 thereafter. It sees parallel implementations of Oracle, Informix, Sybase and Teradata across SMP and MPP lines, but not, ominously, Ingres.

Inside

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Market Roundup

Borland International Inc's InterBase 4.0 is going to be close to a year-and-a-half late - if it makes it by the end of this year.

Iconix Software Engineering Inc. Santa Monica, California, has put five of its object-oriented PowerTools up on Unix - **ObjectModeler**, **FastTask**, **DataModeler**, **QuickChart** and **AdaFlow** - the other five will follow in the next few months. No prices. +1 310 458 0092.

Herndon, Virginia-based **Template Software Inc's** Snap development system for re-architecting conventional applications to take advantage of multiple parallel processors, is up on IBM Corp's parallel SP2 priced from \$10,000 with run times at around \$1,000 per user in a 50 user system.

Cygnus Support has a new GUI for its GNU Debugger for native Unix and cross-platform Windows development. Somerville, Massachusetts-based Cygnus is offering the GUI as a sourceware solution allowing users to extend or modify it as required without paying licence fees. The Unix version is due on January 1 1995 - Windows on April 2.

IMC, Edison, New Jersey, has developed versions of its Tuxedo OLTP implementation and MVS-to-Unix gateway tools for **Pyramid**, which is offering them on its Mips-based servers as the Enterprise Transaction Processing System and Open TransPort tools respectively - collectively as Distributed Transaction Processing.

London MPP company **Parsys Ltd** has added **Altech Computers Ltd**, Glenisla, Perthshire, as its Middle East distributor. +44 575 582 219

MTI, Anaheim, California, is offering a StingRay dedicated NFS file server for Unix users at from \$39,000 with 64Mb RAM and 15Gb disk; the company claims a 5ms response time. +1 714 970 0300

Interactive Software Engineering Inc., Santa Barbara, California, is shipping IEF Eiffel 3 for NextStep from \$1,000. +1 805 685 1006

Manchester, New Hampshire firm **CODA** will offer version 2.1 of its accounting package for HP, IBM and Sun Unix and VAXes with most relational databases next month from \$35,000 - DEC/Alpha, Unisys and 486 versions will follow. +1 603 647 9600

Los Gatos, California-based **Red Brick Systems Inc's** data warehouse is shipping on DEC OSF/1 priced at from \$20,000.

CP Software Group has put IslandOffice Write, Draw & Paint, IslandPresents and IslandCalc up on AIX 3.2.5 at from \$1,700.

Datalogix Inc., Valhalla, New York, is offering version 5.0 of its Cimpro manufacturing software with a new GUI, "what if" scenarios, sales decision, multi-currency, multi-bank and tax support. +914 747 2900.

Hitachi Data Systems Ltd Europe has created an open systems porting centre at its European HQ in Slough, Berkshire.

Insignia Solutions Inc has changed its roster again; John Chang is now VP product marketing.

Sonic Solutions Inc., San Rafael, California, is offering version 1.4 of its MediaNet NuBus cards to publishers and the prepress for performing 2Mbps file transfer between Macs and Unix servers. +1 415 513

PeopleSoft Inc., Walnut Creek, California is putting its financial and personnel software on Unisys' SMP servers under Oracle.

Netherlands graphics house **Electrogig BV**, Amsterdam, is now open for business in San Francisco has added New York and Los Angeles offices and plans a Boston outlet. It's signed 30-odd distributors across the US for its 3D solid modeling, and visualisation software which runs on SGI and Sun workstations including. +1 415 775 9872

Beame & Whiteside Software Inc., Raleigh, North Carolina, is to offer Solaris-to-NetWare connectivity as BW-MultiConnect for Solaris in client or server versions, including an IPX/SPX for Solaris, from December, providing NetWare users with access to services running on Sun servers. NetWare users can also still add B&W's NFS and TCP/IP connectivity software. Clients are \$500 per user, server versions are priced from \$500 for 10 users to \$9,700 for unlimited users.

TIMES UP FOR UNIX

Cambridge, UK-based Net Connect has released a Unix-compatible version of its computer time management system, Time-Base/NLM. The company, which started selling the Novell Netware-based system three months ago, is hoping that it will solve the problem of time degradation on servers in large networks. According to Steven Bacon, a director of the company, existing servers often use battery backed clocks which are irregular, meaning that computer-based time is often out of sync in a networked environment. TimeBaseNLM is a piece of Novell Netware code which connects to a hardware device made by Infotec. The device has an antenna which picks up signals from the National Physics Laboratory in Rugby. The laboratory has an atomic clock. The antenna can be placed externally in buildings to avoid electrical interference, the company says. Updating the time every three days, the product provides servers with a threshold of three seconds - any time lapse beyond this will kick TimeBase into action to update the product. Bacon says that the product will be useful for mission critical applications because it will help to ensure the validity of date when it is accessed according to its timestamp. It can also bring cosmetic benefits, he adds - without it, disparate time readings on different servers could mean that an E-mail could be positioned on a system after a reply had been sent in chronological terms. Time-Base/NLM with Unix connectivity will still run on Netware, but will connect into Unix servers. The new version will be released in January. The software costs £695 and the hardware costs £359.

INFONET AND HP UNVEIL MESSAGING SYSTEM

Infonet Software Solutions and Hewlett-Packard Co have announced a plan to integrate the HP OpenMail messaging systems and Infonet's Messenger 400, the firm's X.400-based store-and-forward server software. The resulting products are intended to provide connection for users of popular messaging products such as Microsoft's Mail, Lotus Development's cc:Mail and Lotus Notes in a single product. Users will have the choice of electronic mail clients that OpenMail enables and the mail transfer services of Messenger 400. New features are said to include advanced routing, standards-based directory services, scalability to support thousands of mailboxes and the ability to select the most suitable electronic mail combination interface and mail-enabled groupware applications. Infonet also plans to convert Messenger 400 for HP 9000 Series 800 Unix servers.

BOOLE & BABBAGE HAS ENSIGN UNIX ADMIN

Boole & Babbage Inc, San Jose, California, is offering first fruits of its Oslo-based Sysnet Corp acquisition earlier this year as a new set of Unix administration and management tools called Ensign which it claims consolidates all of an administrators' everyday tasks into one toolset. Ensign includes a multi-user central manager (now in beta), an alarm manager (already available) and an enhanced version of the existing single-user local manager. Ensign uses software agents on the managed systems to retrieve status data. B&B claims Ensign can be installed in an hour and requires no additional framework to function. Ensign supports HP-UX, SunOS, Solaris, AIX and SCO.

O2 OBJECT INTERFACE TO EIFFEL

Tower Technology Inc, Austin, Texas, and Paris-based O2 Technology SA have developed an interface between Tower's Eiffel programming language implementation and the O2 database, and Tower is to market the O2 database and interface to its Eiffel users worldwide. The interface, which is a set of Eiffel classes and tools that provide persistent storage of Eiffel objects, bundled with the database, costs \$4,000 on SunOS, Solaris, HP-UX and NextStep platforms.

ZZYX OFFERS FILE SYSTEMS SHADOWING

San Diego, California integrator Zzyzx is offering what it describes as a file system shadowing product which periodically takes shots of a Sparc workstation's file system, allowing users to return to a previous version of a file for reading or writing. ZShadow, which captures files as differences between versions only, can be used in conjunction with RAID and tape backups, the company says. Any number of watchpoints can be maintained, transparently recording differences in files and saving them on to a partitioned section of a hard drive. Zzyzx says 100Mb is generally sufficient for average system usage. Up on SunOS and Solaris now and on HP-UX, AIX and Windows NT in 1995, desktop versions are \$700 - server software starts at \$1,200. +1 619 558 7800.

AT&T GIS REORGANISES

We understand that AT&T GIS has reorganised and, has apparently for economy's sake, trimmed the five marketing initiatives it set up earlier this year (UX No 484), to two. The move will cost it Inter-Enterprises, Customer Transacting and its NT-only WorkGroup Computing Group leaving it with Business Critical Computing (BCC) and the Enterprise Information Factory (EIF). The company has also folded three of its product marketing groups, networks, systems and software, into one systems group under Nancy Goguen and set up a new software and business planning unit under Kathy Anderson. In this phase of the reorganisation, it has also folded its formerly free-standing NT Server Marketing operation into a broader-based server thrust that embraces NetWare, UnixWare, middleware and perhaps databases and other applications though this is still unclear. Insiders, though unsettled by the move and predicting it will last only nine months, claim AT&T's NT thrust will not suffer, indeed its success to date is being used as the model for other operations in an effort to duplicate its achievements. That is why responsibility for UnixWare, NetWare and middleware are moving under Jack Steeg, who ran NT Server Marketing. However, it remains to be seen whether enough hands are seconded into the refashioned unit to make it viable. Consolidating systems, networks and software is supposed to make selling a less piecemeal, more solutions-oriented effort. Apparently supporters of the highly promising Workgroup Computing Group, which was to do LAN consolidation and application servers, took more than one run at trying to save it.

ELLISON SUED OVER NCUBE FIRING BY FORMER EMPLOYEE

Oracle Corp founder and chief executive Larry Ellison is the target of an embarrassing lawsuit by former marketing executive Terry Garnett, who accuses the company of unfairly firing him two months ago, the *Wall Street Journal* reports. The suit inter alia charges that Ellison has used Oracle's resources to benefit nCube Corp, the parallel processor builder almost wholly owned by Ellison. Garnett's lawsuit charges that he was fired for not carrying out orders from Ellison that represented a conflict of interest between Ellison and Oracle. Oracle general counsel Raymond Ocampo told the paper "It sounds as if Mr Garnett is making facetious allegations to leverage what is a simple breach-of contract action." Garnett alleges that Ellison told him to form a division for parallel computers that would run Oracle software better on nCube computers than on competitors' machines, and that he ordered Garnett to form a home shopping company that would use Oracle software on nCube computers and would be co-owned by Garnett and Ellison, all without Oracle board approval. Garnett is seeking over \$30m compensatory, plus punitive damages against Oracle and Ellison.

NOW MOTOROLA IS TIPPED AS BULL BACKER

Motorola Inc is the latest corporate partner tipped to take a big stake in Compagnie des Machines Bull SA, according to *Les Echos*, which says the other candidates are evergreen NEC Corp, which according to reports from Tokyo is much less keen to increase its stake than the French seem to think, and local firm Compagnie des Signaux SA - which quickly responded by saying that it had "no interest whatever"; the paper believes that NEC, with 4.4% now, could see its stake rise to between 15% and 17%; and in a move that looks likely to put any serious investor off completely and leave the state with little option but to close the company down.

EX-MAINFRAMER HOMES IN ON HP AND SUN

Maynard, Massachusetts-based IPL Systems Inc, one-time IBM Corp plug-compatible mainframe manufacturer, latterly a maker of add-on memory and disk subsystems for IBM machines, is moving beyond the IBM world at last with disk subsystems for HP and Sun machines: it is offering the ESP RAIDTower, available in rack and desk-side packages; prices go from \$10,000 for a base configuration to \$50,000 for a fully configured system; read cache goes to 512Mb, write cache to 4Mb and disk capacity goes to 25Gb.

UNIFY HAS SECOND VISION

The process of transforming itself into a tools company now in full flight, Unify Corp will this week pitch itself into the market for so-called second generation application development environments, unveiling a new release of its Vision 4GL. The second release of the environment isn't actually called version 2.0, as the Sacramento, California-based company says this and all future releases will essentially be enhancements to the base technology and will be offered free of charge to existing licencees, of which it claims some 3,000 at 200 customer sites with, it says a dozen second generation applications actually in use. With Vision 4GL 2 (as it's recognised internally), Unify will go up against the likes of Forte Software Inc and Dynasty Technology Inc, the only solutions that in its eyes can legitimately claim to provide a full range of second generation application development technologies such as scaling to large numbers of users, distributing parts of the application to different nodes for processing, modularity, object-oriented, support for management tools as well as development and cross-platform support. Unify says its new release, which comes almost a year after its initial offering, includes what it describes as a scalable rapid application development and deployment environment (RADD). The RADD includes built-in application and transaction models as well as an object programming environment. Partitioning and network communication is configured by a single tool, and application processing happens transparently once these have been applied. Unify says a single copy of an application created under Vision on a network can be used by attached Unix, Windows and Macintosh clients without recompiling code. It comes with its own repository, and Open API's for developers, APIs which are open to ISVs for development. It runs in conjunction with the full range of databases and uses Unify's own federated naming service messaging API, with support promised for Tuxedo by mid-1995, DCE, CICS and Encina thereafter. It's also talking to Tivoli Systems Inc about support for Vision objects under Tivoli's distributed management applications. It uses Intersolv and PVCS for version control and is talking to other players. Privately-held Unify did some \$13.5m license revenues to Unix versions of its U2000 database last year (down 10% on 1992) a 1.4% market share, \$16.5m on tools (up 37.5%) with a 3.1% market share, and \$10m on other licences, according to IDC. Vision 2 will ship next quarter from \$5,000 for a single development licence. A \$25,000 pack includes 5 development and 10 deployment licences.

DEC PCI SERVERS AND STATIONS ARE OUT THIS WEEK

DEC is officially remaining tight-lipped about its PCI workstation and server launch due on Thursday this week, but over the past few issues we've covered just about everything. And last week's issue of our sister paper *Client-Server News* filled in the gaps with the name of the three new workstations and four new servers. To recap, that makes the whole range as follows. On the server side is the entry-level uniprocessor 1000 4/200, and dual-processor 2000 4/200; then comes the existing Sable machine renamed as the 2100, followed by the 2100 4/275 in two types of cabinet, and finally the 7000-700 'Argon' (UX No 506). On the workstation side the low-end 3000-300 X and LX, launched in February, are still selling and will remain the entry-level systems. Above them are the three new 200 4/166, 200 4/233 desktops and 400 4/233 minitower. All use the 21064 Alpha or the "shrunken" 275MHz 21064A. The high-end DEC Argon is the expected mid-year performance tweak long-promised for the 7000 Series to up to six 275MHz Alpha 21064A chips, though it keeps to the old naming conventions until the future 12-way system moves over from the current (and inappropriately named) FutureBus to PCI (UX No 483, 506). Intel-based additions to the line, including perhaps a server running NT and SCO Unix, once expected to be unveiled simultaneously with the new Alpha systems, may have to wait for an extra week or so. And DEC is expected to revamp its distribution strategy away from named accounts towards its third party partners, under the umbrella of Enrico Pesatori's new worldwide Systems Business Unit.

UNIBOL TO MARRY THE AS/400 WITH UNIX WORLD UNIBOL 400 ENVIRONMENT

By David Johnson

Unibol Ltd, of Newtonabbey, Northern Ireland, has launched Unibol 400, a native AS/400 environment under Unix, which enables users to transfer tried and tested OS/400 applications over to Unix and developers to offer OS/400 enterprise-wide mission-critical applications to a much wider audience. Previewed back in May, (UX No 486) Unibol 400 has taken over three years, a team of 23 developers and over £1m to develop, all financed from internal revenues generated from the company's predecessor product, Unibol 36. Although the concept of Unibol 400 is the same as the 36 product, Unibol is at pains to stress that no source code has been replicated. Whereas Unibol 36 was primarily aimed at companies migrating applications from legacy System 36 machines to Unix, Unibol 400 is aimed more at software developers. Unibol hopes that developers will use Unibol 400 to move their applications to open systems and in the future to Windows NT and Novell NetWare. There are plenty of other companies promising this particular grail, such as Synon Corp, Uniface BV, California Software Products International Inc with the Baby 400 AS/400 applications running on personal computers, Konverter and PKS with a suite of conversion tools that go via Cobol to run on Unix.

Dismissive

In terms of Synon, Unibol is dismissive. According to Ian Graham, vice-president of sales and marketing, it is straightforward to translate an application developed purely in Synon to C or RPG. However very few people have pure Synon applications; most applications are about 80% Synon, the rest in another language. Re-engineering the 20% is a real headache, requiring re-engineering back up to the software engineering environment and back down to Synon. And this, Graham says, "contravenes the law on entropy" - you can't get a pig from sausages! The attraction of Unibol 400 is that AS/400 applications running under Unix can exploit the added functionality of the AS/400 - the superior systems management, error reporting and monitoring, job interrupting and a track record for enterprise-wide mission-critical applications. Unibol 400 brings the whole foundation set of libraries from the AS/400 into Unix while remaining 100% native Unix, extending Unix as a commercial and development environment. It could also give existing AS/400s a new lease of life and Unibol has hinted about developing a reverse engineering product from Unix back to AS/400, an attractive proposition for IBM Corp, which is struggling to get Unix software vendors to move their applications to the AS/400. However Unibol's primary target is AS/400 application developers. For AS/400 application users and companies that have developed their own applications or customised others, Unibol enables them to extend the lifetime of their tried and tested legacy applications by migrating them to Unix and to do it cheaply. Until now this has been so daunting a task that reputedly IBM was unable to persuade E3 of Atlanta, Georgia to convert its applications from OS/400 to Unix for \$2.0m.

Tenth of the price

E3 is now doing it through Unibol for a tenth of the price. According to Graham, Unibol 400 is "a vehicle by which developers of AS/400 applications can provide applications on different platforms", opening up another sales path, as "they feel the breath of open system competition". For developers it removes the hardware from the sales pitch, as they "no longer have to trot out an argument about the relative merits of different hardware". It will also enable application developers to "put a tick in the box" as an open systems developer - demanded by many local government departments, even for AS/400 applications, because in spite of anything IBM says or does the AS/400 "will never be perceived by the market as being open", according to Graham. However Unibol admits that although converting an application is a simple matter of recompiling, creating a full-strength Unix application will take considerably longer.

Partners in the beta test

Partners in the beta test stage have included Artesia Data Systems Inc of Dallas, Texas, L'Oreal and CSI Ltd of Leeds, in the UK. Artesia supplies AS/400 software to manage oil and gas companies' accounting, production, gas marketing and land data processing needs and Unibol offers such niche developers a path to open systems in their vertical market. However, Unibol admits it has 'missed the boat' for large developers such as J D Edwards, System Software Associates Inc and JBA Holdings Plc, who realised early that an offering only on the AS/400 was restricting expansion and were forced to find a way to move their applications from AS/400 to Unix. To encourage AS/400 developers to see how easy conversion can be, Siemens Nixdorf Informationsysteme AG, a Unibol partner and distributor, is offering the free loan of its Unix hardware and software plus a two-day free training session. Commodities hardware vendors are acutely aware that increasingly their machines are merely commodities and it's the applications that matter. By actively encouraging Unibol to run Unibol 400 on its kit and initiating the free loan scheme, Siemens Nixdorf hopes to set itself apart in the crowded Unix market. Unibol has chosen Siemens Nixdorf's RM series and IBM Corp's RS/6000 as its initial Unix machines and plans to add one other, almost certainly Hewlett-Packard Co's HP-UX, though others remain in contention. However Unibol wants to run on as few systems as possible because each new release of a Unix requires extensive and expensive validation and support. The pricing for Unibol 400 on the Siemens Nixdorf range for the run-time system is around £500 for the RM200 including two users; £4,000 for the RM400 with four users; £9,000 for the RM600 with eight users. Each additional user will cost £280. Each compiler for the RM200 will cost £1,500 per processor; for the RM400 £4,000 per processor; for the RM600 £8,000. Unibol's target is to have 2,000 licences with software houses in the next two years. A controlled release will be made in January, but already the applications of Unibol's partners are being successfully translated and run.

ORACLE "WANTED APPLE"

That lawsuit against Larry Ellison and Oracle Corp from a disaffected former employee (see page 3), is turning up some fascinating stuff and it is now suggested that Oracle came near to seeking to buy Apple Computer Inc. According to the *Wall Street Journal*, Ellison, founder and chief executive of Oracle, consulted disgraced junk bond king Michael Milken on how to acquire Apple this spring, after the Oracle board approved the idea of going after Apple. The bid never came, and Oracle won't say why, but the suit suggests Ellison became interested in buying Apple for himself and taking it private.

IBM CORP TO MAKE 604 POWER MAC IN 95?

In mid-1995 *MacWeek* expects IBM Corp to start building and selling a high-end Macintosh based on the PowerPC 604 processor with six slot Peripheral Component Interconnect bus - to the Apple specification that has been talked of as Tsunami - a code name borrowed from Sun Microsystems Inc. Apple is thought to be willing to hand this machine over to IBM because it is desperate to get the Power Macs into major accounts, and its own direct sales force is simply too small to make an impact while IBM selling a machine that doesn't bear the name Apple is seen as a means of defusing anti-Macintosh corporate prejudice.

DEC DELIVERS OSF DCE VIA INTERNET

Digital Equipment Corp (DEC), has come up trumps, delivering on its promise to make available key components of the Open Software Foundation's (OSF), Distributed Development Environment (DCE) by providing the location address of the key communications and application development components. Both the DCE remote procedure called (RPC) and the interface definition language (IDL) compiler are available via the Internet. Access to the key components of DCE are royalty free and open. The DCE provides the communications infrastructure for building distributed applications which communicate with other DCE applications. IDL is used to generate client and server application components, needed for applications to run in the DCE environment. All this promises application portability and interoperability across heterogeneous platforms. Source files are available via internet anonymous ftp from Digital at: <ftp.digital.com/pub/DEC/DCE/PD-DCE-RPC.tar.Z>.

CA PROMISES AN OPENINGRES 1.1 RELEASE ON ONE PLATFORM BY YEAR-END

by William Fellows

While other relational database players have been trying to eat its lunch, ~~Computer Associates Inc has been trying to put the debate~~ of its May acquisition of ASK Group and in particular the Ingres database behind it. Where the database and associated toolset is concerned, the biggest litmus test of how the exodus of Ingres staff has affected the operation will be whether it can deliver on its promise of getting what's now called CA-OpenIngres 1.1 out of the door in December. Quite apart from the acrimonious takeover there were understood to be all kinds of technical problems casting shadows over the likelihood of delivering promised functionality and getting new files up to the new release even before the acquisition. CA's director of Open Systems, Alan Paller, is confident however that a 1.1 implementation will indeed ship in a generally available form on a single platform by the end of the year. Betas are currently up on SunOS, Solaris, HP-UX, AIX, OpenVMS, DG/UX and a couple of others. Paller says the HP, IBM and Sun porting teams are vying to provide the first general release. ICL, SCO, UnixWare, OS/2, Windows NT, AT&T, Sequent and Pyramid versions will beta during the first quarter of next year - Paller promises all versions will be out by the end of the first half of 1995.

New Technologies

New technologies in 1.1 include peer-to-peer data replication, an Object Management Extension for CORBA compliance, and enterprise access capabilities - specifically the ability to access data stored in CA's IDMS and Datacom mainframe databases in use at some 4,000 organisations from X-Windows or Windows - the other native drivers and two-way gateways to the likes of Allbase, the Oracle and Sybase databases. In this way CA hopes to position Ingres database and tools, traditionally held to be the most technology-oriented of the relational solutions, as more of a mainstream marketing and business engine. CA is currently working on two additional technology sets which will feature in CA-OpenIngres 2.0, due to follow 1.1 by 12 months. Pointing to 160 newly-hired Ingres technical support staff on-board since last week - bringing its total to 200 - a new third party programme due to kick off on November 19th and a \$5m US ad campaign, Paller believes Ingres is now back on the majority of organisations' database supplier lists. Ingres already ships as the database component of IBM NetView for AIX and HP OpenView network management systems - CA will incorporate Ingres into its CA-Unicenter systems management suite. CA says it's now got about as many database development engineers as Ingres had under ASK - around 150 - but claims there will be 50% more by year-end. The majority of development work happens at CA's Islandia, New York headquarters; there's some security and other projects underway at Ingres' UK unit, whilst the OpenRoad tools are still out at the ASK/Ingres Alameda, California site. Some Ingres projects that CA inherited, such as improving the performance of the Windows client and overall database performance, have been completed more quickly under the new ownership because of skills CA already possessed in the areas of Windows communications and high-end and database locking techniques, the company claims.

Thumbs-up

Ingres touts Forrester Research Inc's latest software report of database vendors as dataweb suppliers, which nods to CA as the only vendor shipping update-anywhere replication, good gateways and remote management and admin through CA-Unicenter. Oracle gets a similar thumbs-up for its good replication and announced update-anywhere, gateways and strong remote administration and management. Likewise Sybase for its replication - though no update-anywhere - gateways and Tivoli-based management. Informix, which in its eyes has limited replication, unintegrated gateways and Tivoli management, gets a much lower ranking, along with IBM is limited replication (but strong plans), limited gateways and DataHaub and NetView/6000 admin and management. Finally Microsoft has limited replication, unintegrated gateways, only NT remote management but good administration.

HP ADDS VISUALWORKS 2.0 AS DISTRIBUTED SMALLTALK 4.0

Keeping in step with SmallTalk-only house ParcPlace Systems Inc, Palo Alto, California, Hewlett-Packard Co has announced its implementation of the company's ~~VisualWorks 2.0 development environment~~ as Distributed SmallTalk 4.0. HP, which only recently upgraded to a Distributed SmallTalk 3.0 release based upon VisualWorks 1.0 (UX No 497), says the latest release provides the ability to develop applications for HP-UX, Solaris, SunOS and AIX, as well as for the first time upon Windows NT, Windows 3.1 and OS/2 2.1. Distributed SmallTalk 4.0 generates code which can be deployed using HP's object request broker and includes the company's Corba implementation. ParcPlace's VisualWorks 2.0 includes an ObjectLens for creating separate client and server components of an application which HP says allows developers to create an application on one of the supported platforms and recompile it for another. Distributed SmallTalk is VisualWorks plus a set of Corba ORB class libraries, messaging, libraries for other Object Management Group services - and eight service areas not yet covered by OMG standards - example code and applications HP has layered on top. Users need a transport package for Windows 3.1 (Novell LAN Workplace for DOS has been tested) and OS/2 (IBM TCP/IP 2.0 for OS/2). Distributed SmallTalk 4.0 is out on December 1. A single-user PC version is from \$3,000 - \$6,500 with VisualWorks SmallTalk bundled. A Unix version is from \$5,000 - \$10,500 bundled with SmallTalk. Every five Distributed SmallTalk licenses buys one free copy of VisualWorks. By the end of the year SmallTalk 4.0 will also support Object Technology International group's Envy/Developer management tool providing versioning and configuration services for SmallTalk code and IDL, with repository and development sharing through the Envy/Developer repository.

RIGHTSIZING CONSULTANCY START-UP WINS SUN, HP

Three former Oracle Consulting principals have formed a new consultancy called the Rightsizing Group to help Fortune 500 companies with very large databases in excess of 50Gb move from mainframes to open systems. The new firm, quietly started in June in San Mateo, California, is already working with SunSoft Inc on developing a hush-hush upsizing product involving LAN consolidation and the City College of San Francisco. It is also working to backstop HP Professional Services and Sun Integration Services with its database expertise. The company, which is funded by private investors and is already profitable, believes that in time it can do in excess of \$100 million a year. It intends to grow from its current staff of eight, opening offices in New York, Washington, DC, Atlanta and Dallas as well as either France or Germany and China. Each office will house 20 architects capable of defining a Fortune 500's needs as to hardware, software, networking, people, procedure, policy and infrastructure dividing the work into the planning phase, design phase, creation phase and the final roll out phase. Architectural projects can run anywhere from \$25,000 to \$180,000 to begin, according to Rightsizing president James Kao who started the Rightsizing Consulting Practice within Oracle Consulting's Advanced Technologies Group which in its first year of business reportedly did \$4 million. He is joined by chief technology officer Mark Hwang, who filled the same role in Oracle's Rightsizing Practice and enterprise systems architect Alex Kim, one of the founding members of Oracle's Unix product Line Division. The company currently has both Oracle and Informix expertise and is looking to add Sybase.

KUBOTA SCALES BACK COMPUTER ARM

Diversification into computers has been a big disappointment to Kubota Corp. Earlier this year, it ended its ties with DEC and withdrew from Europe, and last week it announced plans to scale back its computer-related activities further, by largely withdrawing from the hardware business and putting more emphasis on software, saying it thought it would lose even more money if it continued its hardware activities. The Kubota Graphics Corp subsidiary in California will be disbanded at the end of the year at a cost of some \$150m in write-offs. It will reduce its operations at Kubota Computer Inc, its Japanese unit, which sells hardware and offers maintenance - Kubota Computer will continue offering maintenance services but its software business will be shifted to a new Kubota unit to be formed later this year, combining Kubota Computer's software business and software done by a software-related division of the parent Kubota Corp.

IBM CLAIMS DESIGN WINS, SKETCHES THREE NEW EMBEDDED POWERPCs

IBM Corp's John McKeeman sketched out details of three new embedded PowerPC processors at the Microprocessor Forum. The variants on the company's existing PPC403GA are all expected to make their debuts next year. The processors code named after 1950s cars are Valiant: cheaper and smaller than IBM's existing embedded offering, the processor is aimed at the 'consumer market'; the most sophisticated video cameras for example, but also set-top boxes. It is scheduled to appear in the first quarter next year. El Camino sits at the other end of the performance range; it is designed to meet the needs of a specific set-top box manufacturer and two Personal Digital Assistant manufacturers. At first sight it may appear that these two application areas have little in common, but McKeeman points out that both require improved memory or resource protection over that provided by the PPC403GA. Handheld customers don't want applications to go writing over each other while set-top box manufacturers see security - for example of access numbers - as paramount. El Camino is due "soon" but will not appear until after the Valiant. Fuego is specifically designed for telecommunications applications, the processor is being designed by IBM's division in France. It is expected out around next summer or the third quarter. McKeeman says that IBM currently has nine customers using the PPC403GA in their own boards and that second silicon was hit about four weeks ago. One big undisclosed design win is meant to be in the lucrative laser printer market. At the same time, he says that the company has made two design wins in the Personal Digital Assistant market, "one of them internal", so our best guess is that IBM's much rumoured handheld will use El Camino too. Finally, he says that the company has made four to five design wins in the set-top box market, two of them internal to IBM. One of the others is the previously announced deal with Groupe Videotron Ltd.

AUTODESK'S AUTOCAD COMES WITH MULTIMEDIA FRILLS FOR INDY DESKTOPS

Autodesk Inc, Sausalito, California has now released an AutoCAD Designer software package for Silicon Graphics Inc workstations. AutoCAD Designer runs within AutoCAD software version 12 and is designed to assist users who need to design and draft mechanical parts. Features include: parametric modelling and automatic creation of two-dimensional drawings from a three-dimensional model. Running in all environments including Silicon Graphics binary-compatible systems running Irix 5.2 and Indy desktop systems, it costs \$1,500. Every Indy CAD-configured system has an AutoCAD Bonus Pack that optimises AutoCAD software for three dimensional visualisation and digital media tools that include IndyCam, a colour digital video camera; Showcase presentation package; MediaMail electronic mail package; and audio and video capabilities. AutoCAD Designer is also available under the MS-DOS, Sun Microsystems Inc Solaris 2.3 and HP-UX operating environments.

ORACLE OUTLINES ITS PLANS FOR DOCUMENT SHARING AND MANAGEMENT

Among the six companies that announced support for the joint Novell Inc-Xerox Corp initiative for document sharing and management, Oracle Corp intends to incorporate the technology into its Documents product. According to Oracle, "the logical fit is with Documents, and the library component of that". While Oracle says it will provide support for Windows and Macintosh clients within Documents, it is keeping quiet on whether server support on other systems is planned. Similarly, it will not say whether it is planning a NetWare-specific version of Documents. The other five companies are Documentum Inc, the Imagery subsidiary of Eastman Kodak Co, Information Dimensions Inc, PC DOCS Inc, and Verity Inc. According to Novell and Xerox, the six companies will help develop technical specifications for Document-Enabled Networking. Work that still has to be completed is said to include refinements to the repository and application programming interfaces. Novell and Xerox published the initial Document-Enabled Networking technical specifications for industry review in July. While the first implementation will be for NetWare, the firms say that future versions will support Unix and "other popular networking systems".

DEC PAYS MANAGERS TO TAKE KIENZLE, 1,500 JOBS AWAY

Digital Equipment Corp has decided that firing surplus employees in Germany is made so difficult that the easiest way to shed a large number is to let the unit they work for go in a management buyout. When DEC bought Kienzle Datensysteme GmbH - from Mannesmann AG, for \$230m - it thought it would be able to migrate the large customer base built up way back in the days of visible record computers with their magnetic stripe files, over to its own product line, but has found German small and medium-sized businesses much more resistant than it expected. The buyout - in fact, DEC is paying the management of the unit to take it away - is intended to save 1,500 jobs that might otherwise have been lost, and DEC hopes to save \$67m in restructuring costs as a result. It has granted the new Mitarbeitergesellschaft \$40m of initial service orders, and given it rights to market DEC hardware and software products at least to the end of 1995. It also guaranteed the remaining 2,500 DEC employees no further lay-offs before 1997. The business expects first year turnover of \$120m to \$135m, but only 850 of the 1,500 are employed in the core Kienzle business; the other 650 are guaranteed work for only a year. DEC expects that minus the unit, its German subsidiary will be profitable.

SANDERSON TO TAKE CONTROL OF GENERAL AUTOMATION'S PACIFIC ARM

Sanderson Electronics Plc, which had been unwinding its position in General Automation Inc, is offloading 4.1m General Auto shares and exchanging them for 51% and control of the jointly-owned SGA Pacific Ltd, which is based in Australia and also operates in New Zealand, Hong Kong, Singapore and Malaysia. Sheffield-based Sanderson's Sanderson Technology Ltd will exchange the 4.1m General Automation shares for 470,000 SGA Pacific Ltd shares and pay a balancing amount of £629,000 cash and £629,000 in unsecured 8% loan notes repayable within 24 months. From Anaheim, California-based General Automation's point of view, the deal reduces its shares outstanding to 7.26m from 11.36m. Sanderson already holds a 27% stake in SGA Pacific, which supplies software and hardware products and provides computer services and support, and the acquisition will expand the Sanderson group to a turnover of around £55m with some 700 employees. Its turnover for the year to September 1993 was £21m. General Automation remains a minority shareholder in SGA Pacific alongside the firm's management.

HEWLETT-PACKARD UPGRADES ITS NETSERVER, REMOTE ASSISTANTS

Hewlett-Packard has announced enhancements to its NetServer Assistant and Remote Assistant network management products for the NetServer LC family of servers that were announced in May. The company has also announced a NetServer Assistant 2.1 Extension which is based on HP OpenView. It includes tools for monitoring personal computer local area network adaptor boards, Small Computer System Interface components, hard-disk drives, disk arrays, error correcting and checking memory boards and software. It can also support Hewlett-Packard's Uninterruptible Power Supplies for the NetServer LCs. Also new are security enhancements, network device up-down polling, and data export through HP OpenView for Windows 7.2, which ships as standard with NetServer Assistant. The Extensions product is designed to provide alarm forwarding to OpenView for Unix, as well as paging and electronic mail notification of network problems. Said to be Windows Sockets- and WinSNMP-compliant, it also includes a TCP/IP stack and utilities for users wanting to manage mixed Internet Protocol/Internet Package Exchange environments. Both products are said to support NetWare, Windows NT and OS/2 LAN Server, with support for Santa Cruz Operations Unix due to follow during the first half of next year. The new version of Remote Assistant is said to include MS-DOS-level file transfer, as well as in-band access (via a NetWare Simple Network Management Protocol agent) for traps and alarms through NetServer Assistant. NetServer Assistant is due to ship from December 1, costing \$500, it is also bundled with NetServer LF and LM products. The Extensions, also from December, cost \$525; the Remote Assistant product will ship next month for \$1,000.

ARIES CANS SPARC-POWERPC HYBRID

Fremont, California based, Aries Research Inc, which earlier this year (UX No 480) was suggesting that its days as a Sparc-only builder were numbered with plans for a Sparc-PowerPC hybrid architecture, has taken a step back. The company says performance improvements delivered in SuperSparc II and UltraSparc made it change its mind. It says that close to shipping a 50Mhz upgrade to its Marixx SI server, plans offer HyperSparc systems and will offer an Sbus graphics board using the 3Dlabs Glint chip in the new year.

COMMITTEES SPEC-OUT FORTRAN 95

The International Fortran Committee (WG5) and the US Fortran Committee (X3J3) met back to back in Edinburgh, Scotland, recently, and hacked out some tentative standards for the future of Fortran. Hosted by Edinburgh Portable Compilers and Edinburgh University the Fortrannies were assembled to complete the technical work on the new features of Fortran 95, and to establish initial requirements for Fortran 2000. Historically, Fortran standardisation has been painstakingly slow with Fortran 90 some 13 years in the making. By contrast, Fortran 95 has proven to be an exercise in New Age enlightenment. The euphemistically described Fortran 90 should have seen the light of day circa 1986, but was instead, characterised by heavy duty political fighting. One insider laid much of the blame at IBM's feet. At one point WG5 was considering leaving the US contingent to bicker amongst themselves but were saved from the decision by a change in the US team's attitude. More recently, the standardisation process has been a model of negotiation, with the WG5 meeting annually and having responsibility for establishing requirements and setting the schedule while X3J3, which meets quarterly, has the task of technical development of the standard. Changes to Fortran 95 are likely to be small, with X3J3 group committed to integrating the technical proposals into a draft standard for WG5 next year. Fortran 2000 will be a major revision of the language.

UK ALLIANCE OFFERS REWARDS FOR SOFTWARE SNITCHING

From 1st November some companies in the UK could find themselves at the end of the long arm of the law now that the Business Software Alliance (BSA) is offering rewards of up to £2,500 for information which leads to "successful legal action for the use of unlicensed business software." It is estimated that illegal copying of business software amounted to a value of about £333 million in the UK last year and world-wide, losses were estimated at £8billion. The software crimeline has been running for almost ten years in the US, although the rewards for information amount to little more than the joy of welshing on a competitor or former employer. Software piracy in the US accounts for 30% of all software. The hotline now extends to fifty countries, but only four countries have previously offered rewards for information; including Australia, South Africa, Hong Kong and Taiwan. The BSA claim that in the last four years the piracy problem has decreased from 80% to 49% in the UK and the latest initiative is flagged as nothing more than a shot in the arm to those who continue to offend. Members of the BSA include Microsoft, Novell, WordPerfect Applications Group, SCO and Lotus Development.

SNI OFFERS DISTRIBUTED RETAIL SYSTEMS MANAGEMENT

Siemens Nixdorf Informationssysteme AG's retail information systems division is offering a package of software utilities for managing distributed software processes across chains of stores, including upgrades, installation, backup and recovery. The Distributed Systems Management suite comes with three applications available separately or bundled: Software Administration for distributing software from a remote host; Remote Operating for Unix logon over SNA and problem logging and resolution; and Event Reporting for detecting and fixing remote system errors. The modules are priced from \$1,500, \$600 and \$750 per site on Sinix, HP-UX and NCR 386 systems.

NOVELL ADDS OSI TP TO TUXEDO FOR TCP/IP MAINFRAME CONNECTIONS

Novell Inc has added support for OSI TP - the TCP/IP component of the OSI stack - to Tuxedo, its on-line transaction processing monitor, which will provide support for Tuxedo transactions across a range of OLTP mainframe environments that also implement OSI TP, including Unisys Corp, Groupe Bull, ICL Plc and Siemens Nixdorf, in addition to SNI's Sinix Unix. Novell claims it'll enable transactions between different platforms within the same company, and will ease migration strategies. Tuxedo transactions will be carried between machines using vendors' OSI TP stacks - actual communication is over TCP/IP or ISO transport mechanisms. Tuxedo with OSI TP is from \$15,000. Novell hopes to add support for IBM mainframe CICS environments by reverse-engineering the relevant protocols and possibly to other Unix-based transaction managers such as Encina and Top End in future. Now up to release 4.2.2, the next major release of Tuxedo is due before year-end.

NEXT SHIPS DATABASE OBJECT DEVELOPMENT SYSTEM

NeXT Computer Inc says it's now shipping the Enterprise Objects Framework on NeXTStep, for building business-oriented, persistent objects using data from Oracle and Sybase databases (UX No 487). EOF comes as three modules: Enterprise Object Modeler for building objects, which in the process creates a mapping structure that sits between objects and the databases used by the application. A runtime framework module enables objects to run atop the NeXTStep operating system and is required for all systems on which EOF-based objects are to be deployed. The runtime will be up on NeXT's Portable Distributed Objects framework next year, allowing EOF objects to run on HP-UX, SunOS, Solaris and DEC OSF/1. PDO allows objects developed in NeXTStep or these Unixes to be supported across each environment by using a common NeXTStep operating system messaging and object model. An adapter layer allows the framework to interface to relational databases with support for Oracle and Sybase initially with others to follow from either NeXT, ISVs or the database vendors themselves. EOF costs from \$300.

ANOTHER LOSS, BUT DG IS NO LONGER SHRINKING

Data General Corp has reported a fourth quarter net loss of \$6.2m, down from a loss last time of \$37.2m, which included a \$25m restructuring charge, on turnover that rose 5.1% to \$292.6m. Net loss for the year to September 24 was \$87.7m, after a \$35m restructuring charge, up from a loss last time of \$60.5m, on turnover that rose 3.9% to \$1,129.5m. It's not back to break-even, but at least the company is now growing slowly and no longer shrinking - a feature of its remaking has been sustainable losses on stable turnover - and it says that continued revenue growth was attributable to its AViiON Unix product family coupled with the increasing acceptance of CLARiiON storage systems; revenue from the AViiON servers during fiscal 1994 increased nearly 20% over the prior year; Data General was able to increase its cash position by more than \$29m to \$190m in the fourth quarter, including \$17m from the sale and leaseback of the company's Westborough, Massachusetts base.

FIRST SUPERSCALAR Am29000 REVEALED

Advanced Micro Devices Inc used the Microprocessor Forum to sketch out the first superscalar implementation of its 29000 family of embedded RISC processors. The new processor is a four-issue chip, optimised for the high-end of the embedded market. The processor - unnamed, and with no release dates - has two integer units, an integer multiply unit, a load-store unit, a branch unit and a funnel shifter (and no, we don't know what one of those is). The CPU has 8Kb data and instruction caches and is pin-compatible with the existing Am29030/35 and Am29040. The clock runs at 2x, 3x or 4x the system frequency, to a maximum 100MHz internal, 33MHz external. Performance data for the thing is thin on the ground, but a performance graph depicts the new 75MHz/25MHz part handling Page Description Language processing at around nine times the speed of a standard 16MHz 29000.

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Stratus Computer Inc has reported third quarter net profits up 65.6% at \$18.8m on turnover that rose 14.9% at \$145.7m; net profit for the nine months rose 41.2% at \$47.6m on turnover that rose 16.4% at \$425.5m.

Informix Corp has reported third quarter net up 14.3% at \$16.6m on turnover up 29.7% at \$116.8m; net profit for the year so far was up 11.3% at \$42.4m on turnover that rose 21.8% to \$246.0m.

Intergraph Corp turned in third quarter net losses of \$17.5m, down from a loss last time of \$19.8m, on turnover up 4.6% at \$262.2m; net loss for the year so far was \$51.7m, up from \$46.1m last time, on turnover that fell by 4.7% to \$744.7m.

Sequent Computer Systems Inc saw third quarter net up 125.3% at \$8.9m on turnover up 33.0% at \$121.2m; net profit for the year so far was up 172.8% at \$20.7m on turnover that rose 29.8% to \$323.9m.

Silicon Graphics Inc reported first quarter net profit up 62.5% at \$41.8m on turnover up 41.7% to \$427.4m.

Informix Corp has opened an office in the building of the International Centre for Scientific & Technical Information at 21b Ulitsa Kuusinen: the office manager is Howard Zalkin. Meanwhile **Hewlett-Packard Co** has appointed a fifth distributor in Russia: **Merisel Inc** joins ARUS, Steepler and CHS Russia on its list; Hewlett has implemented two-tier distribution and sells only through its wholesalers.

The Moscow **Sun Microsystems Inc** service centre has signed with the **Vysokie Tekhnologii** association of St Petersburg that will provide services to Sun users in the city and the north-west regions of the Russian Federation: the association has experience in industrial projects.

Given **DEC's** sorry state, it's no surprise camp follower *Digital News & Review* has shrunk and is now being run off on letter-sized glossy stock. They've dropped their Charlie Matco gossip column too.

Dallas, Texas firm **ObjectSpace Inc** is offering object technologies, consulting and training services: it claims IBM, Texas Instruments, NEC, Sprint and AT&T amongst its customers. +1 214 934 2496

Object International Inc, Austin, Texas, is offering a single-user version of its "two-way" modeling Together/C++ development tool. No prices. +1 512 795 0202

Auspex Systems Inc is trumpeting its patent award last week describing techniques for providing NFS services to non-Unix networks.

OpenVision Inc is putting its distributed systems management tools up on the AT&T GIS System 3000 line: **Control Data Systems** will sell all its software.

A **Pick Systems Inc** lawyer was on to us last week in the wake of the obit we ran on Dick Pick to say that what we wrote was "destabilizing the customer base" and that it wasn't true that Pick or his estate owe any money to the Internal Revenue Service or that he cut his three children out of his will. His widow Zion Pick and the three children inherit the business. The will is currently in probate and likely to remain there for the next year and a half, he said.

DEC may follow **Sun's** lead this week by offering an Internet-ready packaged version of its new 1000 Series server.

Avalon Software Inc, Tucson, Arizona continues its inexorable expansion with the opening of offices in Beijing and Mexico City. Avalon, which has developed from a traditional VAR to a specialist in client/server applications for financial, distribution and manufacturing says its software and services are available in 20 countries.

Naperville, Illinois-based **Dynasty Technologies** is beta testing version 2.0 of its Dynasty Development Environment, including an interface to Open Environment Corp's Encompass DCE system toolkit.

Meanwhile, **Mitsubishi Corp** is to distribute Oakland, California based **Forte Software Inc's** application development software projecting \$50m sales initially, sealing the deal with a seven-figure investment in Forte. The two plan a Japanese version of the software.

Megatek Corp, of San Diego, California has a 24-bit, colour graphics adapter for IBM RS/6000s called the Megatek Mg24. Megatek says it is good for 2D colour graphics applications. Mg24 will be marketed by **IBM** and costs \$3,900 now.

PeopleSoft Inc, Walnut Creek, California, is putting its financial and payroll software up on Informix-OnLine Dynamic Server.

Former **Wall Data Inc** executive James Robb has been named VP worldwide sales at Seattle-based **FourGen Software Technologies'** new US sales offices are planned.

SQL Financials, Atlanta, Georgia, has established its European headquarters in Windsor, UK, appointing Dan Schmidt to run the unit.

Former VP and general manager of **AT&T Co's** Teradata/NCR parallel development centre in San Diego, California, Boyd Pearce, has turned up as VP marketing at aspiring MPP company **Pyramid Technology Corp** which is nearing beta with its parallel Meshine architecture. He replaces VP US sales Mitch Mandich who held both roles and oversaw the introduction of Pyramid's Nile SMP range.

DEC's still trying out names for its Unix which it'll reveal with an **X/Open** Unix brand.

We heard **Chorus Systems SA** has a new telco client for its microkernel that's shy of publicity, but the French firm refused to confirm or deny it.

Hewlett-Packard Co has won the bidding to become the exclusive supplier of workstations and servers for **Martin Marietta Corp's** Engineering Productivity Improvement Programme over the next two years with a third-year option. The contract is estimated at \$30m to \$40m, and Martin Marietta says it will buy some 1,000 HP workstations and servers each year during the life of the contract, which includes training and support services too.

BusinessWeek has noticed that **IBM Corp** CEO Lou Gerstner has scored some nice paper profits since joining the company. Because IBM's stock price is up, Gerstner's 50,000 shares are \$1.1m to the good and his options up \$13.8m. The magazine attributes some of the rise in IBM stock to the fact that Gerstner has been buying shares with his own money, giving Wall Street that warm and friendly feeling.

NeXT Computer Inc needs a director of product marketing now Rick Jackson has left. Meanwhile, VP corporate marketing Ron Weisman is doubling-up as director of product marketing following Paul Vais' departure.

Sybase Inc has launched a programme to lure Rdb and Ingres users, offering discounts on System 10 up to 50% and five days of free consulting to anyone who buys at least \$40,000 worth of new software. The promotion covers System 10 for NT or Unix, the OmniSQL Gateway and either the OmniSQL Access module for Ingres or Rdb.

Sun Microsystems Inc has a newer version of its SunISDN Expansion and Enabling kits for Sparcstations which now covers 14 countries. The Expansion kit is an ISDN SBus card and software for systems without ISDN functionality - the Enabling kit turns on in-built ISDN in Sparcstations and the Voyager. EuroISDN standard versions are out now at \$600 and \$100 respectively - US National ISDN-1 standard versions will be out early next year.

Network File System server house Network AppliCance Inc, Mountain View, California, has appointed Daniel Warmenhoven president and CEO, succeeding Michael Malcolm who will lead a new team as VP strategic development.

It may well be that **IBM Corp** decides to can its first generation Power Personal altogether in favour of something that more closely resembles what others, including Motorola Inc have already announced. We're now hearing of SMP 604 desktops amongst IBM's already working second generation machines that will be ready for the first quarter, bringing the reason for the delay back to hardware again (UX No 510).

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NOW SUN WILL USE HYPERSPARCS IN SPARCSTATION 20s

Sun Microsystems Computer Company has finally relented and says it will use Ross Technology Inc's HyperSparc chips in a new high-end SparcStation 20 just as Ross claimed it would back in May (UX No 486). Doubtless Ross' acquisition by Fujitsu Ltd, since May Sun's semiconductor partner, was a persuasive factor in its decision but SMCC also says it is convinced Ross has recovered from the catastrophic fab failure that haunted its early days as a Cypress subsidiary and will be able to deliver a steady stream of reliable silicon. It is now using Fujitsu's manufacturing processes. Sun, on the other hand, is not committing a general-purpose line to the chip. The SparcStation 20 Model HS11, which takes its name from the fact that it uses a HyperSparc 100MHz chip and is a uniprocessor, is a niche compute-intensive product targeted at the technical market. Sun estimates only 20% of its customers might be interested in it. Sun, at one point last week, also interpreted its move as a holding action while it waits for the arrival of its home-made high-end UltraSparc chip next year. The HS11 box, due for first deliveries next month, supports Solaris 2.4 and a new release of Sun's unshakable Solaris 1 environment called Solaris 1.1.2, with a 25% faster install. While the chip, which was supposed to go to full production last quarter, is reportedly rated at 111 SPECint92 and 135 SPECfp92, Sun says the system will perform at 104.5 SPECint and 127.6 SPECfp, around 20% better than its top-rated Sun-derived 60MHz SuperSparc machines. The HS11, a familiar pizza box design, will include up to 512Mb of main memory, up to 2Gb internal mass storage and four SBus slots. It also includes a CD, floppy and high-quality audio. SparcStation 10 and 20 workstations and servers can upgrade with 100MHz HyperSparc modules. A base configuration will come with 32Mb of memory, 1Gb mass storage and a 17-inch TurboGX colour monitor at a list price of \$18,695. Multiprocessor versions are expected sometime down the road. Solaris 1.1.2 is available now in the US. French, German, Italian and Swedish editions will be available in December and versions for Japan, Korean, Mainland China and Taiwan in January. SMCC will start delivering Solaris 2.4 in December.

NEW LOOK OSF ROLLS OUT DCE 1.1

Sun Microsystems may now be a full member of the Open Software Foundation (OSF) but when it comes to DCE it is a less than semi-detached member. The OSF rolled out DCE 1.1 last week at a member seminar in Newton, Mass, and managed to make the whole presentation without once mentioning the name of one of its largest vendor members. While the 'merger' of COSE and the OSF is now complete any harmony within the consortium is muted. At the press conference, the OSF's Roger Gourd was defensive and stamped on any questions that went outside the narrow scope of the DCE 1.1 launch. New features in DCE 1.1 include a consolidated interface for systems administration throughout DCE with a capability for remote start-up and shutdown of services; a new generic security service API which allows non-RPC-based systems to use DCE security, extended registry attributes for proprietary systems and security delegation and auditing facilities; and better internationalization with standard POSIX and X/Open interfaces and character code set interoperability. In deference to Sun there is now a secure NFS-DFS gateway that allows NFS access to DCE DFS. The OSF is hoping that DCE can push Sun's NFS into the background and the vendors present, including Digital, IBM and Hewlett-Packard all echoed the OSF's Joe Maloney's belief that release 1.1 will "push DCE over the top". A new pricing policy will mean that DCE should cost \$2 per client instead of \$75, according to Maloney. A source license will cost \$250,000 (\$100,000 for an upgrade from an earlier version) with no run-time charges. Digital plans to have DCE 1.1 incorporated into its products by mid-1995 and the other vendors are on similar timescales. Mike Guidry of Philips Petroleum reckons that DCE 1.1 "addresses the problems of bringing all the platforms together in a secure environment".

X-TERMINALS EMBRACE WINDOWS APPS - WITH NT's HELP

The inability of X-terminals to deliver Microsoft Windows applications onto the desktop has held back the market, but now two initiatives are hoping to put the situation right: both involve Windows NT. Tektronix is using its own distributed desktop software and an adaption of multi-user Windows NT from Citrix Systems (*see page 4*), and this week, DEC launches Multia, a combination of Alpha AXP-based hardware, Windows NT and X-Windows. Multia comes out of DEC's components and peripherals division, and uses a 166Mhz Alpha processor to run Windows NT 3.5 locally. X11 Release 6 will ship by mid-January. 16 and 32-bit Windows applications and ASCII/ANSI capabilities are provided, and DEC has provided management software that keeps a copy of all the data and configuration on the server and prevents the user from using the device as a dedicated PC. Performance should be in the 250,000 Xstone region. DEC sees the box pretty much as a replacement to its current XVT X-terminal lines. Multia includes thinwire, thickwire and twisted pair Ethernet connections, PCI graphics accelerator, built-in audio, optional floppy, PCMCIA and PCI slots. Mosaic is bundled in and IPX/SPX, LAN Manager, NetBIOS, TCP/IP and DECNet are supported. DEC thinks it will appeal to a wider set of resellers than its existing products: in the UK, X-terminal specialist Xanadu is already bidding the new boxes in some large deals that could see some 45,000 shipped. Pricing, yet to be set, should begin from the \$3,500 - £2,500 mark.

FRANKENBURG SEEKS HEAVY-WEIGHTS FOR TOP JOBS

Expect a few headline appointments at Novell in the next couple of months, Novell chief Robert Frankenburg has hinted to *Unigram.X*. "We will be adding to the team," he said. An executive search for the plum jobs of a corporate marketing VP and a permanent chief technology officer will conclude soon, and a raft of new talent in a newly formed division, the Information Access and Management Group (IAMG), is also being sought. Look for heavy hitters from outside Novell and within Frankenburg's past for these roles - but not many departures of current Novell staffers in fits of pique: "I had a strong interest when I walked in the door in bringing in new, experienced people, and I was surprised by the [favourable] attitude in Novell to that." Indeed, Frankenburg seems to be enjoying a honeymoon period as regards staff movement; of the 100 he wanted in the Quattro Pro division taken over by Novell from Borland in May, a goodly 97 took Frankenburg's shilling. IAMG, which joins the NetWare Systems Group, Unix Systems Group, and WordPerfect, the Novell Applications Group, is charged with developing network software products intended to expand the population of network users by providing easy access to network information resources. Mobile NetWare client, NetWare Distributed Management Services, NetWare Connect Services and host connectivity are among its responsibilities. *South Carolina UnixWare2 briefing, see page 5.*

NOVELL POOH-POOHS TAKEOVER TALK

Novell has shaped up as everybody's hot takeover tip these last couple of years, a tendency not helped by such flirtations as the one Ray Noorda and Lotus Development's Jim Manzi carried out a few years ago. Around the 1991 timeframe a union between the Utah giant and Larry Ellison's Oracle also made sense to some observers, who talked up the Microsoft-taming muscle such a combo might command. Now we have a real eyebrow-raiser of a rumour - that Lou Gerstner's IBM might shell out an estimated \$9bn to save face in networking via a Novell acquisition. A story in *The Wall St Journal* and others last week reflected the rumours, which had helped push Novell stock up. To which Frankenburg offered merely his charming head-thrown-back laugh and the comment: "The Wall St Journal did a good job on reporting something that isn't going on." Next week's story, Novell buys Quaker Oats?

IDC RUMINATES ON INTEL-HP CHIP PACT

Market researcher IDC, in considering the meaning of the Intel-HP chip alliance and how it might happen, believes that Intel has decided it couldn't get much of a performance boost from developing a RISC MPU with x86 emulation and that its future direction – in company with HP – is a Very Long Instruction Word (VLIW) chip, something neither firm has admitted though many assume that's the way they're going. HP and Intel have of course promised that the chip they eventually turn out will be compatible with both x86 and PA-RISC, in either case no mean feat. ~~IDC believes that Intel and HP will try to achieve compatibility – or as much as possible – by means of software, leaving the silicon entirely VLIW~~ and free of legacy circuitry. Because of the difficulty it's expected to have making the thing x86-compatible, IDC thinks Intel might provide – as a last resort – a real-time interpreter, with on-chip execution of intractable x86 CISC instructions. It says a recompiler could be made available to

OSF CONDEMNS TACTICS AT OMG MEET

Joe Maloney, the DCE Business Manager at the OSF lashed out at the Object Management Group for what he believes are underhand practices. Responding to a question at the launch of DCE 1.1 he hit out at the manner in which a vote was called for adopting the communications protocol for CORBA 2.0. He was incensed that Novell called a vote on adopting the technology at a meeting at which only 40 per cent of possible attendees were present. The meeting voted to adopt a technology from a Novell grouping that is "untried and untested" according to Maloney and "will set things back entirely to a point where they will be re-inventing the wheel". Digital's Robert Bismuth, who attended the meeting, said that the vote was called suddenly "while a discussion was underway" in an attempt to force the issue. A technology based on an RPC, which has the backing of Digital, was turned out. "End-users must be puzzled at the way things are going (at the OMG)" said Don Herbert, vice-president of Digital's Unix Business segment. The decision is not final though, and Bismuth believes that the fax-vote that was called is going "neck and neck" in that just about 2/3 of members are for the technology (a 2/3rd vote is needed for adoption) with 40 per cent of the votes in. Another vendor present said that it was just another example of "the dissent that runs through the industry threatening progress again."

FORTE OUTLINES UK CHANNEL STRATEGY

Software development company Forte Software has followed up the release five weeks ago of its eponymous client/server application development environment (UX507), when it was able to announce precisely no UK customers, by announcing its UK channel strategy, which has so far gained the company precisely no UK VARs. Forte hopes to recruit VARs by tempting them with a low-entry cost of £20,000, which buys the VAR five developer seats, along with an application specific licence to use the Forte product for development, and the rights to resell the product within their application. The company also says it will charge maintenance to VARs only after six months, and the issuing of application specific time licences to VARs is intended to avoid potential channel conflict between Forte and its VARs. Forte will sell full development licences direct to end users, but sales of applications developed by VARs using the product will be handled by the resellers. Steve Brenman, Forte's UK managing director, said that in the US, VARs from all market sectors have been actively pursuing the company to be involved with the product. The UK company has not, he said, been approached by any VARs so far.

INFORMIX AND CRAY TO COLLABORATE

Informix Software, Menlo Park, California and Cray Research Super-servers, the Eagan, Minnesota, subsidiary of Cray Research Inc, intend to collaborate in providing a very large database (VLDB) scalability with Informix's OnLine Dynamic Server 7.10 and the Cray Superserver 6400 (CS6400) system. The dynamic duo expect the collaboration to reap results by the end of the year and Informix have already installed a CS6400 system at its headquarters. The CS6400 system is served with up to 64 SuperSparc Plus microprocessors and is tagged by Cray as the most scalable Unix based symmetric multiprocessor (SMP) server on the market. The two intend tests which encompass single and multiple instances of Online server querying of VLDB. The ultimate collaborative nirvana is to support databases in the hundreds of gigabytes range. The Dynamic Server itself is based on Informix's planned next generation multithreaded, parallel processing architecture, tagged Dynamic Scalable Architecture (DSA). DSA the company says, incorporates Parallel Data Query (PDQ), described as a first of kind parallel processing technology for open systems. Informix insist that DSA breaks the scalability barrier of previous Unix database architectures which are unable to handle data volumes of enterprise wide online transaction processing (OLTP), batch and Decision Support systems (DSS). PDQ, in turn, is said by the company, to provide tens to hundreds of times of performance gains over conventional databases because it breaks up long running database tasks into sub tasks then processing them in parallel.

software developers but not end users. It figures HP could provide both an interpreter and a recompiler and probably won't need on-chip PA-RISC execution. HP could get away with a recompiler because its installed base is ISVs and sophisticated end users. IDC believes there will be room for only three major chip architectures by the year 2000. It assumes the Intel-HP pact will produce a new VLIW architecture replacing both x86 and PA-RISC. If so, it believes that it and the PowerPC will be the two dominant architectures, with PowerPC on the defensive by the turn of the century. IDC obviously regards Alpha as doomed. It writes that "the Alpha architecture is unlikely to be adopted by additional computer vendors and may soon lose vendors. Whether Digital can long sustain the investment required for Alpha is very questionable." That leaves Sparc and Mips. IDC figures Sparc will probably lose market share to Intel-HP, and that eventually Sun may be forced to adopt an additional architecture which IDC thinks would be PowerPC. Surprisingly enough, the Intel-HP combine is not that likely to have an impact on Mips which IDC hazards will become a specialized niche architecture for graphics and video/entertainment. On the other hand, it reckons there's a long shot that a major vendor such as DEC, could adopt it (again) at which point it would become the third surviving general-purpose chip. The other possibility – and this IDC calls "the wild card" though it's pretty confident it'll happen – is that vendors unaligned with either Intel-HP or the PowerPC triumvirate will ally to develop their own next-generation architecture. It suggests DEC with Sun or Silicon Graphics. Such an alliance would sound the death knell for either Sparc or Mips. Meanwhile, back on the Intel-HP front, IDC thinks HP will have the right to produce merchant versions of the Intel-HP chip for its own use during shortages while relying on Intel's low-cost manufacturing for most of what it needs. It will probably be able to produce customized versions, giving it a great advantage in designing specialized products for telecom, video, defense and other high-value markets. IDC figures HP is unlikely to take these chips to market but may supply merchant chips to Intel from excess capacity.

SUN INTRODUCES SHOWME TV SOFTWARE

Sun Microsystems Computer Company this week will introduce ShowMe TV, software long used inside Sun itself, that will let users view multiple video broadcasts on Sparc machines and standard TCP/IP, record or edit TV programmes or transmit broadcasts to select groups from training and other corporate communications. Sun describes it as the first networked digital video broadcast product from a major computer maker. It consists of a ShowMe TV Receiver and Transmitter. The Receiver lets a user display, control and record programme material broadcast over existing LANs. Its integrated digital VCR capabilities captures the broadcast. The recorded programme is stored on local or remote disks for archiving or editing. The Transmitter broadcasts video and audio material over the network to Receiver-based Sparcs. Multiple channels can be broadcast simultaneously. Any Sparcstation equipped with Solaris 2.3, a SunVideo board and a video source can be a transmitter. The product is immediately available. Receiver licenses start at \$100 a user for up to 100 users. Transmitter licenses start under \$2,000 per transmitter.

SURPRISE ORION BOWS

Integrated Device Technology last week announced a surprise Orion derivative, the R4700, designed for the emerging NT and Unix-based 3D graphics market. It's also the first Orion at 3.3V. It will be available at 100MHz, 133MHz, 150MHz and 175MHz, topping out at 80 MFLOPS. IDT estimates it'll do a SPECint of 132 and a SPECfp of 95 at 175MHz. Samples are due Q1 with 10,000-piece prices starting at \$220. It includes on-chip two-way associative cache worth 16KB each and reportedly achieves over 500MB/second bus bandwidth. It is fully compatible with the R4600 and supports the Orion FlexBus features, a software initialization mechanism that allows a system designer to tailor the microprocessor's internal frequency to the system bus.

PICK SYSTEMS LIKELY TO GO TO BLOCK, LAWYER SAYS

Last week, we had another little chat with the late Dick Pick's attorney Shelley Liberto and it seems that Pick died intestate or effectively so since his existing will named Barbara Young, his third wife, as his principal beneficiary and since they were no longer married at the time of his death, that will be put aside. Such a circumstance means California statute takes over and divides the estate between his fourth wife who gets a third and his children who get two-thirds. The wife's portion is not subject to estate taxes but the children's is, a bite Liberto estimates will take half of what they inherit. Liberto assumes that the necessity of paying the estate taxes will force a sale of the children's stock in Pick Systems Inc. He also assumes that the presumptive buyer would not be content with only a third and would want at least a controlling interest, a situation which may see some of Mrs Pick's stock sold. The man who wants to buy the whole thing - and is willing to pay cash - is Jim Zukin, Pick one-time business manager and self-described co-founder in 1979 of the Pick licensing company. Zukin is chairman of the executive committee of Houlihan, Lokey, Howard and Zukin which has a \$200m merchant banking fund. If successful, Zukin says he will take the company in a new direction. Based on discussion he had with Pick before he died, Zukin wants to use Pick technology to create the standard for groupware in concert with AT&T, Lotus Notes and an company developing groupware code. The result would be cross-platform, he said. Meanwhile, the executors of the estate, Max Malone, who long ago was head of the company, and Pick lawyer Marty Cohen, are in control and are required by law to administer the estate for maximum return. The company, meanwhile, has named a selection committee to search for a permanent chief executive. Vice president of marketing Brian Stone is now acting chief executive officer

HANSA TO DEVELOP OLE INTERFACE FOR UNIX

Those of a sceptical persuasion when it comes to genuine commercial benefits emerging from European-funded technology research projects will be interested in the developments now coming out of the Hansa research project. Hansa, which stands rather loosely for the Heterogeneous Application Generator Standard Architecture, is a project run by seven European partners, including Germany financial consultants J&J, French company Mimetics and Italian information provider O.Group, co-ordinated by Thorn EMI CRL, with a team at University College London acting as Thorn EMI's associated partner, in charge of the Hansa framework and toolkit specification and implementation. The aim of Hansa is to produce an object-oriented framework for business decision support applications using domain-specific application generators, and en route to that aim, one of the spin-offs is an OLE-style protocol for Unix that UCL is now looking to exploit commercially. According to Sukhdev Khebbal, research fellow in UCL's computer science department, which is handling the Hansa project, the only similar commercial offering is Wind/U, the Windows-to-Unix portability toolkit that enables Windows and Visual C++ applications to run as native Motif applications. The product comes from Bridgefield, Connecticut-based Bristol Technology, and has been positioned as a high cost, high productivity tool. Copyright for the Hansa cross-platform protocol is shared between UCL and Thorn EMI, but the latter is apparently showing little interest in exploiting the product, while the new impetus from the European Commission research programme is to encourage commercial use of results. UCL is also working to extend the Hansa framework to allow PC-to-Unix interoperability using Corba and TCP/IP to allow an application built from various components to reside across a network of different machines. Under the main Hansa project, application generators are being constructed in four business areas, including direct marketing, stock market trading, insurance, and executive information systems, with the framework based on Microsoft Corp's OLE, the Object Management Group's Object Request Broker, and Document Oriented Interface. Further details about the Hansa project are available from Khebbal. Contact him on 071 387 7050, ext. 3695.

OBJECTSPACE MOVES INTO SOFTWARE

Dallas, Texas firm ObjectSpace Inc, which was founded at the beginning of 1992 to sell consulting and training services for C++ and SmallTalk, as mentioned briefly last week (UX No 511), is now dipping its toe into the product market with the release of four object-oriented pieces of software. Of the four, ObjectSockets, ObjectMetrics, ObjectSystems and ObjectCatalog, the last is the most ambitious, while the first two products in the ObjectSpace roll-out are niche products, arising mainly where the company's work in training and consultancy has enabled it to spot gaps in the market. Thus ObjectSockets, which costs \$695 per user, gives access to TCP/IP for object-based programmers using Digital's Smalltalk, because that was something ObjectSpace's consultancy customers were looking for and couldn't find an existing product to use. The point of ObjectMetrics is self-evident: to enable programmers to gather statistics on object developments in a similar way to those collected from traditional programs, and the company has integrated the tool with both Smalltalk and Envy to help developers reduce source code maintenance, identify problem classes, track the development of classes and contribute to a corporate metrics repository. ObjectMetrics costs \$595 per user. ObjectSystems, priced at \$875 per user, is a C++ framework for cross-platform Unix systems development and provides an object-oriented layer between the application and Unix to hide the details of difficult-to-use system calls, error detection and cryptic flags. It supports a range of IPC mechanisms and is compatible with the Tools.h++ toolkit from Rogue Wave, one of its main competitors in the framework market. Finally, ObjectCatalog, which has been built using Visual Works, is intended to provide a corporate repository for different information types, including objects, to help control the process of locating and reusing software components when building object systems. ObjectCatalog was announced at the recent Oopsla event in Portland, Oregon, but its pricing has not yet been finalised. The range of products are as yet contributing very little in the way of revenue to ObjectSpace, but company president Graham Glass is confident that by this time next year, product revenue will be bringing in virtually half of the company's revenue. Glass - an Englishman who used to teach at the University of Texas and who co-founded ObjectSpace with native Texan David Norris - is also confident that the privately-held, 30-strong company is on a steep growth curve, with two further products due out next year.

IONA AND ODI TO DEVELOP CORBA TO OO DATABASE ACCESS

Dublin-based Iona Technologies Ltd and Object Design Inc, Burlington, Massachusetts have teamed up to integrate Iona's Orbix Object Request Broker with ODI's ObjectStore object-oriented database. The two firms say it is the first time an object database has been integrated with a CORBA ORB and the development will result in a combined product designed for online backup and recovery, distributed transactions and support for symmetric multiprocessing environments. The product to be called Orbix-ObjectStore, will comprise access to CORBA distribution services supported by Orbix and the ability to build complex object applications. The idea is to essentially allow Orbix CORBA objects to be stored, managed and retrieved by ObjectStore, and equally to allow ObjectStore to invoke distributed CORBA-based applications. It is expected to be released next year.

CONSORTIUM TO BUILD US MILITARY OBJECT INFRASTRUCTURE

Expersoft Corp in association with a consortium of companies has won a \$24m contract to develop a distributed object management system for commercial and defence applications. The award was made by the Advanced Research Project Agency, a US federal government agency that promotes the adoption of new technologies across the country. Expersoft's XShell ORB product will be used to provide an infrastructure for integrating tools and application components across CORBA-based distributed environments. The company will also provide support for Microsoft's Object, Linking and Embedding specification. The consortium, whose members also include Andersen Consulting, Raytheon, CoGenTex, Rome Laboratory and the University of Maryland, will first build two prototype applications, a battle management system and a factory work centre management system, to demonstrate the technology.

FIREPOWER TO UNVEIL 'POWERIZED' 603 AND 604-BASED MACHINES AT COMDEX...

By Chris Rose, Editor PowerPC News

Menlo Park, California-based Firepower Systems (nee Powerhouse Systems) will use the Comdex show next week to unveil its first PowerPC-based machines. The Canon-backed start-up will initially produce two types of machine; the Powerized MX line is a symmetric multiprocessing box based on dual PowerPC 604 processors. The Powerized ES line are uniprocessor systems based upon the PowerPC 603 or 604. Firepower has skipped the PowerPC 601 completely. The company says the MX should have an end-user price of around \$6,000 and the ES around \$3,000. All of FirePower's machines will be sold through OEM agreements. So far two have been identified; Canon Inc and IPC Technology, the Austin, Texas-based arm of IPC Corp of Singapore (see below). The vanilla machines, though expensive, come well equipped. PCI-based twisted-pair Ethernet transceivers are built into the motherboard and the motherboard has space for up to 256 of parity-protected DRAM and 6Mb of VRAM. The idea is to reduce the demands on the available expansion slots. FirePower itself offers two configurations; a larger model that has four drive bays and four slots (2 PCI, 2 ISA); and a smaller three-bay, three-slot model. The 'Powerized ES 4100' and 380 are identical, except that the former is powered by a 100MHz 604 and the latter by an 80MHz 603. Both feature a number of custom-designed ASICs which the company and its OEMs suggest will give the machines a performance edge against their competitors. FirePower is also promising a dedicated server which will be released next year. Dubbed the TX, absolutely no details are available, but it is a fair guess that the box will feature bigger disk and I/O capacity.

...IPC TAKES FIREPOWER BOXES LOOKS AT OS/2 & SOLARIS, BUT AIX IS PRICY

First taker for FirePower's machines, other than Canon is IPC Technologies Inc. IPC will use Firepower's motherboard in a chassis of its own design, offering a little more drive expansion space than FirePower's own. IPC's 603-based box will ship in January and has been tentatively priced at \$3,495 - that's \$500 higher than Firepower's predicted 'starts from' price. However, the IPC price includes a bundled 15' SuperVGA screen. The 604-based uniprocessor will follow in March, together with a dual-processor 604 machine which will ship in two forms; a low-profile desktop and a mini-tower system. Initially, as with the other Firepower OEMs, the company's boxes will ship with Microsoft's Windows NT. But IPC Technologies' VP of strategic planning, Charles Mitchell, says he is actively looking at other options. "our intent is to offer Solaris and we will also pursue OS/2" he says. Sun/Solaris negotiations are being handled by Firepower on IPC's behalf at the moment, but Mitchell says that he is talking to IBM directly about taking OS/2 and says that Personal Software Product's attitude towards licensing OS/2 has softened considerably over the past year. AIX is a different matter, although he didn't have the exact figures to hand, Mitchell says that IBM is asking something in the range of a \$1m US dollars for companies that want to ship AIX with their machines. To an extent this is understandable. Firepower boxes have performance that would put many a small RS/6000 to shame and so IBM finds itself in exactly the same quandary with AIX as Apple does as it contemplates licensing the Mac OS. "We hope that IBM will shift its attitude to AIX" says Mitchell, who suggests that a coordinated approach by a group of FirePower OEMs might be able to ameliorate the cost.

Configurations

The first 603-based machine has a similar configuration to the vanilla Firepower boxes; with one ISA expansion slot, one PCI slot and a third that can double as either. However, they diverge in that IPC will allow the attachment of an extra, external drive. The first machines are likely to ship with a 540Mb hard disk, a double speed CD-ROM drive and 16Mb of RAM. Why go with FirePower? Mitchell admits that it was something of a gamble and says the company also talked to Motorola "but felt that we would be just one more OEM", in addition he has considerable faith in FirePower's ASIC expertise and its ability to tweak operating systems to get the best from the hardware. As for who will buy the machine, well it is not a surprise to find that the company is looking for power freaks in the CAD/CAM market place. More of a surprise is the way that the dual-604 processor is being positioned. That kind of processing power would normally yell "server", but Mitchell believes that it also has potential on the desktop where it could be harnessed for real-time video compression, and hence video conferencing.

TEKTRONIX PUTS WINDOWS UNDER X

Wilsonville, Oregon, headquartered, Tektronix Inc has introduced a Windows distributed desktop system, called WinDD, which it purports, enables Microsoft Windows applications to access Unix desktop without the use of software emulation. The first release of WinDD, developed using technology adopted from Florida company, Citrix Systems, the company officially charged by Microsoft with making NT multi-user, will support the TekXpress family of X terminals with the accessing of shrinkwrapped Microsoft Windows, Windows NT or character-based DOS and OS/2 applications. WinDD is based on Microsoft Windows NT Server 3.5 with enhancements that boast multi-user support, network transparency and the display of a full Windows desktop within a window on the Tektronix X terminal. The company is already looking to put the NT-based WinDD software on Sun workstations and perhaps on other peoples X terminals. Tektronix claims that WinDD extends the operating system capabilities providing multi-user network support, so that a single 486 or Pentium PC can provide Windows applications for 15-20 concurrent users. WinDD software can be loaded on a standard 486 or Pentium. A standard Microsoft Windows NT interface appears in a movable window on the TekXpress desktop at one of four specified resolutions and since the applications run on the trusty standard Windows NT server, off the shelf Windows or Windows NT applications run without modification. WinDD was developed together with Citrix Systems, Coral Springs, Florida, who provide WinView software for PC remote access. WinDD uses the ICA 3.0 protocol that Citrix developed for high speed communication between the application server and the X terminal. Volume shipment for WinDD is scheduled for the first quarter of the new year. Base packaging will include WinDD application server software, bundled with WinDD/Xpress local client software for use with TekXpress X terminals and 10 floating user licenses, for a list price of \$3,495. Additional license packs including copies of the local client range from \$170-\$200 a user. The number of simultaneous users supported by the software is dependent on server hardware capability. A number of approaches exist in the attempt to bring universal application access to a single desktop, the most prominent being Microsoft Windows emulators running on Unix platform. There was much hope held for Wabi 2.0, the SunSoft brainchild, but manna from heaven in the shape of total Windows environment without the Windows licence has proved elusive. Coupled with the problems connected to emulators in general (such as up to date availability of newly released operating systems, applications running in the X window without the look and feel of Windows 3.1 and CPU resource requirements), emulation as the panacea is currently looking as dead as the proverbial dodo. Tektronix has taken a PC-based approach to the problem. WinDD consists of two components, server software which sits on the PC application server hardware and a 'local client' program that resides in the X terminal. Windows applications run on the PC application server with only compressed screen images and input commands transferred between the server and the terminal. Display processing software is resident in the X terminal rather than the PC server, thereby reducing traffic on the network. WinDD manages "PC Window" as viewed on the display by passing only compressed updated screen images to the X terminal using a light protocol that is treated as data by the TCP/IP stack. Keyboard and mouse data is passed back to WinDD for processing, making it possible for the NT session to appear within an X terminal window as a complete PC display with Windows functionality.

HP ENHANCES TERMINAL EMULATION

Hewlett-Packard Co has enhanced its 700/70 Windowing Terminal to include emulations commonly used in PC Unix system-based environments, including the Wyse 60 native and PC Term nodes, and SCO console. Furthermore it claims, when combined with the original DEC VT320, VT220, VT100 and VT 52 emulations, the HP 700/70 operates virtually seamlessly in all multi-user Unix system based environments. For those who value their privacy, the company has also enhanced the HP 700/70 screen saver to include user definable password protection. It can be activated manually using a series of keystrokes or set to activate automatically. HP terminals are available from Ingram Micro Inc, Merisel Inc and Tech Data Corp. The HP 700/70 supports HP, IBM, Sun, Digital, SCO and other Intel SVR4 Unix system based platforms. The HP 700/70 Windowing terminals are now available and cost \$529 including keyboard, media kits required on a one per site basis are \$99, optional mouse \$30 and the Model 700/60 to 700/70 upgrade is \$69. Resellers can expect a hefty discount apparently.

UNIXWARE AT THE LAST CHANCE SALOON

by Gary Flood in South Carolina

"Do you guys get it yet?" hollered the guy at the back of the UnixWare version 2.0 overview Novell and the Unix Technology Group offered this week in Hilton Head, South Carolina. Behind the frustration in the question lies nearly two years of fumbling of the Unix ball by Novell. Novell ~~seemed to have solved at a stroke all the problems bedeviling Unix's chances to really make it as a viable commercial operating system from desktop~~ to enterprise when the company purchased Unix Systems labs from AT&T for \$364m. Many of the analysts and industry commentators in the room had indeed spent a good chunk of their professional lives watching and dissecting the aimless thrashing that has too often characterised the open systems world, and the questioner spoke for many. For it's simply the case that since the productisation of Unix SVR4 into UnixWare by Novell, yet another set of chances has been wasted, and last time we looked, Bill Gates' record on giving opportunities away to rivals was kind of poor. What of UniVel, the Unix-on-the-desktop final doomed charge, for starters? Or the singular lack of success of either UnixWare 1.0 or 1.1, so-called standard Unix, against the so-called proprietary Unixes of Hewlett-Packard, IBM and Sun? Or the failure of Novell to leverage its main distribution strength, the Novell reseller channel, in pushing the number of red Novell product boxes out the door that seemed to be the main point of buying USL?

In the meantime, Novell has faltered with the jewel in its crown, NetWare, failing to either deliver a robust version 4 or convincing enough of the 40 million users it claims worldwide to upgrade from NetWare 3. Did 'these guys' get that the fat lady just might have started tuning up on UnixWare? Well, the UnixWare Novell 'guys' at least have a good set of answers ready. Bob Frankenburg, CEO and President since April, led a pepped up management team through a well-drilled yet informal pitch explaining how Novell had learnt its lessons and that this time they'd get it right. The second version of UnixWare is delayed, true, but Novell says mainly for quality control reasons, and that it will be released this quarter (maybe even this calendar year). UnixWare, explained Frankenburg, has a "key and central role" in the new Novell vision of SuperNOS (Network Operating System), the first phase of which is represented by the release of UnixWare 2.0 and NetWare 4.1. Key to the attractiveness of UnixWare 2.0 in his eyes is the convergence of NetWare and UnixWare. The milestones set by Frankenburg for UnixWare include capabilities such as clustering and fault tolerance that are already offered by the proprietary Unixes, but it's being presented as a case of better late than never. Version 2 will include GUI install and administration, bidirectional printer support for UnixWare and NetWare, and Symmetric Multi Processor POSIX threads. Version 2.x (1995-96) will offer cluster support, Spec 1170 conformance, NetWare distributed management services and NetWare Directory Services, as well as NetWare 4.0 file and printer sharing.

Microchannel wars

The more blue skies version 3 (1996) will be microkernel based, with UnixWare and NetWare common code, offering scalable parallel processing support and single system image, the so-called SuperNOS microkernel. Last week (UX No511) we reported, IBM and DEC had been working on a Mach kernel; this was praised with faint damnation by Drew Major, Novell Chief Scientist and Senior System Architect, who said in essence that Novell had looked at Mach, preferred for technical reasons what Chorus Systemes SA has to offer under the hood, and that the best way to imagine the SuperNOS kernel is as a set of components to offer customised versions of the two main things we know now as NetWare and UnixWare. So that's the technology; what about that great channel we heard so much about? The short straw had gone to Rick Bohdanowicz, VP of Marketing for the Unix Systems Group at Novell, to show his scars in public. There had been some 'gyrations' internally, he admitted, but the lesson had been learnt - that it had been an error to freeze out the OEM community in favour of a channel that had, in the face of the challenge to sell UnixWare, turned out to have had insufficient training and the wrong culture. The balance is being restored, he claimed, but as we heard later from UnixWare partners such as Oracle and Sybase, a lot of time has been spent (or lost?) this past year in simply educating the channel. As of now the 500 'Unix Master' class of Novell resellers has been upgraded to fully support UnixWare, a fresh marketing programme is being planned to relaunch the brand, and vendors including the most public well-wisher so far, ICL, are set to reaffirm support. Does any of this tell us if 'these guys' have 'got it yet'? The general mood among the observers was that this was a quantum improvement on the last year or so, but that niggling doubts remain. Maureen O'Gara, of this parish, was a name cited by a number of speakers as one tough critic who may well not buy it - indeed "the Maureen O'Gara question" is basically what the heckler was asking, too. However, Bob Frankenburg, though a lacklustre public speaker, is one Unix executive *Unigram.X* leaves the briefing with a great deal of respect for. If any of those guys "gets" what needs doing, he does - plenty. Give UnixWare 2.0 six months and we'll see if his team, partners, and customers do as well.

GENTLEMEN, CHOOSE YOUR UBIQUITOUS METAPHORS

Sun Microsystems Inc's, Scott McNealy used to like to say that the network is the computer, and of course Microsoft's, Bill Gates' version of software Lebensraum is Information At Your Fingertips [aka Windows on your fountain pen]. Not to be outdone, Novell's Bob Frankenburg has his own vision of the fully computerised age, Pervasive Computing. Little new for many of us here, but for the sake of completing your collection, be advised the Novell twist is a heavier emphasis than Microsoft on the business-to-business aspects of the mobile IT world, including for example '[automating] the way you conduct business, making possible a new era of electronic commerce via public network access services.' The base technology is client/server, with the proviso that just as we see many clients serving a centralised server at this time we will begin to see multiple servers. The prerequisites, Novell argues, is a network operating system and application server, with the former needing to offer a bunch of capability including support for both switched Ethernet and ATM (Asynchronous Transmission Mode) data communications and on the application server side an enterprise-oriented, portable and powerful environment. And guess what - fortunately they're with us now, they're called NetWare and Unix, and Novell sells both! Or as Frankenburg put it, "We have the right base for Pervasive Computing. Unix is the fortified hill Windows NT is trying to climb." *Gary Flood.*

FAULT-TOLERANCE ADDED TO NETWARE 4.1

Separately, Novell Inc has announced that it will bring its NetWare System Fault Tolerance technology for networks to the NetWare 4 environment. NetWare 4.1 SFT III is based on Novell's System Fault Tolerance III mirrored-server technology for mission-critical applications and data. According to the company, the offering will feature support for all NetWare 4 features, including disk compression, NetWare Directory Services, data migration, multiple languages and CD-ROM support. Further, it will also add support for AppleTalk and TCP/IP protocol stacks, as well as NetWare NFS, says Novell. It will incorporate a systems management feature by which it will notify an administrator, group of administrators, or all users on a network, when a server or disk failure has occurred and a switchover to the secondary server has taken place. On the back-up side, Novell says that any third-party back-up product that is compliant with the Storage Management System specification will run with NetWare 4 System Fault Tolerance. Finally, NetWare Management Service support is featured, with the map feature in NetWare Management Service graphically representing pairs of System Fault Tolerant III servers on the network and providing alerts via the Simple Network Management Protocol console agent, says Novell. NetWare 4.1 SFT III will ship concurrently with NetWare 4.1 at the end of the year. Prices are not yet available. All NetWare SFT III 3.11 users registered with Novell and NetWare SFT III 3.11 users who register their product before December 31 will get the upgrades to NetWare SFT III free until March 31, 1995.

B&W LINKS SOLARIS AND NETWARE

Beame & Whiteside Software Inc, Raleigh, North Carolina, is to offer Solaris-to-NetWare communications as BW-MultiConnect for Solaris in client or server versions, including an IPX/SPX for Solaris, from next month, providing NetWare users with access to services running on Sun servers. NetWare users can also still add Beame & Whiteside's Network File System and TCP/IP communications software. Clients are \$500 per user, server versions are from \$500 for 10 users, up to \$9,700 for unlimited users.

SYBASE SHIPS NAVIGATIONAL SERVER

Shipping six months later than the anticipated mid 1994 release date, Emeryville, California, based Sybase Inc, has finally delivered its Navigation Server multiprocessing add on module. It is designed for unlimited scalability, provision of parallel high performance and support for more than 500Gb of data. Initially supporting its SQL Server Database Version 4.9, the Sybase 10 database is not expected to see the light of day until the end of next year. The Navigational Server boasts three different partitioning methods, meant for a variety of tables and data access types. The first, hash partitioning, is designed to spread data evenly across the partitions, thereby minimizing data or processing imbalance, while at the same time providing intelligent access to any row. The second, range partitioning, enables related rows to be stored together in the same partition and enables additional performance where data access is tied to ranges of the partitioning key. This kind of method however, does require more planning in order to distribute the data more evenly across partitions. The third, schema partitioning, assigns all rows of a table to a single partition, providing more efficient space use of and data access for small tables which may not benefit from partitioning. When processing a request, a SQL query is analyzed by a full function parallel optimizer, which generates parallel queries, and which in turn are sent to each partition involved and executed concurrently, thereby reducing overall access time. Working in parallel, the independent processing partitions retrieve the results from each of the partitions and the Navigation Server merges these partitions sending the result to the requester. Other features of the Navigational Server include the Configurator, which aids administrators in modelling a business workload and determining the right hardware and software configuration; the Navigational Server Manager that manages the Navigational Server parallel, partitioned and high performance database as well as providing recovery facilities; parallel insert, update and delete commands enabling batch processing and lastly, transparent access, so that details of parallel processing do not need to be understood by the user. At its inception, Sybase planned to aim the Navigation Server at users seeking to perform transaction or decision support processing on large databases, but since the 4.9 Version lacks some of the features required for online transaction processing in a distributed mode, the company is skewing its emphasis towards decision support and sweating for the release of the System 10. Navigation Server is the result of a joint development project between AT&T and Sybase, a relationship that it seems was not without its difficulties. As far back as April Sybases' VP of marketing, Stu Schuster was blaming the delay of the Server on "performance shortfalls" at Navigational Servers beta test sites but since then other reasons have surfaced. *Unigram.X* is led to believe that the problem lay with AT&T who began engineering work on the project in San Diego. Apparently Sybase became concerned about the future of the project when AT&T began reallocating staff to other interests. As a result the project was renegotiated in May with Sybase taking the reins. The delay has been seen by some industry observers as unfortunate for Sybase who may well have lost valuable market share to rivals Oracle and Informix. Navigation Server is available on AT&T 3600 MPP system and will be available on IBM, HP and Sun platforms by the third quarter of the new year.

AUDIO GROUP WORKS WITH INTEL ON CHIP INTERCONNECTION

It seems a bunch of our little friends have been quietly banded together, perhaps for quite a while in a group christened AUDIO from the initials of its members: AT&T GIS, Unisys, Data General, ICL and Olivetti. The quintet is in league with Intel reportedly to pursue joint development of the kind of interconnect technology that will exploit upcoming Intel chips like the P6 and the P7, if there is one, in high-end servers. As a side issue, it said, they get to examine the longevity of symmetric multiprocessors versus the volume potential of parallel processors.

AUSPEX WINS PATENT FOR SERVER

Auspex Systems Inc has gained a patent on its embedded NFS server design. Its design, it says, does not rely on Unix which is apparently its patent in an attempt to thwart Network Appliance. This is a desparate act. Since it cannot compete on the basis of superior products and service, they are resorting to 'litigation marketing'.

IBM CUTS GOLDSTAR MICROKERNEL DEAL

Last week, on the heels of its deal to license its Mach 3 real-time microkernel to DEC proportedly for embedded systems (UX No 511), IBM announced it had cut a similar license agreement with Goldstar, the Korean conglomerate. The deal with DEC is believed to be only the tip of a possible iceberg. IBM is said to be trying to rally vendors around a common general-purpose microkernel strategy. It is already in cahoots with the OSF Research Institute to establish - in Spec 1170 fashion - a set of interfaces developers can write to. Like DEC, Goldstar will participate in IBM's development. It says it wants to use the stuff for multimedia and consumer products such as PDAs, set-top boxes and computing products based on the PowerPC and ARM chips. It turns out the midwife of both of these deals is IBM's Personal Software Products Division, the unit most closely associated with OS/2, and in fact it was their OS/2 folks who did the deals. They expect an OS/2 personality to turn up on Goldstar PCs and seem uncertain whether there's any future for AIX, IBM's other operating system, at the Korean shop. IBM says DEC and Goldstar are the first of several agreements it expects to sew up by the end of the year.

IBM COMMENTS ON AUSTIN STAFF CUTS

Jerry Carlson, RS/6000 vice president and site general manager at IBM in Austin, says that staffing levels have been held at around 7,000 regular employees since 1986. "We've added immensely in AIX, OS/2 and RISC, but reduced manufacturing and indirect support structure staffing" he said. But above that there is a huge, flexible pool of freelance contractors, the number of which swelled to accomodate the work on AIX 4.0, but has now been reduced again. Some full time AIX staff have been shifted to Lee Reiswig's group to work on DCE for OS/2. And in the words of Bill Colton, general manager, RISC workstations, there have also been some "non-voluntary separations", but he declined to give any numbers.

ACE WORKS ON SPARC COMPILER

Amsterdam-based compiler and OS specialist Ace Associated Computer Experts has introduced a new compiler construction technology for Sparc. The advance release of its Ace Expert Sparc Compilers combines the Expert front-ends for ANSI-C, K&R-C, Fortran 77, Pascal and Modula-2 with a fully computer-generated Sparc code-generator. Believing its new techniques may revolutionize compiler production, Ace says its code-generator has been generated automatically from a concise architectural description, making code-generator production more efficient despite increasingly parallel architectures. Program modules written in different languages can be mixed simply by linking them together. It says it has reduced production time by a factor of four. The product, based on the user-transparent CoSy parallel Compilation System, is available on CD-ROM for Solaris 2. The compilers interface to the Solaris linkage editor and to popular debuggers such as TotalView and dbx. The CD contains all five compilers plus documentation and sell for \$499. The company is now working on similar CoSy compilers for the Pentium and PowerPC. Other processors are targeted for next year.

TOSHIBA CUTS SPARC FOR POWERPC

Toshiba Corporation has jettisoned plans to use the Sparc chip to build fault-tolerant Unix machines, a project that's been underway for three years though it wasn't due to produce marketable systems before late '95 (UX aNo 491). Snubbing the Sun chip, Toshiba will be using the PowerPC instead, delaying the project by more than 12 months. It is said the reworked systems will be faster and more scalable than Sparc machines. It will still use Sequoia Systems Inc's fault-tolerant Unix hardware/software technology, currently based on the Motorola 68040, as planned and when finished will be jointly owned by the two companies, sold and manufactured by both of them. Toshiba is expected to sell the gear in Japan and Sequoia in the rest of the world. The realignment is attributed to the broad PowerPC pact Toshiba finally cut with IBM in September after years of negotiation (UX No 507). At the time, Toshiba said it would use the chip to develop a mid-range server for sale in Japan using either AIX or Solaris. Sequoia says this is that machine. It also says it understands Toshiba has decreed all its new products will use the PowerPC. Toshiba has declined to identify which PowerPC chip it will use opening up speculation that it will be a chip that is still unannounced or perhaps one of its own devising.

MAJORS LINE UP BEHIND COROLLARY

Multiprocessor chip and board house Corollary Inc is on the threshold of finally bringing its long-awaited C-bus II architecture, delayed by changes in Intel's Pentium plans, to market. To trumpet its arrival, the company has persuaded six of its OEMs to reveal their identities. It appears that Fujitsu Ltd, Hitachi Ltd, Intergraph Computer Systems Division, Olivetti, Samsung Electronics and Supercomputers International all intend to build symmetric multiprocessors around the Corollary chip. Corollary president George White says that the core of the plans of all of them except the high-end Supercomputers International, run by Cray's former chief architect Steve Chen, centre on producing NT machines. Fujitsu, for instance, noted that one of the reasons it picked C-bus II was the fact Corollary developed an NT HAL. There are also indications that one of the top PC houses is also secretly aligned with Corollary and planning to use its technology. It is also believed that the off-shore companies Corollary has attracted will in future make a bigger push in the US market. Corollary, which is also planning to offer smaller OEMs an unnamed board-level product beginning in December, will strut its stuff for the first time publicly at Comdex next week. The majors will reportedly start producing their systems, which reportedly vary in size and market, in January. Using GTL logic, C-bus II offers 400Mb/second data transfers providing scalability for up to eight 100MHz Pentium processors. The architecture has been implemented in a highly integrated chipset called Symmetric Integrated Multiprocessor Logic (SIMPL) that includes four components: the Cache Bus Controller (CBC), the Data Path Exchange (DPX), the PCI Bridge (PCIB) and the C-bus Memory Controller (CMC). The DPX contains a fully associative third-level cache, ECC generation and correction logic. The C-bus support 2Gb of system memory, four times the memory capacity of the MP Pentium systems currently on the market, White says, making it ideal for memory intensive applications such as client/server and video-on-demand. It also supports multiple I/O buses and a special third-level 'victim' cache that improves the overall cache hit rate and reducing the amount of bus traffic for bus accesses. Besides NT, the architecture supports UnixWare, SCO Unix and Solaris x86. Corollary says it's the only multiprocessor bus available that supports ECC on the address and data bus, increasing reliability.

KUBOTA TO GO TO EMPLOYEES

Twenty five Kubota employees are buying the remains of the firm's graphics technology, after the company's decision last week to wind up its hardware business (UX No 511). The buyout has been underwritten by \$2 million of Kubota's money, which will be used to set up a new concern to peddle its low-priced ActionGraphics PCI-based 3D accelerator boards into the Intel and RISC Windows and NT markets. Internally, the new company is called Advanced Graphics Inc, a name that is expected to change. Ben Wegbreit, president of the company since it was called Kubota Pacific Computer Inc and designed high-priced Turbo Channel DEC Alpha graphics workstations called Denali and Kenai, will not make the jump with his staff. Jeff Dunn, who has been VP of marketing and arranged the deal, will run the joint. ActionGraphics, a name that will stick, is expected to be seen at both Comdex in various Intel boxes and at AutoFact, perhaps in NeTpower's new Mips-based Falcon machine. The company has previously indicated that although it's going for the mass Intel market it will support NT-on-RISC machines under special arrangements with their vendors, not as packaged goods.

AT&T GIS OFFERS PACKAGED SOLUTIONS

AT&T GIS's now re-fashioned Enterprise Information Factory (see above) will provide the hardware, software, networking and consulting for a set of packaged Unix and Windows NT solutions that are being offered to the retail, financial, communications, manufacturing, public sector and transport industries. AT&T GIS has previously put these kinds of configurations together on a custom basis. It's billing the stuff as the convergence of information and operation. System 3500 symmetric multiprocessors and 3600 and Teradata parallel environments are envisaged as the basis of these solutions, as well as the anticipated 3700 MPP box. AT&T GIS has tied in software partners specific to each industry, plus Prism Solutions Inc for data warehousing and IRI Software Inc's sales and marketing decision support systems and data transformation. Packaged solutions will start at around \$250,000.

SUNEXPRESS TO SELL AMDAHL TOOLS

SunExpress, the direct marketing subsidiary of Sun Microsystems Inc, and Sunnyvale, California, Amdahl Corp have shaken hands on a marketing and distribution agreement allowing SunExpress to offer Amdahl's standards based management tools. This agreement is seen as a broadening of Amdahl's reach into Sun Microsystems' installed base. Amdahl, which earned \$1.7 billion in annual sales last year despite some drastic restructuring of the company, has okayed SunExpress to offer its A+ performance management software, a set of tools which allows the user to manage distributed computing environments. A+UMA and A+OpenTune combine to collect and display both real time and historical data, detecting and planning future system demands. Amdahl's A+View products are based on Universal Measurement Architecture standard, which attempts to define a common interface for gathering, management and reporting of systems.

SGI COMMITS TO ADA9x

Ada 9X, the supposed next generation Ada programming language standard, has received a filip from Mountain View, California based, Silicon Graphics who intend to commit themselves to the first full implementation of Ada 9X. Incorporating the now seemingly obligatory object oriented programming, Ada 9X is aimed at the major government and commercial application market with Ada Core Technologies Inc (ACT), an organisation founded by GNAT members, porting GNAT to the Silicon Graphics platform. Silicon Graphics' Ada 9X compiler is committed towards open access to compiler source code, based on the GNU Ada Translator (GNAT), available under the terms of Free Software Foundation's GNU Public Licence (GPL). GPL provides both freedom to copy and modify the source code of GPL licensed software and source code for all distributed, modified versions must also be made available on request.

INTERSOLV OFFERS LOW COST ODBC DRIVER FOR A LIMITED PERIOD ONLY

Giving it away - well almost, customers of Borland's Paradox 5.0 for Windows and dBase 5.0 for Windows can take advantage of Intersolv's DataDirect ODBC drivers at 30 per cent discount, for a limited period only. The special promotion applies to the Windows versions of the DataDirect ODBC pack and individual DataDirect drivers. The promotion is being run because of a strategic relationship that the two companies have agreed in which Borland users will be able to use Intersolv's DataDirect ODBC technology. Windows versions of DataDirect ODBC Driver pack and individual DataDirect drivers are usually priced at \$499 and \$99, respectively.

NETLABS UNVEILS INTEGRATED NETWORK MANAGEMENT TOOLS

NetLabs Inc of Los Altos, California, is to provide integrated network management tools which, it claims, automates the collection, filtering, correlation and presentation of incident information to assist trouble management and planning. NetLabs is to offer the software with its NetLabs/NerveCenter event correlation system which provides input to Legent's Paradigm/XP trouble ticketing system. In turn the Paradigm/XP has been integrated with the NetLabs/Asset-Manager. The AssetManager creates and maintains a database of warranty, service, configuration and information associated with networked devices. The integrated products are expected in the first quarter of 95. NetLabs says the product is aimed at helping administrators detect network events, errors and traffic conditions through trap messages from SNMP agents and polling based on user defined conditions.

CLUSTERED NILE SERVERS FOR ORACLE

While Sybase unwraps its long awaited Navigational Server (see page 6) Pyramid Technology Corp is to provide high-end, clustered Pyramid Nile series servers as part of Oracle's Enterprise System Centre. The Mountain View, California based Pyramid, already has its Nile servers hooked up to massively parallel processing ICL Goldrush Megaserver. The deal with Oracle has Pyramid running the Oracle7 in a lab environment modelling performance and stress testing, very large database (VLDB) testing and complex problem resolution in support of shared customers. Oracle and Pyramid have been in cahoots of one shape or another since 85 mainly centred around engineering and business.

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Now San Leandro, California-based **Jupiter Systems Inc** is jumping into the X Windows-with-live video, offering the Multi-Channel Live Video for the MX600 X window Display Station. It incorporates a full colour live video feed spanning up to four real time video windows simultaneously derived from sources such as cable television, cameras, private satellite channels or videotape. No prices.

The Theory Center of New York state's Cornell University has taken delivery of its 512-node **IBM Corp** System 9076 SP2 PowerParallel system; its 464 thin nodes - it doesn't say whether these are Power or Power2-based - each have 128Mb RAM. Some of the 48 wide nodes will have 8Gb disk. Peak performance is estimated at 136 GFLOPS - calculated at 266 MFLOPS per node.

Vicor Inc's Siren Software is offering version 2.0 of its Siren Messaging Environment system, which includes mail and fax services, the ability to send and receive MIME-compliant multimedia stuff, a shared address book, spell checker, management and configuration tools. 2.0 is up on various Unixes, Windows and Mac - NT is due in December. The fax server starts at \$800 - Motif and character-based agents are from \$300. +1 415 322 0600

XVT Software Inc, Boulder, Colorado, is getting its management team in place; following the summer appointment of Alan Hunt as CEO, it has appointed former BMC Software VP David Farley CFO. XVT's founder, Marc Rochkind continues as chairman and engineering head.

David Roux has been made senior VP corporate development at **Oracle Corp**.

New Hartford, New York-based **Tower Concepts Inc's** Razor tracking and version control system is now up on HP and SGI Unix platforms in addition to Sun workstations priced at from \$500. +1 315 724 3450

Burlington, Massachusetts-based **Multiview Corp** is moving more of its HP 3000-based accounting modules to HP-UX.

Blueberry Software, Sebastopol, California, has added bidirectional Word 6 and Interleaf version 5 filters to its Filtrix-Unix Sun- and DEC Alpha-to-DOS file format converter - users of the DOS product get FrameMaker MIF filters. Other Unix versions are planned. +1 707 829 5443

Tactix ReEngineering Inc, Lake Oswego, Oregon, is offering its TriView Manager remote Unix system admin software on Motorola's new PowerStacks. +1 503 684 4099.

Novadigm Inc, Mahwah, New Jersey, is extending its Enterprise Desktop Manager application distribution and management system to include support for PowerSoft's PowerBuilder product.

Gensym Corp, Cambridge, Massachusetts, has added version 4.0 of its G2 real-time development environment on Unix, VMS and Windows NT.

Bluebird Systems Inc, Carlsbad, California, has put its Informix-based ImageAble electronic document management system up on Oracle under AIX and SCO Unix. Bluebird elected to do native ports of its software rather than using an ODBC API it says would have unnecessarily restricted performance.

The X Journal/SIGS XWorld exhibition and Cross Platform strategies conference is at the New York Marriott Marquis between 20 and 23 March.

Data General Corp has extended its agreement with **Oracle** and will now market, install and support Oracle Cooperative Applications on its AViiONs worldwide.

Bolt Beranek and Newman Inc's BBN Internet Services Corp is offering a Pentium/Berkeley Unix-based Internet Server with Windows and Mac client software from the first quarter starting at \$9,900. Maintenance is \$1,450 per month - Internet Site Patrol, a hardware, software and service 'firewall' security package costs from \$1,500 per month. Meanwhile, Paul Gudonis has been named chief executive of BBN Internet Services Corporation. He had been VP and general manager, international for **EDS Corporation's** Communications Industry Group.

MITI, Long Beach, California, has added an Ingres version of SQR Workbench reporting system already up on Oracle, Sybase and Informix, saying it expects 200 installs by July 1995. Prices are from \$1,200. +1 310 424 4399

Ross Systems Inc, Redwood City, California, has put its financial software up on IBM's RS/6000. +1 404 851 1872

Devcom Mid-America Inc, Oakbrook, Illinois, has enhanced its FaxFX fax management software so that Unix servers can send faxes from Windows, NT, OS/2, Mac and Unix clients. +1 708 574 3600

Infinity Financial Technology Inc, Mountain View, California, is offering version 4.0 of its Montage trading and risk management application set. It includes a new customer information manager and enhanced security plus support for additional trading mechanisms. +1 415 940 6100

Sun's SunExpress direct marketing organisation is now taking orders from Swedish customers.

Yoshikazu Hori, president of **Cray Research Japan Inc**, has been made chairman of the subsidiary and a corporate VP, reporting to senior VP, marketing and sales Carl Diem.

Documentum Inc, Pleasanton, California, has teamed with CSC Consulting to offer its document management technology to the pharmaceutical industry, the company also won Glaxo Holdings Plc who intend to use Documentum's software across its 10,000-strong user base.

IBM called to caution not to take everything IBM corporate says literally. They don't know how to blow their own horn sometimes. In the last quarter posted (UX No 510), it says, IBM's RS/6000 sales, which weren't broken out and corporate only thinly described, were actually better than Sun's which were up 33%. Sun's came to 73,900 units total and included 43,000 Sparc 5s and 29,100 Sparc 20s, it said.

Data General has hired James Rothnie, former executive VP responsible for new product development, customer service and manufacturing at Kendall Square Research, as VP, AViiON software development reporting to Joel Schwartz, VP and general manager of the AViiON business unit. He replaces Larry Portner who, after 18 months in the job, has decided to return to consulting for DG. Rothnie had previously been president of Computer Corporation of America.

Sweet irony: **IBM's** advertising agency **Ogilvy & Mather Worldwide** has hired the guy who's been responsible for **Apple** ads and is putting him in charge of the \$400m-\$500m IBM account. Steve Hayden helped create the George Orwell 1984-like commercial that introduced the Mac.

Digi International has named Ervin Kamm president and chief executive, effective January 1. His predecessor Mike Moroz is retiring. Kamm is currently president and chief operating officer of Norstan Inc, a \$230m public telecommunication company.

The Central Bank of the Russian Federation, which has 100,000 employees, 40% of them computer users, has picked Informix as the standard database in a five-year multimillion dollar downsizing project that will replace a bunch of proprietary systems. It's for all Informix products. Hardware will be supplied by Sun, AT&T GIS and Intel platforms.

Visix Software Inc has named Stan Dolberg, former VP of marketing at Unix System Labs, as its VP of marketing, responsible tactically and strategically for its Galaxy application environment.

IBM and Apple, among others, have adopted **Sun Microsystems Computer Company's** OpenBoot firmware and SMCC figures they got enough of an endorsement to make the thing an industry standard. The IEEE Standards Committee has approved a Boot Firmware standard (IEEE 1275-1994) based on the Sun processor/bus-independent design.

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SEQUOIA ENDS TALKS WITH DEC...

Sequoia Systems Inc last week announced that it has discontinued discussions with Digital Equipment Corp to buy DEC's fault-tolerant Alpha RISC-based development effort (UX 502). It says that the decision follows more than two months of due diligence and negotiations, after which both parties concluded that a satisfactory agreement could not be reached. The merger with Texas Microsystems Inc notwithstanding - see below - it means the Marlborough, Massachusetts-based company is effectively back to square one in its search for a follow-on architecture to the Motorola Inc 68040 it uses in its Series 400 system and the one-to-four processor low-end Series 40 machine developed by Samsung Electronics Co. The long-promised fault-tolerant Sparc machine built around its technology by Toshiba Corp has metamorphosed into a PowerPC development that Sequoia says it will still market outside Japan, albeit later again than expected with Toshiba's chip switch (UX No 512). Although it is still evaluating the part for its own use, PowerPC is only one of the processor options it now has given Texas' interests, Sequoia says. Indeed for the moment the company appears less interested in finding new customers than satisfying demands for greater price/performance from its installed base. It is still readying enhancements to the Series 400 for year-end that will incorporate Series 40 features such as scalability - no chip decision is expected until well into next year. Under the proposed arrangement Sequoia was to have taken DEC's 20 to 30 fault-tolerant development staff to finish Tradewind, the Alpha FT box. Sequoia says talks stalled on price, marketing, manufacturing and other issues. DEC, which refused to comment on the future of its fault-tolerant line except to advise its customers, which number in the low hundreds, to "sit tight," says it simply couldn't accept what Sequoia had offered for the business.

...TO PAY \$20m IN SHARES FOR TEXAS MICRO

Meanwhile, demonstrating that it really is back in the rudest of health, Sequoia Systems Inc last week announced that it is to acquire Texas Microsystems Inc, the privately-held Houston, Texas manufacturer of environmentally-rugged and fault-tolerant microcomputer systems for industrial and telecommunications applications. The acquisition marks a significant diversification for Sequoia because apart from building ruggedised Sparc-based systems, Texas Microsystems main business is building sort-of fault-tolerant iAPX-86 MS-DOS machines. Fault-tolerance being achieved by using a monitoring co-processor rather than by using multiple processors. Back in 1991, the company was looking for a substantial base in Europe. Under the agreement, Sequoia will issue 5.2m new shares for Texas and its manufacturing affiliate, valuing the deal at an indicated \$20m, which suggests that the target is unprofitable, since that buys some \$45m of volume, up from \$35m in 1991, and doubles the size of Sequoia, resulting in a company with annualised revenues of nearly \$90m. The combined companies presently employ more than 400 people worldwide and Texas Micro will be run as a separate subsidiary of Sequoia Systems. The long-term plan is to merge technologies, products and distribution, according to Sequoia, though how or if this will affect its more immediate architectural requirement is unclear.

ULTRASPARC MAKES FIRST SILICON

We were in New York City last week on other business and happened to run into Sun Microsystems Inc CEO Scott McNealy. He was on his way to Europe where his new bride, her mother and his mother were making their way through his bank account on a shopping spree. Before he left, he reached into his pocket and passed into our hands perhaps the last possession of any value he can honestly call his own - the first UltraSparc chip. The thing reached first silicon before the end of October like Sun said it would (UX No 506). It has 5m+ transistors and so far it's been unable to find any bugs in it, indicating how solid it is, McNealy says. It started with a 140MHz part and wrung the circuit noise out of it. Back in California, a now 167MHz part is running in a box especially designed for it, has booted Solaris and is passing e-mail, according to Sparc Technology Business chief Chet Silvestri. The system has its own new board, new ASICs and a new UPA bus. Silvestri reckons the progress made could translate into moving the schedule up a quarter and that Sun might have its first UltraSparc boxes announced in its first fiscal quarter next summer. Spring would be too early, McNealy indicated, because they will run Solaris 2.5. Chips are expected to be available at 140MHz, 167MHz and 200MHz. Meanwhile, Sun has the SuperSparc chip running at 90MHz in systems. Expectation are that it'll come out as an upgrade in the first half. McNealy is due in Moscow today (Monday).

MAC OS IS UNLEASHED

In what was almost just another routinely bland announcement, Apple Computer Inc, IBM Corp and Motorola Inc duly unveiled the Common Hardware Reference Platform (CHRP) for PowerPC system designs last week. Further details aren't expected until next spring - hardware isn't seen before the second half of 1996. What saved the day was what, with one exception, went unreported; that Apple will offer Mac OS as a shrinkwrapped off-the-shelf product. The news, which leaked out of an event in which the three companies steadfastly refused to answer software questions means that whether and to whom Apple will license Mac OS is now a non-event and not an issue. Jim Gable, Power Macintosh Line Manager told our sister publication *PowerPC News* that once the new open PowerPC design is out in the latter half of next year, Apple will offer Mac OS as a shrinkwrapped retail product, so that any user will be able to buy a compliant machine from any vendor and go out and buy Mac OS off-the-shelf to load on to it. Gable guesses that the street price in two years time may not be too dissimilar to the \$100 Mac users are charged for Mac OS today. Licensing issues, he says, will arise only where a manufacturer wants to pre-load Mac OS - but Microsoft Corp must have sold 40m or 50m copies of Windows before any vendor thought of preloading the thing. The notion of Mac OS end-user sales is not mentioned in any of the briefing material. Even Apple's own White Paper only states the new platform "creates the base for broad licensing of the Mac OS to a wide range of vendors that adhere to the hardware reference platform." However Apple's 'crown jewels,' the Mac ROM, is not part of the standard, which is limited to mandating a slot for the ROM. Gable suggests that manufacturers worried about the cost of the ROM can just leave the slot empty, and insists that if people buy empty slot machines, they will be able to get the ROM and Apple won't create any difficulty over this. But will they be part of the price of shrinkwrapped Mac OS, come in the same box, be in the stores alongside Mac OS but separately priced - or will you have to get them directly from Apple at perhaps another \$500? With the genie out of the bottle our suspicion is that Apple will not be able to make an issue of the Mac ROM once a head of steam for the concept of a shrink-wrapped Mac OS builds. Moreover, whilst Apple's intent flies in the face of the traditional practice of pre-installing 32-bit operating systems, could this be the first whiff of a hardware-less Apple?

DATA GENERAL TO SUE IBM FOR PATENT INFRINGEMENT

After years of negotiating, Data General last week lost patience and filed suit against IBM in the Massachusetts federal court charging it with seven counts of patent infringement. DG claims IBM's AS/400 and System/390 violate patents it holds on CPU and memory technology that it developed in connection with a \$25m late 1970s project it had called Fountainhead that involved 100 cutting-edge researchers. Fountainhead, unlike the Eagle project made famous by the book, *Soul of a New Machine*, came to naught - except for the 50 patents DG filed - and for obscure legal reasons Data General declined to say last week whether it currently uses any of the Fountainhead technology, particularly the stuff it says IBM infringes on. According to the suit, Fountainhead was designed to develop the most advanced 32-bit mini-computer of its time, capable of mainframe power and competing against IBM. The patents purportedly infringed centre on such seemingly modern concepts as naming, object-based addressing, the capacity to execute multiple instruction sets and object-based memory and security. All the patents in question were filed between 1984 and 1989. The AS/400 was introduced in 1988 and the 390 in 1990 with knowledge of the DG patents, the suit claims. DG is asking the courts for a permanent injunction against IBM, compensatory and punitive damages and legal fees.

CADRE ADDS SHLAER MELLOR METHOD TO OBJECTTEAM

Cadre Technologies, of Providence, Rhode Island, has updated its ObjectTeam C++ development system for the Shlaer Mellor methodology, with an improved object repository and integration enhancements as well as extended code generation capabilities designed to dovetail in with the introduction of the recursive design approach into the Shlaer Mellor method, with benefits in terms of automated code generation and software re-use. The new version of ObjectTeam for Shlaer Mellor includes a pre-packaged template for generating C++, C and Ada code, the ability to derive and generate automatically a Shlaer Mellor state transition table and the ability to generate documentation to standard formats, including DoD 2167A and the draft DoD-498 standards. The release follows the announcement in July of the use of Visix Software's Galaxy development environment to provide ObjectTeam tools for the Shlaer Mellor methodology, as well as a number of third party technologies for the Rumbaugh-based version of ObjectTeam. Cadre has also upgraded its Teamwork for Ada development product, adding editing, re-engineering and metrics features in the form, respectively, of its Ada-Assured, RevAda/Twk, and QualGen tools.

"WIRED WHITEHALL" SUGGESTS OPEN SYSTEMS TO BECOME OBSOLETE

London-based public sector research specialist Kable has come up with an innovative look at where it thinks UK Government IT strategies are heading. In its "Wired Whitehall 1999" report, published last week, Kable took the results of more than 50 interviews with a range of people, both inside and outside the civil service, involved with public sector IT, and came up with a fictional report, postulating how government systems will have developed by the end of the century. The report believes that UK citizens will have access through electronic networks to the government departments affecting their daily lives, that national identity cards will be in place, that a national public sector IT strategy will have emerged - but will be a set of technical guidelines, rather than an all-encompassing information strategy, and that the government will be paying most benefits directly into claimants' bank accounts or smart-card credits, and will be working on the development of a Single Citizen's Account by 2004. A new generation of middleware, says the report, will have made obsolete the old obsession with "open systems" and it adds that by 1999, standards will be safe in the hands of the market, although it reckons there will still be a need for a central government body, not unlike the by-then obsolete CCTA, to identify and evaluate impartially new technologies. Copies of the report, which is sponsored by BT and Ernst & Young, are available from Kable, on +44 171 410 9046.

FIREFOX OFFERS NOV*IX 2.2 SOFTWARE FOR NETWARE

Solihull-based UK LAN communications specialist Firefox has brought out V2.2 of its NOV*IX software for NetWare. NOV*IX was launched 18 months ago to provide a server-based communications system for Novell NetWare to handle such aspects as IP address management. The last release of NOV*IX was V2.1, released a year ago, and V2.2 has a number of enhancements, particularly in the security area. The new Fire*Wall feature handles inbound and outbound traffic, to give network managers greater control over Internet connections. For inbound calls, Remote Connect Security allows the NetWare administrator to decide which calls a system will accept and enables source IP addresses to be defined and put into reject and accept lists. For outbound calls, Internet Connect Security controls which external hosts and services can be accessed by IPX/SPX workstation users. V2.2 also includes a hot stand-by feature, with a copy of the software loaded onto a separate server to cut in automatically if the first system fails. Other features of V2.2 include shared network card support, the ability to run over FDDI networks, and IP address pooling. The software comes in three configurations: Elite, Workgroups and Client/Server, and prices start at £850 for a five-user version of NOV*IX Elite. The 100-strong company, which has two US offices in Washington DC and San Jose, has seen its export sales rise from 3% three years ago to 58% last year.

ORACLE ADDS OFIRS REPORTING FOR OILMEN

Supplier interest in the oil industry is booming. In September there was the announcement by the Petrotechnical Open Software Corporation, whose aim is to bludgeon suppliers into putting together some open systems that actually work together (UX No 506), that it had completed the first two phases of its Industrial Pilot Project. At the time Oracle Corp opted to hedge its bets, providing Oracle systems with UniSQL middleware to appease the POSC standards without too much detailed work. But Oracle still has its eye on the lucrative oil market, and has developed a Unix package, the Oil Field Reporting System (Ofirs), which it has sold to Conoco, which is downsizing onto an RS/6000-based client/server system away from its mainframe in Germany. Ofirs will be used by Conoco to report on its gas production in seven North Sea fields.

WOLLONGONG TO TAKE DHCP FROM COMPETITIVE AUTOMATION

Network administration outfit Competitive Automation Inc, Menlo Park, California, has got its Dynamic Host Configuration Protocol software into the Wollongong Group, which is to incorporate it into its TCP/IP client stack. It has an option on the Join server version. The work should take no more than three months, Wollongong estimates. DHCP is an Internet systems administration protocol which automates the addition of devices to TCP/IP networks. The Competitive Automation software is already bundled by SunSoft Inc. Wollongong says the technology will allow configuration and relationship management environments to be extended and to offer facilities Internet service provider account information in future. Wollongong will add Window NT versions of its Windows, Mac, OpenVMS and Interactive Unix PathWay TCP/IP software.

IBM EXTENDS ITS MQ SERIES

IBM Corp has extended its MQSeries commercial messaging software with better security, performance, and client/server support for AIX, OS/2, DOS and Windows clients. There are also new server versions for AT&T/GIS Unix, Sun Solaris and Tandem Himalaya platforms. Launched in March 1993, IBM has recently changed the emphasis of MQSeries more towards its use as an underlying communications backbone upon which third party software developers can move their desktop products towards distributed enterprise applications, and claims that MQSeries now has the support of some 50 independent software vendors, integrators and software service companies. Software built on top of MQSeries includes workflow systems from Early Cloud and Co, and IBM's own Flowmark workflow software. IBM recently bought out the rights to the underlying MQSeries technology from original developers Apertus Technologies (UX No 505), and manages the product line from its Hursley Labs in Winchester. Apertus is now concentrating on its Express SNA connectivity software, which it has just made available on Motorola, DEC, Tandem and Simpat gateway communications servers.

AUSPEX'S "LATEST SCUD MISSILE"

Auspex Systems Inc has got a patent on its embedded NFS server design. Its design, it says, doesn't rely on Unix, which is apparently why it got the patent. The patent was filed in late 1992 as an extension to one filed in 1989. The Auspex announcement has got at least Network Appliance Inc in a dither. Network co-founder Mike Malcolm, who calls the thing "Auspex's latest Scud Missile" in a memo he circulated internally, believes prior art involving non-Unix operating systems will render the Auspex claims invalid thus moving Network out from under the threat it may be infringing a valid Auspex patent. Malcolm also claims that "All of Auspex's systems for providing NFS service absolutely rely on the Unix operating system. If you remove Unix from an Auspex system, it won't even boot, let alone provide NFS service!" He then goes on to say that "We believe Auspex added these new claims to their patent in an attempt to thwart Network Appliance. This is a desparate act. Since they cannot compete on the basis of superior products and service, they are resorting to litigation marketing."

ONTOS ADDS BACK-END RELATIONAL DATABASE LINK

Continuing to re-fashion itself as a framework and development tool provider, object database pioneer Ontos Inc is adding a back-end relational database integration mechanism to its product line, which it now calls its Virtual Information Architecture (VIA). The first product release of VIA is the Object Integration Server (OIS). It comprises a mapping repository, schema mapper and schema capture and is tailored in its initial guise for the Sybase database with Oracle, Microsoft SQL Server and IMS versions planned. The goal of VIA is to fit desktop applications to databases and to each other, transparently. OIS for Sybase has a graphical tool for automatically mapping Sybase information to C++ objects which Ontos claims can be connected to data stored in any form without changing the application or the database although the mapping structure must be reconfigured. OIS runtimes include a client library, Sybase-specific technologies and installation software. A bundled development and runtime environment, consulting and training starts at from \$70,000. The latest revision of OntosDB, the key component of VIA, provides the framework for integrating object and non-object information sources (UX No 484). Burlington, Massachusetts-based Ontos was recently handed what appeared to be a life-saving \$5m investment by Daimler-Benz AG (UX No 505) to develop what is described as a 'virtual corporation' with the intent of working cooperatively to explore ways of integrating next-generation object technology with existing information systems. The cash from Daimler, for which Ontos is designing an object based information infrastructure, has enabled the company to continue to create new commercial products for its overall Object Cohesive Enterprise strategy (OCE). OCE is the product of \$8m in venture capital funding from a group of investors headed by JP Morgan Capital and Wolfensohn Associates LP at the beginning of this year. Ontos insists reports of life-saving cash injections are wide of the mark.

NOVELL OPTS FOR CHORUS MICROKERNEL TO UNDERLIE SUPERNOS

Although neither firm seems to have made much of the revelation, buried in our review of the company's "steady-as-she-goes" pep talk last week (UX No 512), was the news that Novell Inc has plumped for Chorus Systemes SA's microkernel over Mach for the basis of its integrated SuperNOS kernel, touted as the platform upon which UnixWare and NetWare will co-exist. We understand Novell has a prototype microkernel version of NetWare now that is up and running - though probably not the same beast that will feature in SuperNOS - work to integrate UnixWare 2.0 and Chorus is continuing. Novell is also working with Unisys Corp on a single-image for its microkernel platform. Meanwhile, Unix Technology Group members are currently looking at how enterprise stuff like high-availability can be fitted to a microkernel. Talking has continued, albeit intermittently, on the possibility of drumming-up open APIs for all microkernels to encourage ISVs and vendors to develop marketing strategies.

NOVELL LAUNCHES TUXEDO SYSTEM 5

Hard on the heels of announcing OSI TP conformance for V4.2.2 of its Tuxedo transaction processing system, Novell Inc announced the launch last week of Tuxedo System 5, which includes the OSI TP conformance as well as other enhancements, including DEC integration, additional server and client platforms, a new runtime trace feature, and dynamic data-dependent routing. The main addition to System 5 is the Domains feature, which gives more flexible systems management and enables administrators to configure Tuxedo servers into autonomous groups called domains, as well as being able to specify which application services in a given domain are to be exported to other domains. Conformance to the ISO and X/Open OSI TP standard will enable a Tuxedo transaction to flow between different networked machines using vendor-supplied OSI TP stacks, such as those from Unisys, Bull, ICL and Siemens Nixdorf, whose UTM TP monitor has support OSI TP since last year.

EVEREST TO BETA NEXT WEEK

In Europe for a year-end review of sales targets, Santa Cruz Operation Inc president and CEO Lars Turndal, and CFO and senior VP of operations Alok Mohan paused in London to launch a renewed campaign for SCO as purveyor of Unix for Intel-based business servers. The campaign is part of the Windows-friendly strategy that SCO has been espousing for the past year, and is intended to carve out a market for the company in a space somewhere between NetWare and NT. Everest, SCO's next operating system release with enhancements to distributed systems management, among other things, goes to beta test next week at 200 sites around the world, said Turndal. Everest is due for release by mid-1995, with SCO remaining tight-lipped about a precise date. Meanwhile, the marketing campaign, which includes a series of advertisements featuring little green men on large purple sofas - colour coordination reminiscent of its IXI Ltd subsidiary's Unix Expo dayglo effect - is aimed at small and medium businesses, the public sector, and departments within large companies, rather than going for the enterprise server market. The SCO market approach predicates that NT will eat into sales of NetWare, UnixWare won't be able to take off quickly enough, while OS/2 is the joker in the pack, said Turndal. The company was also emphatic that it will not be porting over to the PowerPC until there are a lot more systems out in the market - five million or so are needed to make the move worthwhile, it reckons. When that time arrives, however, SCO is confident about putting its operating system onto RISC- Turndal said there's a dusty version somewhere on a shelf, left over from the ill-fated ACE venture, when SCO was planning to jump into the RISC world with Microsoft and Mips. SCO's relationship with Microsoft, which has a seat on the SCO board and which is a major shareholder in the company, is interesting, acknowledged Turndal. "We are becoming more competitive; I do reserve the right to ask Microsoft to take a walk round the building when we are discussing competitive matters at board meetings," he said. The company is also happy to highlight recent blow-outs for NT, as at the UK's National Grid, which has evaluated NT but opted to stick with SCO. In Europe, company growth is running at between 18%-20% a year and worldwide, the company is still seeing 15% growth, said Mohan.

HP ADDS ADMINCENTER TO OPENVIEW

Hewlett-Packard Co this week rolls out AdminCenter, a configuration and change management module for OpenView. According to HP it automates stuff like configuring new systems, servers, users and software and provides a single view for the administrator. It manages software, file systems, peripherals, users and groups, passwords, systems and print spoolers as well as other HP-UX, AIX, Solaris and Windows systems. HP says AdminCenter in its initial guise allows an administrator to set up software, login and a network password for a new users and offers past, present and planned future change information and will be out in March for HP-UX at from \$15,800. AIX, Solaris and NetWare agent support will follow by mid-year.

DEC'S MULTIA MULTI-DESKTOP CHALLENGES X-TERMINAL MODEL

Could DEC's launch last week of a 'multi-client desktop' running PC and X applications at the desktop without relinquishing centralised control herald the end of the line for specialised X-terminals? Certainly there seems to be little future for DEC's own XVT line of X-terminals following the introduction of Multia (UX No 512), which is both faster at running pure X (2,500 Xstones is estimated, although the X11 R6 software is not available until early next year), and more flexible, allowing for the later addition of PCMCIA and PCI peripherals for multimedia, video conferencing, fax modems, FDDI, SCSI and various network connections. As prices and margins on X-terminals have plummeted, both Network Computing Devices Inc and Tektronix Inc have shown signs of a shifting emphasis towards software, NCD pushing its way into the PC-X server market and Tektronix working with multi-user NT developer Citrix Systems in order to bring PC applications over to the X world. Tektronix's argument is still that you should keep the desktop device cheap and simple and do all the upgrading at the central, server end if you want a performance boost. But DEC argues that with the addition of extra software to get access to PC applications, there needs to be some serious server power to achieve acceptable performance, and that cancels out the cost benefits of the desktop devices. But while Tektronix sticks to the X model and separates the front and back-end of Windows and NT programs through its WinDD client code, Multia hardware uses a 166MHz Alpha chip, a 350Mb hard disk, and has Windows NT 3.5 running locally. Once X11 R6 becomes available, it will offer cutting and pasting between X and Windows. A third alternative is another multi-user NT effort from Microsoft spin-off ConnectSoft Inc of Bellevue, Washington, whose forthcoming X Connect for Windows product will allow any 16 or 32-bit Windows application that renders in a Windows window to run as an X client on NT Server. No additional software is needed at the X-terminal end, and any X-terminal or PC running X can be used, whereas the Tektronix solution is limited to Tek's own TekXpress terminals with code added in ROM. X Connect will initially support only a single X device, and when the multi-user version becomes available will support four on a 486 server or 10 on a Sequent machine. DEC itself, Wyse and NCD are said to be looking at the product.

Not a PC

The reason that Multia isn't a PC, said DEC, is that it includes communications software that allows access "to any networked data source", and configuration management software that controls its use, retaining centralised control. Communications options include TCP/IP, DECnet, Pathworks, Novell Netware, LAN Manager, and soon NFS and LAT. The configuration software ensures that all data held locally on the PC is also copied onto the server, and can also control security, the use of floppy disks, and peripherals. PC applications can therefore be run either locally or remotely. If a user requires access to, say, the Excell spreadsheet only occasionally, it can be left on the server, cached locally when required, and afterwards erased. If stored locally, the application's data is stored on the server. Individual or workgroups of desktops can be configured and managed, and each desktop can be customised. There are two PCMCIA slots, PCI graphics accelerator and slot, built-in sound and SCSI, and standard Thin-wire, AUI and 10BaseT Ethernet connectors. DEC claims that 16-bit Windows apps will run at Intel 486 DX rates, while 32-bit Windows and NT applications will run 2-3 times faster than Pentium systems.

PIPEX ADDS WORLD WIDE WEB SERVER

Pipex, a subsidiary of the Unipalm Group based in Cambridge, UK, has extended its commercial Internet services with World Wide Web connectivity, based around a new dual processor SparcServer 20 with 45Gb of storage, which the company claims is the largest commercial public file server in Europe. The new server is connected to the Pipex network at its main Point of Presence in London's Docklands, with 16Mbps of external connectivity to the Pipex network. Pipex recently brought together all its European partners under the name of Pipex International, with up to 50 Points of Presence on its European network, 24 of them in Germany and eight in the UK.

INTERCON LICENSES PIPELINE INTERNET GUI FOR UNIX SERVERS, WINDOWS/MAC

In between writing his bestseller Chaos, on the history and meaning of the Chaos theory, author and technologist Jim Gleick developed an easy to use graphical interface access tool for the Internet. The product, called Pipeline, has already become popular with Internet users, but has now become available to a wider set of commercial users through a licencing deal with software developers InterCon Systems Corp of Herndon, Virginia. InterCon, with its TCP/Connect II product line, was the first company to produce a commercial TCP/IP product for connecting Macintosh systems to local and wide area network systems, including the Internet. It has also introduced NFS and UUCP products into the Macintosh world, and more recently, despite a continuing pro-Mac bigotry, the company has extended its reach to include Windows environments. Pipeline is a client/server product which runs on a Unix server and has a choice of either Windows or Macintosh clients. The client packages (version 2.0 for Windows and 1.0 for Macintosh), are designed to greatly simplify the task of accessing the Internet, and support the World Wide Web Internet graphical hypermedia tool. The server product also allows for the customisation of user menus and dialogue boxes, and can support multiple clients over the local or wide area network. Pipeline can be used to exchange e-mail and multimedia attachments, participate in Usenet newsgroups, navigate databases and research facilities and download files and software. As well as the World Wide Web, access to Internet tools such as Gopher, Archie, Veronica, WAIS and FTP is available. Pipeline Server for Internet service providers, information providers and corporations costs \$7,500 in the US. The client software is licensed to corporations and service providers on a per user/per year basis, with prices starting at \$50 per user/per year, with quantity discounts. Both client versions are available immediately. The Sun Solaris version of the server product is also available immediately, with other Unix versions scheduled to appear during the first quarter of 1995. HP/UX, UnixWare and SCO versions are high on the list. Products are available on a 30 day free trial period to users who have anonymous FTP access to the Internet. To install the trial software, the user downloads the files from the FTP server directory /intercon/sales/*. The directory contains installation information in a Readme file. A serial number and access key can be obtained through e-mail at sales@intercon.com. InterCon Systems has a UK subsidiary in Reading, Berkshire, and distributes products through companies such as Unipalm and Principal. At the Paris Interop Show in October, InterCon also announced version 2 of TCP/Connect II for Macintosh, a System 7.5 compatible Power Macintosh native application including MIME-compliant e-mail, a Gopher client for Internet access, a Point-to-Point Protocol implementation and automatic decoding of all incoming files including FTP.

SUN HOLDS UK CHANNELS CONFERENCE

Sun Microsystems held its UK Channels Conference last week, a large scale event held in out of the way Battersea Park, south of the Thames. In the UK, Sun has 250 resellers under the auspices of ICL-owned Technology Plc, and a further 100 it deals with direct: these include specialists such as London-based MicroMuse. In addition, Sun has signed up TIS (part of the Misys Group) as a master Sun Authorised Reseller (SAR). TIS will be selling hardware to its existing commercial reseller base of around 100, currently using Mips-based hardware: TIS was somewhat left in the lurch when Mips was subsumed into Silicon Graphics Corp, and the commercial systems side of the business de-emphasised. Sun has also instigated a new category of reseller - the Academic Business Centres - which will concentrate on the education market. There are currently seven ABCs, including reseller of the year ATS System Sales. Sun also sells systems through specialist OEMs such as pre-press experts Crosfield Electronics, pronounced Sun OEM of the Year at the event, and through systems integrators such as EDS, Anderson and Data Sciences. EDS won integrator of the year award for its work on the World Cup USA implementation and the multi million pound RAF LSS Logistics Project. ICL, Unisys and Bull also sell Sun workstations.

NEC CLAIMS MOST POWERFUL SUPERCOMPUTER WITH SX-4

NEC Corp is claiming that its new SX-4 Series of scalable parallel vector supercomputers are the most powerful in the world - but don't all rush at once: deliveries don't start until December next year. The ~~new SX-4 Series is offered in compact, single-node and multi-node~~ models rated at up to 1 TFLOPS peak performance. Entry-level Compact systems are offered in one-to-four processor configurations and are rated at 8 GFLOPS peak with 64G-bytes per second bandwidth. The SX-4 Series Single-node models scale from four to 32 processors providing 8 GFLOPS to 64 GFLOPS peak performance and up to 8Gb of shared Synchronous Static RAM main memory, which accepts an address and produces a data element every clock cycle. The top-of-the-line SX-4 Series Multi-node configurations can be scaled from two to 16 nodes of up to 32 processors each in a single system image with peak performance ranging up to 1 TFLOPS. Substantial parts of the machines are built in CMOS. They combine a shared and distributed memory architecture and use a crossbar network for high speed internode communication. Each node has a fibre optic connection to the crossbar switch and can transfer data at 8G-bytes per second, "more than 100 times faster than the IBM SP2," NEC says. Latency is constant between nodes, no matter how many nodes are coupled into the system. Nodes can also be interconnected more cheaply using HIPPI channel coupling. The machines run Unix System V with Berkeley Software Distribution extensions and NEC-developed supercomputer enhancements; languages available are C, C++ and Fortran 77 and Fortran 90. The input-output subsystem supports from 1.6G-bytes per second to 76.8Gbps aggregate bandwidth via HIPPI and SCSI channels. All models support IEEE, Cray Research Inc and IBM Corp floating point data formats fully implemented in the hardware, NEC says. Launched in the US, Europe and Japan, the SX-4 Series starts at \$380,000 for an entry-level SX-4 Series Compact Model Ce single processor with 256Mb main memory. High-end configurations rent for \$6m a month. NEC hopes to place 250 of the new machines over three years.

SIEMENS PICKS SUN, SCIENTIFIC-ATLANTA FOR MULTIMEDIA EQUIPMENT

Siemens AG's US video-on-demand partners turn out to be Sun Microsystems Inc and Scientific-Atlanta Inc, and the three have agreed to develop and market an architecture for combined multimedia and telephone networks, called IMMExpress; content providers may be invited to join the alliance. The partners have already invested \$100m and see that rising to \$1,000m by 2000, Sun says. They hope to get into the market quickly enough to set standards. They will start in the US. Teaming with Sun will take Siemens into the Sparc RISC camp: up to now, its allegiance has been primarily to Mips R-series, which it fabricates. The agreement is the next plank of SNI's new-found enthusiasm for Sun technologies begun with DOE (UX No 482).

AEROFLOT BUYS TRICORD SUPERSERVER FOR INTERNATIONAL AIRPORT

One of Moscow's most fickle computer buyers, Aeroflot, has purchased a Tricord Systems Inc Superserver for use at Sheremetievo II international airport. The Russian carrier had a \$150m project with IBM Corp but since the agreement fell through seems to have been talking to everyone about hardware. The Tricord is being used for training, Unix development and connecting existing wide area networks. Tricord distributor Hadler International says the machine will be used alongside the IBM mainframe that was installed earlier in 1993.

APPLE USES UNANNOUNCED 601 CHIP IN POWERMACS

Apple Computer Inc last week announced a new 110MHz Power Macintosh, even though IBM has not launched a 110MHz version of the PowerPC 601 chip. The Macintosh 8100/110 uses the 601+ PowerPC, which has hitherto only appeared in 90MHz and 100MHz flavours. But the machine is expensive. With a 2GB hard disk, 256kB L2 cache and 16Mb of RAM, the machine costs \$6,379, pushing it squarely into the workstation price arena. With IBM pushing the next generation 604, a 110MHz 601 may never become generally available. Apple has demonstrated 120MHz 601 PowerMacs at trade

IBM OFFERS VIRTUAL REALITY FOR THE RS/6000, SILICON GRAPHICS STATIONS

IBM Corp is dabbling in the realms of virtual reality and has announced a real-time virtual reality walk-through software package for computer-aided design. The three-dimensional Interaction Accelerator, ~~which took roughly two years to develop at its Thomas J Watson Research Centre, New York, enables engineers and designers to take real-time walk-through tours through models of things such as engines, aeroplanes and buildings or molecules in order to review the model and inspect for design errors. The mouse or spaceball control used to control the camera is said to move at the same speed as hand movements, adjusting the quality of the image in real-time. This is due to the fact that the software constructs simplified geometrics to achieve interaction and then computes the picture from the geometrics. Users can work in the default setting that adds depth to the picture, mimicking the patterns of the human eye, so that close up, objects appear much sharper than those that are further away. In terms of picture quality the screen will display up to 500 faces, the upper limit for the graphic performance of the system. Interaction Accelerator is compatible with computer-aided design databases including assemblies of models designed in Catia, architectural models from A&ES, DXF files from AutoCAD, and Render files from Pro/Engineer. Interaction Accelerator runs on IBM RS/6000 workstations and PowerPC Model 25T and Silicon Graphics Inc workstations under AIX or Unix with X Window and Motif. It is shipping now at \$8,000 per user with a charge of \$1,000 on extra per additional software package.~~

RUSSIANS RELAX TRADE LAWS; HERALDS CRAY RESEARCH'S ENTRY INTO MARKET

Cray Research Superservers Inc, manufacturer of high-end Sparc-based servers - this year chose Comtek for its first showing in Russia. Until this year Cray Research was effectively prevented from selling any equipment in Russia by high technology trade restrictions. CoCom, the body co-ordinating these export controls, was dissolved on March 31, opening the way for Cray to make a start in Russia. Cray Research Superservers is allied with Sun Microsystems Inc and Sun will be the principal vendor in Russia. At Comtek, Cray came to agreements with Sun value-added resellers Jet Infosystems and LVS Systems. President of Jet Infosystems Eugene Shablygin says although demand for the company's products will not be huge, within six to nine months he is confident that he will be selling Cray machines to larger banks and financial institutions. "The cycle repeats itself every year with more powerful families of computers," says Shablygin. Cray regional director Uwe Wagner says his company will open an office when it has its first Russian installation.

TADPOLE DIVERSIFIES INTO PENTIUM-BASED LAP-TOP

Shares in Cambridge, UK-based Tadpole Technology Plc jumped as the company announced what it claims is the world's most powerful laptop personal computer. The Tadpole P1000 uses a 100MHz Pentium processor and, claims Tadpole, offers the largest system memory of any portable computer. It takes 8Mb to 128Mb and a maximum 810Mb removable hard disk drive. Tadpole say the P1000 is aimed at portable users needing to run applications such as three-dimensional modelling, multimedia applications and video conferencing. Tadpole managing director and founder George Grey is confident that Tadpole will win customers by providing the most powerful notebook available and by providing for upgrades to be made as faster processors become available. The P1000 will start shipping in January and prices start at £5,500. The company does 4,500 Sparc laptops a year now and hopes to do 25,000 of the P1000 a year. With Texas and Ross Sparc, Intel PowerPC and perhaps other CPU models, talk is that Tadpole may be designing a system for plugging-in any RISC CPU.

NEC RAISES ITS STAKE IN BULL: 10% IS SEEN

NEC Corp has now decided that despite reservations, it will raise its 4.43% stake in Compagnie des Machines Bull SA, but declined to say by how much. Japanese press reports suggested it would raise it to 10%. "We are still discussing the matter with Bull at this time," NEC said. The Nippon Keizai Shimbun says NEC will invest \$100m more; the French state is also said to be talking with France Telecom and Motorola Inc.

CLARION BECOMES TOPSPEED, HOPES TO END THE CONFUSION

Pompano Beach, Florida-based Clarion Corp has changed its name to TopSpeed Corp, to reflect the name of the compiler it acquired when the company took over London-based Jensen & Partners in 1992. The TopSpeed compiler is now at the core of the company's software development, which is split across the Atlantic, with development taking place at the UK operation, while testing and documentation is carried out by a 60-strong US team. There is no name change, however, for the Clarion range of database development tools, built around the company's Clarion programming language. Barry Lynch, managing director of the UK company, TopSpeed Software, which employs 20 staff in its Harpenden, Hertfordshire, offices, said the reason for the name change is to endorse the importance of the TopSpeed technology. He added that with the launch of Clarion for Windows imminent, the company wanted to avoid misunderstanding in the market. Confused? The people who keep ringing the Harpenden office under the impression that they are speaking to Clarion Car Radios will have fewer market misunderstandings, as will the people who ring Clarion Corp to speak to either Clarion Hotels or Clarion Cosmetics, and Lynch says the company has never been confused with DG's Clariion RAID range. But the bad news is that although there's no other TopSpeed in the US, there is a UK firm that tunes racing cars called, you guessed, TopSpeed.

CONVEX OPTS FOR CLARIION RAID

Continuing its drive for new OEM outlets for its Clariion data storage system, Data General Corp has won Richardson, Texas-based Convex Computer Corp, which is to replace a mix of individual data storage products across its DataSeries range with Clariion disk arrays. Convex has been struggling recently in the minisupercomputer market, with a second quarter loss, announced in July, of \$31.8 million on sales down 22.3% to \$35 million. Alongside these losses, the company announced a major overhaul, laying off 7% of its staff, but said it would be back into profit as sales of its C4600 machines and its newer Exemplar Scalar parallel Processor system, built around Hewlett-Packard's PA RISC chips, took off. Regarding the DG deal, Convex said it needed a cost-effective, RAID-based storage system to add to its existing tape library storage system, and chose Clariion because it provided good price performance, but refused to give details on how much the deal is likely to be worth to Data General.

UNIFACE OFFERS MIGRATION SERVICE

Netherlands software developer Uniface, now owned by Framington Hills, Michigan-based Compuware Corp, has launched a European diagnosis service to help users migrate away from their legacy systems and towards a client/server environment based on the company's eponymous development tools. At the heart of the Escape migration programme being launched by Uniface is that solid old-fashioned diagnosis mechanism, the questionnaire. Users wanting to migrate their legacy systems to Uniface have to fill in a form about their present systems and send it back to the company, which in turn sends back a brief assessment of the main factors that would be involved in the migration. Thus far, the service - somewhat grandly named Rapid Migration Audit - is free, but beyond this phase it begins to cost money, as Uniface then starts charging consultancy fees for more detailed assessment of individual customers' needs, and, of course, for the migration process itself. The company says such a programme is needed because large organisation moving into client/server computing are continuing to underestimate the development effort involved in migrating corporate applications. Uniface reckons that about 80% of an application will, on average, transfer to a client/server platform; the problem is trying to identify in advance the 20% that won't. The questionnaires being used by Uniface have already been tried out by the company's professional services division with a couple of corporate customers. It's impossible to automate the process, says Uniface, because there are so many different factors involved in looking at different company's existing systems, so it's a manual process so far for its seven full-time UK consultants. Uniface adds that although the problems of migration apply to customers on both sides of the Atlantic, this particular programme is so far being rolled out in Europe only, with Compuware in the US handling its own professional services.

CRC's ATHENA MARKETING SYSTEM HELPS MASSEY FERGUSON

Rickmansworth-based UK facilities management and data services group PCL held a seminar last week to highlight the activities of its direct marketing services division, which holds the European rights to the Athena direct marketing software from New York company CRC. To strengthen its pitch for a range of services, including data capture, campaign management and telemarketing, as well as database management, the company wheeled a couple of its customers out in front of the audience of potential prospects and press. And so it is that *Unigram.X* is now in possession of a number of fascinating facts about the size, structure and problems facing the UK farming community, as Jim Potter, business manager of tractor manufacturer Massey Ferguson, outlined how his company brushed up its marketing database. Five years ago, it appears, Massey Ferguson's UK customer database was in a mess. The company didn't know who its customers were, or when they were likely to repurchase machinery, nor could it do any targeted direct marketing. In a limited market of no more than 17,000 farmers with the wherewithal to buy equipment that starts at £8,000 for a basic tractor and goes up to £200,000 for a state-of-the-art combine harvester, this was very bad news indeed. The company had a couple of shots at cleaning up its database in-house, then decided it was good at manufacturing tractors, not running databases, and signed up for PCL's Athena-based direct marketing services, running on a DEC Ultrix system and using Oracle's database at PCL's centre in Maidenhead, with the net result that now, in the second year of the system, Massey Ferguson knows more about the UK farming market than you can shake a stick at, has saved itself a considerable amount of money by targeting its direct mailshots, and is running a number of customer loyalty campaigns. Potter said Massey Ferguson UK, which sells via a network of 60 dealers, now knows what its customers have bought, which machines they have bought from the company's rivals, and when they are likely to be buying equipment again. Response rates to direct mailshots have shot up. And all this is crucial, said Potter, in a market where it is very difficult to differentiate the products - basically, tractors pull things through the ground, he said.

IDEA ADDS PREVIEW TOOLS

IDEA Corp has added two extra options to its PreView range of database query and reporting software, launched six weeks ago. The company, which sells IDEAcmm emulation boards and client software and IDEA Concert communications processors for access to AS/400, mainframe and Unix hosts, has rebranded its long-standing emulation software as Midrange Client and launched PreView as it attempts to move away from its traditional base as an emulation company into its new identity as a middleware vendor. PreView is bundled in with MidRange Client V3.1, prices of which start from £279, with the Plus and Gold options available for an extra charge. PreView Plus adds graphing, charting and run-time forms features to the core PreView query and reporting functions, while PreView Gold also enables tables to be created. IDEA has faced delays getting its PreView products out of the door; announced at the beginning of this year, the products were originally going to be developed jointly by IDEA and Dataease, but it soon became clear, according to IDEA's UK technical support manager Brian Warner, that interface problems were going to hold up the release of PreView, so in May IDEA opted instead to work with Gupta, whose SQL engine is at the heart of the new product. Warner said the difficulties in IDEA's relationship with Dataease does not mean that PreView won't support the Dataease products at some future point; he said the swap was made so that the first PreView release could be made without too much delay. PreView includes an integrated SQL Router for AS/400 as well as support for Gupta's SQLBase Server, Oracle, Informix, Ingres and Sybase SQL Server, among others. At the front end, PreView relies on IBM's PC support. Warner said future version of the software will include IDEA's own router, but for now the product relies on the IBM product. IDEA has also appointed a new UK sales and marketing director, David Oates, who was formerly northern regional manager for Olivetti company Decision Systems International. Oates will report in to Pierro Violo, general manager of IDEA Europe, which now accounts for a third of the company's total sales.

CAMBRIDGE PARALLEL TO DEBUT GAMMA MPP BOX

Cambridge Parallel Processing (CPP), the Irvine, California-based massively parallel processing (MPP) vendor will unveil its fourth generation, ~~Gamma DAP (Distributed Array of Processors) computer~~ at the ACM/IEEE Supercomputing gig in Washington this week. The Gamma DAP offers up to 1.6 GFLOPS performance, a dramatic improvement on the older DAP 610, and boasts a SuperSparc control processor, increased clock speed and greater than 20,000 peak MIPS in a box the size of a backpack. CPP plans to sell the system in the less than \$350,000 bracket. Unlike the majority of MPP companies CPP's main appeal lies in the high MIPS performance per dollar. Using the SIMD (Single Instruction Multiple Data) techniques the biggest problem for CPP seems to be in persuading the commercial market of the advantages of truly high speed systems. With around 200 installations around the world, including the recent agreement with the US Department of Energy's Sandia National Laboratories and as a supplier to Reuters in London for its newswire service, Reuters Textline, the company is not short on experience. CPP explains its relatively low profile in the MPP world as due in part to its involvement in US government classified applications, but that with the demise of the Communist bloc and subsequent US defence budget cuts, a shift towards the commercial market has been possible. Clearly unfazed by the recent casualties in the MPP business, including MPP pioneers Thinking Machines Corp (UX 501) CPP believes the variety of applications for which the DAP systems have been used, its legacy of system integration and production readiness, its large base of mature software and the commercial value of its high MIPS performance per dollar will stand it in good stead for the future.

Bucking the trend

CPP's use of SIMD bucks a trend away from the technique, although Gartner Group says market factors which have led some vendors to abandon SIMD are based on misunderstanding rather than any shortcomings with the technology. Moreover few vendors have the time or the resources to develop MPP and have instead leveraged existing SMP technology combined into clusters. DAP, in one shape or form has been around since the early 1970s, first as an SIMD computer system for the British Weather Service and later franchised by the British government to ICL Plc to redesign the system for defence applications. ICL in turn spun off a company, Active Memory Technology Inc (AMT), to market the subsequent commercial version known as the "MiniDAP". Between 1986 and 1992, AMT provided a number of upgrades and enhancements to DAP and in July 1992 the company became US owned. So to the product; the DAP Gamma is a fine grained, MPP VME bus computer containing an array of either 4,096 (Gamma 4000) or 1,024 (Gamma 1000) custom built processors which host Sun and HP workstations or network servers. It can be configured as a stand alone computer for dedicated applications. Gamma incorporates high-bandwidth "Fast I/O" bus for systems requiring real time graphics display, or ultra high speed data I/O such as robotic vision, radar or other sensor based applications. Typical application areas include data mining, complex image processing and data compression.

ORACLE AND IBM LEAD UK CLIENT/SERVER MIGRATION

Oracle and IBM have emerged as the front-runners when it comes to assisting UK companies migrate to client/server systems, with DEC and Sybase coming a close third and fourth, respectively, according to an IDC report commissioned by reseller Rothwell. The survey interviewed a quarter of the UK's Times Top 1000 companies about their adoption of client/server technology, and found that the take-up of client/server computing is by far the most important change in IT strategy being adopted. In all, 79% of the companies intending to make an IT strategy change were moving towards client/server computing - although it has to be borne in mind that just under half the companies interviewed were not intending to make any change at all in their strategy in the near future. In some markets IT change is now virtually synonymous with the move to the client/server model, according to the report. There has, however, been an influx of realism when it comes to implementing client/server systems. No longer are large companies looking to save money by taking up this technology, but instead the emphasis is now on improving the flow of management information. This was cited by nearly a quarter of the companies as the main business issue, with reducing IT costs cited as a key driver by only 12% of the companies in the survey.

LBMS ADDS OBJECT REPOSITORY

Houston, Texas-based LBMS has announced CORE (common object repository environment), an object-oriented framework for building large enterprise applications, and has introduced the latest incarnation of its CASE tool, ~~SystemEngineer 5.2 CORE, which to date only works~~ with the LBMS client/server product suite System Engineer and ProcessEngineer, is designed to provide a central store of designs, objects and tools for application development and project management. It includes bidirectional communications so developers can transfer components between the repository and their workstations, using check in/check out functions, plus version control and process management. In addition, CORE also supports two different forms of code reuse, libraries and style guides. Libraries, which are user definable, comprise windows and script modules and 4GL-based forms, modules, resources and custom controls. To reuse a library object a developer simply has to drag and drop objects from the repository into their application, LBMS says. Style guides are defined templates and window classes with associated 4GL components. According to the company, this makes interface uniformity easier to implement. LBMS is also working on an object browser for CORE, which is expected to ship in the first quarter of 1995. CORE supports a range of 4GLs, including tools from Powersoft's PowerBuilder, Gupta Corp's SQL Windows, Symantec Corp's Enterprise Developer and Microsoft's Visual Basic. On the database side it works with Oracle, Sybase, Informix, Ingres, DB/2, SQL Base and Microsoft's SQL Server and Access. CORE is available now for LBMS products, but a standalone product designed for non-CASE tools is planned for the future, the firm says. The repository already exists within the System Engineer architecture. Meanwhile, SystemEngineer 5.2 enhancements include process dependency diagram for workflow, which models a system's dynamic behaviour and workflow; SE/Toolkit, which allows users to develop applications that use information stored in CORE and produce an interface to third party tools of their choice; and SE/Server Builder. This provides schema generation support for developers using Microsoft Access and Watcom SQL environments. SystemEngineer 5.2 is shipping and costs £5,000 per seat.

HP AND LOTUS GET CLOSER - HP TO BUNDLE NOTES 3.2...

Hewlett-Packard Co and Lotus Development Corp have teamed to integrate Lotus Notes and HP's OpenMail electronic messaging software, providing Notes systems management products and joint sales, consulting and support services worldwide. To seal the agreement HP will bundle Lotus Notes 3.2 with its Series 800 Unix servers from next month and resell Lotus Notes through its existing channel of VARs. In the first quarter of 1995, HP will release OpenMail Exchange Facility for Lotus Notes. This is essentially a gateway product which will provide interoperability between Notes and OpenMail across enterprise environments, such as support for dual directory synchronisation and mail addressing. HP has also committed to Lotus' Communications Server (LCS)/Notes system, which it intends to use as its standard groupware and messaging architecture. Lotus for its part will integrate specific features of OpenMail with LCS for release as a single combined product in the future. The duo also announced NotesView, an SNMP-based extension of HP's OpenView which will enable administrators to manage large Notes networks. NotesView, which comes with a graphical front end, includes tools that will enable users to monitor and check every Notes node on the network from a single machine, analyse system capacity and alert users of critical conditions. The software also comes with tools to monitor Notes replication and mail routing. NotesView is available from January 1995. Both products are expected to go to beta test next month and are currently in their second week of coding.

...LOTUS HAS NOTES 4.0 SDK

Meanwhile, Lotus has released the Professional Developers' Version of its upcoming Release 4.0 of Lotus Notes, due out in mid-95. The company is sending out the professional developers' version to about 200 developers and will be meeting up with them again at the end of January, at a meeting scheduled during Lotusphere '95 to be held in Orlando, Florida. By then, presumably, Lotus hopes its developers will have incorporated some of the new Notes features, which include integrated client/server mail, enterprise server support, and enhanced support for mobile users, into their existing products. Lotus remains unwilling to give a definite delivery date for Notes Release 4.0 and says only that ship dates are always speculative and therefore subject to change without notice.

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The weekly information newsletter for the UNIX™ community worldwide

Emeryville, California-based **Scopus Technology** last week announced **ContractTeam**, the latest module in the company's ProTeam customer information management system. The software, which will be available by the end of the year for Sun, IBM, HP and Windows NT servers and Windows, Mac, Motif, and X clients, is designed to give service providers access to information about contract terms and conditions, installed base, service history and other information on service agreements. An implementation for 10 users on a single server will cost about \$50,000.

As part of a reorganisation of its distribution policy around value-added resellers that have based their applications on Informix, **Informix France SA** announced that it has not renewed its distribution agreement with **Top Log International SA**: as of the end of September, Informix France has reinforced its ties with four principal value-added resellers, classified by the environment they support: **Diva Microsystemes SA** for Solaris, **ISE-Frame SA** for Santa Cruz Operation Inc Unix, **Logix SA** for AIX and Santa Cruz and **Opensoft SA** for HP-UX.

Sunnyvale, California-based **Unison Software** has released V4.01 of its Load Balancer workload distribution software, which provides automatic queuing and distribution of jobs across heterogeneous Unix networks. The main upgrade in V4.01 is a recovery mechanism to enable the software to recall the applications and programs that were in process prior to a system failure. Other Unison products include Maestro, for workload scheduling and Express for performance tuning, as well as its RoadRunner back-up facility for Unix systems.

Oracle Corp will unveil its interactive development and authoring environment, Media Objects this Friday.

The University of California in Los Angeles has become the first educational institution to demonstrate a **Taligent** application. It's a simulation steering program to let researchers intuitively and visually control and "steer" complex computer simulations in real-time. UCLA is one of Taligent's group of 12 colleges and universities considered its product champions. The simulation will run with IBM's Power Parallel SP2.

Neuron Data USA has named **Unix System Laboratories** in Mexico and **Promix Software Ltd** in Israel as distributors.

If we haven't said this before, it appears that **IBM** is working on a PowerPC-based X terminal probably due around the end of the year.

Dun & Bradstreet Corporation has acquired Pilot Software Inc, the Cambridge, Massachusetts OLAP firm, for around \$30m. It had revenues of \$37m last year.

Luckily, we get to hear the phrase "between you and I" quite often and it still makes our little hearts flutter. However, not to sound picky as a school marm but we'd prefer to hear you utter the grammatically correct "between you and me." Prepositions such as "between" take the objective case. "You and me" is also correct when it's the direct object. There now, glad we got that off our chests. Can't have *Unigram* readers going around sounding illiterate. ...And sit up straight.

European computing services company **CMG** has bought the software business of Bristol-based **Redcliffe Associates Systems Marketing Limited (RASM)**, developer of the Financial Services System (FSS) package. CMG is taking over FSS, which is a client and policy administration system for distributors of financial services products. The deal is part of CMG's long-term aim to increase its profile in the insurance sector. FSS will be slotted in to CMG's existing insurance division, which sells wholesale insurance system Imacs, broker-based general insurance system IS2000, and the direct insurance package TIA.

Software AG third party partner London-based **Trace Isys** has won a contract to supply a new integrated broking system to city insurance broker Harman Wicks & Swayne. The Twins 20000 Unix package, based on Software AG's Adabas database management system, will replace an existing PC-based system at the insurance broker, and will comply with London market settlement and data interchange interfaces provided by the London Insurance Market Network.

According to **IDC**, **Sun Microsystems** has increased its lead in the worldwide market for Unix system in financial trading and dealing rooms. Sun has notched up a 55% share of the market - up from 47% in 1992, says IDC. The financial services business is now worth almost half a billion dollars for Sun, with more than 45,000 Sun systems installed in trading rooms worldwide.

Watford-based **Xanadu Systems**, UK distributor of NCD X-terminals, has appointed Phil Chapman as sales manager. Chapman was one of the founders of **Trinitec**, which merged with **Rapid Recall** and became **Metrologie**, where he was volume products sales manager. Xanadu has also appointed Suzanne Russell as product manager.

Novell Inc and **IBM Corp** were to bring their network management technologies together as we went to press: Novell will be briefing analysts on NetWare 4.1 this week.

Time magazine asks why, when it recruited the cream of the crop, the likes of **AT&T**, **IBM** and **DEC** turned to **Spyglass Inc** for their Mosaic implementations rather than to **Mosaic Communications**? Because Spyglass apparently took the trouble to get a license from the **University of Illinois**, something Mosaic never bothered to get. The University told *Time* it is trying to avoid a lawsuit but is "obligated to our licensees to protect our intellectual property."

Cray Research Inc is claiming new performance marks for its CS6400 SuperSparc Plus-based SuperServer according to optimised SPEC benchmarks of 101,969 SPECrate_int92 and 129,843 SPECrate_fp92.

Geoff Squire, who when he was at **Oracle** climbed the corporate ladder with great dexterity, is doing it again. Last week he was named president and chief operating officer of **OpenVision**, the company he joined in January as president and chief executive of OpenVision International, its newly formed international operation based in England. He continues to report to his old Oracle buddy, OpenVision chairman and chief executive

Data General Corp has hired James Rothnie, former executive vice-president responsible for product development, customer service and manufacturing at failed massively parallel systems maker **Kendall Square Research Inc**, to be its vice-president, AViiON software development.

DEC is planning a \$15m TV ad campaign built around Sunday morning news shows. Reportedly one of the tag lines goes "What Four Letter Word Comes To Mind When You Think of DEC? Right, Unix." The headline plugging its disaster recovery service reads "Even Hell Has Our Phone Number."

MainSoft Inc has named its former VP of marketing Jeff Elpern chief operating officer responsible for day-to-day operations. Janine Rood, a marketing consultant who has been with **Axil Workstations**, has been made director of marketing.

Berkeley Software Design Inc has tied up with the ADD2 Alliance which will sell BSDI's operating system, Internetworking and Internet software to VAR and integrator channels nationwide.

Apparently Mark Pick, Dick Pick's only son and one of his heirs, has given up his job at **Unidata**, one of the companies in the Pick orbit, and become president of **Pick Systems Inc**.

It looks like **DEC** is going to have a prototype Turbo Laser in Washington, DC this week at SuperComputing '94. We hear it incorporates twin EV5 Alpha processors, the new fangled 21164s. Considering their volume production schedule, Turbo Laser won't be announced before mid first calendar quarter.

Broadview Associates, the IT merger and acquisitions specialist headquartered in Fort Lee, New Jersey, has merged with like-minded **Emerald Partners Inc** in Menlo Park, California specialised in hardware. Emerald people will work out of Broadview's Redwood Shores facility. With the combination, the company now has 100 employees. Emerald's partners Kelly and Richard Dalton will become managing director and principal respectively at the West Coast office.

Dazel Corporation is staffing up, naming Gary Epple, formerly senior director of commercial products at **HaL Software Systems**, as its VP, software development. It has also named Dale Howe, out of Intersolv Inc, VP of sales, Doug Miller, former director of marketing at Powersoft, VP of marketing and Peter Torvik director of customer services and consulting. Torvik was previously director of architecture and technology assessment for Mead Data Central.

Perennial hockey player and, it would seem, sometime **Sun Microsystems Inc** CEO Scott McNealy, who has 150 Russian scientists working for him in Moscow, is now sponsoring a different kind of 'Dream Team', sending back 20 star Russian hockey players, who defected effectively to the now strike-bound NHL, on a five-game tour of their homeland where they'll play against teams like the Central Red Army, Russia's best. For promotional purposes, Scott got to lace up and hit the ice with some of his heroes before they departed. The defectors will come back with shiny new Russian passports. In concert with **Illustra Information Technologies Inc** and **Starwave Corporation**, the games will be broadcast over the Internet.

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SYBASE ACQUIRES POWERSOFT: WORST TO FIRST IN TOOLS?

Tacitly acknowledging that its efforts to build up a comprehensive tools portfolio by a string of small acquisitions tacked on to big in-house development efforts has not got the company where it wanted to be, Emeryville, California relational database developer Sybase Inc is going for the big one and is eating Powersoft Corp in a share exchange valuing the Concord, Massachusetts tools developer at \$915m. The valuations are all astronomical - Sybase was valued by the market at \$2,657m before the deal was announced. Powersoft holders will end up with about 26.3% of the enlarged company, which Sybase reckons will be the seventh largest software company, with annualised sales currently running at \$730m. In defence of its bid to keep a hold of Oracle Corp's coat-tails, Sybase says 50% of PowerSoft customers already use its database, whilst 30% of Sybase users are running PowerBuilder. The deal restores Sybase's channel to the volume market lost in its divorce from Microsoft Corp (UX No ??) but the question on everyone's lips is can Sybase get it right this time? It didn't strike home runs in its alliances with Uniface (1991) Unify (1992) or the acquisition of Gain Technology (1992). At the moment it's also in the technological 'hot seat' over the future direction of its relational database engine.

Curtains

The deal likely draws the curtains on Sybase's Build Momentum Client/Server toolset for Windows derived from technology developed by Wyvern that competes directly PowerBuilder. Officially the tools, in beta at 30 sites and slated for introduction next month, are on hold while synergies with PowerBuilder are explored. But towards the end of last week Powersoft engineers had already identified Build Momentum technologies they're expected to cherry-pick for PowerBuilder, indicating Build Momentum won't see the light of day except as part of PowerBuilder. Sybase's embryonic desktop database development effort will be swapped-out with the Watcom engine from Powersoft's Watcom International Inc acquisition (UX No 462), although the plan seems to conflict with Sybase's latest alliance with Borland International Inc. Sybase figures it'll put its Transact SQL mechanism into Watcom. What happens to Sybase's top-end repository-based Enterprise Momentum development environment, already broken down into components as a pre-emptive move against Oracle Corp's Project X, is unclear. The acquisition looks good and bad for Powersoft, which claims 40% of the worldwide client/server application development market. It will be run as an independent subsidiary of Sybase and gets two seats on the board. CEO Mitchell Kertzman says Powersoft has hit the fast-forward button - to a much-needed server strategy - however the company's fiercely independent reputation is hanging out to dry. Some speculators say Oracle may reportedly halt early Oracle8 code deliveries to it. Powersoft dismissed recent concerns about PowerBuilder's scalability but was quick to offer a plan for second generation application development based (initially) on multiple messaging techniques to compete with upstarts such as Forte and Dynasty. It's got new DCE and OLTP-enabled tools up its sleeve too.

System 11

News also slipped out about Sybase's next generation database engine, System 11, and that's probably no bad thing given Systems 10's fraying reputation in some quarters. Due in 12 to 18 months, System 11 will feature integrated parallel technologies, hanging a large question mark over the company's troubled Navigation Server parallel add-on environment which only works with a previous 4.9 version of the database engine. Sybase says Navigation Server will skip System 10 altogether, indeed System 11 looks like a good way of sweeping a lot of stuff under the carpet. The new release will, it says, comprise varying workloads, from the desktop to the enterprise, across mixed environments: but it hasn't decided whether it'll employ low-level locking instead of page-level locking currently in use.

COM-TO-ORB STORM CLOUDS FORMING

The Object Management Group's anticipated Common Object Model-to-Object Request Broker interoperability specification request will spark the mother of all industry struggles for victory insiders believe. It will make the process to select an ORB-to-ORB mechanism look like a storm in a tea cup they say. The heart of the matter is how much of its Common Object Model Microsoft Corp would have to put into the public domain to have its mechanism prevail. IBM, still hurting from Microsoft control of its product destiny is expected to fight Microsoft all the way on this one. The two are already slugging it out over the wording of the COM-to-ORB RFP drafts which go before OMG's New Jersey meet next month. RFP submitters are required to list documents that submissions will be evaluated against. IBM is apparently arguing that Microsoft's documents lack sufficient COM detail, moreover what's missing is certain information that could prevent it going back and changing anything in its COM plans retrospectively. Most anticipate Microsoft handing down some kind of plan to OMG members indicating how much of their Corba specification they'd have to change to accommodate COM interoperability.

IBM "HAS NO PLANS FOR AIX AFTER VERSION 4.2"

In the past few weeks, knowledgeable outsiders with few hard facts in hand have claimed to *Unigram.X* that they've been getting the sensation that IBM's AIX operating system is not long for this world. Last week, unprompted IBM insiders claimed they thought they too could see the handwriting on the wall. They said that IBM is planning no major investment in new AIX technology and that the internal flow charts show nothing past AIX 4.2, the follow-on to AIX 4.1.1 due in 1995, after which it goes into maintenance release. They speculate that IBM VP Ellen Hancock, whom they claim was assigned by IBM CEO Lou Gerstner to ferret out all the technologies IBM could dispense with, may have put a black mark against AIX's name. The notion of IBM slowly decommitting from AIX raises the spectre of its substituting someone else's Unix instead, namely Sun's which is on just such a mission. Sources inside SunSoft claim that its contract to put Solaris on the PowerPC includes IBM's RS/6000 boxes not just its delayed Power Personals, an item IBM came back and made sure was in the deal. Meanwhile, IBM has taken people it reportedly just put on the AIX section of Workplace OS and removed them, cutting staff from 50 to 15. The first 95 of the 200 people RS/6000 chief Bill Filip promised to eliminate in a recent internal memo were also marched out the door the week before last, a source reports. Currently it's impossible to say whether they were from the hardware or the software side or both.

HP HAS HIGH AIMS FOR SECOND GENERATION PA

Hewlett-Packard Co is stuffing more goodies on to its forthcoming Precision Architecture-8000 than any other RISC vendor has done thus far, believes Microprocessor Report. It says the PA-8000, HP's first 64-bit part, and the company's first completely new microprocessor design since 1991 - consequently defined as PA 2.0 - will carry the company until first fruits of its Intel Corp alliance arrive in 1998 (UX No491). HP claims 8000 will be the fastest in its generation, although it may have to go some to achieve that, by then requiring up to 400 SPECint92, the newsletter estimates. System-based ships aren't expected before mid-1996 in any case. The PA-8000 shares the Mips R10000's decoupled architecture, and is capable of processing four instructions per cycle and out-of-order execution. Pushing beyond Mips, it also has dual floating-point units and load and store pipes - but no on-chip cache. First silicon is due early next year, though the part hasn't taped out yet.

OPENVISION TO SHIP VIATECH SOFTWARE

As reported (UX No 505), OpenVision Inc has introduced OpenV*Xfer for systems administrators distributing software across large scale heterogeneous networks. OpenV*Xfer hails from Minneapolis-based, ViaTech Development, whose primary area of development is objects. OpenVision will market OpenV*Xfer worldwide, along with a slew of other system management products it's acquired from ViaTech. OpenV*Xfer supports configuration, packaging, scheduling and monitoring from a GUI. OpenV*Xfer uses a central distribution management server holding local repository details about classes of servers, workstations and PCs. Definitions of current and future software configurations are held along with automated scripts to complete an upgrade or new installation. Scripts are, ordinarily tested centrally and regression tests run to confirm the correct installation process. When distribution to remote nodes is required, a scheduled package containing all the upgrades is sent to "fan out" to distributed centres that each manage a few remote nodes local to them. Thus, load on the network is minimised by timing the traffic to off-peak times and by splitting the workload hierarchically. On each target machine a distributed agent receives the package and, at the required time, checks that the environment is primed for an upgrade, secures original configuration and automatically installs the software and runs the regression tests. If the test is successful, the user is cut over to the new release. If not, the original software is reinstated and the system returned to its previous condition. Failures and issues are notified back to the distribution management server for resolution. The key function of OpenV*Xfer is software distribution, but it can be used for minor upgrades and file distribution.

ARGUS TO PORT CMW TO SOLARIS 2.4

Addamax Corp's phoenix, Argus Systems Group Inc is porting its B1 Compartmented Mode Workstation multilevel security to SunSoft Solaris 2.4. It will run for both Intel and Sparc systems with a PowerPC port to follow. The Argus software includes a common Motif based graphical user interface and desktop environment as well as the Argus Secure Networking (ASN) software which supports full B1 and CMW networking. Argus has submitted its Solaris 2.4 based B1/CMW and ASN software for ITSEC evaluation for F-B1 functionality and E3 assurance levels. The software was developed for the defence sectors, but Argus see the technology as equally applicable to government and commercial projects where restricted access to systems and security of information are important. The approach will be modular and scalable with compatibility, ensuring that the Argus system can access the commercial applications supported by SunSoft's Solaris. The Urbana, Illinois headquartered company, who work in cahoots with SunSoft receive early release copies of Solaris and intend to re-integrate updated code with the Argus secure Solaris baselines so that users can receive secure releases as the non-secure equivalents are brought to market. In addition to the supporting of Solaris derivatives, Argus intends to develop additional products, with support for trusted X terminals and diskless workstations, secure OSI applications, support for the Kerberos authentication scheme, network encryption support, and a secure network management suite.

CLINICORP MOVES INTO X TERMS

Tired of the blood and cadaver market, San Diego, California, CliniComp, a company that until now has been developing clinical information systems and hardware for hospitals, is introducing a line of flat panel X terminals, claiming the highest resolution (1280 by 1024) and highest speed (100 MHz) for those kinds of devices. The CliniComp line uses Mips R3000 and R4000 RISCs. Ethernet IEEE 802.3 and ATM interfaces and ISDN connections are included. The line includes colour and electroluminescent screens in sizes from 11.8 to 14 inches diagonal. The terminals are less than three inches deep and ship with 8Mb to 32Mb RAM.

VISUAL NUMERICS SHIPS NEW IMSL FORTRAN

Application development tool supplier Visual Numerics based in Slough, Berkshire, has released a multithreaded version of its IMSL FORTRAN 77 Numerical Libraries for Sparc workstations and servers. The company claims the version of IMSL Fortran performs almost four times as fast as the uniprocessor version. ISL Fortran is a collection of user-callable mathematical and statistical subroutines used to speed up the development of software programs and provide building blocks for the programmer. The multithread version of the IMSL FORTRAN costs £3,480 for a single node-locked license and is shipping now.

OLIVETTI ADMITS PCC INVESTMENT

Ing C Olivetti & Co SpA has finally come out of the closet, revealing itself as the biggest investor in PowerPC start-up Power Computing Corp (PCC), although it may not be PCC's largest shareholder for long. ~~The company is looking for an undefined amount of second-round capital for promotion and inventory.~~ PCC admits its chairman is in fact former NetFrame chief Enzo Torresi, a close Olivetti ally who denied the role when first reported. As anticipated PPC unveiled its first Prep-compliant boxes at the Motorola Inc and IBM Microelectronics booths at Comdex last week. The machines are apparently designed around an IBM board using IBM's North and South Dakota chipset, not something it's designed from scratch. It intends to sell only systems to OEMs, another difference between it and FirePower Systems, the other PowerPC start-up, this one backed by Canon, that is also debuting at Comdex. FirePower designed its own boards, ASICs and Hardware Abstraction Layer (HAL) and is looking to OEM the designs and boards as well as systems. Like FirePower, however, PCC identifies its machines as essentially NT boxes though they will run other Prep operating systems. NT and AIX are said to be up and running now. PCC is calling its box the PowerDesk, aiming at the high-volume market. The PowerDesk 610 series uses both the 601 and 604 chips though it thinks the 601 is the volume platform in 1994-1995. Systems come with from 16Mb to 196Mb. Positioned against low-end Pentium/high-end 80486 machines PPC says OEMs should be able to deliver boxes between \$3,000 and \$5,000 depending on how fully configured it is. PCC believes it will be the first company to deliver 100MHz PowerPCs. The PowerDesk will also be available in 66MHz and 80MHz, upgradable to 604s. It expects to do all the manufacturing, beginning in February, at a third-party fab. It says it can also produce custom configurations. Olivetti could accept delivery of PowerDesks next year but it remains to be seen how the Italian plays its cards and what impact PowerPC will have on its faltering alliance with DEC on Alpha.

XANADU OFFERS FASERVERS IN EUROPE

Just when all the European network administrators had given up all hope of ever laying their hands on Network Appliance Corp's FAServer, available in the US since March, Watford, Hertfordshire firm Xanadu Systems Ltd has stepped in to ship them. Apparently only previously available to Euros on a basis akin to a nod and a wink, for those unfamiliar, FAServer ships as a rack, mountable or tower configuration and is designed to integrate with any NFS environment via Ethernet, CDDI or FDDI interfaces. They come with from 4.2Gb to over 27Gb of disk and up to eight units can be linked for 210Gb. Phil Doran, product marketing at Xanadu Systems says; FAServer's nearest competitor, the Auspex NS 7000 "is not only significantly more expensive, but at 3000 I/ops at 24ms, it is significantly slower." The FAServer delivers 3000 I/ops at 12ms. The basic list price is £24,000.

DEC DELIVERS ATM

On the back of the recent shindig announcing its new generation of Alpha PCI-based RISC workstations (UX No 511) DEC has dished up its first Asynchronous Transfer Mode (ATM) products; the GIGAswitch/ATM System and the ATMworks 750 Network Interface Adapter. In bullish mood DEC claims that it has several industry first technology developments and has accordingly submitted them to the ATM Forum. Some of these new developments include a new approach to overcome head of line blocking so that bandwidth is increased dramatically; a new technique that eliminates cell loss due to network congestion, and resilient virtual circuits to allow re-routing within WAN. The GIGAswitch/ATM System is a high performance 10.4Gb/s ATM switch particularly suited for use in backbone LAN and high performance workgroups. The first in DEC's family of ATM adapters, the ATMworks 750 Adapter enables the system to run client/server computing or multimedia network applications because of the guaranteed bandwidth and the low latency capabilities of ATM networks.

COMDEX; MUTINY IN THE RANKS?

Some people are so ticked off at the price of Comdex and the Interface Group's greed that Intel, Motorola and IBM are talking about a counter show. This years keynoters Andy Grove, Bill Gates and Bob Frankenberg threatened to cancel out unless Interface returned the \$25 a head extra it was charging to go hear them speak. The money reportedly went to charity instead. The *Wall Street Journal* last week discussed charges of Interface's gouging on its front page.

THE SUCCESS STORY GOES ON AS HP BECOMES \$25,000m COMPUTER FIRM

The fiscal year ended with another storming quarter for Hewlett-Packard Co, which saw a 60% increase in net profit at \$476.0m on turnover up 23.1% at \$7,002.0m, a 25% increase in orders and 23% growth in turnover, taking the company to just shy of the \$25,000m a year barrier - pretty good for a company that did only \$20,000m last year. Orders in the quarter were \$6,900m, with US orders up 22% to \$3,400m and the rest of the world doing better, adding 28% to \$3,500m. Orders in the computer business were \$5,400m in the quarter, up 28%. On the downside, as a percentage of turnover, cost of goods sold was 62.2% in the latest fourth quarter, compared with 61.4% in the year-ago quarter but down from 62.3% in the third quarter. Growth in cost of sales has moderated somewhat over the last few quarters, but the company expects the competitive pricing environment across its businesses to keep upward pressure on the costs. Operating expenses for the quarter rose 9% and were 26.8% of revenues, compared with 30.2% of revenues in the year-ago quarter, more than offsetting the increase in cost of sales, giving an 11% operating profit margin, the best since the second quarter of 1992. The computer business grew by 26% to \$19,632m. Net profit for the year to October 31 was up 35.8% at \$1,599.0m on turnover that rose 23.0% to \$24,991.0m.

SUNSOFT HAS NETWORK, SYSTEMS MANAGEMENT UNDER ONE HOOD

In an attempt to keep up with Hewlett-Packard Co and IBM Corp, which have both unveiled plans for future integrated network management and systems administration environments as Synergy and Karat respectively (UX No 502), SunSoft Inc is apparently readying its own integrated distributed, object-oriented framework. The company confirmed the environment will harness network and systems management functions under one hood. It will support the existing SunNet Manager and forthcoming NetLabs Inc Dimons-derived Encompass system for enterprise management, including the Cooperative Consoles database and repository, plus Solaris-based systems management applications. Encompass is still on track to ship next month. The wider environment, reportedly dubbed Soltice, is due in January, and will include links into other environments, including Windows NT. It'll run Simple Network Management Protocol, Common Management Information Protocol and Open Network Computing mechanisms initially with object request broker messaging to follow. The Cooperative Consoles repository will be superseded by a Corba 2-based mechanism over time.

MITSUBISHI'S FIRST ALPHA IS ALSO DEC'S

DEC's second source, the electronic device group of Mitsubishi Electric Corp's Mitsubishi Electronics America Inc, has produced its first Alpha offering, the M36066A, functionally identical to DEC's 21066A, also unveiled last week. The two have stepped out together on 100MHz and 233MHz parts fabricated in 0.5 micron technologies achieving 94 SPECint92 and 110 SPECfp92. DEC will sample the embedded PCI part this quarter and ship it from the first quarter of next year at from \$175 for the 100MHz part and \$360 for the 233MHz iteration in quantities of 5,000-up. Mitsubishi won't have engineering samples until the first quarter, with commercial samples set for July and volume deliveries in September from \$490 for 1,000-up. DEC says the integrated part will go into its embedded AXPvme VMEbus boards, Prime Option Inc print engines, Alpha Data Parallel Systems Ltd accelerators, Alta Technology Inc ATM boards, and NekoTech's Mach 1 Windows NT desktops. Mitsubishi says its part will run all the same operating systems - OSF/1, Windows NT, OpenVMS and VxWorks - plus NetWare. Why Mitsubishi's implementation is later than DEC's or whether it shares the same die size are unclear as the company did not respond to questions.

MICROFOCUS WORKS ON OO ENVIRONMENT WITH PARTNERS

With its object partners Servio Corp (UX No 489), and Digitalk Inc (UX No 481), MicroFocus Plc is aiming to create a point-and-click, object oriented front end out of their respective technologies which will allow the storage of objects in a repository-type environment. Micro Focus say its already investigating storing Object COBOL objects in Servio's GemStone and making Smalltalk and C++ objects and classes accessible to Object COBOL, although this is a long term project.

TALIGENT TALAE BECOMES COMMONPOINT, FIRST APPLICATIONS SHOWN

Just as we had been getting to grips with TalAE, TalDE and TalOS, Taligent Inc has gone and chosen CommonPoint as the eminently forgettable product name for its Taligent Application Environment (TalAE). Taligent, which was showing off the first prototype applications for the TalAE framework set at Comdex last week was less keen to reveal the fact that TalAE is now a couple of months behind schedule, with betas now not expected until late in the first quarter instead of by year-end. First TalAE applications were shown at Comdex last week from Adamation Inc, Abacus Concepts Inc, Brio Technology Inc, Iconix Software Engineering, Nisus Software Inc, UCLA and Virtus Corp. CommonPoint applications prototypes were also up on Mac OS, HP-UX, OS/2 and AIX. Taligent has also drummed up a certification and branding programme for CommonPoint on different platforms to ensure applications developed for it are compatible across the host operating systems.

TOOLTALK CONCERNS AIRED BY HP USERS AT CDE INTEREST GROUP MEET

Insiders say one issue of concern raised at the recent Open Software Foundation Common Desktop Environment special interest group meeting was the continued use of SunSoft Inc's ToolTalk inter-application messaging system, already part of the CDE 1.0's make-up. Apparently some users that already have Hewlett-Packard's Broadcast Message Server mechanism are concerned about running two different messaging demons if they are forced to use ToolTalk through their adoption of an X/Open Co Ltd standard based upon the existing CDE 1.0 spec. Although OSF could do an API for a future CDE that'll support both approaches, much of CDE's windowing apparently relies on the use of ToolTalk. OSF is currently taking the temperature on the notion of a full-blown Pre-Structured Technology process for future CDE iterations. Despite calls from X/Open's desktop requirements group there's apparently no talk yet of adding Windows interoperability to CDE.

NOW ORACLE SELLS OILMEN UPSTREAM

Oracle Corp has delivered on some Petrotechnical Open Software Corporation (POSC) standards with Oracle/Upstream. The software, on top of its Ofirs Unix package which it sold to Conoco last week (UX No 513), is said by Oracle to provide its oil and industry customers with significant new decision support capabilities. POSC, which has the potential financial clout of several Bill Gates and the charitable inclinations of Scrooge, has been established to 'persuade' suppliers to put together open systems that work in cohesion, and to this end announced in September the completion of the first two phases of its Industrial Pilot Project.(UX No 506). The organisation has ambitious plans, and of course just enough potential future business to persuade companies to take a long term investment in the grouping. Companies funding POSC, some 80 in number, include Oracle, UniSQL, Chevron, BP, ELF, Hewlett-Packard, Shell and Texaco. To this end Oracle seem to have decided that hedging its bets is the best way forward and have announced a middleware package in conjunction with UniSQL. Oracle/Upstream is meant as support for oil and gas companies migrating to POSC standards. It can migrate data from legacy systems and will be implemented in three phases. The first provides DAEF support, the POSC standard for data access and exchange, whereby UniSQL's object relational technology, the UniSQL/M Multidatabase System and E&P Data Access layer, will be incorporated into the Oracle7 database. Phase two involves Oracle delivering the POSC relational projection specifications while phase three will include full POSC Epicentre support by combining UniSQL's E&P Data Access Layer with object relational features based on the SQL3 standards that are promised with the next release of the Oracle7 server product.

NOW PHILIPS JOINS POWERPC CLUB

After dipping its toe into the Mips RISC water with the acquisition of microcontroller designer HDL Systems Inc (UX No 509), Philips Electronics NV's semiconductor division is sidling up to PowerPC, reportedly joining the 30-strong Taiwan NewPC Consortium that's developing ICs to work with PowerPC. The year-old consortium has also won National Semiconductors to its ranks and Samsung Electronics Co Ltd may follow. The group's buying guide includes OEM products such as networking, graphics and multimedia cards and a motherboard which can host 601, 603 and 604 versions of the PowerPC.

IBMers GO OUT OF THEIR WAY TO COLD-SHOULDER MAC OS AT COMDEX...

IBM Corp doesn't seem to have taken at all kindly to suggestions that the only real market for PowerPC-based personal computers will be as Macintosh clones and went out of its way at Comdex last week to stress that it had no plans whatsoever to fit the machines it builds to the new common standard with Mac OS ROMs. Since after a process that made drawing teeth easy, Apple Computer Inc finally confirmed that Mac OS would be sold retail and shrinkwrapped and that it would make it easy for anyone that wanted them to buy the Mac OS ROMs to plug them into any PowerPC-standard machine that did not already have them, IBM's declaration simply implies that its own machines will be the least attractive Mac clones on the market. It can be expected that all other serious builders of machines to the standard will put the ROMs into the slots at manufacture, and that most will pre-load MacOS. And given the paucity of sales of Windows NT on Alpha and R-series RISC, the market for NT on PowerPC seems extremely limited, and anyone really wanting OS/2 seems likely to go for the iAPX-86 version, the outlook for IBM's machines looks poor.

...AS IBM LAUNCHES ITS WORKGROUP CONCEPT FOR GROUPWARE

Ever since it announced Systems Application Architecture, IBM Corp has cultivated an unfortunate genius for confusing its customers and most of the rest of the industry as well, and so the news that it has announced IBM WorkGroup will be met by a sea of blank faces: is this something to do with WorkPlace, formerly WorkPlace OS, and if it is, what is WorkPlace these days? In fact of course, it is intended to be IBM's answer to Lotus Development Corp's Notes, described as a family of integrated, customisable software "that simplifies and streamlines the way teams get work done - whether the work is highly structured, such as insurance claims processing, or ad hoc". IBM WorkGroup includes a new client/server messaging function, based on IBM Uti-mail, and IBM Message Queuing Series or MQSeries; it also includes FlowMark for workflow management; Visualizer for data query, analysis and reporting; Visual Document Library for document management; FormTalk for forms routing, tracking and approval; SearchManager for contextual searches; Person to Person for personal video conferencing; and VisualInfo for image processing. The integrated IBM WorkGroup functions, in beta test, include mail, scheduling and diary, based on IBM Time and Place, and directory and facsimile capabilities. WorkGroup clients are available for OS/2 and Windows 3.1, and servers run under OS/2, OS/400 and AIX. Mac, Windows95 and Unix clients and Unix and System/390 servers are in the plan. It has diary and mail directory gateways to OfficeVision and interoperates with Notes and cc:Mail. Work and information management are out now, with more to follow in six to nine months.

NEXT TOOL FOR RELATIONAL ACCESS NOW SHIPPING

NeXT Computer Inc is now shipping production versions of its Enterprise Objects Framework (UX No 487), which allows NeXTStep applications to access and create reusable objects from Oracle and Sybase relational database information. The Enterprise Object Modeller for building objects creates a mapping structure that sits between objects and database applications. A framework allows objects to run, initially on NeXTStep - a version for the Portable Distributed Objects environment so objects can run on running HP-UX, SunOS, Solaris and DEC OSF/1 will follow. Support for additional databases is planned. Enterprise Objects Framework is from \$300.

APPLE USES 110MHz 601 CHIP IN POWERMACS

Apple Computer Inc has announced a new 110MHz Power Macintosh, even though IBM has not launched a 110MHz version of the PowerPC 601 chip. The Macintosh 8100/110 uses the 601+ PowerPC, which has hitherto only appeared in 90MHz and 100MHz flavours. But the machine is expensive. With a 2GB hard disk, 256KB L2 cache and 16Mb of RAM, the machine costs \$6,379, pushing it squarely into the workstation price arena. With IBM pushing the next generation 604, a 110MHz 601 may never become generally available. Apple has demonstrated 120MHz 601 PowerMacs at trade shows, but these have suffered from major overheating problems.

AT&T/QUADREL MAY TAKE 40% OF BULL

AT&T Corp's first European adventure with Ing C Olivetti & Co SpA a decade ago was a failure, but now it seems ready to have another try, this time with Compagnie des Machines Bull SA. The French Industry ~~Ministry is not commenting on a report in Les Echos that AT&T has~~ teamed up with Quadral SA, the holding company that controls the signalling equipment firm Compagnie des Signaux SA, to buy a 40% stake in Bull, but "a source familiar with the deal confirmed that many details of the report are correct", according to Dow Jones & Co. The source cautioned that final details of the proposal to be submitted to the French government are still being worked out. *Les Echos* suggests that AT&T and Quadral will create a holding company 51% owned by the French partner, which would take a 40% stake in Bull. The French government currently holds 75.8% of Bull, state-owned France Telecom another 17%, NEC Corp 4.4%, IBM Corp 2.1%, with a vestigial 0.7% traded on the Paris Bourse. One way or another, if the only companies seen as ready bidders for stakes in Bull do go ahead, Bull is going to find itself trying to market a large volume of telecommunications equipment - something it has little experience with. NEC has made it clear that if it increases its stake it will expect Bull to start marketing products such as its PABXs, Asynchronous Transfer Mode switches and public telephone equipment, and it is pretty clear that that is what AT&T is after as well: no alliance between Bull and AT&T's former NCR Corp seems likely - all of which seems to set the seeds for deep conflict between AT&T and NEC. Bull, with France Telecom holding 17%, selling AT&T equipment is not going to go down too well with France's telecommunications champion Alcatel NV. Apart from supposedly being able to deliver the French market, an attraction of Bull for giant companies like NEC and AT&T that are home-market bound is its presence in hard-to-reach places such as Eastern Europe and Francophone Africa.

D&B HAS SMARTSTREAM 3.0

Continuing a retinue of product announcements this year, Dun and Bradstreet Software, part of the same named Corporation, has announced a slew products as SmartStream 3.0, an enterprise suite of integrated workflow-enabled client/server tools and applications. The SmartStream Series is a Microsoft Windows-based client/server based enterprise solution consisting of business applications, decision support tools and a workflow-enabled platform the company says, allows organisations to re-engineer their business processes to maximise competitiveness in the industry. The SmartStream 3.0 series includes; StreamBuilder-an application development and customising tool kit, Manufacturing Stream 3.0 integrates manufacturing applications for discrete and repetitive environments, Distribution Stream 3.0 integrates distribution applications that support flexible distribution strategies, Financial Stream 3.0 a new version of D&B Software's financial management system, includes purchasing and allocation modules and major functionality enhancements in asset management, accounts payable, accounts receivable, and international reporting, Smartstream Decision Support 3.0, D&Bs analysis and reporting client/server tool including improvements to the applications SQL engine, SmartStream Budget 3.0 used to integrate budgeting and planning applications and HR Stream 3.0, the integrated human resources applications which provide enhancements in the areas of translation, security and integration with host based systems. The Atlanta, Georgia based company says financial Stream 3.0, HR Stream 3.0 and SmartStream Decision Support 3.0 is shipping this month. Financial Stream and HR Stream run on HP-UX, DG-UX, RS/6000 AIX and Solaris. SmartStream Decision Support runs on HP-UX, DG-UX, RS/6000 AIX, OS/2, Solaris, MS NT and others. Prices for SmartStream Decision Support and HR Stream each start at \$100,000. For StreamBuilder prices start at \$20,000 per module. Manufacturing Stream and Distribution Stream are priced from \$300,000. Pricing depends on system configuration and number of users.

SQUIRE IS NEW CEO OF OPENVISION

Geoff Squire, who when he was at Oracle Corp climbed the corporate ladder with great dexterity, is doing it again. He has been named president and chief operating officer of OpenVision, the company he joined in January as president and chief executive of OpenVision International, its newly formed international operation based in England. He continues to report to his old Oracle buddy, OpenVision chairman and chief executive Michael Fields.

NCUBE FORMALLY LAUNCHES ITS LONG-PROMISED NCUBE 3

nCube Corp last week came out with the third generation of its massively parallel line, the nCube 3, claiming it is the industry's first practical TeraFLOPS class machine, and that a large configuration costs as little as \$40,000 per GigaFLOPS. First shipment, aimed at the scientific and technical markets, will be available in the second quarter next year. Entry-level nCube 3 systems cost about \$500,000. The hypercube machine - previewed in detail - all of two years ago uses the fourth iteration of the company's custom processor, a 3m transistor 0.5 micron CMOS part that is described as integrating all the components for parallel computing on a single chip. The chip - made for nCube by Hewlett-Packard Co - is clocked at 50MHz and is rated by the company at 100 MFLOPS; it can directly address up to 1Gb of main memory and has an 800Mb per second memory interface. It has a translation lookaside buffer for virtual memory support, 64-bit data paths, and on-board communications and input-output processors. The basic building block components of the system are the Processor Module, the Input/Output Module, and the Disk Module, and these can be mixed and matched to create the desired configuration. The Processor Module contains up to 512 nodes, for up to 50 GFLOPS performance and takes up to 32Gb of memory; it takes up nine square feet, and up to 20 can be linked to create the 1.0 TeraFLOPS configuration of 10,240 nodes. The I/O Module comes with up to 128 discrete input-output channels of 44Mb per second bandwidth each, 5.6Gb per second aggregate, and up to 10 can be linked in a single system. The Disk Module can take up to 120 1Gb, 2Gb or 4Gb 3.5" fast and wide SCSI drives and offers hot-swappable disks, error monitoring, and redundant power supplies, and a system can have up to 20 Disk Modules. In the hypercube topology, an adaptive routing mechanism increases interprocessor bandwidth by automatically seeking the most efficient path between nodes, skipping any failed nodes, and unused input-output channels can become hypercube interconnections. The Foster City, California company's Parallel Software Environment for program development and execution contains the nCX microkernel, which runs on every processor and input-output node, and takes under 512Kb memory, while providing low-overhead messaging and integral message acknowledgement, and a Posix agent is available. nCube Languages compilers offered are for C, C++, Fortran 77, and High Performance Fortran.

ICL OFFERS PASSWORD ENCRYPTION API FOR USE WITH DCE, SESAME AND LEGACY SECURITY MECHANISMS

ICL Plc is offering a Generic Security Service application programming interface, SDK, to users of its network security AccessManager software which it says will make passwords and data secure from break-ins across heterogeneous environments. The API is the first plank of ICL's Association Management that will combine a single sign-on with user authentication, access control, data encryption and integrity. Initially available on Solaris servers and Solaris or Windows clients, the GSS is slated for launch early next year, also on ICL's SVR4 Unix. GSS API was drafted by the Internet Engineering Taskforce as a means of securely linking applications on different machines over insecure networks. It has been accepted by X/Open Co Ltd and will also be incorporated into a future OSF Distributed Computing Environment release. ICL says its extended GSS for legacy systems so that application developed with it will be able to incorporate a variety of security services including DCE's Kerberos, the European Commissions Sesame as well as legacy mechanisms, and accept a standard encrypted piece of code containing user ID and password for an application.

UNISYS ADDS PENTIUM SMP BOXES AS LAN SERVERS

Unisys Corp has overhauled its Advantage Series of Intel Corp-based LAN servers with a new line of PW2 systems with up to four Pentiums, capable of running SCO Unix, Windows NT, NetWare and OS/2. At the high-end, the model SFE 59010 is positioned as a high-availability systems, with up to four 90MHz or 100MHz Pentiums, up to 1Gb RAM, 20Gb disk, 10 EISA slots hot-swap disk modules and support for RAID levels 0, 1 and 5. The Model SME 59010 is essentially the same unit tailored for distributed databases and client/server applications with up to 40Gb disk. The SSE 59010 comes with one or two Pentiums, up to 512Mb disk, 20Gb disk and seven EISA slots. The SVE 5669 is designed to boost performance throughput on existing PC LANs. It comes with up to 512Mb RAM, 20Gb disk and runs a single 66MHz Pentium. All are due by year-end and start from \$6,000 for the SVE to \$16,000 for the four-way SFE.

TPC TO DROP -A AND -B TESTS; ADDS -D, -E, AND C BENCHMARKS.

As expected the Transaction Processing Performance Council will obsolete its TPC-A and -B benchmarks on December 6 next year ~~when it withdraws all -A and -B results. No new -A and -B numbers will be accepted after June 5 1995.~~ The reason? Cost and desire to get vendors up on to the more complex, 'real-world' TPC-C suite. Benchmark-watcher *Benchpress* observes that TPC might be a tad hasty given that TPC-A and -B numbers are being withdrawn faster than TPC-C marks are being added. It also argues for a unified benchmark that could gradually incorporate all of TPCs planned series of benchmarks so that fewer of the high configuration costs have to be met. TPC says that simply will not work because the market is too complex and vendors want more specific comparison tests. It claims there are a slew of TPC-C results coming through - plus many more that vendors have not published because they are not commercially advantageous enough; that is their systems are slow. It recognises, however, that the costs of configuring multiple and vast amounts of clients equipment for the benchmarks is hampering its use and is currently reworking TPC-C as a server-oriented suite. Also forthcoming are TPC-D benchmarks in the first quarter of 1995 for measuring decision support performance. TPC-E for enterprise server environments (plus a server-only versions) is due in the second quarter. An unnamed database benchmark is being readied for the second or third quarter and a client/server benchmark for the fourth quarter. By the end of 1995 it'll have five benchmarks but estimates it will be mid-1996 before results on all are being published; it will still waiting for first Windows NT-based results.

MAGNA PUTS API FOR TUXEDO CLIENT DEVELOPERS ON THE NET

As well as an HP-UX version of its Magna X server application generator and support for the Informix database, New York City OLTP development house Magna Software Corp is promising to put its lesser-known clientware into the public domain this week. It's got an Open Client Interface API it says will benefit any organisation building Tuxedo applications. It will sit between the client development tool and the low-level Tuxedo ws libraries. The API enables PowerBuilder, Visual Basic or SQL Windows developers to build applications without requiring intimate knowledge of Tuxedo or its C constructs, simply the name of the services required and where messages are to be sent. The interface invokes Tuxedo services, whether generated by Magna X or not. The company hopes the API will gain Magna some name recognition and generate business for its Cobol-based Tuxedo application generator. The company's promised Encina version of Magna X will be a little later than anticipated, due it says to the development being Encina's first Cobol tryout. Magna has first cut of a working Encina service and promises the implementation late next quarter. Its also working on support for Sybase and Solaris, both also due next quarter. Other database and Distributed Computing Environment relationships are tied up in legal departments.

APPLE PICKS-UP NETWARE-ON- POWERMAC REINS PIN INTACT CLAIMS NOVELL

Denying it has canned its processor independent version of NetWare (PIN), Novell Inc says it will also deliver an additional version of NetWare tailored for the latest PowerPC Common Hardware Reference Platform. Nevertheless all indications are that Apple Computer Inc is now having to play a bigger role in the development of PIN NetWare for its PowerMacs than originally planned. Availability of the release, which is based on the as-yet unreleased NetWare 4.1 has been pushed back until next summer. Novell says its still working on Alpha and Sparc versions of NetWare, claiming that Hewlett-Packard Co's defection (UX No 497) hindered the overall PIN effort. US reports say early alpha versions of NetWare for PowerPC Macs will go out to users in a matter of weeks. For its part Suns Sparc Technology Business says it delivered all of the interface code and device drivers for NetWare on Sparc to Novell late last year and is waiting to hear from Novell when the release will ship.

PARALLEL PROCESSING IS A DEAD END, CAPPS EVENT CONCLUDES

If you attend the second annual staging of an event devoted to a hot emerging technology, you don't expect speaker after speaker to admit sadly that the technology is probably a dead end - but that was what happened at the CAPPS conference in Austin a few weeks ago. *Abigail Waraker* tells the sorry tale.

Vendors of parallel processing systems got together with current and potential users of the technology at the second annual CAPPS Commercial Applications of Parallel Processing Systems conference in Austin, Texas recently to share their knowledge and insight on the potential of transferring these systems beyond the realms of academia and scientific research to the commercial arena. The focus was on looking at how people are applying parallel processing more effectively to current application areas such as database mining and to new areas like finance and logistics applications. The conference began with promise. "1994 is the year parallel computing has arrived," said Irving Wladawsky-Berger, general manager of the Power Parallel Systems Division at IBM Corp in his keynote address. He argued that a revolution in the technology is starting to unfold. "If you give the computer an attractive price and lots of applications it will take off. We are at this crossroads in parallel computing. The software is finally becoming available", he added.

Cut the cost

The tutorial session dedicated to issues in developing business applications on parallel processing machines set out to explain how new commercial opportunities can be created using parallel processing to optimise larger business problems than ever before. Unfortunately the expectations do not hold out, according to Andrew Whinston, professor at the University of Texas Business School. He said that because of the amount of work that has to go into developing general parallel applications for solving huge and complex problems, an alternative solution would be to have parallel computers acting as servers across the Internet. People who have developed applications could then share them globally. Crossing the world on the Internet to find optimisation software already written by someone else would cut out the cost of having to buy the hardware and of developing the software, with the convenience that people can share and use the applications worldwide. It would also avoid the task of disparate developers working simultaneously to solve the same complex problem. Whinston says that this is where the niche for parallel computers lies. The user would then only have to pay for the Internet connection. On the surface, perhaps an innovative idea. But it would not be much use for anyone other than the light to medium user. Perhaps for school teachers who need to work out timetables once a year so that classes don't clash. But it wouldn't really solve the problem of a major airline trying to schedule worldwide flight paths for hundreds of pilots on thousands of possible routes in real time when adverse weather conditions have caused several flights to be cancelled. There is also the problem of limited bandwidth. The client software would need to carry out data manipulation and data would need to be compressed and encrypted before being sent across the network. Another problem would be congestion and the availability of the server, which Whinston said would be an issue to be sorted out with the service provider. Unfortunately this also does not help to improve the credibility of parallel processing or help make the technology itself any more useful.

"It won't make money"

Parallel processing is not widely accepted in the market. Companies that are well known for their work in the parallel processing business are facing difficulties right now. In August massively parallel systems pioneer Thinking Machines Corp filed for Chapter 11 court protection and last month Kendall Square Research Corp announced that it planned to cut back its staff and development in light of the failure to receive expected orders and the inability of the company to raise additional capital to finance the business. "There is some great hardware and low level software, but its not going to make some money," said Whinston. The general opinion among the delegates seemed to be that the hardware for parallel computing is pretty much there. The problem is the software. Or rather the lack of it. As there are no significant software applications available to potential users of parallel machines, they can't get sufficient business advantage out of using them without investing huge amounts of time and resources into developing their own software.

Problems and more problems

In these circumstances it would need to be a large company that could spare the resources to invest in developing software for an already expensive hardware system, and the problem being solved would need to be integral to the company's operation and significantly more efficient or add notable value to justify the expense. This goes some way to explaining why it is generally larger companies who are cited as successful users of parallel processing systems. Another problem is it is incredibly difficult to write software for parallel systems anyway. There has not been enough investment to get general applications on to the market both because of the development costs and because there just hasn't been enough money to be made out of software even if it were to be developed for the general market because the cost of the parallel processing hardware. Glenn Graves, professor of Management Science at the University of California at Los Angeles also admitted that there was no commercial impetus. "That's the real hang-up. Algorithms have to be designed." So where does this leave Wladawsky-Berger's statement that the time is now for parallel processing? "We can't give a general procedure of making an algorithm run in parallel," said Jan Stallaert, professor at the University of Texas. It remains a hugely complex task. Successful operational examples of massive data mining systems do exist, but for applications in the areas of logistics or finance, for example, the task is particularly complex.

Wrong path

Stallaert argues that to make an algorithm run in parallel, the structure of the problem has to be exploited. As different classes of problems have the same inherent structure, he said, the approach could be to focus on certain categories of problems with the same inherent structure that are trying to be solved, and work from the ground up. Then once a solution for one type of problem has been solved, the same solution could be applied to other similar problems, or lessons learned from that development process could then be applied to other similar problems, rather than looking to solve the problem of programming for massively parallel systems in general. The developer would focus on the domain area where the inherent structure of the problem lay and then exploit that structure and build on the success of that specific application area. This also gets around the problem of debating which type of parallel processing is best. Instead, this no longer becomes the key issue. Rather the individual application is where the focus lies. Unfortunately the tutorial focussed too much on the semantics of the problem of creating applications for parallel processing systems, which left delegates coming away with the impression that if even these experts were not able to offer any real hope on how to program for the complexities demanded of massive parallel processing, then perhaps it is the wrong path altogether. The feeling was that maybe we will have to wait until commercially available chips become so much faster that they can cope with the massive amounts of data needing to be processed, and that massively parallel processing will fall by the wayside except for the niche areas of scientific applications.

NOVELL AND IBM ENHANCE NETWORK MANAGEMENT AND NETVIEW

Novell and IBM have enhanced their respective NetWare Management System (NMS) and NetView for AIX products to try and provide more integrated management of network hardware and software. The enhancements to NetView for AIX will also be implemented on DEC's PolyCenter Manager on NetView product. The integration between the systems stems from the technical and marketing alliance which the two announced in 1991, and follows integration between NMS and NetView running on mainframes and OS/2-based machines. Specifically, the companies claim that NetView for AIX can now integrate network maps generated by NMS, while an enhancement to NMS 2.0 is now said to expose all user-defined information in its database (including IP, IPX, AppleTalk and DECnet nodes) to NetView for AIX. Similarly, IBM's RMONitor for AIX graphical interface is to be enhanced with the ability to display data from Novell's NetWare LANalyzer Agent, which is also RMON-based. This feature will be available by the end of the year for Ethernet networks, and at an unspecified time next year for Token Ring. Finally, NetView for AIX is now said to have the ability to act as a master fault-manager console through the use of NetWare Management Agent Information.

IBM's 615 IS DELAYED

According to sources contacted by our sister publication *Client Server News*, the 615, IBM's effort to make its PowerPC RISC chip x86-compatible and one of its most ill-kept secrets, has been delayed. ~~Three weeks ago, Burlington, Vermont-based IBM Microelectronics,~~ the company's chip arm, took the decision to make the 615, first mentioned in February of this year, pin-compatible with Intel Corp's Pentium, a move that will push its completion out. It is still unclear how well developed 615 actually is at this point or how great an impact this move will have on its schedule. Back in February there were predictions that the 615 could surface around May 1995. Now, there's talk of its availability being well back into the latter half of next year. Maybe that's just as well. The 615 is a two-edged sword that could hurt the PowerPC effort more than it helps it.

CORNERSTONE EXPANDS TRANSACTION SYSTEM FOR MULTIVENDOR ENVIRONMENTS

Nashua, New Hampshire-based messaging outfit Cornerstone Software Inc is moving on from its Tandem Computers Inc base with a planned series of Application Programming Interfaces it'll provide on top of its peer-to-peer Piccolo transport architecture for client/server application development and transaction processing, including X/Open Co Ltd XATMI, WinSock and ODBC (UX No 503). Eight-year-old Cornerstone's claim to fame is a transaction delivery system Tandem offers its users as Remote Server Call. Cornerstone says RSC effectively furnished Tandem with its entry into the client/server world; the fault-tolerant builder used RSC to achieve its record-setting TPC-C numbers (UX No 494). Although under RSC clients can only talk to Tandem hosts, Piccolo, a communications re-write of RSC, supports application development and deployment across a variety of systems and protocols.

Backbone for TP communications

The multithreaded Piccolo is actually less of an integrated TP animal than RSC, but it's intended to provide the communication backbone for TP solutions that can be built using a wide range of technologies for a variety of targets. Cornerstone will offer an ODBC API - initially for Tandem platforms by the end of the year. A WinSock release, which will also be initially for Tandem systems, is due next quarter with the first release of a phased XATMI API set for the second quarter of 1995. By the time that these have arrived, Tandem is expected to have RSC up on Piccolo too - it's already signed as the exclusive supplier of Piccolo on its systems, and will market the stuff to third parties too. Piccolo doesn't, and isn't intended to provide the stock-in-trade queuing-type services associated with OLTP systems such as CICS, Tuxedo and Encina - in fact Tandem offers Tuxedo alongside RSC and plans CICS support - although Cornerstone president Robert Wade believes the environment provides as much as 80% of the functionality that transaction developers require. Piccolo operates a much lower level than Tuxedo for example, having some 13 calls, against the 350-odd defined by X/Open's TP standards. His competitors for now are primarily the Peerlogics and Momentums of the industry although more overlap with the mainstream OLTP vendors is anticipated as the APIs are rolled out. Wade believes Cornerstone - and Peerlogic and Momentum too - offer certain advantages over conventional OLTP environments like Tuxedo such as not blocking Input/Output channels to wait for message acknowledgments whilst in conversation mode. What Piccolo still lacks, however, are a bunch of LAN and WAN gateways, two-phase commit (which is scheduled for 1995) and auto-formatting. Wade sees high performance transaction sites such as the financial services industry as the natural customer base for Piccolo which is already supported on AIX, HP-UX, Windows NT, SCO Unix, Tandem Guardian, Solaris and Windows with Macintosh, OS/2, Tandem Integrity and release for most other Unix-based RSC platforms planned plus HP 3000 and MVS. Piccolo supports Netbios, TCP/IP and IPC protocols now, with asynchronous, full and half duplex (direct connect, dial-up and X.25) development underway. Unix prices for Piccolo go from \$120 - Windows at from \$110. The 20-person outfit expects to do around \$2.8m this year and aims to stay a private concern without venture support.

AUSPEX EXPLAINS ITS PATENT CASE

Auspex Systems Inc's marketing VP Joe Brown says the company's embedded NFS server patent (UX No 513), is intended to protect its investment, and is nothing more than a sound business move. ~~Functional Multiprocessing is the patented part, which distributes NFS workload~~ to multiple dedicated processors individually optimising workload for network, storage and Unix system functions. The result is an architecture in which Unix is removed from the NFS Input/Output data path, yielding gains in both performance and reliability, Brown says. According to Brown the importance of the development lies in the two major trends of the 1990s; the first involving the widespread acceptance of the client/server computing model, the other, the advent of increasingly data intensive applications such as multimedia and integrated document management. The result is an environment where data files are located on centralised network file servers physically separate from desktop clients and their users. In this environment, the act of moving files from one place to another can be complex. At the same time desktop performance is continuing to rise bringing in its wake smaller and less expensive Unix desktops. However these fast clients have an appetite for data which conventional servers find hard to satisfy. The CISC to RISC increase in workstation computational power has not been matched by a comparable increase in network capacity, individual disk performance, or server disk to network I/O throughput. Adoption of 100-mb/s FDDI backbones and the promise of Fast Ethernet and ATM do not in themselves close the I/O gap, say Auspex. Commonly in Unix environments, clients and servers exchange file data using Network File System (NFS), a standard distributed file system originally developed by Sun Microsystems. In itself NFS is neither very sophisticated or optimal. The most demanding NFS clients are diskless workstations with no local disks. They rely on a file server for application binaries and virtual paging as well as data. Clients with small disks for paging and booting fare little better. The Santa Clara, California company has attempted to develop a network file server which plugs directly and transparently into existing NFS-based networks. It attempts to offload NFS processing from all configured conventional servers, attaching to all of their existing networks and replacing their cumulative storage. To achieve this objective Auspex has devised and patented its FMP architecture, which it claims, maximises performance by coupling storage devices to networks as directly as possible. A key FMP notion is that NFS' protocol, file, and storage software components are not run on Unix CPUs. FMP eliminates Unix from the network, file and storage functions, each of which is handled by a dedicated 32-bit processor with its own instruction memory, optimised ASIC-driven datapath and large I/O cache. The latest Auspex NFS servers are the NS 7000 NetServer family, introduced in June in 1994, which feature dual CPU SPARC network processors consolidated onto each network processor board. The processors run Auspex's lightweight microkernel, tagged the Functional Multiprocessing Kernel (FMK), with the NS 7000 performance enhanced by the use of a new HyperSPARC-based host processor. The host processor provides faster backup, restore and reboot capabilities and the ability to run standard Unix applications.

TATUNG UNVEILS POWERPC SYSTEMS WITH SOLARIS AND WINDOWS NT

Diversifying from its Sparcsystems business, Tatung Co has been demonstrating its PowerPC 604-based systems, the TPC-5540 and TPC-5740, at Comdex in Las Vegas. Both systems conform with the PowerPC Reference Platform. The TPC-5540 includes a 100MHz PowerPC 604 microprocessor and supports the Western Digital Corp form factor. It includes a CPU/upgrade level 2 cache socket, two 33MHz Peripheral Component Interconnect slots and two AR slots. The TPC-5740, also based on the 100MHz PowerPC 604, supports the Baby AT form factor. The system includes a CPU upgrade/level 2 cache socket, three 33MHz PCI slots and three AT slots. Initially, the systems will support Solaris Unix and Windows NT but AIX and OS/2 for PowerPC support is planned. Tatung will target OEM customers and original design manufacturers in the desktop marketplace initially. As part of an ongoing relationship with Motorola Inc, Tatung has already shipped its 66 MHz PowerPC 601 systems to some independent software vendors so that they could develop software prior to shipment of the TPC-5540 and TPC-5740 systems. Shipments start in the first quarter 1995.

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Microsoft Corp's publishing business unit has been having merger talks with **Quark Inc**, reckons *Infoworld* columnist Robert Cringely - and he seems to have encountered the same kind of unrivalled Quark customer alienation as Apt Data Group Plc suffered last year: "This is one of the few instances in which I would claim that being acquired by Microsoft will improve customer service, because Quark simply could not get any worse," he says, with some feeling.

Robert Miner, co-founder of **Oracle Corp**, and credited as the architect of the world's first commercial relational database management system, has died at age 52, of cancer.

On the basis it says of an attendee survey that indicated more than 60% of those who have servers installed as part of their corporate systems will be increasing their use of Windows NT, **Unix Expo** is putting a Unix/NT Interoperability Gateway showcase in its next show which runs September 9-12 in New York.

Tadpole Technology is still working on the Alpha 21066 notebook it said it would develop. DEC figures it's got little future because the infrastructure needed to run such a thing successfully like ISDN on the road isn't there. DEC's canned its own Alpha laptop project, *Lean*.

X/Open Co Ltd's SPEC 1170 programme has drifted a month or so off schedule. Three of the four test suites aren't out yet in any case. The final part - UniSoft Ltd's bag - won't be around until March. Branding isn't expected before the second quarter.

Demand for **Sun Microsystems Inc's** Netra servers is apparently outstripping supply. The company conceded this week that it had been caught unawares. Pre-shipment orders of the boxes, due this month, have been high.

Moshe Gavrielov, the six year veteran of **LSI Logic**, has been appointed senior VP and general manager of LSI Logic Europe.

Santa Clara, California-based **Hitachi Data Systems** is shipping Informix OnLine Dynamic Server Version 6.0 for its Osiris open systems platform. HI-OSF/1-M is the Hitachi open operating system for users of HDS EX and GX Series processors.

Sun's Sparc Technology Business has snatched **DEC's** Semiconductor Business Unit marketing VP Art Swift as its new VP marketing, replacing director of marketing Derek Meyer who left a few months back (UX No 499).

Meanwhile, although its got the whole project in-house, now that **Intergraph Corp** has dropped out of the effort, **STB** says the Windows NT port to Ultra Sparc isn't finished yet and that it isn't busting a gut to get the work done seeing as how the NT market isn't yet gathering the volume it says it requires to sail an NT-on-Sparc boat on.

Oracle Corp has installed Derry Kabcenell as executive VP products division; in the newly-created position he is charged with responsibility for all of the company's existing product and hardware platform organisations, reporting to Larry Ellison.

We hear also that a version of NeXTStep has been up and running on a racy UltraSparc prototype for a couple of weeks or so, implying the relationship between **Sun** and **NeXT** is going well. NeXTStep is due on microSparc and SuperSparc II systems next quarter.

The combined **Sybase Inc/PowerSoft Corp** company will have some \$236m cash and 4,500 employees. There will be no layoffs, indeed the two say they have some 700 openings between them. Sybase projects sales of some \$650m this year - PowerSoft is looking at doing \$120m.

The new version of **Sybase Inc's** promised SQL Server Manager is still on track for next month, the company says, along with SQL Server Monitor (next quarter) and the **Tivoli Systems Inc**-based distributed management environment, Enterprise SQL Server Manager (also next quarter).

The Benchpress newsletter rounds on the SPEC benchmarking group this month, observing that as more cache memory is supported and preprocessing and optimisation employed in systems, the benchmarks become less and less representative of real-world applications. It argues SPEC's next suites should report results for more general application usage.

A professor at **Lynchburg College**, Pennsylvania, found a bug in the programmable logic array of Pentium's floating-point unit that was returning incorrect values for certain division operations - at the ninth decimal point, 0.0000000001. Although apparent in all Pentiums, the problem is unlikely to be noticed by the ordinary word processing and spreadsheet user, or even engineers as Intel says the effect will show up once in every nine or 10 billion operations - or once in 27,000 years. *Electronic News* reports Intel has fixed the problem although the company asks users to get in touch if they're concerned.

Last we heard, **Object Management Group's** fax vote on the UNO proposal for interoperability between object request brokers required 10 votes to pass and 12 to fail. There will be many abstentions.

Now part of the **IBM Corp** universe, we hear **Transarc Corp** is now finding its got the funding it requires for a bunch of Encina projects it had struggled for, including added front-end support and paring down the code for DCE/Windows environments.

With the demise of **Kubota Pacific Computer Inc's** Alpha-based graphics systems, **Evans & Sutherland Computer Corp** has stepped into the breach and is to develop a line of its Freedom 3D graphics accelerators for DEC's AlphaStations running OSF/1 and the OpenGL programming interface. E&S has decided to base its next generation of accelerators on PowerPC 604 - and two other E&S divisions have made the same choice.

SNI's newly-appointed boss Gerhard Schulmeyer is sending 30 of his brightest young sparks from Germany for six months process re-engineering in the US. The 30 will train 300 back in Munich and the 300 will go out in groups to surround SNI middle management with new action plans.

Marlborough, Massachusetts-based Unix service, and support house **Polaris Service Inc** has established a European headquarters in Westervoort, Netherlands, headed-up by Jos Brey.

Novell Inc is reportedly cooking-up a faster TCP/IP stack, an X Windows server and Internet access tools for next year.

Reports say one of the main features of the Tuxedo System 5 release is its ability to handle up to 1,000 servers - existing versions apparently top-out at around 50 nodes (UX No 513).

Former **Sun Microsystems Computer Corp** marketing VP Curt Wozniak is president of San Jose, California logic chip builder **Xilinx Inc**.

Apple Computer Inc says it's got exclusive rights to IBM Corp's 110MHz PowerPC 601 iteration (UX No 513).

Intel Corp is saying P6 will sample next quarter in the 0.6 micron technology used for 100MHz Pentiums. No quantities are expected until the third quarter, with P6 systems unlikely to see daylight until early 1996. An 0.4 micron P6 process is slated. Tape-out is done.

The enhanced version of Dublin, Ireland firm **Iona Technologies Ltd's** Orbix object request broker hits the streets this week (UX No 498), with the ability to generate Corba objects from OLE.

Philips Semiconductor's five-year-old Sparc agreement will soon spawn an embedded Sparc controller for ATM and other communications products, according to *Electronic Buyers News*.

As well as support for NetWare, AIX and Solaris-managed nodes next year, **Hewlett-Packard Co's** OpenView AdminCenter software will, under HP's existing plan (UX No 463), be integrated with **Microsoft Corp's** Systems Management Server, formerly Hermes. AdminCenter, which automates and centralises systems administration, is expected to compete against the likes of **Tivoli Systems Inc** software.

Analysts are looking for **Sun Microsystems Inc's** pillage of failed MPP operation Thinking Machines' to be concluded soon in a hardware and software licensing deal (UX No 509).

Novell is developing three parallel versions of the OpenDOC interchange for WordPerfect on Windows, Windows 95 and Windows NT 3.5. In addition to OS/2 and AIX, IBM Corp will develop OpenDOC for AS/400, HP-UX, MVS and OS/2-on-PowerPC.

Mosaic Communications, which doesn't actually have an NCSA Mosaic license (UX No 513), has become Netscape Communications Corp.

Unigram.X staff can be contacted electronically at the following addresses:
William Fellows, Editor - wif@panix.com
John Abbott, Group Editor - johna@power.globalnews.com
Maureen O'Gara, US Publisher 72603.455@compuserve.com
General enquiries info@unigram.globalnews.com

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SUN TO TREAD PARALLEL LINE COURTESY OF THINKING MACHINES

Sun Microsystems Inc will use parallel technologies from failing MPP pioneer Thinking Machines Corp to enhance its current line of Sparc-based servers and system software, to add further iterations, and to deliver a full-featured parallel architecture. Sun has already hired key staff from the Cambridge, Massachusetts-based company for its recently created Parallel Open Systems Group (UX No 509). It's keeping tight lipped on when or if it'll conclude a widely-predicted licensing deal with Thinking Machines (UX No 514) claiming there are "other kinds" of discussions going on. Thinking Machines was up to its fifth generation of Single Instruction Multiple Data (SIMD) architecture with the 128-way, 40MHz SuperSparc-based CM-5E when it went Chapter 11 back in August. Thinking Machines, with machines at some 100 sites, claims the way its vector processors handle parallel input-output alongside parallel time-sharing is unique. As well as CM-5E, Thinking Machines had a future parallel system and software under development, other software tools and the Darwin data mining application which searches mounds for underlying relationships. As well as extending its symmetric multiprocessing capabilities in new, or iterations of its current SMP lines with Thinking Machines techniques, Sun will enhance parallel support in Solaris, develop coupling and additional clustering and networking solutions. Extending its high-end will run Sun up against the likes of Cray Research Inc whose Superservers currently sit above Sun's SparcCenter 2000s, although Sun claims the strategies will be complimentary. Sun, an MPP rookie, will find itself in an already overcrowded ballpark, although commercial parallel offerings should enable it to compete more aggressively at the high-end with the likes of AT&T GIS, IBM Corp and Pyramid Technology Corp. With little or no experience of parallel hardware or compiler techniques and what some argue is a retarded chipset, it's unclear what Sun can bring to the party, except perhaps its deep pockets. IBM, Cray and other parallel houses have all passed on overtures from Thinking Machines, apparently concluding what it can offer is already de facto and the asking too expensive.

Thinking Machines sees software and service future

Meanwhile, Thinking Machines last week said it aims to emerge from bankruptcy sometime next year as a software and service provider. The reorganisation plan will be filed by the end of the year. It figures its installed base still needs software, peripherals and so forth, and plans to develop versions of its software and tools to run on other systems. It now has 200 employees, down from 425, and has formed a consulting group. "Even though we are not developing the next generation machines, we are working on next generation software," declared COO Richard Edson.

HP's SMP MACHINES DUE EARLY 1995

After months, if not years of procrastination,, Hewlett-Packard Co will finally hoist itself into the world of desktop symmetric multiprocessing early next year with workstation based upon its forthcoming PA-RISC 7200 (UX No 477). The 7200, due in a line of servers around the same time that'll also run HP's long-anticipated SMP operating system, HP-UX 10, will carry the firm up to the company's final vanilla PA iteration, the 8000, before its VLIW Intel collaboration kicks-in. HP had often railed against SMP on the desktop (UX No 437), claiming that neither the market, nor SMP application software were ready. But now it sees demand for virtual reality-type applications that can be readily addressed by SMP desktops.

TANDEM PROMISING "NO PRICE PREMIUM" FOR FAULT-TOLERANT UNIX

The symmetric multiprocessing version of Tandem Computers Inc's Integrity FT line - as distinct from its re-badged Silicon Graphics Inc Integrity NR boxes - is likely to show as a unit with a handful of 200MHz Mips R4400s and Unix SVR4.2 MP wrapped with fault-tolerance. Tandem aims to offer this and its other future Unix offerings "with no price premium for fault-tolerance." It'll gradually develop the range of technologies found on its proprietary NonStop system for Integritys, but it doesn't plan straight ports. The home-grown Integrity FT, currently a uni-processor-only affair, will be binary compatible with SGI and other Mips ABI systems. The company hasn't covered much ground in its search for technologies for a loosely-coupled Unix machine on which it plans to deliver the same degree of scalability found on its NonStop-based Himalaya line with hundreds of processors (UX No 509). In conjunction with other vendor groupings it's still evaluating Chorus Systemes SA's Mach micro-kernels and single system image techniques.

CORBA 2 RECOMMENDATION PASSED BY OMG COMMITTEE

Despite heavy lobbying by DEC and Hewlett-Packard Co the Object Management Group's Technical Committee passed the Corba 2 interoperability recommendation by a 3.2:1 margin last week. Corba 2 initialisation was passed unopposed. Along with other pending decisions on Common Object Services Specification II, the TCP/IP-based Universal Networked Objects/DEC- Common Inter-ORB Protocol (UNO) for interoperability between object request brokers goes before the OMG board on December 6 in New Jersey. The adoption of UNO means that DCE will not be the mandatory protocol for object request brokers. However the proposal doesn't exclude DCE from being used as an underlying technology for ORBs. It does mean that to be Corba 2-compliant networked ORBs will have to communicate using the UNO protocol. DEC and HP say their ORBs will (continue to) be based on DCE - whilst IBM will provide a DCE protocol gateway for its Distributed System Object Model in addition to supporting UNO. When the original interoperability submissions were made it was widely assumed that DCE would be endorsed in some form. Observers say the spotlight will now fall on DCE's future - some analysts have said that if DCE was rejected by OMG it could be a serious if not fatal blow to the technology. Major UNO contributor ICL Plc promises a compliant solution based on its Dais object request broker in 1995 - "sooner rather than later." With transaction management and interoperability out of the way, Microsoft's Common Object Model-to-Corba interoperability and security are OMG's next targets. ICL has four engineers locked-up in a room developing a security proposal it'll present to OMG's technical committee meet in Cambridge, UK, next March which it is co-hosting. The proposal is based upon ICL's Generic Security Service API and Access-Manager development (UX No 514), plus its work with Bull and Siemens in the European Sesame group.

TURBO LASER SHOWS

Turbo Laser Plus, technology destined to push out DEC's 7000 and 10000 Series machines at the high-end, put in its anticipated appearance at SuperComputing '94 a couple of weeks back (UX No 513). The unit accommodates two boards each with dual EV5, 300MHz 21164 PCI bus Alpha RISCs. A quad-processor will field tests imminently and should be ready for introduction in the first quarter. Illuminata's Terry Shannon is looking for 12- and 24-ways to follow. A four-way is reckoned to do around 1 GFLOPS, 3,000 SPECmarks.

AT&T WILL BID FOR 40% BULL STAKE

AT&T Corp has finally confirmed that it will bid for a stake Compagnie des Machines Bull SA and has outlined its intention in a letter to the French government. Pier Carlo Falotti, now president of ~~AT&T Europe told *Le Figaro*, "We want to become 40% shareholder in Bull - we are interested both in the computer market as in telecommunications; we have completed important preliminary work to prepare the case and those who doubt our determination will be surprised,"~~ he said, adding that the company chose Quadral SA as its partner because it is a quality company that will enable AT&T to put together a plan that will ensure the future of Bull, and with Bull, it would be able to offer one-stop shopping for integrated computer and telecommunications systems and services; despite the fact that the other significant industrial shareholder in Bull, NEC Corp, offers a full range of telecommunications equipment that competes with that of AT&T, Falotti insisted that NEC's product range is complementary; he forgot to point out that AT&T and NEC do have a comprehensive alliance and parts swap agreement on semiconductors.

CESIR'S STOOL SUPPORTS SECURE DATA EXCHANGE BETWEEN MAC AND UNIX

A tiny, two-year-old French start-up called CESIR, Societe de Conseil et d'Expertise en Systeme Informatique et Reseaux SA, has developed a tool for securing digital information exchanges on Macintoshes and Unix workstations. Rather unfortunately called Stool, the software toolbox offers high-level security functions, including administration of user groups, user authentication, integrity and confidentiality in file exchanges and in communication between distributed applications. CESIR says the product adheres to international standards in cryptography, such as Data Encryption Algorithm and RSA Security Inc's encryption. The product, which sells for between \$380 to \$955 for individual workstation versions and \$57,145 to \$190,480 for the systems integrator version, is immediately available in library and integrated formats on Macintosh and Unix workstations running Unix System V.4.3 and Motif. The product was developed with aid from France's national agency for research and development. Stephane Natkin, the product's developer, says there are few similar products on the market. They are mostly freeware products and modules within other toolboxes that are aimed more at local file locking rather than exchange of data, he said. Any product that uses cryptography must be approved by the government before it can be sold, Natkin said. "You have to get special permission, from either the Ministry of the Interior or, in the US, Customs. In France, we have to go all the way to the Prime Minister's office! Up until a few years ago such a product in France was considered an arm of war," he said. CESIR is awaiting response from Edouard Balladur's office and has applied as well to the major European countries for approval.

DEC WINS VIDEO TRIAL CONTRACT

Ravaged Digital Equipment Corp is far from an also-ran in the video server market, and the company has just picked up its first contract in Scandinavia: its Alpha RISC-based video server has been chosen for a video-on-demand trial to be undertaken in the Jarlaberg suburb of Stockholm by Svenska Kabel-TV and the Swedish former monopoly telephone service provider Telia AB. DEC is providing its servers at Svenska Kabel-TV's head-end operation, and its so-called advanced middleware system, which integrates a number of software layers that provide complete video-on-demand service, including order and billing systems. The trial will be with 500 homes early next year.

AT&T, APPLE, SIEMENS, IBM TEAM ON STANDARDS

AT&T Corp, Apple Computer Inc, IBM Corp and Siemens AG plan to announce next week that they will use common standards for sending data over networks, telephone equipment and other devices, the Wall Street Journal reported. The aim is to make it easier to use portable devices such as notebook computers and Personal Digital Assistants and resolve the problems that arise when your analogue modem meets a digital hotel phone system. The four have agreed to use existing standards but to modify them when necessary.

UNISYS IS SUN'S LATEST SPANISH PARTNERS

Unisys Espana SA has signed a collaboration agreement with Sun Microsystems Inc to become the company's partner and offer Sun equipment maintenance and support service in Spain. Through this ~~agreement Unisys will offer maintenance for Sun hardware and peripherals within Sun environments, as well as providing consultancy services in the areas of internetworking, systems integration and applications development.~~

FUJITSU ESPANA WILL MARKET PYRAMID'S NILE SERVERS

Madrid-based Fujitsu Espana SA and Pyramid Technology Corp have signed an agreement for Fujitsu to market Pyramid's Nile symmetric multiprocessors servers that run the company's Datacenter OSx Unix. The basic model is the NS150 and comes with four to 16 150MHz R4400 RISC processors, up to 4Gb of memory and 1Tb of disk. The clustering technology provides almost permanent availability during recovery after failure and on-line maintenance.

HEWLETT-PACKARD ADOPTS UNIBOL/400 IN ITS ASSAULT ON THE AS/400 BASE

Hewlett-Packard Co is stepping up its all-out assault on IBM Corp's AS/400 base by getting closer to UniComp Inc, the Marietta, Georgia company that owns Unibol Ltd in Northern Ireland. The Newtonabbey-based unit has joined Hewlett-Packard in a development and co-operative marketing agreement to provide the Unibol400 application environment under HP-UX on the HP 9000 family of business servers. Launched last month, Unibol400 provides an AS/400 environment under Unix and NT. Unibol400 for HP 9000 servers is expected to be available in the first quarter 1995. Unibol400 is claimed to offer significant performance improvement while maintaining the look and feel of the original AS/400 applications.

ORACLE LAUNCHES ITS ORACLE MEDIA OBJECTS

Oracle Corp has formally unveiled its much-previewed Oracle Media Objects, claiming it to be the first multimedia authoring tool to enable developers to create applications for both CD-ROM and interactive television. Home Box Office, The Weather Channel, Cambridge Digital Media and the University of Michigan were on hand to show what they had done with the pre-release version. The system uses a Hypercard-like interface and supports integration of real-time audio, video, images, text and animation. It currently runs on Macintosh and Windows machines and the Apple Computer Inc set-top box, Microware Inc's OS/9-based David boxes and Scientific-Atlanta Inc's PowerTV system. It can also be used with a data source such as Oracle Media Server to deploy networked interactive applications such as personalised news readers, home shopping programmes and video-on-demand navigational systems. The production version of Media Objects will be available for the Macintosh, Power Macintosh and Windows in mid-1995 at under \$500 for the authoring system, with run-time licences free.

SUNPICS SNAPSHOT

Despite reassurances from Lalita Tademy, VP and general manager of Sun Microsystems Inc's SunPics unit, we've picked-up rumbles of discontent over the direction of Sun's printing group, which is responsible for products like NeWSprint software, SparcPrinter and NeWSprinters targeted at the Sun market. SunPics, formerly a Sun Technology Enterprises satellite, was shuffled back into Sun Microsystems Computer Company (SMCC) when the firm de-planetarised. At the time, SunPics products were positioned as key to Sun's client/server plans (UX No 480). Direct sales and marketing positions were eliminated as those responsibilities were taken over by SMCC and some staff left of their own accord, however the unit lost leading engineers too. The SunPics team is down to 40 employees from 70 before re-absorption. Insiders are especially worried at the lack of apparent focus on the Japanese marketplace, which provides the largest chunk of SunPics' \$50m-odd revenues. Tademy admits that the unit is still adapting to SMCC's internal organisation, denies it is lessening its Japanese efforts and promises it will continue to perform at its current level.

MACH MICROKERNEL HAS WIDE EXPOSURE AT IBM

We've had an explanation of the relationship between the Carnegie Mellon University (CMU) Mach 2.5 microkernel project (which just ended) and IBM Corp's Workplace microkernel (UX No 512) from Adobe Systems Inc's Zalman Stern. Mach 2.5 was derived from the BSD 4.3 Unix operating system done by the Computer Systems Research Group at Berkeley. Rick Rashid's group at CMU replaced the virtual memory subsystem and added a new set of interfaces for message passing, manipulating virtual memory, tasks, threads, and referencing objects (via ports). These five 'primitive' interfaces comprised the microkernel that is Mach 3.0. Work on Mach 3.0 directly started in 1989. A lot of that work involved developing various servers to provide (binary compatible) Unix functionality on top of the microkernel. The microkernel itself was fairly small for the set of functionality involved. (Something like 100k or 200k with a fair set of device drivers on an 80386). Rick Rashid is now the director of Microsoft Research in Seattle Washington. Most of the graduate students and researchers from the Mach project are either at Microsoft or the Open Software Foundation (OSF). There are many organisations using CMU's Mach 3.0 code, including the OSF, and the Free Software Foundation's (FSF) GNU project. The FSF is working on the "Hurd" which will be its free Unix replacement. The Mach 3 mailing list has a fair bit of traffic from people in the industry using the kernel for more or less embedded purposes. (Mostly on Intel hardware). IBM, the contributor observes, should have a problem with its work being called Mach 3.0 as that is something CMU distributes freely. It sounds like IBM's work is based on Mach 3.0, but it is hard to determine how close the two systems are without comparing the interfaces in detail. IBM put a lot of money and research effort into the project at CMU and much of the original Mach work was done on IBM RT workstations donated by IBM. At the same time IBM's Advanced Workstation Division in Austin was porting Mach 2.5 based OSF/1 to the RS/6000. IBM's OS/2 operation was working with NeXT machines and Mach in early 1989. In short, Mach technology had a lot of exposure throughout the company.

CENTERLINE OBJECT REUSE TOOLS NOW SET FOR JANUARY

Centerline Software Inc has delayed introduction of its object ResourceCenter tools until early next year (UX No 509). Chief technical officer Dave Reed says the project has slipped behind schedule - other sources close to the project suggest the company isn't happy with the software and has a few more creases to iron out. Centerline's core products are CodeCenter and ObjectCenter C and C++ environments. ResourceCenter, is designed as a graphical tool for managing and reusing source and object code. A search engine driven by a client query application allows developers to find existing components and execute them on the server. It uses a dynamic indexing scheme to maintain current information on the code base. Users can search for components which may be code or analysis and design documents. Centerline will ship ResourceCenter to support C and C++ source code, class libraries, Frame or Interleaf documents and designs. Users can develop tables for specific domains and define new object types. One of the main problems with re-use is the ability to keep track of components - CenterLine claims ResourceCenter will incorporate descriptions of class libraries without actually including the libraries themselves. Centerline has teamed with firms such as Rogue Wave Software Inc for descriptions of available software that can be purchased from ISVs. With the jury still out on the benefits of code re-use and other vendors such as Hitachi Ltd peddling competitive solutions, Centerline says it's not staking its whole future on ResourceCenter. Up on SunOS, Solaris and HP-UX, ResourceCenter server and five client licences is from \$20,000. Additional clients are \$1,000.

EVANS & SUTHERLAND BUYS PORTABLE GRAPHICS FOR \$1m

Evans & Sutherland Computer Corp, Salt Lake City has firmed up its July letter of intent and paid \$1m for Portable Graphics Inc of Austin, Texas (UX No 498). The deal makes Evans a supplier of Silicon Graphics Inc GL Graphic Language-based software development tools, which enable applications developed to the Iris GL and OpenGL programming interfaces to run on all the major workstations. The target's flagship product is NPGL an Iris GL 4.0 software-compatible library for Hewlett-Packard Co, IBM Corp, Sun Microsystems Inc, and Digital Equipment Corp stations.

INTEL INSIDE? PASS THE CALCULATOR

The embarrassing flaw in the floating point unit of Intel Corp's Pentium chip that can cause problems when the part has to round a number in a preliminary sum to get the final result of a division calculation is a tad more serious than first thought - and Intel has known about the problem since the summer but told no-one. In certain division calculations, Pentium's figures are only exact to five digits - before or after the decimal place - not 16 like other processors. Intel corrected the problem at the design stage back in June, but the revised part has only recently made it through the manufacturing process and out to Intel's largest customers. Although Intel contends the error would only occur in extremely rare circumstances - a chance of one in nine billion - University of California at Berkeley scientists quoted in the *New York Times* last week were sceptical of Intel's claims, saying its statistics are based, "on assertions about the probability of events whose probability we don't know". An example provided by Mathworks Inc last week highlights the flaw. To solve the problem $4,195,835 - [(4,195,835 \div 3,145,727) \times 3,145,727]$ the correct calculation is $= 4,195,835 - [1.3338204] \times 3,145,727 = 0$. Pentium's calculation is $= 4,195,835 - [1.3337391] \times 3,145,727 = 256$. The deviation is 6.15×10 to the minus 5. Some two million flawed parts are reckoned to have been shipped. Whether a computer can do its sums properly must be about the last thing any user wants to worry about given the many other things that are quite likely to go wrong. Meanwhile Mathworks Inc this week ships a modified version of its math and visualisation software that overcomes the flaw in existing Pentiums.

ICL SELLS THREE SOFTWARE TOOLS TO COMPUTER ASSOCIATES

Following their summer agreement to work more closely on systems management and other software technologies (UX No 494) ICL Plc has decided to sell its TeamDistributor and Open Systems Management Centre Distribution Manager and Operations Manager modules to Computer Associates International Inc for an undisclosed amount. The Islandia, New York software giant will offer them as Software Delivery, DB Alert and Systems Alert components for its CA-Unicenter systems management suite. ICL has transferred 23 staff working on the software to local Computer Associates subsidiaries in the UK and Sweden and the latter will be responsible for future development of the products, though ICL will continue to support its own users. The modules provide software distribution and remote operating system and database error detection across a range of Unices, NetWare, Windows NT and OS/2 local networks, Windows and MS-DOS, plus CA-OpenIngres, Oracle, Informix and Sybase databases. ICL says the move is part of its retrenchment from development towards integration and provision of third party offerings - ICL already bundles CA-UniCenter with its TeamServer and SuperServer boxes. Computer Associates will extend the ICL software to run on other systems supported by CA-UniCenter, including RS/6000 and AS/400, and will integrate the ICL interface into its product. The work is expected to be complete by mid-1995. ICL is still negotiating for Computer Associates to market its TeamOffice groupware, including AccessManager, in the US - ICL says it has no plans to sell them outright. CA-Unicenter/Systems Alert for Windows is from \$2,500 for 100 desktops. DB/Alert is from \$500. Software Delivery starts at \$4,000 for 100 desktops.

LICENSEES LINE UP BEHIND MATSUSHITA FOR MAC OS

Much more material than the fevered internal conflict clearly going on at IBM Corp - see back page - is that the *New York Times* now reckons that Apple Computer Inc has signed preliminary agreements to license Mac OS not only to Motorola Inc, but to the Panasonic arm of Matsushita Electric Industrial Co, Pioneer Electronics Corp, FirePower Systems Inc, Ing C Olivetti & Co SpA, Power Computing Inc, Goldstar Co and Toshiba Corp. People close to the talks told the paper all of these companies are interested in selling Mac OS to run on machines based on the PowerPC microprocessor. In some cases only technical issues remain to be resolved. "We believe the first machines not from Apple that will be running the Macintosh operating system will appear in the second half of 1995," said the guy in charge at Apple, Don Strickland.

APPLE SPOILS SHRINK-WRAPPED MAC OS PLAN

The main aim of the new PowerPC Common Hardware Reference Platform (CHRP) is to get the Mac OS and PReP-compliant operating systems running on the same machine. However it has emerged that although compliant machines have to include a slot to take an Apple ROM, inclusion of the chip itself is not a requirement. Whether anyone will actually want to build a CHRP machine minus the ROMs is yet to be seen and will largely be determined by Apple's licensing and pricing policy which, not surprisingly, is still up in the air, with two years to go. At CHRP's launch (UX No 513), Apple indicated it would make the Mac OS available shrink-wrapped for users to run on their CHRP-compliant machines. But without the ROMs, the software is useless. Apple's notion was that people would be able to buy the Mac OS just like they buy Windows, and that it would run on any CHRP-compliant machine. Unfortunately, the parallel between Windows and Mac OS sales is not exact.

There is absolutely no requirement for a PC manufacturer to have any involvement with Microsoft, in order to build a machine capable of running Windows and DOS - the end user can go to the corner store and buy the software. With Mac OS the manufacturer has to license the ROMs from Apple - unless Apple decides to sell Mac OS shrink-wrapped with a ROM-in-the-box upgrade, for the end-user to plug in. Some PReP-compliant vendors we have spoken to are concerned over how much Apple may charge for the ROM and whether the company may use the ROM licensing to retain control over who gets to build machines capable of running Mac applications.

CHRP

The coarse-grained structure of the new PowerPC standard is an amalgam of the Power and PReP architectures. The main bus will be PCI - no surprises there - and there is a firmed-up commitment to support the OpenFirmware standard, which is designed to free expansion cards from the constraints of processor-type and operating system. Another area that has been explicitly tackled is hardware registers: PC and Macintosh operating systems (and some applications) have points where they need to access the hardware directly, and without which they fall over. The common platform includes "key low level registers for both environments." Badly behaved applications may have problems, but that shouldn't come as a surprise because I/O is another area that has received attention, which is not surprising since Apple made much of the difficulty of porting the Mac OS to PReP for this reason. The companies are still vague on how this will be tackled, merely noting that Macs and PCs have different approaches for a number of areas of I/O, including storage, networking video and others. The new platform, they say, will combine these requirements. Add to that SIMM slots that can take either the PReP BIOS ROMs and/or Apple ROMs (neither are required). It sounds expensive - to produce a machine that combines the idiosyncrasies of the PC and the Power Macintosh platforms. However IBM seems certain that the difference in manufacturing cost between CHRP and PReP will be minimal. Apple too, has swallowed one of its previous objections to PReP, namely that it was an expensive machine to make.

Three chips

The most obvious way in which the companies plan to keep the cost down is by commissioning three special chips, into which some of this complexity can be dumped: Eagle+, Coral+ and CUDA+. As the plus marks indicate, each is an evolution of an existing part. Eagle+, is an evolution of Motorola's recently announced single chip PCI-bridge and memory controller device. Eagle will be modified to handle both the PC memory addressing model and Macintosh's contiguous memory model. The IBM PC company will contribute Coral+, its ISA bridge chip, modified to allow for Apple's special Data-Bus DMA (DBDMA) bus access method. Cuda+ will come from Apple and will be a modification of the chip it already uses for controlling its keyboard and the Apple Desktop Bus (ADB). The big change to this chip, apparently, will be its ability to emulate IBM's 8042 chip, thus providing support for IBM's PS/2-style keyboard, alongside Apple's own.

Moccasin

Though much has still to be decided, the partners have circulated a sample machine schematic under the title 'Moccasin System Diagram'. Anyway, Moccasin has processor, DRAM, cache and the socket ROMs all connected together by the PowerPC System Bus. Eagle+ links this to the PCI Bus which has SCSI, expansion slots, Ethernet and video subsystems hanging off it. Coral+ has direct support for enhanced IDE drives and also links to a 16bit ISA bus, from which spring expansion slots - Mac serial, PC serial, sound and parallel ports. Cuda+ also hangs off this board, providing keyboard and mouse control. So that's it - provision for socketed ROMs, for Macintosh memory addressing and I/O, it certainly warrants the name PReP+.

IPC TECHNOLOGIES MULLS OS/2; AIX STILL TOO PRICEY

IPC Technologies Inc's vice-president of strategic planning, Charles Mitchell, says he is actively looking at additional operating system options for its Firepower Systems Inc-sourced PowerPC machines. "Our intent is to offer Solaris and we will also pursue OS/2," he said. Solaris negotiations are being handled by FirePower on IPC's behalf at the moment, but Mitchell says that he is talking to IBM Corp directly about taking OS/2 and says that IBM Personal Software Products' attitude towards licensing OS/2 has softened considerably over the past year. "Originally the buy-in was quite large," he said, talking of both the cost of licensing the software and the guaranteed numbers that IBM wanted any licensee to shift, "but a year later they are talking about figures that make us think perhaps we can pre-install." IBM's AIX Unix is a different matter, and although he did not have the exact figures to hand, Mitchell says that IBM is asking something in the region of \$1m for companies that want to ship AIX with their machines. To an extent this is understandable: the FirePower boxes have performance that would put many a small RS/6000 to shame. To that extent, IBM finds itself in exactly the same quandary with AIX as Apple Computer Inc does as it contemplates licensing Mac OS. "We hope that IBM will shift its attitude to AIX," says Mitchell, who suggested that a co-ordinated approach by a group of FirePower's OEM customers might be able to ameliorate the cost. IPC's Singaporean headquarters is uninvolved in the project, which is purely a US venture. The first 603-based machine has a similar configuration to the basic FirePower boxes, with one AT expansion slot, one Peripheral Component Interconnect slot and a third that can double as either. However, they diverge in that IPC will enable the attachment of an extra, external drive. The first machines are likely to ship with a 540Mb disk, a double speed CD-ROM drive and 16Mb of memory. Why go with FirePower? Mitchell admitted that it was something of a gamble and said the company also talked to Motorola Inc "but felt that we would be just one more OEM" customer to the Schaumberg company. In addition, he has considerable faith in FirePower's ASIC expertise and its ability to tweak operating systems to get the best from the hardware. As for who will buy the machine, well it is not surprising to find that the company is looking for power freaks in the computer-aided design, manufacturing and graphical design marketplace. More of a surprise is the way that the dual-PowerPC 604 processor model is being positioned. That kind of processing power would normally yell "server", but Mitchell believes that it also has potential on the desktop, where it could be harnessed for real-time video compression, and hence video conferencing.

POWERPC 615 "TO DECODE 68000 AS WELL AS iAPX-86"

A few more details of the unpublicised PowerPC 615, the version that has on-chip iAPX-86 emulation capabilities, have emerged. Phil Hester, now responsible for ensuring that IBM Corp's disparate business units share as much common technology as possible, hints that the 615 will become something of a universal emulator, able to translate Motorola Inc 68000 instructions into RISC instructions on the fly, as well as pulling that trick for iAPX-86 ones. Support for both of these architectures is "absolutely critical," *Infoworld* quotes Hester as saying. Motorola officials refused to confirm or deny the existence of the 615 chip, but acknowledged that such a chip could be crucial to the PowerPC's future, particularly if it runs Windows95 in native mode. But the chip design is dogged by the same absurd arguments that have caused IBM's alliance with Apple Computer Inc and Motorola Inc to take three years to reach the point it should have arrived at on Day Two. The IBM Personal Computer Co would apparently like to see a PowerPC processor that is pin-compatible with the 80486 or Pentium but others reject the idea.

"CURSE OF SUPERSPARC" - MICROSPARC III THE EXORCIST?

In the aftermath of Sun Microsystems Inc's SuperSparc-2 RISC announcement, *Microprocessor Report* has performed what it believes is a definitive post-mortem on the troubled SuperSparc CPU family designed by Sun and built by Texas Instruments Inc. The problems have caused Sun and its followers much concern and proved a stern warning to the rest of the industry, which has subsequently been far more circumspect when estimating the performance of future processors. SuperSparc was announced in February 1991 (UX No319) and slated to debut at 50MHz, but made first silicon at 33MHz due to internal timing problems. The design eventually got to 40MHz in 1993 and finally went to 50MHz (SuperSparc+) in the third quarter of 1993 after a 10% process shrink, a year later than promised. *Microprocessor Report* believes the design team sliced away clock speed to reduce complexity, but because it hadn't built a complete timing model of the chip (Sun's tools weren't up to it at the time) didn't realise how damaging its actions were until critical paths that hadn't been apparent showed up in the first silicon it got back from TI which showed the design was in bad shape. Sun and TI worked to rectify the problem, but each fix and each new iteration of the chip revealed other unseen critical paths. The convoluted pipeline and reduced yield from using BiCMOS transistors hurt the overall design, the newsletter figures. Later performance gains came from the gate shrinks. "If the design team had recognised the problems it was getting itself into, the SuperSparc would have looked more like SuperSparc-2," it said. Even now Sun doesn't expect significant yield at 75MHz and 90MHz from SuperSparc-2.

Most costly processor

Although *Microprocessor Report* observed that SuperSparc-2 delivers more performance to power-starved Sparc users by unclogging the pipeline, it doesn't see the part improving Sun's position compared to other RISCs on performance or price. "SuperSparc-2 does not make up for this lack of performance by offering lower cost; indeed it is just the opposite." According to its estimates SuperSparc-2 is the "most costly processor of its generation, 15% more than Hewlett-Packard Co's PA-7200 and at least 60% more than the 120MHz Pentium, 200MHz R4400, 100MHz PowerPC 604 and 275MHz 21604A". The 75MHz SuperSparc-2 costs twice as much as a 90MHz PPC604 but delivers less performance. The only way for Sun to cure its price/performance problems is for the SuperSparc design to be expunged from its product line, warns *Microprocessor Report*: "unfortunately UltraSparc-1 will simply push SuperSparc-2 into the midrange rather than displace it entirely, leaving Sun with a part that is too expensive and underpowered to compete in that market." Despite the problems Sun has maintained its leading share of the workstation market by pricing its systems aggressively and essentially giving up on the very high-end of the market. SuperSparc-2's shortfalls could dent Sun's mid-market strength, the newsletter believes, but sees help on the way in the form of microSparc III which should "finally rid Sun of the curse of SuperSparc". Most likely that's also why Sun is still shy of describing microSparc III's design in any detail.

ICL UNIXWARE 2.0 FOR SPARC PUSHED BACK

ICL Plc doesn't expect to ship UnixWare 2.0 for its Sparc-based TeamServer and SuperServer machines before the end of the third quarter of next year. Although the company is reluctant to get embroiled in a public spat with Novell Inc it says delays in the release of UnixWare 2.0 have pushed back its own plans. ICL will port UnixWare 2.0-for-Intel code to port to its Sparcs. ICL doesn't market UnixWare 1.1 on its existing lines but will gradually move its DRS/NX SVR4 users up to the Novell OS. The company says its 10,000 Sparc systems customers should find it relatively straightforward to move applications over.

HP PLUGS PARALLEL GAP WITH CONVEX

Plugging the parallel processing gap in its product line and strengthening the existing bond between the two companies, Hewlett-Packard Co is to begin reselling Convex Computer Corp's PA-RISC-based Exemplar parallel systems during the first quarter. Their relationship dates back to 1992 when Convex began clustering HP 700s as part of its PA education (UX No 410). In May 1993 Convex licensed HP-UX and other system software technologies from HP and agreed to extend the fruits of its development back to HP (UX No 434). Exemplar includes the Scalable Parallel Processor (SPP) 1000/Compact Design, configured with two to sixteen processors for up to 3.2 GFLOPS and the SPP1000/eXtended Architecture scalable system with between eight and 128 processors for 25.6 GFLOPS of peak performance.

IBM AUSTINGRAMS

According to IBM Corp, the most important thing about an upgrade is the ability to keep the same serial number, which allows you to roll forward your assets and software licences, even when just about everything else on the box has been changed.

Oracle7 is currently the only database with the distributed lock manager needed to allow an HACMP/6000 cluster to be used as one big machine in a four-way configuration. Sybase and DB2/6000 versions will be available in the first quarter of next year, with Informix and Ingres available "later". There are plans for an eight-way version communicating via a fibre channel link, and each node of the cluster could be a symmetrical multiprocessing machine for a further power boost.

IBM is working on some OpenDoc applications. OpenDoc, now expected in the second quarter of next year, should allow the customisation of personal productivity products by breaking them down into components (such as text, spreadsheet and spellcheck parts) fitted to the tasks in hand. IBM views OpenDoc as "the best facility for us to get back into applications", and has plans for object-kernel OpenDoc-enabled frameworks, customisable by others, for the finance, telecoms and manufacturing sectors.

Half of the orders for IBM's SP2 PowerParallels (UX No 508) are now commercial, claims IBM. The SP1 was unabashedly aimed at technical users, with no disk attached directly, so it couldn't cope with any applications demanding too much I/O. The Sybase Navigation Server should be available for the SP2 by the first half of next year. While the SP2 currently stops at 512 processors, the switch technology is scalable into the tens of thousands, says IBM. The job queuing and systems management software will take somewhat longer to get right.

In terms of lines of code, DCE is now bigger than Unix, it says. IBM, which currently runs the Andrew File System over 22 sites and 100,000 nodes worldwide, will make the conversion to DCE's Distributed File System next year. DCE over SNA is due out late next year.

IBM says that, if Apple Computer Inc keeps its promises, there will be more PowerPC chips sold than all the other RISCs combined. That's a scenario Hewlett-Packard Co might alter by putting its PA-RISC inside laser printers. But IBM points out that the innards of the printers come from Canon, which of course is in the PowerPC camp.

Future PowerPersonal systems will feature a second PCI bus to boost graphics performance, according to Bill Colton, general manager of RISC workstations. IBM now readily admits that PCI bus will replace MCA throughout the RS/6000 line, moving up the line as the PowerPC does. The shift of graphics processing from I/O onto the motherboard (at least in low-end systems), and IBM's software implementations of PHIGS, PEX and OpenGL in its Softgraphics product has made this more important.

The first quarter of next year should see the integration of various NetView distributed systems management tools under a tool currently codenamed Karat (UX No 514). A beta version of the tool was shown at Unix Expo. One of the components is the IBM Visual Systems Manager interface. The current SMIT systems manager interface tool is for local rather than distributed management (UX No 504).

There are also a whole set of object management frameworks on the way for DCE systems, consisting of interfaces, GUIs, audit and event collection tools, some of it based on Tivoli Systems Inc's management environment, and some produced by IBM.

Although it wouldn't comment officially, IBM was clearly upset about its partner Groupe Bull's boast that it had the most to do with the development of the Pegasus/Escala technology also used in the new RS/6000 SMP models, (UX Nos 505, 506) a situation exacerbated by Bull's aggressive undercutting of IBM prices when selling re-badged RS/6000s. IBM's unofficial pitch is that it put in most of the effort in the definition, conception and architecture of the system, but then rather cleverly got most of the actual development work paid for by the French government. Touche'.

But it seems that IBM was not so clever at passing-off the cost of developing DCE version 1.2, the general content of which has now been agreed. IBM says it has reluctantly taken on the expensive integration task involved.

THE SUNSOFT UNIVERSE

In the beginning there was Fire, Earth and Sun Microsystems Inc, a single entity with a vast amount of resources. Somewhere along the way the Gods in their ivory tower decided that planets were needed if Sun was to prosper in the highly competitive computer universe. Our special correspondent *Bentley Radcliff*, once of SunSoft and presently working at Apple Computer Inc on the Macintosh emulator, took out his stardate logbook for us and looked back at the emergence of the planetary system.

Before the days of planetisation, a small group of marketing professionals and engineers made up what was fondly called SunOS development. It was the well known and accepted Berkeley System Distribution, which had become the environment of choice for technical workstations. This lasted for many years, until the big bang sent Sun into many new directions flying through the galaxies. In 1987 the first big bang exploded and changed Sun's operating-environment strategy. Sun would join forces with AT&T to create a single Unix standard based on AT&T's Unix system V release 4 (SVR4). Changing the Sun operating environment was a major technological evolution, with high expectations of return, upon completion.

Zeus

As could be expected the endeavour to switch to a System V base from BSD was much more difficult and took longer than originally anticipated. Finally after two and a half years Sun released its first developers version in November of 1990, at least a year late. The product code named Zeus was a basic SVR4 without the bells and whistles of SunOS. As could be expected it was only mildly successful for those daring few who wanted Sun's SVR4. Of course it was a disappointment, but it was not surprising that Zeus fell short of Sun's quality standards. Why did this happen? Market pressures compounded by all the promises in 1987 forced Sun to release something, which was - "almost nothing". Zeus was a hold-over until a quality product could be built, but no one could accurately predict when that would happen.

Big Bang II

Over the next couple of months the second big bang hit Sun. From what was heard, during the holidays the Gods of Sun, namely Scott McNealy and his chief officers all got together, locked themselves in a room and conjured up the new Planetary System. The plan was to create a group of subsidiaries they would call planets. Each planet would revolve around the Sun at it's hub, like any planetary system. (This metaphoric image was always a challenge to describe to customers). The two most important planets would be SunSoft (not yet named) to handle the migration to SVR4 and SMCC (Sun Microsystems Computer Corp) to maintain the hardware business. Many smaller planets, not as strategic, were created to manage other software such as compilers, networking, and integration tools.

Reorg shock

There was a clear mission for SMCC to maintain the constant growth of hardware that supported the company, it would continue to be directed by Scott himself. SunSoft, although not yet easily focused, would be headed up by Ed Zander, VP of marketing for the "old" Sun Microsystems who had successfully marketed Sun to the leading position in the workstation industry, it was generally believed. If anyone could do it would be him. When Sun announced the formation of the Planets, the entire company went into reorganization shock. This was far beyond anything anyone expected, including me. But, believe it or not it came together very quickly and it was beautifully orchestrated. Each week exploded with news of who had received 'what position' in 'what planet.' By this time it was clear that everyone mightily desired to be in the Software division (SunSoft). It finally came time for my level, while everyone was politicking for SunSoft. The excitement around the company was electric. Opportunities brightly flashed in front of us. Those of us with courage jumped on them, landing firmly in SunSoft camp. Now all that needed to be done was to figure out what our jobs were. Those first few weeks in SunSoft were full of golden opportunities, complexities, new issues and political nightmares.

Name dropping

The first job to tackle was a "perfect name" for the company. Everyone became involved. Ed had asked us to submit names

and said he'd choose from the best. I remember the exciting meetings with the creative director, Zach Nelson, a highly motivated person, who really understood the Sun system. He would conduct brainstorming sessions with many of us to identify names. During one of the sessions Ed burst in, dropped a few hints of what he liked (he had obviously already made up his mind), and left as abruptly as he came. When we finally got around to a trademark name search nothing was legally available. Anyone who ever participated in a name search will know that's common. I sometimes feel that there is not a single name in the world that isn't already used, much less the great ones. Ed's favourites were unavailable. But with courage and a staff of attorney's anything is possible. So Ed got his way. The original plan was to name the company Solaris, which means Sun in Italian. Another choice was to call the company SunSoft. It would finally come down to making a decision and that was up to Ed. He liked them both so he decided that we would use SunSoft as the company name and Solaris as the name of the product. His gutsy comment, I remember to this day, "Let 'em take us to court, but I am getting those names."

Re-announcing Sun

The names were established and it was now time to work on the announcement. Someone came up with the idea to re-announce SunOS as Solaris 1, even though it had been out for years. We would then lay out a plan for the upgrade to SVR4 as Solaris 2 — that was actually quite brilliant. By doing it this way SunSoft would build brand acceptance for Solaris long ahead of final release date. By this time we were ready for a mission, which was at the top of our wish list. The obvious approach was to ensure Sun's migration to SVR4, but the company needed more. Sun had in recent years spurred a small but growing clone market, and had provided SunOS for compatibility. All the years that Sun had shared its technology with the world, it held back a few critical keys to make itself appear better than the clones. But the mainstream idea behind the creation of SunSoft was to give "Sun Clones" a chance to steal a march on the opposition. This was critically important if Sparc was to stay a leading architecture in the market. So the decision was to build a mission based on the migration to SVR4, and to create an equal playing field for all clones. Reasonable, and quite a big mouthful, but Ed had more up his sleeve than just Sparc. Early on he had decided that to be a volume player he would need to expand his newly named Solaris to other platforms. Most importantly iAPX-86 from Intel Corp. And that is uncannily what he did.

Equal playing field?

While all the planning and program development was going on behind the scenes the program development rolled ahead. The engineering organizations had to break apart their old structures and reform into a new unit. The jockeying of people always has an effect on performance, but those people really pulled it together. The biggest problem management faced was the years of engineering loyalty to the hardware division. Could SunSoft really provide an equal playing field? Time proved that, the answer was 'yes' but it was tough climbing to that plateau. By the time all the fussing was sorted out, Solaris was well publicised. The focus was to ramp up Solaris 2 development, while maintaining the Solaris 1 (SunOS) quality. Which meant that new releases had to be built simultaneously. The environments were vastly different but had to run in parallel. Actually quite a feat. Plus the engineering teams had to develop the tools to assist in a clean migration. In the marketing division, product plans and requirements were being redrafted and submitted to the engineering groups almost daily. We formed strategic committees to review and decide what was important and what got trashed.

(continued on page 7)

The SunSoft Universe - continued

In three months of combined efforts with engineering we created a software development framework that help us finalize the functionality and features in the first release of Solaris 2. Promotional marketing, a sizeable group in itself, was beginning to grow up. It was headed up by Vice President of Marketing Bill Larson, a highly creative man, but very demanding. When Ed announced his decision to expand to iAPX-86, Bill of course had to make it become part of the dream.

Breaking the rules

The biggest issue to satisfy was Scott's strategic statement for years about "All the wood behind one arrow." Wouldn't an iAPX-86 port be breaking the rules? The answer was 'yes,' but Ed in persuasive ways was able to convince Scott, and the board that it was the right choice. Anyway, SMCC was still following Scott's strategic statement. Since all rules didn't apply equally to all planets, the final decision was made. It was a go. Try to imagine what a big corporate startup would be like, then add a customer base of about one million, sprinkle in a sales force of about eighteen hundred, an engineering group of about three thousand - then change everything that everyone does all at once, and repeatedly. Unbelievable? That's a mild word indeed! Once we were over the biggest hurdles, plans had to be drafted to introduce the new name, strategy and products to the world. The formation of SunSoft would happen right after Sun's fiscal year turnover. That was July - and what an announcement it was. The industry was watching us with hawk-eyed fascination and wonderment. One thing I have always liked best, and admired most about Sun is the ability to not just compete at the same old level but to change the rules as needed. Few companies would have the insight, and much less the nerve to pull something off as intricate and bold as "planetization." Once again Sun was changing the way the industry would work, and they were determined to land out-in-front as they had so many times before.

Loyal group

We needed a dynamic announcement format. Zach and Bill and many of us pulled it together. We would first introduce SunSoft and Solaris to the SunOS developers, who were always the loyal group to Sun. After that, we would brief the rest of the industry and the world as well. The first venue was the SunSoft developers conference. Application developers from all around the world came to see and learn what SunSoft and Solaris was all about. The conference was a triumph, all indicators pointed to success. I don't believe there could have been a more exciting place to work during that first year SunSoft was in business. As a follow up, we had to debut to the computer industry and the "Rest of World", which clearly meant customers and press. To do so we had to be able to demonstrate Solaris, which seemed about a year away from completion. However, our engineers worked day and night to get the software ready and they actually got it done on schedule. The product was presented at Unix Expo in New York in September - one of the industries leading trade shows, and the best place for customer exposure. Unix Expo was exactly the place to debut the product. Teams of marketing experts were assembled, some of whom were the most creative people I've known. Nothing was to be spared, we pulled out all the corks. We were instructed to break away from the "old" company structure (old after only a few years in this industry), contract our own exhibit floorspace, and make it the highlight of the show.

Ticking clock

To introduce our new charter of "the equal playing field," we used more Sparc clones than Sun SparcStations. Obviously that made our sister planet uncomfortable, but we did it anyway. For awhile we were not beloved by our brethren. But it got the message across, we were in the equal playing field for real. Our leader, Bill Larson, wanted our booth to be the busiest in the show, and we promoted and designed the space to do just that. I still can't believe how many systems we crammed into a modest 20 x 30 foot booth, but it worked. When the final day arrived we were constantly jammed, and I'm happy to report, the hit of the show. In the ensuing weeks,

we made headlines, not only in the industry papers but in mainstream publications. Comparisons were heralded about who would lead the industry, Microsoft Corp or SunSoft. We had in only a few months launched a company that already became a force to be reckoned with by all competitors. When we returned to Mountain View we had completed our task of introducing SunSoft and Solaris to the world. Now it was up to engineering to make it work. The clock was ticking. Scott had given Ed one year from the formation date to release Solaris 2.0. It was time to focus inward, we all realized it. That is exactly what occurred, with a margin of comfort. The engineering group was still just coming on line, and it was busy building its infrastructure. The indicators looked good for the release, with a little prodding and TLC. But there were a lot of problems popping up. Quality was a big one. We couldn't allow what had happened with Zeus; unfortunately the code we received from AT&T, now called Unix Systems Laboratories was substandard, and needed a lot of rewrite. Functionality needed to be added including Sun's popular window system.

Gritting teeth

Everyone knew it would be a major challenge once Solaris was released. Some of us remembered how long it took our customer base to migrate from SunOS 3 to SunOS 4 - at a time when the customer base was very small. By the time we released Solaris 2 we could boast close to three quarters of a million users. From the marketing side we helped by building programs to assist the ISV's migration to Solaris 2, some of which are still functioning effectively today. The catalyst, SunSoft ISV catalog program was beefed up for Solaris 2. What had to come first was a Software catalog. If we could get the ISV's on board the customers would come along. But that was not going to be easy. The effort expended was enormous and true, at the time of announcement a majority of the big name applications were ready. But there was still a long way to go. It was going to take more time and lots more energy. After the first six months, the migration had not gone well and there was a sense of disappointment. We were not getting the ISV's or the user base to make the migration. There really was very little anyone could do, it was mostly a matter of human nature resisting change. Those of us who would grit our teeth and wait it out would get the rewards. But the morale in the company was beginning to fall off and our creative juices were running out like a sieve.

Ripe

By year end of 1991, we believers decided that it was time to start building the momentum again. The time was ripe for another developers conference. But would the developers come? We shot for six hundred, rented a space at the Santa Clara convention center, hoping we could fill it. Every person at SunSoft was involved, it was the biggest event of the year. The teamwork was terrific, it was almost like the first founding days of the company. It all boiled down one reality - we really cared. Our year and a half of investment meant something, no one could look away. The engineers put together technology-rich presentations, while the marketing group designed and implemented the promotions. It was all down to the wire, waiting to see the attendance count. To our surprise and excitement we had to expand the seating to almost two thousand. Solaris was a hot product. We at SunSoft were the only ones who hadn't recognized it soon enough. We were too close to the innermost core. A few of us took a little criticism from customers about how crowded it was. But the overall comments were, "This is the best conference I have ever attended", or "I will be back next year for sure," and so on. To say that Solaris was of interest would be an understatement. The ISV's and users were coming around it had taken a while but it was definitely on it's way to the stars. We simply needed to be patient. I left SunSoft soon after the conference and joined Apple Computer Inc to work on a Macintosh emulator. From my new vantage point I see Sun differently. It is truly the leader in its segment of the industry. Despite any envious prediction that it would get knocked off their mountain it defies the pressure. It is a totally unique company, though it has it's problems, like every other remarkable growth company in history.

uni gramX

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Greg Pfistner, **IBM's** expert on symmetrical multiprocessing and clustering (who's book "In Search of Clusters" is to be published by Prentice Hall early next year), admits the sophisticated Data Cross Bar technology in the firm's PowerPC systems that provides multiple data paths to transfer data between processors, does not provide a significant performance advantage in the current machines. "The 601s just cannot stress the system enough" he says, claiming the technology allows room for future 604 and 620 processor evolutions of the systems.

Silicon Graphics Inc is trumpeting its latest SPEC SFS 1.1 benchmark results measuring server performance on a range of NFS operations. The benchmark aims to reflect overall system performance on applications requiring raw compute power, networking and input/output functions. **SGI's** Challenge XL beat-out **DEC, Sun, Auspex, IBM** and **HP** boxes with 7,023 NFS operations per second.

There are still five messy parts of HP-UX that are proving difficult to raise to SPEC 1170 - **Hewlett-Packard Co** expects branded products in the summer.

Synon Corp, headquartered in Larkspur, California, is to use an enhanced version of **James Martin & Co's** client/server methodology for its recently announced Obsydian application development system due early next year.

DEC has a new ZLX-L1 3D graphics accelerator for its workstations at from \$6,050 it says outperforms SGI Indigo XZ and Elan and **HP 715/100/CRX48Z** when coupled to a 3000 series 700 model.

Dazel Corp, Austin, Texas, is readying a new Windows client for its DCE-based document delivery system. The client will contact DCE via proxy agents - a direct connection is due - prices go from \$100 next month.

Hewlett-Packard Co will have its 2D Precision Engineering CAD software up on **Silicon Graphics Inc** workstations from the first quarter of next year using the Open GL API - the software is already up on **Sun** and **IBM** boxes.

Locus Computing Corp is part of a new project which ARPA is funding to analyse future performance and techniques in massively parallel computing at UCLA.

Knight-Ridder Financial Inc has carved out a Unix-based integrated financial news, quotes, technical analysis and fixed-format page system from its TradeCenter system. The real-time TCP/IP-based MoneyCenter uses a hybrid broadcast and interactive communications system.

All of **IBM Corp's** RS/6000s will be PREP-compliant by the end of next year, we hear.

Sun Microsystems Inc says its got over 200 resellers for its Netra servers in the US there are some units on the ground and it admits to "substantial backlogs" (UX No 514).

SparcCenter 2000s and SparcServer 1000s are due one more CPU module upgrade as now constituted - to SuperSparc II. The first of the enhanced 60MHz "E" boxes (UX No 507) will ship with Solaris 2.3 until SCC delivers 2.4 in December.

Ella Shum will run **Sun Technology Business's** second Asian office in Taipei, Taiwan that'll serve Hong Kong and China too.

Legent Corp has created a Unix-focused Distributed Systems Management division under Van Morris. Meanwhile, **Sun Computer Co** is teaming with Legent on joint marketing of systems management solutions for tying mainframes to distributed systems.

Silicon Graphics Inc is offering SiliconWorks, a set of manufacturing software tools including Iris Annotator, which allows users to attach stuff like video, audio, images and text to 3D models. Out in the first quarter it is from \$500. Meanwhile, **NetManage Inc** has signed to develop connectivity between SGI's InPerson desktop videoconferencing with and Windows.

Waltham, Massachusetts, **Advanced Visual Systems Inc** which develops data visualisation software has a new version of its Application Visualization System (AVS) with expanded graphing. Prices go from \$6,500.

Next Computer Inc has lost its VP worldwide sales William Wesemann to **ParcPlace Systems Inc** where he becomes VP north American sales.

Document specialist **Interleaf Inc**, Waltham, Massachusetts, is offering a tool it says can automatically convert existing word processing and graphical data into the Hypertext Markup Language used by World Wide Web pages. Cyberleaf is out next month on Solaris, AIX, HP-UX and OSF/1 at from \$800. It can't create HTML forms but can convert existing hypertext links.

Tektronix Inc president and COO Delbert Yokam has resigned and won't be replaced, according to the company.

Novell Inc will add NetWare 4.x file and print services, Directory Services, Distributed Management Services, database clustering support and Unix branding to UnixWare 2.0 by the end of 1995. UnixWare 3.0 running on the SuperNOS microkernel, sharing common code with NetWare, a single system image, fault-tolerance and support for parallel architecture and hundreds of processors is slated for 1996.

Troubled French distributor **Metrologie International SA** is to reimburse investors that took up its offer of shares to raise some \$28m and

Happy@Birthday, the first Internet message was sent 25 years ago last week on Nov 21 1969 between two Bolt Beranek and Newman Inc employees over the Arpanet, which evolved into Internet.

Lynx Real-Time Systems Inc's real-time Lynx-OS will be up on **Motorola Inc's** MVME1603 PowerPC 603 from January. Motorola's 604 Ultra and Atlas boards will be supported from introduction. **Thomson-CSF's** Cetia subsidiary helped **Lynx** put LynxOS up on PowerPC - it'll also be available on **IBM Corp's** PREP boxes.

As expected (UX No 514), **Iona Technologies Ltd**, Dublin, Ireland, has announced Orbix version 1.3 which now supports AIX, OSF/1, Ultrix, Sinix and Solaris x86 in addition to Solaris, SunOS, Windows NT, Windows 3.1, Irix, and HP-UX. Using Orbix, a tool for adding distribution to object-oriented applications, Iona claims a one-way call now takes less than half a millisecond. Orbix for Windows 3.1 will ship in the first quarter of 1995.

Data General Corp is to market **Novell Inc** GroupWise 4.1 (formerly WordPerfect Office) in the US and Canada on its AViiON servers. The Message Server Pack \$2,000, SMTP Gateway is \$4,000, GroupWise client packs for DOS, Windows, Unix and Mac are \$700 for five users.

Sybase Inc admitted to us last week that to get Build Momentum right would have taken it years.

Pyramid Technology Corp and **Concurrent Computer Corp** are touted as vendors that'll use **NEC Electronics'** 0.35 micron, 200MHz Vr4400-200 Mips chipset that performs 117 SPECint92 and 131 SPECfp92. **Pyramid** uses **NEC's** earlier 100MHz, 133MHz and 150MHz designs in its Nile servers. **Concurrent's** Maxin SMP servers with Vr4400-200 are due next quarter.

P6's public debut is scheduled for the International Solid State Circuits Conference in San Francisco in February.

DEC is to begin blitzing television with a series of 30 second commercials in the US, on Sunday only, figuring its the best way to reach executives lounging in front of the box.

Flake upon flake at **IBM Corp**, where the company appears to staging a battle of the flacks in public: no sooner has one **IBM** flack, Roger Bolton, told the *New York Times* that **IBM** probably would license Mac OS than *Reuters* goes to another **IBM** flack, Peter Thonis, who reiterates that **IBM** has no plans to license and pre-load Mac OS on future **IBM** PowerPC computers.

Herndon, Virginia-based **Legent Corp** bought the assets of Mission Critical Software Inc on undisclosed terms. **Legent** has been the exclusive distributor of Mission Critical's Storage Manager software since April 1994.

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“DON'T YOU BELIEVE IT”, IBM TELLS UNIGRAM SUBSCRIBERS

IBM Corp has posted a open letter, so to speak, on its RS/6000 World Wide Web home page over the signature of RS/6000 president Bill Filip headlined “Don't Believe What You Read in *Unigram.X*.” Filip and IBM VP of AIX development Donna Van Fleet contest the veracity of the front-page story we wrote two weeks ago (UX No 514), stating that IBM has no plans for AIX after version 4.2 due next year. Filip labels it “plain nonsense.” Too much Thanksgiving turkey apparently lulled IBM into not noticing our story when it first hit and when it got back from the holiday weekend it was surprised by the amount of e-mail from customers, resellers, partners, other IBM units and Wall Street analysts stuffed into the system asking it for an explanation. If Filip's rather bland letter is the explanation, then it doesn't go very far, nor does it outline any future for AIX in response to our article. In the wake of IBM's complaints and angry lectures last week, *Unigram* retraced its steps and contacted still more of its sources. As a result, we continue to stand by our story. We will hold to this position until IBM can come up with a more cogent reply than anything it's said yet. We suspect - and as usual when we speculate we label it so - that the reason our sources can't find a trace of anything past AIX 4.2 inside IBM is because its underpinning - the kernel - changes over to Workplace while an AIX-like system or “personality” soldiers on. That tallies with what other sources told us this week, that they've seen AIX 4.2 release plans for next year, but no definition of the guts of the system thereafter. For those who haven't seen IBM's defence, point your web browser at <http://www.austin.ibm.com>

APPLE STILL UNDECIDED ON AIX DESKTOP

Observers closely monitoring the goings-on between IBM Corp and Apple Computer Inc over this PowerPC business say that the two have past the emotional issues and are now down to business cases. One of the items at issue - despite all the countless words already written to this point - is said to be whether Apple should have AIX on the platform and bother to put the Macintosh Application Environment (MAE) on the thing. As much as it might like to have a desktop Unix system, it's said to be asking itself whether there's business enough out there to justify the expense. Apple apparently has a team working on AIX on its servers already, though whether anything is ultimately productised remains to be seen. IBM's delivery of AIX to Apple is one of those sore points arousing much emotion considering IBM was anywhere from six to 12 months late in getting it to Apple and turned up with 4.1 under its arm in the last two weeks. (One Apple guy last week said in reference to IBM, “They've breached the contract many times over.”) Apple has some marketplaces like desktop publishing where it hooks to Unix servers - mostly Suns - and it's thought it might be a nice idea to make the whole installation Apple to the core.

APPLE OUT, BUT POWEROPEN ISN'T DOWN

The PowerOpen organization says it's ironed out its funding hiccups (UX No 502), despite the fact that Apple Computer Inc won't kick in its share and apparently isn't a member. Obviously Apple doesn't give a fig for PowerOpen's precious PowerOpen-compatibility anymore than Harris Computer Systems Corp does or by extension Harris' new OEM Groupe Bull (*see page 4*) - although Apple has realised that with the common platform coming it'll be PowerOpen-compliant per se. Apple's problem with PowerOpen has been not wanting to spend money on something it considers ineffective. PowerOpen has just gone into beta with its SVTS systems tests and is still holding back its ASTS applications stuff because of a significant bug it discovered but now thinks it has under control.

SYBASE CLAIMS “BREAKTHROUGH” DATABASE SEARCH TOOL

Replete from swallowing PowerSoft Corp a few weeks back and keen to take a swipe at finger-pointers casting technological aspersions in its general direction, Sybase Inc last week unveiled a database query tool, IQ Accelerator, which it claims can conduct queries across different databases regardless of the hardware or software storing the data and produce almost instant answers. Sybase picked up IQ Accelerator with its acquisition of Expressway Technologies Inc back in October and says query responses are up to 516 times faster than queries on SQL Server alone and up to 240 times faster than queries on DB2 running on the mainframe. As Expressway III the technology has been testing at 10 sites since April. Details of the Bit-Wise mechanism IQ Accelerator uses are sketchy - Expressway is seeking a patent for the technology, but the technique allows all kinds of data, including characters and numeric fields, to be represented as bits in a bit-map, circumventing the need for table scans using conventional “B-Tree” balanced tree indexing which Sybase claims is slower and takes up more space. Compression enables data to be stored in the index at 50% to 75% of its inflated size. An integrated Sybase SQL Server release incorporating IQ Accelerator will test in the spring and is generally available next summer initially for AT&T, Data General, HP, IBM and Sun Unix boxes and Windows NT. IQ Accelerator, which accepts queries in an ad hoc or unstructured way, operates on Oracle Corp and Informix Software Inc databases as well as Sybase and IBM Corp ones, though the company says it hasn't decided whether to market packaged IQ Accelerator for rival relational offerings. *Data warehousing, see page 4.*

MICROSOFT AND NOVELL ROW OVER UNIX ROYALTIES

A row has been brewing over the last few weeks over Microsoft's rights to charge royalties on every copy of Unix sold on an Intel box - including Novell's UnixWare, its forthcoming SuperNOS, and Sun Microsystems' Solaris x86. Last week, sources inside X/Open told our sister publication *Client/Server News* that Microsoft was looking to increase its Unix royalties to between \$10 and \$20 a copy, a move that was interpreted as anti-competitive. But Microsoft says it is not looking to increase royalties, but only wants Novell to reaffirm that it owns royalties on every copy of Unix sold on an Intel box by anyone using Unix 5.3.2 or higher. If Novell complies, Microsoft says it will relax its strict requirements for all new Unix versions to run obsolete Xenix applications. But a big additional factor in the negotiations is Sun's \$82.5 million buyout of its Unix royalty stream from Novell back in March (UX No 479). Sun apparently thinks it has royalty-free rights to the code, but Microsoft still wants money for every copy of Solaris x86 it sells. The situation is not yet clear, but considering how Sun feels about Microsoft “taxes”, it could be Novell that's left holding the bag. And Microsoft also wants Novell to own up to the fact it'll have to pay it for every copy of its anticipated SuperNOS platform that it sells on Intel. Targeted directly at NT, SuperNOS is a merging of NetWare and UnixWare.

Xenix compatibility

The roots of the fracas go back to Microsoft's deal with AT&T to drop its Xenix operating system in favour of System V, first announced at 1987's UniForum trade show (UX No 113) and finalised in 1988. In return Microsoft received guarantees that any future Unix systems that ran on Intel platforms would be Xenix-compatible and that it would get royalties on each one of them estimated at a bit over \$10 per copy. Microsoft views the royalties as payment both for the work it did on Xenix and its agreement to abandon what could have been a significant market. Novell inherited the deal when it bought Unix from AT&T last year. To prove Xenix compatibility the pact specified that Unix would have to be able to run a suite of applications that include Xenix versions of Informix, Micrographics Cobol and Microsoft Word that haven't seen a new line of code in years. Bob Kruger, Microsoft's director of strategic relations and standards, said last week that Microsoft has told both X/Open and Novell that it will drop the requirement to use the apps suite though it will continue to insist on Unix being Xenix-compatible. Microsoft, he said is asking only for reaffirmation of its royalty rights in return for dropping the test suite, not any more money than it already feels is due. Kruger says Microsoft has yet to hear back from Novell or X/Open on the subject.

LEGENT DELIVERS NEW MANAGEMENT AND CONTROL MODULES

Legent Corp is shipping seven additional members of its Prevail/XP software providing cross-platform automation, document management and production control to its HP-UX based XPE systems management environment. Prevail/XP-Automation-Point is the first fruit of the Herndon, Virginia-based company's agreement to tie its management software in with Hewlett-Packard Co's OpenView network management suite. Based on a single point of control for automation activity, the module enables OpenView OperationsCenter to be integrated with XPE. Example configurations - managing an AS/400 or mixed DEC/Tandem environment from HP-UX - cost from \$2,000. The Automation Point base product is free of charge. Prevail/XP-Deliver, -View and -Spool are report distribution, viewing and remote printing tools and are Legent's first document management modules. It says documents can be printed, viewed and controlled from mainframes and LANs. Prevail/XP-Connect, which provides mainframe-to-LAN print file transfer now supports NetWare as well as OS/2. The modules are priced by CPU group - the software on an IBM Group 40 machine starts around \$26,000. Prevail/XP-Jobtrac Remote controls scheduled events across multiple platforms via agents and costs \$41,200 for the manager - agents are \$1,000 to \$5,000. Prevail/XP now comprises 18 programs in five suites.

MATSUSHITA MULLS POWERPC FOR GAMES MARKET

Matsushita Electric Industrial Co Ltd confirms that it is studying the possibility of developing home multimedia terminals using PowerPC microprocessors, presumably another so far undiscussed part, the 602. But the company denied a report in the *Nippon Keizai Shimbun* that said Matsushita and IBM Corp would soon exchange a letter of intent on joint development of next-generation multimedia terminals. The paper said the multimedia terminals would include 64-bit PowerPCs and be used for on-line shopping and video-on-demand services, as well as playing movies and music - all of which is hardly surprising, since Matsushita is the premier licensee of the 3DO Co Internative Multiplayer design and 3DO has confirmed that PowerPC looms large in its future.

OPENWARE USES ITALIAN SPACE 8 AGAINST MQ SERIES

Italian Selesta Group's UK middleware systems company, OpenWare Ltd, West Byfleet, Surrey is aiming to establish itself in the European market with two products Space and Shadow/Direct, positioned against IBM Corp's MQ Series, before taking itself off across the Atlantic. Space was developed by Italian Primeur Group for ISVs to add multiplatform functionality to their applications, enabling them to exchange messages and files across networks. Applications use calls to read and write data to a system of queues maintained by a Queue manager component on each machine. Individual applications see only the queue. Network protocols, different data and file formats, and different platform types are hidden from the user by the Space management system. The Queue Managers on each machine co-ordinate data delivery to the target system. On arrival at the destination queue, an application can read the data according to customised or automatic schedules. Receipts and acknowledgments are generated by Space to support transactional workloads and maintain integrity. The Queue Manager represents the kernel of the Space system and is identical on all the platforms. The Application Programming Interface (API) to Space is the same across all platforms. The Space system kernel makes low level calls to three additional components that are coded specifically for each platform implementation; the Operating System Interface, the Filing System Interface and the Transport Layer. Space is compliant with IBM's MQ Series architecture and OpenWare boasts guaranteed delivery, checkpoint/restart, cross-platform event scheduling, return receipt after successful data transfer, security, logical database viewing plus bundled client/server development tools. Unix, MVS, OS/400, Windows and others are supported. Shadow/Direct was developed by Neon Systems, Houston, Texas, which says it has worked closely with Microsoft and DB2 labs is aimed at organisations looking to provide transparent access to mainframe data from desktop applications. The ODBC-based system enables desktop applications created with VisualBasic and PowerBuilder to access data retrieved from DB2 tables and IMS databases, VSAM files and other databases. Client applications control commit/rollback processes for their updates and provide direct access to the desktop over LU 6.2 or TCP/IP.

SUNSOFT INTRODUCES SUNLINK 400 MAIL BACKBONE SERVER

The Mountain View, California-based SunSoft Inc unit of Sun Microsystems Inc has launched SunLink X.400, a mail backbone server for public and private networks. The product is said to include a gateway for connecting X.400 networks with Simple Mail Transfer Protocol networks, such as the Internet. It is claimed to convert Multimedia Internet Mail Extensions messages, including video, sound and text, into and from X.400-based messages. It runs over TCP/IP, X.25 or Open Systems Interconnection networks and is shipping for \$6,235.

PORTABLE POWERTV OS SET FOR SET-TOPS

Scientific-Atlanta Inc has formed PowerTV Systems Inc as a majority-owned subsidiary to work on a product for the television set-top box market - but despite the name, the product is nothing to do with the IBM Corp RISC processor, although it will run on the PowerPC and the Motorola Inc 68000. Instead, PowerTV will be a processor-independent set-top box operating system. It is being designed to run in small amounts of memory to minimise terminal cost, and will be real-time, multitasking, pre-emptive and portable across processor types. Adequate support for graphics and development tools is also promised. The architecture will be scalable from puny to powerful processors so that additional features can be added as more complex applications evolve, and will be standard in all digital home communications terminals manufactured by Scientific-Atlanta. The company will also license the PowerTV operating system to other suppliers of home communications terminals, and it is aimed at telephone and satellite environments as well as cable television. Supporters include Oracle Corp, Sybase Inc and Scala Inc, who are adapting their multimedia authoring tools to run under the PowerTV environment. Tool kits and support for application developers will be available early next year, and PowerTV has formed working relationships with Compagnie des Machines Bull SA's Diab Data AB and with Software Development Systems Inc for C and C++ application development tools - Diab Data specialises in compilers for embedded applications these days, and Software Development Systems is a supplier of debugging tools. Sybase is developing a version of Gain Interplay optimised for PowerTV and Oracle is implementing Oracle Media Objects and Oracle Media Net, which enables set-top devices to access multimedia content from the Oracle Media Server for PowerTV.

ICL SETS LAUNCH OF INTERNET APP

A new ICL Plc subsidiary, ICL ProSystems, will launch Embla, an Internet electronic mail application for Windows personal computers on Unix networks, which supports Internet standards for multimedia mail attachments and interactive mail access at the Internet World '94 show in Washington, December 6 to 8.

FIVE MORE COs BUY INTO GENERAL MAGIC

Cable & Wireless Plc, Northern Telecom Ltd, Mitsubishi Electric Corp, Sanyo Electric Co and Oki Electric Industry Co Ltd have all joined the existing heavyweight investors in General Magic Inc, developer of the Magic Cap operating system for personal communicators and Telescript agent-based scripting language for mobile applications. Mitsubishi spokeswoman also plans to use Magic Cap in products and to deploy Telescript. Sanyo and Oki have not signed licensing agreements but they say they expect to soon. Other investors are AT&T Corp, Apple Computer Inc, Motorola Inc, Fujitsu Ltd, Philips Electronics NV, Matsushita Electric Industrial Co, Sony Corp - already using Magic Cap in its Magic Link - Nippon Telegraph & Telephone Corp and Toshiba Corp.

FORD ON IBM BOARD

At last a real person on the board of IBM Corp. Vice-chairman Paul Rizzo is going back into retirement, and Alex Trotman, chairman and chief executive of the Ford Motor Co, has been elected to the IBM Board. Middlesex-born and Edinburgh-educated Trotman is of course the honoured winner of Michael Moore's CEO Challenge so cravenly flunked by IBM chief executive Louis Gerstner - those that enjoyed Moore's off-beat NBC and BBC current affairs show TV Nation will recall that in the CEO Challenge, where chief executives were invited to demonstrate that they knew something about their company's products, while Gerstner was "too busy" to come down and format a floppy disk for the cameras, Trotman heroically rolled up his sleeves and changed the oil on a Ford Explorer. IBM chief financial officer Jerome York also joins the board with effect from January 1.

AUSPEX UPGRADES NETSERVERS WITH FAILOVER, 90MHz HYPERSPARC...

With its much-publicised patent clutched in hand Santa Clara, California-based Auspex Systems Inc last week unveiled a series of upgrades and additions to its NetServer series of network file system processors. Available on both the recently-introduced NS 7000 (UX No 490) and NS 6000 and 5000 lines is new home-grown failover software called DataGuard Auspex claims will provide 99.986 percent uptime when used in conjunction with its other Continuous Data Service (CDS) offerings. Auspex, which blames Unix and application crashes for 50% of network downtime, says that if the host processor fails, DataGuard allows I/O services to continue for the five minutes or so Unix takes to reboot. CDS also includes redundant power facilities, hot-swappable disks, disk mirroring, fast file system check and file system fault recovery. Auspex's patented functional multiprocessing architecture was designed to separate the server's processing functions and leave Unix out of the data path. With it Auspex reckons downtime can be reduced to under two hours a year. DataGuard is \$15,000 on the 5000, 6000 and 7000 model 200 host processors - \$25,000 on model 500s. In addition, Auspex has upgraded the host processor board in the NS 7000 from 55MHz to 90MHz HyperSparcs and has plans to move the network processor, which runs the functional multiprocessing kernel, from a dual-40MHz SuperSparc to HyperSparc next month. The 68030-based disk storage processor is untouched for now. Storage capacity has been pushed up to 540Gb using 9Gb drives and the NS 7000 now comes with up to 30 Ethernet and eight FDDI connections from 24 and four respectively. With 32Mb RAM, host processor upgrades are from \$5,000. Network processors go from \$45,000 with one FDDI and four Ethernet connections. And 9Gb drives are priced from \$8,000.

...CLAIMING HARDWARE AND OS INDEPENDENCE, LOOKS TO POWERPC AND...

Perhaps more interesting than these enhancements are grander plans on which the ink is still drying. Keen to make up revenue sources now its IBM Corp OEM agreement has bitten the dust, and with a band of imitators snapping at its heels, Auspex looks set to try and capitalise on what it reckons is now neither chip- or operating system-dependent technology - and patented to boot. Although its NetServers are Sparc-, SunOS- and Solaris-based, less than 50% of its users are running Sun clients, indeed its largest customer is Intel Corp. Auspex is tight-lipped about the plans, but says it hopes to have all the signatures it needs this week. Part of the initiative may include a development reckoned to be already underway, to offer a NetServer using PowerPC and AIX. After the OEM deal slid away Auspex licensed back from IBM the code big blue had developed to put Auspex technology up on its RS/6000s. IBM retains the rights to Auspex's patented technology under the arrangement. Although one official said the company has only 'limited faith in Solaris', Auspex appears more interested in expanding its horizons than ditching its Sun technologies per se. It doesn't see itself doing anything with Windows NT right now but has an eye on it for the future. With a claimed 1,000 installations at 350 sites Auspex says more than 40% of the systems it ships are its new NS 7000 models.

CONCURRENT UPGRADES MAXION LINE

Concurrent Computer Corp, Oceanport, New Jersey, has upgraded its Maxion real-time multiprocessors to 200MHz R4400s, claiming a 33% performance hike, and will offer eight-way configurations from mid-1995 with 91 I/O slots. Upgrades from four-way Maxions will be available. It's also introducing version 1.1 of its Max/OS real-time Unix using Unix SVR4.2 MP from next month.

BULL AND IBM WILL CARRY ON JOINT DEVELOPMENT WORK

It seems Compagnie des Machines Bull SA and IBM Corp will carry forward their PowerPC development pact beyond planned 604 and 620 PowerScale SMP system enhancements in a series of 'open projects' that will focus on new technology building blocks, though not - at least for the time being anyway - systems. Two-way daughter boards maybe expanded to accommodate four PowerPCs, other stuff is still sensitive. Bull's Escalas will be generally available in January.

MORE CHANGES EXPECTED AT CRAY

There are certainly more than personnel changes going on over at troubled Eagen, Minnesota-based Cray Research Inc, but its Portland Oregon-based Cray Superserver operation denies it'll be the fall guy. Cray Research will soon detail further restructuring plans, which come just weeks after it announced another round of layoffs (UX No 505). Last week the company retired its COO Lester Davis, formerly chief engineer on the Cray-1, who will be replaced at the end of the year by Robert Ewald, currently COO of supercomputer operations. Cray's 100-strong Superserver unit says it's shipped between 40 and 50 of its high-end Sparc-based servers since introduction in February. At an average selling price of \$1m, they're configured with a mean of 24 CPUs, 1.75Gb disk and 60Gb to 80Gb storage. Its biggest system, a 64-way machine, is running in Wall Street. Superserver development is at Cray's San Diego plant, manufacturing, sales and service happens out of Portland. It's not worried about Sun Microsystems Inc's possible venture into higher-end products (UX No 515), and says it'll extend its technology upwards and outwards, looking initially at clustering. It expects to get an expanded role under the changes, expecting to focus on the further commercialisation of Cray technologies.

OPEN HORIZON SETS MANAGEMENT TEAM

Distributed Computing Environment start-up Open Horizon Inc, Belmont, California, has got its management team in place, appointing Nicholas Zaldastani president and CEO, George Chung CTO, Kurt Dahm VP marketing and Dipak Basu VP product development. All are Oracle refugees except Basu who's from SCO. The company is working on technology to allow users access to all information sources regardless of hardware, operating system, database or OLTP environment.

AXIL LOOKS FOR SOFTWARE TO BOOST SALES

Hyundai's Santa Clara, California-based Axil Workstations Inc will unfurl a new video teleconferencing product this week. It's also working to get Stratus Computer Inc subsidiary Isis Distributed Systems' DCE-based messaging software up on its S series Sparc multiprocessors. It figures it needs this and a couple of other pieces of software it's lining-up to get lacklustre server sales moving. Clustering is planned. It says it's now got SuperSparc II silicon in-house, and like other Sparc vendors is now peddling 90MHz HyperSparcs, in its case as uni-, dual- and quad-processor affairs. It's 70MHz and 85MHz microSparc II upgrades will ship next week (UX No 507).

SIEMENS READIES MESSAGING SERVERS

Siemens AG's Rolm Communications Inc unit is readying new Intel Corp-based messaging servers running Novell Inc's forthcoming UnixWare 2.0 likely to debut when Novell flips the UnixWare 2.0 lights on next month. Siemens usually gets its Unix-on-Intel for these types of machines from Santa Cruz Operation Inc. The switch has most to do with support for real-time and microkernel functionality, Siemens says. In its estimation UnixWare 2.0 has good hooks to real-time environments and will evolve towards Novell's envisaged SuperNOS microkernel by way of integrated Chorus Systemes SA technology - Siemens is already working with Alcatel and Chorus to build the interim UnixWare MK, which will be based upon UnixWare 2.0 (UX No 506). SCO has a less integrated vision in Siemens' view, although it's still part of its messaging plans. Siemens' Rolm unit has little to do with the Siemens Nixdorf Informationssysteme AG, which has its Unix paws in other pots.

MARATHON PLACES FOR UNIGRAM READERS

Unisys Corp has provided the Unix-based computers that help organise the London Marathon since 1990, and a complete set of computer results for all of the 36,000 or so runners. It sponsors the Unisys SPARKS Sport Aiding Medical Research for Children charity. Two years ago *Unigram.X* editor William Fellows achieved the 26 miles, 385 yards in an astonishing 3 hours 40 minutes; last year publisher Simon Thompson made four hours 15 minutes. This year group editor John Abbott will attempt to make it round before they re-open the roads to traffic. If any subscriber wants to join him on Sunday, 2nd April 1995, Unisys have allocated five places for readers of *Unigram* and our sister publication *Unix News*. Just write (or e-mail) in, naming your favourite operating system beginning with U. Names will be drawn out of a hat on December 12th.

SYBASE OPEN FOR DATA WAREHOUSE BUSINESS

In search of other revenue pastures and armed with IQ Accelerator - *see front page* - Sybase Inc has decided to throw itself at the market for ~~data warehousing, a concept regarded by sceptics as the computing~~ equivalent of the brick privy at the bottom of the garden but described by analysts as a burgeoning \$750m market growing at some 40% a year. Sybase is offering a grab bag of what it described as data warehousing 'glue' in the form of Warehouse Works, a marketing programme built upon its Open Client and Open Server APIs. The company is now offering all of its technologies - Sybase SQL Server, Replication Server, Enterprise Connect and IQ Accelerator - as viable components of a data warehouse with some 125 tools from third parties expected to fill in the gaps. Sybase, which lacks integrated front-end application tools, will work with existing partners such as Prism Solution Inc to provide technology in four key data warehousing areas it identifies as data assembly, transformation, distribution and access. In addition Replication Server is being enhanced to support replication from non-Sybase databases - both mainframe and other LAN databases. In launching itself directly against established data warehouse suppliers such as Red Brick Systems Inc, Sybase has - at least according to one player - become the first mainstream company to acknowledge the need for separate, specialised solutions to address the transaction and data warehouse markets. Sybase claims its solutions can be used to create data warehouse databases that are typically smaller than the sum of the component data they contain, whereas other suppliers typically require fully-indexed data warehouses to be larger than the data pool itself. Moreover IQ Accelerator doesn't require the creation of time and space-consuming 'pre-tables' a la Red Brick, the company says. Data warehousing is essentially the ability to apply complex and ad hoc queries to vast amounts of historical data which may have been spread all around an organisation, in pursuit of underlying trends and marketing information such as identifying customer prospects and subsequently ascertaining whether those prospects are typically cash or credit spenders. A data warehouse database differs from a traditional (transactional) relational database by storing data over time rather than updating information. Data warehousing requires lots of I/O operations to respond to typical queries - the problem is getting the data out; transaction systems demand sub-second responses to queries that usually require just a handful of I/O operations. But they argue that most of the technological issues in data warehousing have been solved and that the question now is one of "what combination?"

TRICORD MOVES UP-MARKET - SEQUENT DEAL UNDER PRESSURE

Tricord Systems Inc is moving its Intel-based multiprocessors up into the higher ground currently occupied by its erstwhile OEM partner Sequent Computer Systems. Early next year, Tricord is expected to release a 12 processor model in its K-Series range of Intel-based servers based on dual-processor Pentium boards. The box is expected to come with a number of operating system options, including UnixWare and SCO Unix bundled with Lotus Notes. Multi-processing OS/2 is also a possibility (IBM has demonstrated it on a Tricord) and NT a definite. Sequent currently uses the Tricord range for its low-end WinServer series, aimed at the NT market. But although both companies insist that their relationship is still strong, Tricord has recently contravened the original terms of its agreement with Sequent, that gave Sequent exclusive rights to all NT sales (UX No 420). Tricord has been selling NT upgrades to its existing OS/2 and Novell NetWare user base for the last five or six months, and claims to have 120 active NT sites, with a hundred or so more on the order books. Sequent says the terms and conditions of its agreement with Tricord have not been changed, but that it has accepted that Tricord wants a piece of the NT business directly. Both firms denied suggestions that Sequent hadn't made its numbers on the OEM deal. Tricord is said to have generated around \$40 million in revenues from Sequent since cutting the pact - and that Sequent had been slow to offer the latest Tricord boxes with 100MHz Pentiums and new storage options because of a backlog of old systems sitting unsold in its warehouse. But both firms admitted that sales had been slower than expected as they waited for NT to go beyond the pilot stage in user installations. Sequent now hopes it won't clash too often with Tricord which has agreed to steer clear of existing Sequent sites: Sequent says it tends to go for clustered NT installations, not one-off boxes. Meanwhile, of course, Sequent is already working on porting NT to its mainstream Symmetry line of servers: an obvious alternative if Tricord invades too much of its personal space.

APPLE, AT&T, IBM AND SIEMENS BYPASS MICROSOFT TO CREATE VERSIT CORP

As anticipated, Apple Computer Inc, IBM Corp, AT&T Corp, Siemens AG are teaming as Versit Corp (from diversity they say) to develop ~~specifications for computer telephony integration (CTI), data inter-~~change and audio/video collaboration for use in computers, telephones, PABXs, networks and other personal assistant devices. Although there are a score or more standard bodies already active in these areas (which they already belong to), the four say the committees are ignoring "real-world" issues. Although Apple CEO Michael Spindler and IBM VP and group executive Ellen Hancock denied that operating systems are at issue here, Versit is on one hand, a thinly veiled attempt to oppose the Windows95 juggernaut. On the other, it's a sensible agreement to get rid of discrepancies between phone systems and telephony software development and agree common telecommunications standards. It won't necessarily make it any easier to connect a portable computer to office or hotel telephone systems though - or to send and receive information without doing some programming - because Versit isn't expected to brand retail products compliant with its specifications. It's also unclear how the specifications could apply to the zillions of devices already out there.

Compaq "warned off"

The Versit CTI Encyclopedia will include an enhanced version of Novell's Telephony Services Application Programming Interface (TSAPI) - *see below*; IBM's CallPath switch normalisation architecture for switch-independent application development; Apple's GeoPort, which includes most of the electronics for a modem within the port (the attraction of which is that it provides up to 200 times more bandwidth than traditional serial port connections); Infrared Data Association wireless standards (in which HP is also participating); ITU H.320-based ISDN video conferencing; and Bento container technology, Apple's object interchange mechanism, also the basis of OpenDOC. TSAPI is the direct competitor to Microsoft's Telephony Application Programming Interface (TAPI) due in Windows95. Novell's TSAPI is based upon the Computer Supported Telephony Applications standard developed by the ECMA European Computer Manufacturers Association. Versit will add enhancements to support standard call bridging - because the vendors have different implementations - which may even reach across to TAPI. Others will ease Siemens and AT&T migration to TSAPI+, which is due in the next 30 days. Like HP, Novell is talking to, but is not directly involved in Versit. Versit criticises TAPI's procedural style, lack of flow control and normalisation of events. Its personal data interchange is based upon Bento (OpenDOC) and directly opposed to Microsoft's Object Linking & Embedding, also due in the next 30 days. Specifications for Versit GeoPort standard plug for connecting computers, mobile devices and telephones, will be out in early 1995 along with other specs. A developers conference is planned for next summer. The founders have been working on Versit for a year and expects others to join. SCO didn't get its act together in time but is still expected to join the fray in some capacity - Compaq was in and then supposedly warned off by its suppliers. Microsoft announced a similar CTI effort last year in conjunction with Xerox, HP, Northern Telecom and Compaq. One Versit company privately admitted that the telecommunications stuff is easily attainable whilst the anti-Microsoft TSAPI/Bento stuff will likely flounder.

HARRIS TO SHIP BULL ESCALAs IN US

In its first major deal since it was spun off from Harris Corp in September, Harris Computer Systems Corp has won Compagnie des Machines Bull SA's Open Systems & Software Division for its Secure/Power Unix SVR4 operating system. Bull will offer the B2 secure system software on its Escala family of PowerPC-based symmetric multiprocessors. In return, Harris Computer will offer Bull's Escala family to broaden its product line, initially at the lower end. However, apparently cocking a snook towards the PowerOpen Association, Harris' OEMed PowerPC systems won't run a Power Open compliant AIX like Bull, but Harris' SVR4-based Secure/Power. Likewise Bull is displaying an indifference of its own to both Power Open and IBM by shipping Secure/Power. Meantime Harris is now offering high-end PowerPC-based versions of its real-time Night Hawks. Bull will use the Harris technology to extend its offerings in public administration, defence, telecommunications and financial application areas. Secure/Power Unix is designed to meet the US B2-level security requirements. Bull now counts IBM, Motorola, Wang and Harris as OEMs for its SMP PowerScale technology.

PYRAMID HAS BETA PARALLEL MESHINES UP AND RUNNING

Pyramid Technology Corp, which has been promising beta versions of its massively parallel Meshine technology for some weeks (UX No 509), says it's now got two sites - both are with existing customers - up and running, with two more in the pipeline. One of the betas has a 32-way system. Pyramid VP marketing Boyd Pearce expects to have a 100-processor installation by the end of next quarter. Pyramid's long-anticipated commercial MPP venture will supposedly accommodate up to 1,400 Mips RISCs (R4400s initially) using a home-grown, 'mesh' type interconnect - hence Meshine - running the company's DC/OSX SMP Unix SVR4 with parallel extensions. The beta sites are running Oracle Parallel Server. Boyd doesn't expect Sybase Navigation Server or Informix OnLine Dynamic Server to be available before the end of 1995. Pyramid, which will announce Meshine in the second quarter of next year, is also readying new iterations of its Nile SMP servers using 200MHz R4400s and will roll its parallel Unix extensions into an upgraded version of DC/OSX that'll also feature on the SMP lines. Siemens Nixdorf Informationssysteme AG, which recently upped its stake in Pyramid, will OEM Meshine as IBM Corp 'SP2 killers'. Other vendors such as ICL Plc and its Fujitsu Ltd parent market Pyramid's commercial SMP servers. Pyramid says all three have worked with it on the parallel Unix extensions. Like other high-end commercial Unix vendors Pyramid admits it is disappointed at the lack of OS convergence the industry's so-called unixification efforts have delivered. However apart from a now-defunct AT&T sponsored attempt to drum up support for a high-end Unix development grouping, Pyramid says it has seen little independent movement from those vendors concerned. Elsewhere, the San Jose, California-based company is working on expanding the storage capacities of its systems and beta-testing its Escon channel interface to IBM mainframes.

Reliant clustering

Pyramid has also struck a deal with Santa Clara, California-based storage management specialist Veritas Software Corp under which Veritas will integrate a new release of Pyramid's Reliant clustering software and Oracle-based lock manager for use with its volume manager and file system software across multiple nodes. Pyramid, which is trying to establish Reliant as an industry standard, claims to have already hooked one large vendor for the combination and says others are biting. Reliant now supports four-way clustering, comes with fail-over stuff like fault monitoring, automatic switchover, mirrored data and multiple path access, and connections to storage and other systems. The Reliant lock manager coordinates dynamic access to Oracle7 databases on clustered systems and can route users of a failed system to an alternative node. Pyramid reckons some 30% of the systems it ships are going out in clustering configurations. Veritas will offer Reliant OEM as VxReliant.

SET ADDS NEW C++ GROUP DEVELOPMENT RELEASE

Software Emancipation Technology Inc, Lexington, Massachusetts, is offering an enhanced version 3.0 of its ParaSet C and C++ group development environment. Release 3.0 comes with new templates and exception handling; a code change analysis tool; a front-end which allows multiple debuggers to be run concurrently; support for FrameMaker-based documents and a Soft Association tool which assesses how code changes may affect documentation at all stages, from project descriptions up to user manuals; support for incomplete code and stuff developed upon other environments in the model; new incremental build facilities; new file merging tools and support for Solaris 2.x and HP-UX. Prices go from \$35,000 for five seats from this month.

DEC HAS LOTUS, SUN MAIL GATEWAYS

DEC's latest MailWorks 1.5 electronic messaging software release for OSF/1 allows organisations to send and receive to Lotus cc:Mail and Sun Microsystems users via two new clients. DEC says its X.500 directory supported from MailWorks is now registered GOSIP-compliant in the US - for what it's worth now - and has completed the European Open Systems Testing Consortium test suites. DEC says it's offering its recently announced Alpha servers pre-installed with MailWorks. MailWorks 1.5 for OSF/1 is \$90. the Lotus cc:Mail for Windows and SunOS clients are from \$30 and \$140 respectively - X.500 directory version 1.3 is from \$5,000 to \$20,000.

NEURON DATA OFFERS ENHANCED DATA ACCESS BUILDER FOR C++

Neuron Data Inc, Palo Alto, California, has built a C++ development environment, C/S Elements++, upon an enhanced 1.5 iteration of its existing C/S Elements C data access interface development system. The company says C/S Elements++ includes a separate C++ API and automatic C++ code generator as well as C++ libraries, which will make it more attractive to object developers. C/S Elements 1.5 provides read/write access to Unix and ODBC databases and includes new access tools such as DBView for separating logical and physical views. A point-and-click Data Link editor adds relationships between GUIs and DBView. C/S Elements 1.5 includes a module for dynamically creating and modifying data source connections; a mechanism for creating and modifying data access queries; and a table for buffering and caching of records and navigating result sets. C/S Elements++ developer kits are from \$5,000 next quarter on Windows, Solaris, SunOS and HP-UX - \$6,850 thereafter, the company says. Mac, OS/2 and Windows NT releases are planned. C/S Elements ships for Windows, NT, AIX, SunOS, Solaris and AIX. The software includes Oracle, Ingres, Informix, Sybase and ODBC drivers.

ALTAI MOVES INTO DISTRIBUTED SYSTEMS

Altai Inc, Arlington, Texas will introduce its first client/server-based distributed systems management software worldwide in April. The firm, which comes from a traditional mainframe background specialising in the IBM and DEC markets, positions its product as a direct competitor to Computer Associates' Unicenter product and claims that a third of its current clientele, of which there are 1,7000 customers worldwide, come from CA directly. Altai is also pitching itself against Unix systems management heavyweights Tivoli and OpenVision, but its main targets are corporates using heterogeneous computing environments. The software is collectively called Z/Team Unix, but within this are a set different modules and an underlying system architecture, called Oasis. Z/Team Unix has been completely reengineered and Oasis, although incorporating some specific features from the mainframe, is also new in design, the company says. Oasis is the backplane technology, comprising six layers. At the system level layer, in its initial release, the product supports IBM RS/6000, AS/400, MVS, VSE and PC operating systems. Support for HP-UX, Solaris, AT&T GIS Unix, Sequent and Pyramid will follow after April through to 1996. The next layer comprises a set of host systems interfaces, which connects the system with the users chosen operating system. Up from this is the distributed network manager. It supports both mainframe and Unix-based protocols, including LU6.2, APPC, TCP/IP and OSF's Distributed Computing Environment. Altai says the Oasis architecture is modular so different user specifications such as choice of protocol and operating system can be slotted in without recompiling the tool. The communications manager provides two programming interfaces. One is specific to Altai and is used to provide program-to-program interoperability between different Altai products. The other API supports third party systems management, storage and printing products, including software from StorageTek, Legent, IBM, Altare, Landmark and Memorex Telex. The penultimate layer, the logic manager, enables users to navigate through on-line transactions and extract or import them to Z/Team for analysis. Finally, at the front end Z/Team supports Motif, Windows and OS/2 graphical user interfaces. The interface is consistent on every platform, irrespective of the native operating system, the company says. The provision of one consistent view means that administrators can manage their computing environments either as a single or distributed points of control. Z/Team itself incorporates a range of distributed management functions, including automated systems, scheduling and event management, information transmission and report distribution. On the automation side, Z/Team dynamically manages the enterprise automatically carrying out back ups and alerting staff of problems. It also provides automated balancing, output management and message management. The level of automation is up to the user. It can process single or multiple actions and they can be message, event and/or time driven. Z/Team for Unix is due for release in next year, with existing mainframe products available now.

CALLING TUXEDO USERS

We hear the client application development API that Magna Software Corp will provide to Tuxedo developers free of charge from December 15 (UX No 514) has most to do with the New York city firm's desire to track down Tuxedo users it can target for its Magna X application development environment. Novell Inc apparently maintains no complete list of Tuxedo OLTP customers - the software is provided by a range of ISVs, resellers and integrators. +1 212 691 0300

BUG-IN-THE PENTIUM SAGA BUZZES INTEL

The bug-in-the-Pentium saga is boiling up nastily for Intel Corp, with IBM Corp and Gateway 2000 Ltd giving the impression that they will take more care of any Pentium users that might be affected by the bug than Intel has promised. Each is offering replacement Pentium chips to customers concerned about the floating point computational error, but only if the customer can show that the work being done requires the suspect function. Also a Prudential Securities analyst has said that the bug may be worse than previously reported and that the error could crop up in day-to-day use of the chip, an assertion denied by Intel. Intel, also denied a rumour on Wall Street that the company was planning a total recall of the bugged Pentiums. But it had to confess that replacements for the part won't be widely available soon - the fixed version is still at the sampling stage and IBM and Hewlett-Packard Co haven't even received samples of them yet. According to the *Wall Street Journal*, Tim Coe, an engineer at Vitesse Semiconductor Corp has studied the problem and reckons it can occur in numbers of as few as five digits. Our sister publication, *PowerPC News* points out that Intel's claim that the average user might see a problem once in 27,000 years does not look quite so reassuring when you realise that it means that if Intel has sold 3m Pentiums, some 111 users can expect to get a wrong answer this year.

MATHWORKS MODIFIES ITS SOFTWARE FOR PENTIUM

Following news of the embarrassing bug in the floating point unit of Intel Corp's Pentium chip (UX No 515), Mathworks Inc, Natick, Massachusetts has stepped into the breach and posted to the Internet a description of the way in which it patched its own software. The company also intends to distribute a modification to Matlab, its numeric computation and graphic visualisation software, which overcomes the troublesome floating point computational error. Matlab provides maths and visualisation functionality, specialised applications toolboxes, and a high level language primarily targeted at technical professionals for designing and prototyping. MathWorks promotes Matlab as an open and programmable environment, featuring object oriented graphics, sparse matrix support and sound output. Simulink extends Matlab to provide a block diagram environment for modelling, analysing and simulating a broad range of dynamic non-linear systems. The modifications to Matlab compensate for the flaw in the Pentium hardware. "The probability of generating an erroneous result in a typical Matlab computation is actually quite low," it explains. "But the real concern is loss of confidence. We don't want our customers to have to worry that arithmetic operations are not being done correctly". Unlike traditional visual data analysis packages, which tend to be stand alone programs that post process data from other sources, Matlab enables the user to analyse, transform and visualise within a single environment. Matlab uses an underlying graphical framework, called Handle Graphics. Mathworks says it enables easy customisation of plots. Users can open multiple graph windows simultaneously, place axes anywhere in a window and control where printed output appears on the page. More importantly says MathWorks, the pictures are 'alive'. Matlab's internal code is optimised in C, with inner loops hand coded in assembly language. Matlab also provides array notations for manipulating data and evaluating mathematical functions. When a Matlab function is applied to a vector, the function operates on each element of the vector. Matlab has application toolboxes for signal processing, automatic control and neural networks. Each is built on top of Matlab's numerics with access to the toolbox source code, so the user is able to inspect, customise and extend the algorithms and functionality of the toolbox to suit the need. The toolboxes can be used together in a seamless manner, for instance applying optimisation and neural network tools to advance signal processing problems and display the results as colour 3-D graphs-within a single environment. Information on the approach used by MathWorks to compensate for the error in the Pentium microprocessor can be accessed on the Internet through the newsgroups comp.soft-sys.matlab and comp.sys.intel, or via the MathWorks home page on the World Wide Web, <http://www.mathworks.com>.

TIVOLI EXTENDS INTO EUROPE

Working on the McDonalds principle of economics, that what the US has today, the world will want tomorrow, Tivoli Systems Inc is ramping-up its international operation, opening a European headquarters in Geneva, Switzerland and naming Pierre Schmit, former VP international operations at Cadre, to head the operation. Tivoli says the growing client/server market in Europe and the attendant system management needs has provoked this sudden spending. Frank Moss, Tivoli president and CEO, wants 50% of business to be coming from Europe within the next few years. As part of the plan Tivoli will establish a European Technical Centre in Brussels by mid-1995 linked to its HQ support centre in Austin, Texas. Tivoli plans to continue its practice of serving its international customers through a network of distributors, value added resellers, and consultants. In the UK, the company has signed with Protek and with Dr Materna, in Dortmund, Germany which will distribute Tivoli products in Germany, Switzerland and Austria. The company expects to cover most of Europe with similar deals. Tivoli also plans to create a base of local consultants, trained and certified by the company to give on the spot advice. Tivoli hopes that the mixture of local sales support and direct and indirect OEMs will overcome problems of language and technical attitude. As yet the operation in Geneva is small but the company expects it to grow as the Technical Centre in Brussels takes off. European local support is expected in the first quarter of 1995. Tivoli also intends to address the higher proliferation of DEC, Siemens and ICL platforms which it will find in Europe with an announcement next year. Tivoli's product, a distributed object management system, the Tivoli Management Environment 2.0 (TME) which Moss says cost \$50m to develop, has been shipping in the US since September. It enables administrators to arrange and control users, applications, systems and data across heterogeneous, distributed computing environments. It includes a framework, applications and toolkits. The replicated server functionality which preserves data if TME falls over is due to be added to the TME information database and says Tivoli, is still on track for the end of the year (UX No 483). Denying it is over-extending itself, Tivoli claims 25 system and software vendors now support TME.

ORACLE WRAPS UP RDB BUY

Oracle Corp has now completed its acquisition of Digital Equipment Corp's Rdb database, repository and database administration tools and the related support business for \$108m. It says that since it announced its intention to acquire Rdb, over 250 employment offer letters have been sent and accepted by Rdb employees, a new Oracle development centre has been established in New England for Rdb employees, and a support centre in Colorado. Oracle is completing the OSF/1 port of Rdb, an Oracle-Rdb gateway is slated for the first quarter, and Rdb tools are being integrated to work with Oracle7.

WOLLONGONG OPENS TCP/IP DEVELOPMENT UNIT

The Wollongong Group, which works on TCP/IP networking and has headquarters in Palo Alto, California and additional operations in Maclean, Virginia and Bracknell, UK is set to open a new Advanced Application Center in Santa Cruz, California. The facility is intended to focus on the creation of advanced TCP/IP stuff. Wollongong's OpenVMS and Unix delivery teams will remain located in Maclean, Virginia and will be joined by a new development team focused on combating administrative, management and security problems of large enterprise-wide TCP/IP networks.

COGNOS DELIVERS POWERHOUSE FOR DEC OSF/1

Cognos Software Inc, Burlington, Massachusetts, is shipping a version of its PowerHouse 4GL for the 2.0 release of DEC's Alpha OSF/1 - it's currently testing the software on DEC's latest OSF/1 version 3 release. PowerHouse is already up on OpenVMS on VAX and Alpha. Cognos' Axiant GUI-based client/server application development system is due on OSF/1 - Cognos says adding Windows front-end to PowerHouse will prepare users for Axiant. Wilmington, Massachusetts firm Visibility Corp is using the OSF/1 PowerHouse release in a new release of its Visibility manufacturing software. PowerHouse 7.33 for OSF/1 costs from \$3,000.

ORACLE FORMS IBERIAN BUSINESS UNIT, BUT CHANGE APPEARS COSMETIC

Oracle Corp's Spanish and Portuguese arms have been grouped together to form one unit, known as 'the Iberian region' within the company's European, Middle Eastern and African division. Previously, Spain and Portugal had formed part of the south European area together with France and Italy. The change seems to be fairly cosmetic, since according to Jorge Edelmann, the managing director of the Spanish arm - called Oracle Iberica SA - "both the Spanish and Portuguese subsidiaries will retain full managerial autonomy and independence". Edelmann will become vice-president of the new region and report to European management. The two countries' turnovers will not be consolidated, but marketing activities will be undertaken together, for example the same prices will be fixed for products. Oracle Portugal currently has revenues of \$7.8m a year and employs 60, while Oracle Iberica has a staff of 170, and did \$27.7m in 1993, up 35% on the previous year. Meanwhile, Oracle Iberica has just signed an agreement with Siemens Nixdorf SA to collaborate in the marketing of hardware and software products of both companies, maintenance, technical support, training courses and marketing plans, and as a result, a wide range of Oracle applications will be developed to run on SNI machines.

HP SETS OUT ITS INTERACTIVE TV STALL

Success breeds success, and Hewlett-Packard Co, liberated by the success of its core businesses from the worry of wondering where the next research and development dollar comes from, is investing heavily in all the technologies associated with the Information Superhighway, so much so that it is already being tipped as one of the out-and-out winners from the promised multimedia revolution. It has now announced plans to develop a ready-to-install end-to-end cable television modem system for hybrid fibre and coaxial networks, and pulled all the elements of its interactive television system together under the name Kayak. The planned cable-modem system will give personal computers the same kind of interactive access that traditional modems offer, but will run very much faster. The idea is to enable cable operators to provide access to on-line services, the Internet and other services for home personal computer users, connecting the micro to a standard coaxial cable television line, and will include all the hardware and software necessary for an end-to-end system from the home to the head end of the cable. The company gave no further details and did not give an availability date. Meantime the company's Kayak System product line consists of digital set-top boxes for the home - using an Motorola Inc 68000 running pSOS+ where its original boxes used an 8088, complete with a logo of three stars and a horizon line, and include printers and other home accessories. Hewlett also offers video servers and computer systems for billing and tracking. Cable operator customers for Kayak System set-top boxes won so far are Tele-Communications Inc and Comcast Corp.

DOCUMENTUM PUSHES DOCUMENT MANAGEMENT TO EUROPE

Pleasanton, California-based Documentum Inc has completed its third round of financing and announced an alliance with Computer Sciences Corp's CSC Consulting to market the firm's products in Europe. Documentum was formed in 1990 by engineers from Ingres Corp and with finance from Xerox Corp, with the aim of providing enterprise-wide document management applications. The third round of financing brought in \$4.5m, bringing the total capital invested so far to \$13.5m. This latest boost will be used to expand into Europe and for research and development. Investors are Brentwood Associates, Integral Capital Partners, Merrill, Pickard, Anderson & Eyre, Norwest Venture Capital, Sequoia Capital. Xerox Technology Ventures' share is 36% and Documentum's staff has 22%. Documentum's deal with CSC Consulting stems from work it did with CSC for the drug company Syntex in 1993, where the two firms designed a version of Documentum's document manager, called WORM. CSC Consulting will market this version. Documentum says its section of the document management market is growing by 60% to 80% a year; it was worth \$100m in 1993. The company attributes this blooming in the market place to two factors: the move to client/server technology; and object technology. But it adds that it is early days in terms of standards and this explains the reason it has come out in support of the Novell Inc and Xerox Document Enabled Networking initiative, which is intended to provide broad interoperability between different document management services, applications and repositories.

DATA SCIENCES REINVENTS ITS PRODUCTS

Farnborough, Hampshire-based Data Sciences UK Ltd has relaunched its entire portfolio of services under the banner of the Genus programme. The repackaging has been brought about by the company's belief that customers are looking to change their computer systems but are worried about the risk of moving from a tried and trusted technology to a new, unknown one. Says marketing director Mike Wade, "We've seen disillusionment among customers in Big Bang products. If things are moving fast, by the time big changes come to fruition business has changed. People are looking for more progressive change, with less risk. And so Data Sciences offers a mix and match way of looking at the needs of businesses' information systems, while emphasising the retention of legacy systems, as well as an incremental procurement to introduce change. Genus is designed to help businesses choose and implement new software: it retains old data by wrapping it up as objects; end users are involved in the design of applications; and there is a 'best of breed' object library. Genus is split into three sections: applications management, that is the effective use of legacy systems as most companies are reluctant to abandon these systems; a software environment, dubbed PrOSE, Process Oriented Software Environment, which is a set of basic objects that perform functions common to all systems with which, it is claimed, users can avoid the reliance on proprietary development tools or relational databases; and fixed price packages of services. Applications management involves examining legacy systems and deciding what should be retained; improving the input and output from those kept; and object encapsulation to enable data from those systems to be used within new ones. PrOSE is designed to create an environment within which objects from Data Sciences and other companies can be integrated to give the applications the look and feel of a single supplier.

Process-oriented

It is divided into four areas of functionality: graphical user interface, reporting and data access, security, audit and objects. And to ensure customers have a wide choice of objects the firm has established the Genus Common Objects Library, objects that have been 'test-driven' by Data Sciences and licensed from smaller companies working in object-oriented technology. This is the 'best of breed' stable of objects: the company adds that for companies contributing to the library it is a way of getting their products into the corporate market. What are described as commodity objects, such as communications and operating systems, will also be stored: Data Sciences is backing Microsoft Corp's Object Linking & Embedding as a standard. Data Sciences plans to give third party developers access to the library for an annual subscription fee. The deal is that developers will build software components or complete applications and return them to the library: should their objects be sold then the developer gets a royalty. This programme should be formalised in early 1995. Involvement of end users takes place at a Joint Application Definition workshop that is run by a behavioural psychologist: the firm says this produces a better final result than when a task-oriented facilitator chairs the workshop. This is one of the services that customers can buy separately: for £25,000 Data Sciences will carry out a business analysis looking at the relationship between information services and business activities; or offer an information and systems architecture strategy study aimed at designing interoperable information systems. The revamping of Data Sciences' services is not the only thing the company has changed recently: two years ago it refinanced and restructured itself and brought in Andy Roberts from ICI Plc as its chief executive. It closed its books for the year on September 30 and will announce results in the second week of December. Roberts said he was confident about the results and said the company was planning to take on more staff.

DG SETS UP DG PLUS

Data General Corp has moved to a mixed distributor model across Europe with the launch of DG Plus. Aimed firstly at its installed customer base, DG Plus, run from the UK, promises a one-stop shop for customers in 14 countries for Data General computers, including Eclipse MV minicomputers and upgrades, AV open system servers and workstations and personal computers, third party hardware, software and communications products sourced from Computer 2000 AG. DG Plus is confident that people want to buy over the phone and in the first six weeks has received 11,200 calls, with the capacity to deal with three times that number. The de-duplication, purge and merge of Data General's distribution has enabled DG Plus to cut prices by 15% and promise delivery within three days, on average.

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Unigram X sources say **Oracle Corp** made an offer to buy **Lotus Development Corp** a month ago; apparently Lotus turned Oracle down, because it offered 25% less than the asking price. Talking of acquisitions, **Computer Associates Inc** reportedly made an offer for **Novell Inc** last year but got turned down by the board.

HP plans 15 technology centres around the world to help users move to client/server and mainframe alternative environments. The centres will provide migration methodology customised applications and migration tools.

Sybase says it wants to make its System 11 announcement scheduled for the second quarter of next year a little bit special and to do so it will reveal a brand new name for the product range. The firm is expected to announce a performance upgrade for its SQL Server database and DCE and CORBA support for its Open Server and Open Client APIs.

Networking house **Bay Networks**, Santa Clara, California, has appointed Steve Jenkins MD of its UK office. Gary Rogers, former VP Europe at **Wellfleet**, is VP Europe, Africa and the Middle East.

Mitsui & Co Ltd is to sell **Transarc Corp** products in Japan: the two have established the Mitsui/Transarc Centre for marketing OLTP and client/server solutions in Japan. IBM-owned Transarc plans other partnerships in Asia; **Fujitsu**, **HP**, **Hitachi**, **Mitsubishi**, **NEC** and **Toshiba** already peddle its stuff.

Silicon Graphics Inc is to offer Alameda, California-based **Wind River Systems'** WindView, diagnostic and analysis tools, for use with its Irix Unix from next quarter priced from \$3,500, to enable real-time simulation software developers to dynamically visualise the interactions between their programs and the operating system.

With one-time **Teradata Corp** president and CEO Kenneth Simonds now at the helm, and hoping to catch a wave, MPP builder **MasPar Computer Corp** will wheel out its data warehousing solution at DB Expo this week.

Meanwhile, object/relational house **Illustra Technologies Inc**, Oakland, California is bringing two new DataBlades software modules to the show, plus a new series of enhancements for its databases, and there will be more fruits of **IBM Corp's** object development with **Object Design Inc**.

Bringing some early festive cheer to the European IT and communications industry, recent figures published in the *European Information Technology Observatory* suggests that by year end the industry will have enjoyed growth of 6.5% over 1993. 'EITO 94', the European Market Analysis is available from the **Federation of Electronics Industries**, London.

The 1995 SunWorld, now bundled with the Solaris Developer Conference, is between May 22 and 25 at the Moscone Center in San Francisco.

Boeing Commercial Airplane Group is using **Sequent Computer Systems Inc** Symmetry 5000 servers in its streamlined manufacturing process - Sequent claims the deal's worth up to \$7.5m over three years.

IBM Corp's PowerParallel unit is bundling up a set of technologies for commercial decision support it'll unveil at DB Expo this week. The packaged solution includes an SP2, the new parallel version of DB2 relational databases, storage and other services.

Meanwhile, and undoubtedly partly in response to **Sybase Inc's** arrow (see page 4) data warehouse company **Red Brick Systems Inc**, Los Gatos, California, says it'll "quickly" provide a parallel version of its VPT database on **IBM Corp's** SP2 PowerParallels. Presently Red Brick Warehouse only runs on a single processor or node - the company promises parallel VPT that can run a single database on multiple nodes by mid-1995 and attractive upgrade terms from single-node implementations.

Interactive Development Environments Inc, San Francisco, California, has added what it is calling a second generation of its Software through Pictures for the Object Modelling Technique object design toolset. IDE says Stp/OMT, which has a shared repository, automates the design of object-oriented applications using OMT, Jacobson Use Cases now and the Booch methodology which is due in January. Stp/OMT 2.0 is from \$12,000 for Solaris or HP-UX.

London-based GUI firm **Imperial Software Technology** is to offer its X-Designer interface builder for Kanata, Ontario-based **QNX Software Systems'** QNX realtime Unix. Already up on Unix and VMS, from January X-Designer will generate code for Windows and **Macintosh** platforms supported by the Microsoft Foundation Class library. A single licence costs \$3,500. VI Corp, Northampton, Massachusetts distributes X-Designer in the US - it's available from Marubun Corp in Japan.

Convex Computer Corp says its latest vector minisuper, the Gallium Arsenide-based C4, is generating more sales momentum than it had anticipated, especially in Europe. Although it admits it's unlikely to be back in black this quarter, it claims revenues will show an increase and says OEM sales of its Exemplar MPP system generated by **Hewlett-Packard Co** should kick-in in fourth quarter figures.

Business Development Associates Inc, The Computer Litigation Committee of the American Bar Association's Litigation Section and the Boston Patent Law Association are sponsoring a software protection and litigation institute conference billed as "software copyrights, patents and licensing agreements that stand up in the marketplace and the courtroom," at the Weston Hotel Copley Place in Boston between January 26 and 27. +1 800 243 4850

Columbus, Ohio-based **Symix Systems Inc** has introduced version 4.0 of its Progress 4GL-based manufacturing software at from \$100,000 which runs with Progress Software or Oracle databases.

Northern Telecom Ltd is putting **Baan International BV's** Triton manufacturing software up on HP servers and workstations, X terminals, Mac and PC clients at 125 sites in 40 countries to control order and materials management and distribution.

Tilting against the eight-way **Sun Computer Co** SparcServer 1000E and **IBM Corp's** RS/6000 59H and three-way AS/400 F90, **Hewlett-Packard Co** is touting a two-way HP 9000 Model H70 server running **Sybase SQL Server** which has turned in 1,403 TPC-C transactions per minute.

Computerworld says **Apple Computer Inc's** Copland next-generation operating system, now delayed until the backend of next year, will offer pre-emptive multitasking for networking, I/O and file system software but not for application software. It's looking at how Taligent could be layered on top.

CASE models created under **Oracle Corp's** Cooperative Development Environment CASE models can now be imported into **Compuware Corp's** Uniface Six application development environment courtesy of new bridges from Swiss firm **Software Engineering AG** and Englewood, California-based **Open Systems Engineering Inc**. Uniface says the bridges allow CASE model to be updated automatically throughout an application's lifecycle without having to change the code. Prices from the two firms are from \$1,555 and \$2,750 respectively.

Forte Software Inc garnered a further \$10m in a fourth round of venture funding a while back, bringing its capitalisation to \$33m. The company, which is valued at \$115 booked \$3m orders in its first quarter of product ships to September 30.

Aiming to bolster its reach, **Visionware Ltd**, Leeds, England, is recruiting new resellers for its PC X server and other Windows-to-Unix connectivity software under a Kickstart program.

Christine Hughes, a well-credential'd lady who got her start on the office automation side of the house and was for one seven-year span VP of office technology at the **Gartner Group**, has just been named senior VP of corporate marketing at **Novell Inc** reporting direct to CEO Bob Frankenberg. Immediately prior to this appointment she was marketing VP with **Xerox Corp**. She is trading in the Rochester, New York winters for an office in San Jose. Meantime Novell executive vice president and former **Excelan Inc** founder Kanwal Rekhi is to retire, but will continue to advise Frankenberg.

An **IBM Corp** flak in one of her missives to us last week on the subject of our AIX coverage (*see front page*) noted that "if people are hung up over what they think they see on some company's overhead charts, they are being anal retentive and need to get a life!" She was of course referring to *Unigram* sources who saw nothing past AIX 4.2 on IBM's overheads.

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X/OPEN WANTS OUT OF UNIX ROYALTY BATTLE

X/Open Co Ltd is trying to distance itself as fast and far as it can from the fracas over the royalties owed to Microsoft Corp for every copy of Unix 5.3.2 or higher sold on an Intel platform (UX No 516). The consortium and its members are unhappy about the requirement that to be certified Unix an OS that runs on Intel must conform to compatibility tests using a suite of obsolete Xenix applications. That contractual requirement came as part of the deal Microsoft cut with AT&T Co way back when it dropped Xenix as a product. X/Open has asked Microsoft to drop the apps test requirement and use certification based on specs instead. Microsoft says before it agrees to that request it wants its royalty rights reaffirmed. Those royalties are due from Novell, the current owner of Unix, not X/Open, its branding operations, as Microsoft agrees and X/Open wants made perfectly clear. In a statement X/Open prepared last week it initially denied any knowledge of the royalty issue. It also claimed Microsoft never replied to its request to drop the Xenix test apps. The statement included a postscript that insisted that neither X/Open "as an organisation nor its Board" had discussed the possibility of complaining to the US Department of Justice about the royalty issue, as reported here. Technically, we supposed, that statement could be construed as correct since the conversations we reported on took place over a breakfast table in the UK prior to a recent X/Open board meeting. X/Open withdrew the statement before it was made public after hurried meetings between senior Microsoft execs and X/Open's chief operations officer Allen Brown in Belgium, where X/Open's quarterly members meeting was being held last week. It seems that X/Open now agrees that Microsoft did give it an answer in writing and that it is aware of the royalties issue. At press time, X/Open was preparing a new statement, but was struggling with how to avoid offending Novell while denying any liability for the royalties. Novell, for its part, has yet to publicly state its position on the subject. There may be royalties at stake here other than those owed on Solaris x86 but those are the ones that seem to irk Microsoft the most. Sources contacted last week claim the issue came up at Novell during the Sun negotiations and that Kanwal Rikhi, who then ran Novell's Unix operation, simply refused to pay Microsoft royalties, maintaining that Redmond had no rights because "it wasn't useful anymore." It is still unclear whether Rikhi, who announced his pending retirement two weeks ago, meant royalties on any Unix-on-Intel platform or just Sun's. Sun bought out its Unix royalty stream last March, paying Novell \$82.5 million for what it considers royalty-free rights. Executive-level sources in Redmond last week indicated that as far as Microsoft is concerned, its contract is with Novell. It is Novell that owes it royalties for every copy of Solaris x86 sold, the sources said, apparently leaving Sun in the clear and Novell holding the bag. Microsoft last week also grumbled about protecting its rights at unnamed companies that supposedly got perpetual rights to use the Unix name from Novell before it turned branding over to X/Open. And it remains adamant that Novell will owe it royalties for any sales of its forthcoming SuperNOS environment made on Intel platforms if it builds the stuff around a UnixWare core as planned, even if it doesn't use the name Unix on the thing.

SPEC 1170 BECOMES UNIX 95 BRAND

The Unix industry's Spec 1170 charge to meet the challenge of Microsoft Corp and the requirements of the demand side of the industry will be served-up as Unix 95, clearly a foil to Windows95. X/Open Co Ltd has now attached names to its two Unix brands; Unix 93 is the interim brand and Unix 95, the "hard" brand or Spec 1170. To comply with Unix 93 an operating system must conform to XPG3 or XPG4, comply with System V Interface Definition 2 or 3, include a Novell Inc licence and move to "hard" Unix branding within a year. Although it's not yet clear how firms will actually move from XPG to Unix 93, it allows vendors that don't comply with Spec 1170 a way of gaining a Unix trademark. Although Unix 95 (Spec 1170) is almost synonymous with XPG4, vendors will be able to retain their XPG4 colours without having to take the Unix 95 brand, which doesn't require a Novell licence, by choosing an option being made available under XPG4 version 2. With a Unix 95 brand a vendor will also be able to pay for XPG4 Base version 2 branding. Re-branding for operating system revisions follows XPG4 guidelines. At issue of course is pricing, which should be available sometime next week and will probably be tiered at per-copy, per-user and per-site charges or some combination thereof. X/Open will need to price the brand aggressively to attract adherents without undervaluing it. It's claimed pricing has little to do with the fracas between Novell Inc and Microsoft over royalty payments in which X/Open is now also embroiled - *see above*. It's unlikely any vendor or user would be able to stomach anything approaching 10% of the cost of the operating system itself, for instance. Meanwhile vendors of course will only abandon or alter product names if Unix 95 becomes an effective sales tool.

"SCO ON THE VERGE OF ACQUISITION..."

Unigram.X sources last week claimed that the Santa Cruz Operation Inc is about to acquire PC X server house Visionware Ltd. SCO, now a public company, declined comment but indicated it would be making some kind of mystery announcement on Tuesday December 13. Visionware also declined comment and refused to return phone calls. There have been rumours that Visionware has been on the block for some time - reports it's denied. If they hold up then it will be SCO's second UK acquisition, though Visionware has now moved its headquarters to the US. It is believed SCO could put Visionware together with its other English purchase IXI, whose Eye2Eye product plays well with Visionware's line of goods, as does SCO's whole Windows friendly posture these days. It is unclear whether the acquisition would be for stock, as IXI's was, or for cash, or whether IXI itself might do the purchasing though at press time that possibility seemed unlikely.

...MOHAN INSTALLED AT SCO HELM

Meanwhile Santa Cruz Operation Inc has also shaken-up its management team, giving relative newcomer Alok Mohan reins to the business. Mohan, CFO since joining SCO full-time in May becomes president, chief operating officer and member of SCO's board. He takes on all of former president Lars Turndal's reports bar that of "uncontrollable" SCO executive VP and chief technical officer Doug Michels. Michels will continue to guide SCO's strategic direction with Turndal, who remains CEO and becomes chairman of the board, a role he's been performing since the death of Jim Harris last year. Mohan, former NCR VP strategic planning, is seen as the firm hand on the tiller since coming on-board. Mohan will seek to grow SCO's business by consolidating its grip on the Unix-on-Intel space and through expanding initiatives such as the company's "Windows friendly" technologies.

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SUNSOFT USES AGE LOGIC PC X SERVER IN NEW SOLARNET OFFERING

San Diego, California company AGE Logic Inc has won a big fillip for its PC X server software with news that SunSoft Inc's PC connectivity unit will ship AGE's PC-to-Unix X Windows connectivity software as SolarNet PC-X. The two have signed a long-term agreement they say will result in other SunSoft products based upon AGE technology. SunSoft recently enhanced its TCP/IP-based system for tying PCs to the enterprise with network administration tools as SolarNet PC-Admin (UX No 510). The X server software provides a Microsoft Corp Windows users with access to applications running on Unix servers from an X Window running on their desktop. Prices go from \$350 per user. The move is great for AGE, whose PC X server would probably be considered for use only after Hummingbird Ltd or VisionWare Ltd, although it's unclear why Sun hasn't offered such a solution already, except that it wanted to populate desktops with Solaris boxes. Until now users have had to go to third parties for all the work.

ICS READIES NEW RELEASE OF MOTIF INTERFACE BUILDER

Integrated Computer Solutions Inc, Cambridge, Massachusetts, will ship version 3.5 of its Builder Xcessory toolkit for creating Motif-based graphical interfaces from February. SunSoft Inc WorkShop, DEC Fuse and Silicon Graphics Inc CASEvision tools can be used in conjunction with 3.5. The new release includes C++ subclassing facilities, additional layout possibilities, support for X Windows work procedure, event handlers and timers and enhanced searching tools. On Solaris, Irix, HP-UX and DEC OSF/1 prices are from \$3,200. Builder Xcessory is integrated with SunSoft's ToolTalk inter-application messaging system used by SGI, DEC and other Common Desktop Environment houses - ICS says it'll add support for Hewlett-Packard Co's alternative Broadcast Messaging Server in the next version. Sun's SunExpress unit is still peddling Builder Xcessory, though ICS has dropped its Novell Inc Moolit product and lost the Provo, Utah firm as an OEM. Privately-held ICS expects the loss to effect its 1994 unit numbers, but not revenues. ICS had a 59% share of the \$25m.5 market for Motif interface building toolkits last year, shipping some 18,365 kits. ICS plans additional widget sets packaged for vertical markets. From around 100 toolkit suppliers four or five years ago, ICS now shares the market with just a handful of competitors, including Imperial Software Technology Ltd's X-Designer, Visual Edge Software Ltd's UIM/X and Alsys Inc's TeleUse. ICS has also recently opened a California sales office, and has extended its deal with UK distributor Scientific Computers Ltd to cover France and Germany. It's picking-up Far East outlets it says.

EASEL UPGRADES ENFIN

Easel Corp, Burlington, Massachusetts, has launched version 4.1 of its Enfin object application development environment it says makes the underlying Smalltalk language easier to use. Version 4.1 includes interface components and screen inheritance, source and event editor and small program generator. It has upgraded its Synchronicity object modelling and persistent object mapping tool to release 2.1 to take advantage of Enfin's new features. 4.1 supports TCP/IP across OS/2, Windows and Unix and costs from \$4,000.

BUSINESS OBJECTS TO TARGET APPLICATION VENDORS WITH SQL SHIELDING LAYER

Flourishing database access tool provider Business Objects SA Paris, France, is preparing a series of initiatives to drive its business further forward. First it's going to modularise its BusinessObjects front-end interface and toolset so users can mix and match BusinessObjects tools with those from ISVs. To do this it is developing a semantic layer it's preparing that will enable third parties to have their own SQL code shielded from the user. It's going to begin a campaign to have the large application vendors - such as PeopleSoft - use the layer in their software. The company which sells mostly direct, is also embarking on an indirect sales campaign. With end-user reporting and querying - plus end-user feedback - carried into releases 3.0 and the latest 3.1 release of its software, the company - should be ready with data analysis tools within four months. These it says will combine features of traditional EIS and data warehouse tools. BusinessObjects 3.1 is up on Windows, Mac and Unix clients. The end-user version is \$600 - the database administrator module is from \$3,500. Business Objects reckons it'll hit \$30m this year, up from \$14m in 1993.

RED BRICK PLANS ITS OWN HIGH-SPEED QUERY ACCELERATOR

Data warehouse Red Brick Systems Inc says it's been unable to continue its discussions with Expressway Technologies Inc since Sybase Inc swallowed the unit back in October. Red Brick had hoped to partner with Expressway and use its bit-map indexing mechanism for high-speed ad hoc querying against its database, just like Sybase is doing with IQ Accelerator (UX No 516). Red Brick says it'll have to either buy or develop similar software. It figures it can have something similar ready to announce by the end of the first quarter. It says its not perturbed by Sybase's entry into data warehousing - or the expected rash of other newcomers - and in view of Sybase's performance estimates (ludicrous in its view), says data warehouse users will still always require B-tree indexing for certain types of queries in any case. Red Brick, planning to remain 100% a data warehouse company, is planning new data extraction, systems management and data 'cleansing' additions to its software line. With new hires from AT&T GIS' Teradata unit (doesn't it lose shedfuls of staff every week?) and the University of Michigan, Red Brick believes its acquired the skills to take its products forward. It's lining-up one of the major hardware vendors to peddle its software in the UK from next quarter, then around Europe from later in 1995.

AVALON REVAMPS MANUFACTURING SUITE

Avalon Software Inc, Tucson, Arizona, has a new release of its Avalon manufacturing software and added decision support applications to its suite as Avalon Analyst, written in Visual Basic. Avalon 9 is based upon Oracle7 and uses Oracle 4.0 Forms to deliver applications to Windows or Motif clients. Up on most Unices from next quarter, prices are from \$100,000. Analyst modules go from \$5,000, starting with Supply Analyst for purchasing managers available now.

STRATUS STRENGTHENS ITS POSITION IN SHARE SYSTEMS

Not satisfied with making software acquisitions on its own account, Stratus Computer Inc is now having its acquired companies make their own acquisitions. Its TCAM Systems Group has signed a letter of intent to pay \$3m to acquire Femcon Associates Inc, a Westford, Massachusetts specialist in stock exchange and securities trading software, and will combine the company's business with its own. Stratus reckons that more than 80% of all exchanges in the world that have bought trading automation software applications in the past two years have gone to either TCAM or Femcon. The financial services market accounts for about 30% of Stratus Computer's turnover. Femcon products include the NuCOLT equities trading system and the World Trade securities exchange automation system. They run on Stratus, Tandem Computers Inc, Hewlett-Packard Co, Sun Microsystems Inc, and Silicon Graphics Inc machines, and all those machines will continue to be supported.

IBM TO FORM CHINA RESEARCH LAB

IBM Corp says it plans to establish the China Research Laboratory in Peking and expects it to be fully operational by the middle of next year. George Wang, named director of the new laboratory, said that one of the main goals "is to create world-class computer technologies that are particularly relevant to China". The laboratory is intended to support joint projects with universities and research institutes, while exploring technology of national and commercial significance.

X/OPEN CONSUMES THE SQL ACCESS GROUP

X/Open Co Ltd has subsumed the SQL Access Group, which failed to achieve its objective of standardising extensions to Structured Query Language after members failed to agree and individual companies negated its work by coming to market with their own offerings. X/Open has acquired the intellectual property rights of the group for the princely sum of £1, and a new X/Open SQL Access Group has been formed. The new group currently has at least three prospective specifications to sort through. The first five members have already signed up, proving, says X/Open, that the industry is still interested and that there is work to be done. They are AT&T GIS, Borland, Oracle, Sybase and Fulcrum Technologies. It will be operated in the same way as X/Open's other technical specification working groups. More members are expected to join by year-end. X/Open says that this time it will make sure the industry's work converges with its own goal. The SQL Access Group was set up in November 1989 (UX No 256).

OBJECT MANAGEMENT GROUP BOARD GIVES SUN-BACKED UNO PROPOSAL THE NOD

Having won the vote last month of the Object Management Group's Technical Committee (UX No 515), it should come as no surprise that the OMG's board last Tuesday gave its blessing to the Sun Microsystems Inc-backed UNO proposal as the way to go for Corba 2 interoperability. UNO, the TCP/IP-based Universal Networked Objects proposal from Sun, Iona Technologies, Expersoft, Bell Northern, ICL and IBM, won hands down by a vote of 15 to four. The vote was secret so the identity of the four naysayers is uncertain though not impossible to guess considering the fury DEC employed trying to get its opposing DEC Common Interoperability ORB spec accepted in UNO's place. DEC was joined by HP and IBM, which had a foot stuck in both camps. As a result, the Open Software Foundation's DCE RPC is now in the public domain. If the decision, seen as a serious political loss to Microsoft Corp, had gone the other way, there's no doubt Microsoft would by now be making hay on which OMG could eventually have choked to death. It could have claimed its Common Object Model close enough to DCE technology that OMG services would be of no future use to it. The OMG board also sanctioned six other services specs last week, including relationships, object transaction (through a single interface), concurrency controls, externalisation, C++ mapping and - nary too soon - initialisation, so now everyone agrees on how to start a request. OMG's initialisation scheme was submitted by BNR, DEC, Expersoft, HP, IBM ICL, Iona and Sun. The C++ mapping device came from DEC, Expersoft, HP, Iona, Novell and SunSoft.

...COM to Corba RFP is delayed...

The anticipated COM-to-Corba request for proposal that was expected to be posted around now has been delayed until Microsoft Corp gets its documentation together. RFP requirements can't be detailed without technical documents that don't yet exist. Although that's a rather euphemistic interpretation of last week's events, both OMG and Sun's object chief Bud Tribble believe that for this particular process to mature - effectively Microsoft's first venture to the bike shed in this part of the industry's playground - then the industry ought to back-off for now. Whether the documentation pertains to stuff that may not yet exist even on paper or behaviour which isn't yet fully understood, Microsoft will certainly have to present OMG members with a clearer picture of its distributed future - as in "OLE3" or Cairo - presuming it's not going to convert its own MIDL language to OMG's Interface Definition Language. OMG meets again in January in Santa Cruz - Microsoft is making noises about having paper ready for March. (See this week's edition of our sister newspaper *Client Server News* for a more detailed account of the implications for Microsoft).

...as OMG specs get their place within ISO

Meanwhile, OMG scored a little victory for itself last week when ISO's Open Distributed Processing Group, aka SC21, voted to adopt OMG's specifications "by reference," meaning it won't have to mess around with them and will automatically subsume them as its own. OMG's next big issue surrounds the security RFP which ICL plc is racing to snare (UX No 515).

SYBASE OBJECT DATABASE STRATEGY IS ALMOST COOKED

Without pausing for breath after its recent exertions, Sybase Inc now also appears to be close to going public about a data storage strategy it's cooking up that will deliver it into the object world. Although it's not admitting publicly that work is underway, all indications are that Sybase is set to build itself an object model that can be used alongside its relational architecture and take advantage of the same front-end development environments. Whether it's separate to its plans to wrap SQL Server data up in objects bundles alluded to by Sybase founder Robert Epstein in his DB Expo keynote last week, or whether it involves the Ilog SA C++ technology we've previously reported on (UX No 492), is unclear. If it can't develop the thing then it'll have to go to the market and buy the technology like it has done for front-end tools. Sybase has swallowed the notion that users of future object paradigms will want to utilise relational and object storage models - or at least to have the choice. Even if it's not sure about the viability of what's likely to be offered from the object world - it says the only stuff it's got time for at the moment is Steve Jobs' NeXTStep (from which SQL Server can already be accessed) - it knows it must play there. Closer to home, Sybase has divulged a few more snippets of its current strategy. It says to expect some of the object enabling-type features, functions, optimising technologies and C++ class libraries that were being prepared for the canned Build Momentum application development toolset to find homes in the recently acquired PowerBuilder Windows development tool. Enterprise Momentum, the componentised object toolset remains unchanged for now. However Sybase is looking at maintaining what are currently two very distinct repositories - for PowerBuilder and Enterprise Momentum - or to try and merge them into a single code base. It's cautious of saying too much about its future relational architecture, believing competitors learned too much about it at the last iteration. By the way it says its been using System 11 so much of late that it'll retain the name for its next product set.

SO WHAT EXACTLY IS DISTRIBUTED OBJECTS EVERYWHERE?

What is DOE? It's a question we've had to ask so many times we've lost count. SunSoft Inc VP objects and OO guru Bud Tribble says Distributed Objects Everywhere (DOE) will allow businesses to develop and deploy software that they will be able to change, enhance or rework time and time again to suit changing business process requirements. SunSoft figures it currently takes months or years to change software to meet new business needs when success - time to market - depends upon the ability to implement new software to deliver products vis a vis the competition. The vision comes across as radically different to Taligent's plan for providing to a single volume platform API for ISVs to develop to a la Microsoft. In SunSoft's DOE world, the development environment is key. Anything else is putting the cart before the horse, argues Tribble, looking at TalDE lagging CommonPoint by months. The picture SunSoft drew us has the OpenStep application environment, a development environment (Workshop C++), an object network, cross-platform integration, network object administration and a new database and legacy code integration module (*see p5*). SunSoft says it'll deliver beta versions of most of the stuff early next year and ship product after mid-1995 (it won't be more specific). Only the database integration module will be completely missing from the first raft of software. It's an addition to Solaris, not a rebuild, Tribble says, claiming DOE's beta program will be smoother than Taligent's given that at least some of the components, such as those from NeXT Computer Inc's NeXTStep have been in use for some time. The DOE business model doesn't call for licensing DOE on non-Solaris platforms, though SunSoft says it will where it's wanted. So far it counts Siemens Nixdorf as its only public licensee, but claims to be talking to others.

Why SunSoft's DOE isn't Taligent

Way back when Taligent Inc and Sun Microsystems Inc failed to come to terms, we asked Sun how come and the only answer we got was that it couldn't come to business terms, with no further details. Well, we ran into Taligent chief Joe Guglielmi last week and whilst we were chatting asked him what had happened. He reckoned Sun CEO Scott McNealy was the gating factor in the deal and said Sun - i.e. Scott - wanted a deal where all the royalties were paid up front - like the deal it cut with Novell Inc for Unix. Guglielmi's problem with that demand was that Sun could then go off and develop the Taligent technology any way it wanted and wouldn't be committed, over the long haul, to the Taligent APIs represented in CommonPoint, the framework application environment Taligent formerly called TalAE. Guglielmi understands that the one issue that will make or break companies for the foreseeable future is APIs, and object APIs at that. The one other person who understands this is Bill Gates with his Win32 API. Guglielmi needs a snappy name for his APIs like Gates has.

Technical and business issues

There were business, technical and financial reasons why Sun didn't come to terms with Taligent Inc, according to SunSoft Inc VP objects Bud Tribble. Taligent's business model in its mind is a regressive 1980s model a la Apple Computer Inc, which sought to create a single volume API around Mac OS for attracting ISVs. SunSoft he says, was concerned to adopt a more business process-oriented architecture. Technically, Taligent's design was again too concerned with creating an object-oriented Macintosh and hacking-on networking and distributed functionality. Moreover its hundreds of frameworks and thousands of class libraries make it far too complicated, especially for development training. Taligent couldn't meet Sun's financial requirements for up-front royalty payment, Tribble agrees, but claims these were very much secondary considerations to the business and technical issues.

OPENINGRES 1.1 AVAILABILITY AT LEAST SIX MONTHS OUT...

Computer Associates Inc says it got its B's and Q's all mixed-up ~~when it told us its CA-Openingres 1.1 database release would ship~~ this month (UX No 511). It was in the throes of a re-org which saw Alan Paller take over as director of open systems and what it meant, it says, is that it would have a Beta implementation of 1.1 ready by the end of this Quarter on one platform. Early 1.1 code will ship to Solaris users by year-end, it says. AIX, HP-UX, SunOS and other releases like NT will follow in that order over the next six months. There's no firm dates for general availability, but customers ought to look at staged releases six months behind the betas - in other words not before next summer. According to sources familiar with the original schedule, the development unit was supposed to have got polished code out of the door by December 1, putting the whole shooting match behind schedule. The news came as part of a six-month report card CA delivered on its June acquisition in which it purports to be for the most part ahead of where The ASK Group had planned to be by this time. CA says OpenIngres 1.1 includes partial backup and recovery and data compression derived from its CA/Universe database that wasn't part of the ASK product. CA says there are 26 specific enhancements in 1.1 ranging from enhanced grant and revoke verbs and declarative referential integrity to outer join support and configurable security auditing. Other enhancements are on their way for CA-OpenIngres Star and CA-OpenIngres/Net. CA has teamed with ODBC specialist Intersolv Corp, Atlanta, Georgia to boost the speed of Windows clients using stuff like Visual Basic for data access. CA says 1.1 will accommodate up to 500Gb data.

OpenIngres 2.0

CA's next relational iteration, OpenIngres 2.0, is still mostly on paper although there's apparently some code internally. The specifications go before an Ingres user group meet this month. The users will be asked to indicate their preference for several alternative technology approaches CA is considering for 2.0 and the revised set will go before analysts at the beginning of January. The rest of the industry has to wait until the beginning of February for another white paper CA will publish on what'll feature in OpenIngres 2.0. Already seen is increased scaling and support for parallel environments including new querying and data loading facilities, mainframe links and multiple dimension indexing. CA will expand on its development relationship with ICL Plc for Ingres on the parallel Goldrush to encompass other platforms, including IBM Corp's SP2. CA president and COO Sanjay Kumar said the company will buy and develop additional OpenIngres components.

Drumming up support

CA has also devised a set of pricing and porting initiatives it hopes will be enough to maintain Ingres on vendor and ISV support lists. First it is waiving fees for porting CA-OpenIngres to hardware platforms and operating systems. CA says partners will have to begin the job themselves and turn over the work to Islandia for subsequent certification. Over and above regular commissions, CA says VARs can claim up to 10% of net licence fees received from sales of CA-OpenIngres and will be paid other quarterly bonuses depending on volume shipped. They'll also get back up to 75% of ad spending on Ingres promotions and will now also be able to resell CA-Unicenter with no additional fees.

OpenRoad on Unix next quarter

CA is promising Windows 3.1 and Windows NT versions of its CA-Open Road Windows 4GL by the end of this month and Unix implementations in the first quarter, a quarter ahead of ASK's plan, the company reckons. Windows 4GL is the graphical application development environment that sits on top of CA-OpenIngres, Oracle, Sybase and Microsoft SQL/Server. CA claims to have added eight enhancements of its own, and three dozen proposed by users to CA-OpenRoad, ranging from native Windows look and feel, new editing facilities, debuggers, version creation and multi-database access switching. The 4GL doesn't get OLE2 and OCX functionality until the next iteration. A 16-user licence to CA-OpenRoad on SCO Unix, Windows NT or Windows 3.1 is from \$420. Other Unixes are from \$1,100. Runtimes are \$250 for all.

IBM quietly CREATES POWERPC DEVELOPERS PROGRAM

IBM Corp, which till now has been loaning machines out, has finally pulled up its socks and formalised a PowerPC developers program it's calling the **Power Personal Developer's ToolBox Program**, according to our sister publication *Client Server News*, though it hasn't heralded the thing. This is its way of letting qualified US ISVs, IHVs and corporate developers buy IBM's Power Personal machines to work their widgetry on. IBM is restricting purchases at its special developers' price to 15 customised systems of each model in a 12-month period for an ISV or IHV or until the boxes become generally available for corporate developers. Under the program IBM has both AIX and NT systems available, each in three basic configurations. According to its price list, the 603/80MHz unit it calls a Small Desktop System will be available for \$4,644 with 24Mb internal, 256Kb L2 cache, 720Mb of disk, a floppy, a 680Mb CD, NT Workstation, the NT Developers Kit and Motorola's C/C++ NT compiler and tools. It also has a 601/66MHz Standard Desktop System which goes for \$3,483 with a 540Mb disk. The same box in a Network Configuration that includes a Token Ring Adapter will be \$3,727 and in a Performance Configuration will be \$4,299 for 32Mb internal and a 1Gb drive. Lastly, there is a 603/66MHz Portable System with 16Kb L1 cache, 128Kb L2 cache, 24Mb of RAM, 10.4-inch active matrix colour TFT display, built-in CD-ROM, a 540Mb drive, external floppy, battery pack, portable G10 graphics adapter, NT Workstation and tools that costs \$6,758. In a Network Configuration it'll go for \$7,955 and in a Performance Configuration it'll be \$8,075. The latter include 32Mb internal, a 810Mb drive and Token Ring.

HUMAN DESIGNED GETS TO GO PUBLIC VIA INFORMATION SYSTEMS ACQUISITION

Human Designed Systems Inc, the King of Prussia, Pennsylvania-based X terminal builder is to be acquired by a company in Wayne, Pennsylvania called Information Systems Acquisition Corp. Information Systems Few will change its name to HDS Network Systems Inc and in this way HDS is able to go public. HDS managers stay in place and HDS stockholders will retain the major interest in HDS Network Systems. After the deal is completed. Human Designed shareholders will get about 2.8m Information Systems shares and 618,200 warrants for further shares, and \$5.5m cash. Human Designed did \$854,000 at the operating level on sales of \$19.5m for the year to June 30. Fiscal first quarter sales were \$6.5m. Information Systems was formed in 1992 by a group of investors including Safeguard Scientifics to buy a computer firm. It raised almost \$14m in a public offering in March of last year. Just in case you'd forgotten, Information Systems is the one that took its shareholders on a remarkable magical mystery tour. It filed to offer 2,000 units at \$6 a time in January 1993, telling prospective shareholders only that it intended to acquire an operating business in the information systems industry. It has taken almost two years, but it has finally fulfilled its promise.

NeXT RELEASES NeXTStep 3.3

NeXT Computer Inc, headquartered in Redwood, California has announced Nextstep Release 3.3, enhanced, it says, to offer more support for Intel based PCs, ease system administration efforts, improve network scalability, provide enhanced mail features and through SoftPC, support enhanced-mode MS-DOS and Windows applications. Nextstep 3.3 includes an updated version of Insignia's SoftPC for Nextstep/Intel, which is bundled with Nextstep 3.3 and priced at \$249 with upgrades for \$69. Meanwhile, Nextstep Developer Release 3.3 is currently in beta and is optimised to enable developers to build applications for Intel, Motorola, PA-Risc and Sparc architectures. Developer allows for the creation of multi-architecture executables which run on all the four architectures. The Developer also includes an improved C++ compiler which allows developers to create C++ objects, as well as Objective C objects, and includes multi inheritance and templates. A new Foundation kit is said to provide building blocks upon which OpenStep and NeXT's Enterprise Objects Framework is built. It can create unicode capable string objects, collection objects such as arrays and dictionaries, notification and archiving objects as well as objects for interacting with the file system and other OS features such as threads and processes. Nextstep Release 3.3 for Intel and Motorola chips is shipping for \$799 with upgrades priced at \$199. PA-Risc and Sparc versions are tagged for mid '95 for the same price. Nextstep Developer Release ships in mid '95 for all four chips.

DATABASE TOOL TO BE PART OF SUNSOFT DISTRIBUTED OBJECTS ARCHITECTURE

SunSoft Inc's Distributed Objects Everywhere (DOE), isn't simply a C++ compiler bolted to Solaris' procedural APIs and tools. At the low-level ~~SunSoft is adding the Corba infrastructure, Object Management Group APIs for sharing all kinds of objects across distributed environments, from the ability to pass simple word processing documents to replicated data and secure information. The application environment is where the OpenStep APIs derived from NeXT Computer Inc's NextStep reside, just as Taligent APIs reside in CommonPoint. The DOE application environment includes a set of commonly used mechanisms for building applications that are stored as reusable class libraries (objects) which have been ported from NeXTStep. They describe how things like printing will work within any application under DOE. OMG's Common Object Services Specifications are included here so that objects for transaction, mapping and other services can be utilised. The main difference between DOE and Taligent's approach, according to SunSoft VP objects, Bud Tribble, is that whilst CommonPoint has hundreds of frameworks and thousands of objects, DOE users can get started with just 20 or 30 objects in a framework. Taligent has cut its objects into smaller pieces, says Tribble. For example, DOE has a text object which includes descriptions for graphics and display - Taligent provides separate objects for each task. The operating system-independent OpenStep API set supports X and Next Display Postscript. Moreover the APIs - like those contained in IBM Corp's Distributed Systems Object Model - can be expressed in the Corba Interface Definition Language, OMG's proposed lingua franca of the object world. Eventually SunSoft will have all DOE APIs expressed in IDL. The idea of IDL is to shield the architecture from specific language structures, including C++, that may come and go. Indeed it's precisely this IDL that Microsoft Corp is railed against with its own IDL construct - see page 3.~~

Database integration module

As previously reported, SunSoft will enhance its Workshop C++ development environment for DOE. It will include IDL compilers, a distributed debugger, Objective/C compiler, a NeXTStep interface builder and others tools still under wraps that will for example create objects specifically to be shared on a network, with built-in administration hooks. Although the first OpenStep release will come in full-flavoured Objective/C, the chosen language of NeXTStep, Workshop tools will support mixed C++ and Objective/C object development for the DOE application environment. As Objective/C is only ANSI C plus one extra syntax for message-sending, training issues aren't as problematic as its competitors would have us all believe, Tribble claims. In the long run OpenStep APIs will be fully-defined in IDL. Cross platform integration with OLE and the Windows world will be handled by an implementation of Iona Technologies Ltd's Orbix object request broker for OpenStep. SunSoft is currently working with an unnamed partner (or partners) to develop a tool for bringing data into its object environment for processing using decision support and query tools. The idea is to create UniSQL-style tools that can access relational, object and legacy data stores. Not much got axed from SunSoft's pre-Next object development effort, Tribble claims. There wasn't an awful lot there and what was has dove-tailed into the OpenStep effort.

ILOG PROSPERED IN LAST FISCAL, THANKS TO BIG FOREIGN BUSINESS

French C++ tools developer Ilog SA reports that it achieved a net profit of some \$200,000 on sales of about \$13.6m for its last fiscal year, which ended on June 30. The figure represents a 34% increase over the previous fiscal year's revenue of some \$10.2m, which did not generate a profit. Over the same period, a sagging economy and increased export activity contributed to a decline in Ilog's revenues on its home turf, to \$7.8m from about \$9.2m. The company also noted that it has multiplied its number of distributors worldwide. In Europe it added Praksis SpA in Italy, Computas A/S in Norway and Insiders GmbH in Germany to its existing distributors in Belgium, Austria and Germany. In its first distribution agreement in South America, Ilog signed Objectware SA of Colombia. In the Pacific Rim, Ilog has concluded accords with ITI Partners Bhd and Pacific Commerce Bhd in Malaysia and with the Australian Artificial Intelligence Institute. Following on from Ilog's partnership agreement with Groupe Bull for constraints-based programming tools, Bull's Japanese subsidiary Bull KK has become the exclusive distributor of Ilog Solver product on the Japanese market.

TALIGENT PLOTS LATEST OBJECT COURSE, ADDS GUI BUILDER

Taligent Inc boss Joe Gugliemi says Taligent will ship CommonPoint application environment (formerly TalAE) beta code to its investors, ~~IBM Corp, Hewlett-Packard Co and Apple Computer Inc, before the~~ end of this year. It expects to offer a beta CommonPoint for AIX 4.1 during the first quarter. IBM and HP will weigh-in with their own beta implementations for OS/2 and HP-UX in the second quarter. In the second half Taligent will ship OS/2, AIX, HP-UX and Workplace versions of CommonPoint, followed by a version for Apple Computer Inc's System 8 or Copeland, whenever that appears. There will be a version for selected OS/400 components such as the database, communications and telephony. Windows NT and Windows95 ports will precede anything else, such as Solaris. Taligent will generate a small amount of revenue next year, more in 1996, but in 1997 it will have to stand on its own two feet when its current round of investment funding runs out. Taligent is pitching its API set, included in CommonPoint, as the rallying call for ISVs to write a single application and have it reach across several platforms. CommonPoint includes OpenDOC specifications for document exchange. It's aimed at medium-sized workgroups, not personal desktops, and runs now on an 80486/8Mb machines and up.

Constructor

All of the infrastructure for Taligent's front-end metaphor, People, Places & Things, is contained in CommonPoint. As previously described in *Unigram*, it will comprise a series of graphical devices to which specific tools and workflows can be attached. Its first incarnation, due late next year, will be geared for data access. The full environment is slated to appear in a second rev of the Taligent technologies in 1996. Taligent's development environment TalIDE, will appear under another name from the end of next year in early form. Taligent has also squirreled away a graphical interface builder due late 1995 currently dubbed Constructor. Until then developers will be using stuff like IBM's Visual Age graphical development tools. TalOS, Taligent's Mach microkernel operating system - or object services layer as it likes to call it - will carry low-level stuff like object device drivers, and will hopefully have lost all the baggage associated with the deployment personalities. Taligent application and development services will run atop. However whether TalOS sees the light of day as presently cast depends largely upon IBM's Workplace effort as TalOS is little more than reworked Workplace presently. Taligent is certainly going to wait and see how Workplace is received before it gets going with it. Taligent canned a separate operating system development it worked on in its early days and fed its kernel requirements into IBM's Mach 3.0 development effort. Apple may not use all of the Taligent technology it gets but as long as it conforms to the APIs that's okay in Taligent's book. In fact the investors can add more on top of what it gives them as long as they remain conformant.

SUN PLANS MPEG-2 SPARCSTATION FOR BROADCAST, HDTV MARKETS

Sun Microsystems Computer Co is going into the video encoding market with LSI Logic and the David Sarnoff Research Center, having signed memos of understanding with both of them to co-develop a high-quality low-cost MPEG-2 video encoding solution. MPEG-2 is the high-resolution video compression format that will be used for HDTV and broadcasters. Sun plans to use it to create option boards for SuperSparc-based Sparcstation 20 desktops it will field next summer, before the end of its current fiscal year which is in July. It figures these systems, offering scalable real-time MPEG-2 encoding and full MPEG-2 compliance, will cost less than \$50,000, considerably less than the \$250,000 users are currently forking out for comparable systems. The chipset, now under development and based on LSI's CoreWare design methodology, will also be licensed to other vendors beginning in the second quarter. Sun is a participant in LSI's early access program and will get first silicon as well as be involved in architecture design and review. LSI will own it. Sarnoff will develop compression algorithms and write software to run on the chipset. Sun is envisioning going after the cable broadcast, corporate communications, distance learning and video-on-demand markets with the product. Encoding systems are expected to spur the coming digital revolution enabling customers to receive services like movies, video games, banking and mail-order catalogues over their home or office computers. Frist & Sullivan is predicting this market will be worth \$3,000m a year in 1997.

UNISYS SETS UP EUROPEAN UNIX BENCHMARK CENTRE

Unisys Corp intends to establish a European Benchmark Centre based in Paris, France to support the Unix sales of its European subsidiaries. Unisys says the move is in response to research undertaken in-house which found that at least a quarter of Unix oriented bids require customer specific benchmarking. Ramping up its international operation, Unisys is looking to counteract falling computer sales to the US government and sees the international market as ground on which it could prosper. Although Unisys is not prepared to dismiss the value of industry standard benchmarks such as AIM and TPC entirely, it says the real demand from customers is for specific benchmarking; benchmarks based on a model of the customer's own activities. This demand, it believes, is likely to grow. The Centre will be used to create the customer specific environment and benchmarks, something which Unisys says can only occasionally be done successfully on-site. The Unisys European Benchmark Centre is intended to provide facilities for Unisys sales teams and partners to run a range of benchmarks tailored to support a particular bid or help a client evaluate systems performance based on a 'real life' simulation. The centre will also run benchmarks that are recognised only in particular countries. The Unisys European Benchmark Centre will operate as an extension of its corporate benchmark centre based in San Jose, California.

IBM'S CGI ADDS PLANNING AND ORDER MODULES TO CIMAPPLICATIONS

French software house and IBM Corp subsidiary CGI Informatique SA has announced the availability of Finite Capacity Manager/2, planning and order module for the MRP module of its manufacturing management system Cimapplications. The manager product manages all information concerning manufacturing orders, resources, scheduling and risk, and can be used as a simulation tool. CGI says the module is particularly well adapted to companies working on a make-to-order manufacturing mode. It will be available in the languages in which Cimapplications is used: in particular, German, English, French and Spanish. Cimapplications-Finite Capacity Manager/2 can be interfaced with IBM's Copics, for which IBM transferred to CGI the responsibility in April. Cimapplications is available under MVS, VSE and Unix.

TRANSTOOL SA TOP OF THE LEAGUE TABLES IN SOUTH AMERICA

Development tools high-flyer TransTools SA is number one in the Latin American market, says the Madrid-based company, which is backed 100% by Spanish capital. In its home market, Spain, it ranks at number three, behind Oracle Corp and Informix Software Inc. It attributes its New World success to the popularity of its proprietary language-based program Multibase, which is designed for developing applications for database management. Some 22,000 Multibase licences have been sold in Spain, Germany and America. Founder and president Javier Ollero told *El Pais*: "Multibase is unique in the market, due to its versatility and compatibility with any kind of computer or operating system." It was back in 1988 when Ollero, a 42 year-old physicist who also had a stake in a computer factory by the name of ADP, noticed a gap in the market and decided to found a company with a team of graduates and less than \$40,000. In 1993 TransTools doubled its 1992 turnover to \$3.5m, with profits of around \$388,000. Profits of \$1.2m on turnover of \$5.4m are forecast for 1994. The Latin American venture began in 1992 and despite serious economic recession, TransTools has prospered and continues to show healthy growth there. Ollero said: "Latin America is very receptive to products arriving from Europe, because they are sick of American products." TransTools' commercial network now extends to almost all Latin American countries and the company is particularly strong in Argentina, Colombia, Venezuela, Ecuador, Chile, Peru and Mexico. It operates both directly with the respective public administrations and state entities, and indirectly through distributors and value-added resellers. TransTools' order book is currently worth \$46.5m, while the most important projects completed so far include the computerisation of the Ministry of Justice in Argentina, a project for the Ministry of Education in Colombia and various contracts for public administration and private companies in Venezuela.

CHORUS AND FORCE TO COLLABORATE IN TELECOMS BUSINESS

The shy and retiring telecommunications customer, which Paris, France based Chorus Systems SA have been hinting at for some weeks past turns out to be San Jose, California-headquartered Force Computers. The agreement, between the two is targeted at the telecommunications industry and covers engineering and marketing. Together Chorus and Force intend to provide Force boards as Chorus reference platforms for Sparc architecture. Force manufactures Sparc-based single board computers which are binary compatible with Sun SparcStations. The first product available as a result of the collaboration is the Chorus/Classix for Force's Sparc CPU-3CE boards. The platform is based on the Chorus basic but unwieldy Nucleus kernel, and coupled with Chorus/Classix to provide additional networking services such as NFS, sockets over TCP/IP and a remote debugging environment. The Classix is a real time development and execution environment for distributed embedded systems. Sparc CPU-3CE is the low cost, entry level model which is binary compatible with the SparClassic workstation. Running the microSparc processor at 40MHz, the Sparc CPU-3CE delivers 21.1Specint92 and 16.8 Specfp92. The high degree of integration provided with the microSparc, say the duo, enables compact and reliable single board computers to be built which are ideal for the telecommunication market. Additional platforms include Unix V.4 compliance and object oriented technology from Chorus on other Force single boards, including the Sparc CPU-5CE. Product is set to ship Q1. No prices. Force has opened sales offices in Illinois, Georgia, Florida and Pennsylvania giving it a total of eleven sales offices throughout the US.

AMDAHL REASSURES PRODUCTS ARE ON TIME

Sunnyvale, California-based Amdahl Corp insists that a slew of updates and product announcements slated for the fourth quarter are on course and ready for shipment. The new mainframe line, the result of an alliance with Oracle Corp, nCube Corp and Information Builders Inc (UX No 481) the 5995M series, has already shipped two of the four announced back in April. The single sided processor models 5995-5570M and 5995-6570M, with five and six processors respectively are generally available. The 10-way multiprocessor 5995-10670 is ahead of schedule and due to ship imminently. The remaining 12 way multiprocessor is currently undergoing field implementation and is scheduled for general availability by the first quarter of '95. The alliance on its enterprise servers has nCube providing the massively parallel technology; Oracle, its Oracle7 database and Information Builders EDA/SQL query software. All this technology is housed in Amdahls Xplorer 2000 series of parallel processing database servers. The Model 50 and Model 100 are currently undergoing FIP (Field Implementation Programme) and are lined up for general release in the beginning of 95 (UX No 489). The Amdahl Xplorer 2000 massively parallel database servers are the first of a series of projected solutions for platforms compatible with both System/390, Amdahl's DASD storage line (S/390) and open systems. The Xplorer 2000 can be configured as an S/390 channel-attached database off-load engine for DB2 dynamic SQL queries. It can also be configured as a server in LAN-based client/server environments. Both the S/390 and open systems, claim Amdahl, can access the data on the Xplorer 2000 database server, enabling integration or migration of applications and data preserving users data. Meanwhile, Version 4.3 of Amdahl's UTS mainframe Unix is said to be undergoing final testing. An announcement is expected in the next two weeks. UTS Version 4.3 is expected to offer new disk drivers, channel-to-channel Escon links to MVS and support for DCE. In the past, revenues from UTS have made the operating system one of the most profitable Amdahl businesses (UX No 493). The second edition of Amdahl's alliance with Sun, A+Edition for Solaris Enterprise Server an extension to Solaris 2.4, is available on order with general availability slated for early '95 (UX No 505). Tagged as A+ Edition 1.1, the performance management software enables the user to manage DCE. A+UMA and A+OpenTune combine to collect and display real time and historical data, detecting and planning future system demands. Amdahl's A+View products are based on the Universal Management Architecture standard, which attempts to define a common interface for gathering, management and reporting of systems. SunExpress, the direct marketing subsidiary of Sun Microsystems, has recently agreed to offer the software.

UNIX SYSTEMS GROUP'S LARRY LYTLE TALKS UP UNIXWARE

On his recent press tour, Unix Systems Group's (USG) president and chief executive Larry Lytle talked at length about the difficult process of rectifying a bad first impression. With evident satisfaction as he handed over a UnixWare strategic direction paper authored by Novell Inc, Lytle ~~noted how far Novell has come from the first press conference it held in New York after acquiring Unix. "Everyone was expecting Novell to give~~ its directions for Unix, but it was just NetWare, NetWare and more NetWare. I stood in the back and watched people walk out," he said. Since then, with a recent conference with analysts and journalists in the US and some important customer and manufacturer support, Lytle believes UnixWare is gaining momentum. "Some people say 'But you're not selling millions of copies!' That's true, but the Internal Revenue Service is buying 50,000. That's not insignificant," he said. Lytle could not resist recounting the US Air Force's negative experience with UnixWare's competitor Windows NT. The Air Force installed UnixWare in its Pacific Rim operations among a staff of Cobol programmers and local network people who "are scared to death of Unix", Lytle said, adding that the users were told to go directly to the vendor for assistance if they needed it. After 80% of the facilities had reported back, the service chose UnixWare because its users found it enormously difficult to get proper support from Microsoft. He also explained why Hewlett-Packard Co chose to join UnixWare Technology Group and recommends UnixWare on its iAPX-86 personal computers. "Bernard Guidon told me the company had three reasons. One, they have no reason to develop their own personal computer operating system. There's not enough margin to spend lots of money there. Second, they want to influence the interoperation of UnixWare with DCE, since they have invested so much energy there. Finally, he said, HP believes that there may be some kernel technology components that it could license for use in its own products or that it might be able to put forward some of its own kernel technology," In terms of USG's kernel technology, Lytle confirmed USG's preference for the one from Chorus Systemes SA. "If you take a look at what is endorsed as a commercially viable kernel technology, it is what Chorus is doing," he said, adding that "there are some things in Mach, however, that could find their way into SuperNOS." He also confirmed that USG "has been talking" to Digital Equipment Corp, but that joining UnixWare Technology Group is problematic for DEC. "They will obviously be careful how they handle it, since joining UnixWare Technology Group could be seen as confusing [with its existing operating system strategy]," he said. *Marsha Johnston.*

IBM PACKAGES POWERQUERY FOR DECISION SUPPORT

IBM Corp's PowerParallel unit is bundling-up its SP-2 parallel processors with the forthcoming DB2 Parallel Edition for AIX, 7135 RAIDiant disk array and consulting services as PowerQuery, aimed at specifically at decision support. A 10-node SP-2 configuration with 240Gb disk, DB2 Parallel Edition and planning and installation costs from \$1.8m. IBM says its got eight beta DB2 Parallel Edition for AIX sites up and running with seven others coming on stream. General ships begin in the first part of the second quarter. Neither Oracle Parallel Server or Sybase Navigation Server, which PowerParallel will offer as alternative parallel query options are generally available yet. The unit will be vying with IBM's parallel System/390 mainframes and the rest of the industry hopefuls for a cut of the market for commercial parallel decision support which Gartner Group estimates is a \$640m market this year, rising to \$1,088m in 1995, \$1,849m in 1996, \$3,143m in 1997, reaching \$5,300m by 1998. IBM doesn't break down numbers but says its PowerParallel business will double next year. By the end of this year it'll have installed 350 machines; 70 of those are older SP-1 nodes, SP2s have been shipping since the summer. It aims to be doing 50% of its Unix parallel business in the commercial sector by year-end, and says 40% of that is decision support. The company admits its PowerQuery combination is pricey compared to alternatives, but claims no other vendor can offer such an integrated solution, or the linear performance increases that its combination has been tuned for. Although DB2 Parallel Edition doesn't support bi-directional support for flat files - ie the ability to update flat file stores with information that is update or transformed under decision support - it doesn't require a distributed lock manager, IBM claims. DB2 Parallel Edition's optimiser generates a parallel access plan directly from queries, not a single access plan that's then applied for parallel execution. IBM claims it is no longer concerned with megabytes or gigabytes of data but with terabytes or pedabytes (a thousand trillion bytes). What's not clear is how PowerParalles shared-nothing architecture will accommodate shared-everything symmetric multiprocessing RS/6000s. After all, SP-2s are RS/6000s strung together with a parallel switch and a software cloaking mechanism. It says only that it'll support four-node PowerPC 620 RS/6000s during the first half of 1996 - as reported, it's bypassing the 601 and 604.

MASPAR GOES AFTER COMMERCIAL DECISION SUPPORT - AND A NEW NAME

One-time massively parallel hotbox outfit MasPar Computer Corp is coming out of its metamorphosis with a new president, a new strategy, a new product focus, and maybe a new name. The Sunnyvale, California-based MPP pioneer had to scale back its ambitions when its DEC OEM deal went cold way back last year (UX No 462). It lost a quarter of its employees and 50% of its revenues, which it says remain flat, at \$10m a year. Simply retrenching to its key markets hasn't proved enough and the new executive team, with CEO John Harte and a couple of Teradata Corp refugees including former CEO Ken Simonds, is now going after the commercial decision support market, offering Data Parallel Decision Inc's Decision DB decision support relational database software plus RAID-5 disk arrays on its MP parallel families (MasPar holds 27% of DSBI). MasPar is utilising a Power Index join, select and aggregate technology derived from projects funded by NASA and the National Science Foundation in the US. Where necessary MasPar says its Decision Series solution can also create indexes on the fly using up to 68,000 MIPS and 240Mb I/O. It's signed for Booz-Allen, EDS/db Intellect, BC Systems, Prism Solutions and Business Objects software on the systems - the Decision DB database conforms to ODBC and Sybase Open Client APIs. Decision Series hardware is the re-named MP-1 and MP-2 machines which come with from 1,024 to 16,384 CPUs and from 20Gb to 4Tb disk. A beta configuration ships this month with general availability expected in March. A 1,024-node system with 20Gb disk and Decision DB costs from \$630,000. Until now MasPar only supported flat files fronted by SAS Institute Inc's software in this market. To rid itself of the last vestige of its MPP hot-box identity the company is currently seeking a new name (though the one possible we heard is already in use fellas). MasPar garnered a sixth and what must be a make-or-break round of financing of \$7.6m this April (its first equity injection since February 1992) to see the changes through, bringing total capitalisation to \$52.5m. MasPar claims to have shipped system to 230 paying customers since January 1990 and has 105 employees with a UK outlet. Eschewing hot hardware talk MasPar hasn't much to say about another iteration of its CPU hardware, the MP-3 series, supposedly on the board for next year. Whether that ever sees the light of day depends on how successful its new focus is.

VERSANT USES UNISQL FOR ACCESS TOOLS

Versant Object Technology Corp, Menlo, Park, California, has turned to object/relational house UniSQL Corp, Austin, Texas, to provide SQL and ODBC access to its object database. Versant has licensed UniSQL/M as Versant/M and added drivers developed jointly for the Versant ODBMS. Versant/M allows users to build applications, create reports and generate queries from PowerBuilder, SQL Windows, Microsoft Access, Forest and Trees and other SQL/ODBC-based tools that can access data stored in Versant ODBMS. Because UniSQL/M also supports a range of relational databases, Versant/M users can also interrogate mixed Versant, Oracle, Sybase, Ingres, Informix, DB2 and UnixSQL/X database environments. Versant/M is up on Unix and Windows at from \$1,500. NT and OS/2 releases follow in the first half of next year. Versant has managed to side step the full wrath of the relational crowd by positioning its object technology for use as network management technology, something the relational players are not traditionally hot on. Versant is trumpeting a new ButlerBloor report which puts Versant top of the ODBMS and hybrid crowd on performance. Version 4.0 of the Versant ODBMS is being readied for the middle of next year. Meanwhile it has a development for the ParcPlace Systems Inc VisualWorks Smalltalk development environment it markets as Argos through its Miramar Technology unit in the wings. Capitalised to \$23.1m, Versant has 80 employees, claims 8,000 installations, outlets in 15 countries and a year-on-year revenue licence growth of 180%.

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General Magic Inc, the Sunnyvale, California developer of multimedia communications and scripting software products and a graphical operating environment for handheld communicators, is to put a firm value on itself for its host of blue chip owners **Apple Computer Inc**, **AT&T Corp**, **Motorola Inc**, **Matsushita Electric Industrial Co Ltd**, **Philips Electronics NV** and **Sony Corp** are among its investors. It has filed to go public with an initial offer of 4m shares to raise \$47.6m of working capital and for possible acquisitions. The issue will value the company at \$292m, and 1m shares will be offered outside the US.

Hummingbird Communications Ltd, Toronto specialist in X Window terminal software for personal computers, got its initial public offering of 2m shares, 100,000 of them new, away in the US at \$15 a share.

Santa Cruz Operation France has signed **Logix SA**, an **IBM Corp** Unix specialist, as its official importer for its entire line of products: under the agreement, Logix will supply Santa Cruz products and associated services to systems integration companies. The company also announced that France Telecom has chosen Santa Cruz Unix as the operating system for the new client-server version of a client management system for its 200 sales outlets.

Diva Microsystemes SA, France's leading distributor for **Sun Microsystems Inc** saw fiscal 1994 net profit of some \$560,000 on sales of \$18m.

DEC and Transarc Corp are this week expected to reveal the fruits of their development agreement to implement a version of Encina on top of DEC's ACMSxp TP monitor (UX No 474). Under the pact DEC is also to offer the Transarc-based **IBM AIX CICS/6000** monitor and Transarc is to offer Encina on OSF/1 Alphas and on NT.

Taligent Inc still hasn't got a copy of the Windows95 beta yet - apparently Bill Gates is still figuring out whether Taligent is (or will be) a competitor. Gates sat through Taligent's Comdex demo to see if he's got anything to worry about.

Cognos Inc has added version 3.0 of its Impromptu graphical reporting tool, with full OLE 2.0 support, Frame-based reporting and new deployment and control features. Accessing most databases from a Windows PC, user pricing is from \$500, administrator prices start at \$600 next quarter.

AT&T GIS will add Distributed Computing Environment support to its Top End OLTP monitor during the first half.

Illustra Information Technologies Inc, which would like to position itself as the "Database for Cyberspace" and might even pull it off, is looking for a few good men: The company has just finished moving its object-relational DBMS over to Unicode and needs distribution channels in Europe and Japan. The distributors would do the localisation. Call +1 510 652-8000 and ask for VP of marketing Bruce Golden.

X/Open intends to work more closely with the **Network Management Forum**, the consortium developing a standard approach to telecoms management. They exchange information to achieve technical convergence of their published specs. X/Open will also publish selected NMF specs electronically and in hard copy. They want to avoid costly duplication. The first spec it publishes will be the Spirit Platform Blueprint detailing an open system for telecom service providers.

Uniforum has lined up **Silicon Graphics** CEO Ed McCracken, **Novell** CEO Bob Frankenberg and **SunSoft** distinguished engineer and user interface guru Bruce Tognazzini to keynote at next year's show in Dallas on March 12-16. **DEC**, **HP**, **IBM** and **SunSoft** are also going to demo CDE interoperability there.

Although things had picked up briefly on the second day of DB/Expo New York last week, when we wrote this, attendance on the first day was so bad **Blenheim**, the organisers, bused in college kids to circulate through the hall driving some exhibitors up the wall. All the right exhibitors were there and they had been promised 25,000 IT professionals.

Evans & Sutherland has named James Oyler, recently executive VP with **Harris Information Systems**, as its new president and chief executive. His predecessor Rodney Rougelot is retiring.

On the back of its successful real-time spreadsheet for the financial markets - now 50% of its business - look for **Applix Inc** to begin packaging development tools for other hot vertical markets once its IPO is complete.

Computer Associates Inc is shipping CA-Visual Objects, its implementation of the XBase development tool project it picked-up with the acquisition of ASK Ingres. The object programming environment supports 20-odd ODBC drivers, can access SQL databases and can be used to develop applications for CA-Clipper, dBASE IV and FoxPro. CA-Visual Objects costs from \$900.

CA figures it's spent some \$7m on the Ingres ad campaign it began this quarter.

HP has added support for Solaris 2.x and for Dynamic Link Libraries in Windows NT to its Odapter object/relational system for implementing object models across integrated relational database and application environments. HP has also teamed with Oracle Corp to do joint marketing for using Odapter on top of Oracle7.

Object World at Boston's Hynes Convention Center will run from March 19-23 1995.

Unify Corp says CEO Jim Hammock resigned from the company a few weeks ago for personal reasons; senior VP products and technology Reza Mikaili takes over, a replacement for Mikaili's post will be found internally.

IBM Corp is looking for 75% of RS/6000s to be sold into commercial accounts by 1997, up from 50% now.

IBM Corp could be getting itself into hot water with its funky Warp OS/2 ads. The ads describe Warp as "Windows compatible" in Europe and "Windows friendly" in the US. **Santa Cruz Operation Inc** complains it's already seeking to establish rights to the "Windows friendly" name for Unix on Intel servers attached to PCs and is currently negotiating with stockholder **Microsoft Corp** for use of the Windows moniker in this regard.

Computer Associates has won a five-year deal with the Banque Nationale de Paris which will use CA-OpenIngres worldwide. It's also offering CA-OpenIngres free to university departments doing scientific applications.

Although it's not admitting as much publicly, Solaris-on-PowerPC toolkits are available from **SunSoft Inc** now. The compiler is still in beta but will be ready in the first quarter. SunSoft and Power Personal are still figuring out how to package the stuff but it is likely SunSoft will deliver 66MHz Sandalfoots with the toolkit to ISVs. Sandalfoot+ a 100MHz PowerPC601 may still make it to market.

As a matter of historical record the all-time high in transactions per second was reportedly scored by an **IBM Corp** machine during the recent US fare wars among the airlines. It was 4,000 TPS.

Forte Software has joined the **Object Management Group**.

But what's beyond objects? We asked Joe Gugliemi and Bud Tribble last week. Ubiquitous communication and networking, and intelligent agents, according to Tribble, where information is independent of infrastructure. Seamless and interactive distributed computing networks based on the information super-highway model to begin with, says Gugliemi.

If you're not sick of them already, here's a few of the choice Pentium jokes that have been doing the rounds the last couple of weeks:

Q: How many Pentium designers does it take to screw in a light bulb?

A: 1.99904274017, but that's close enough for non-technical people.

Q: What's another name for the "Intel Inside" sticker they put on Pentiums?

A: The warning label.

Q: What algorithm did Intel use in the Pentium's floating point divider?

A: "Life is like a box of chocolates." (Source: F. Gump of Intel)

Q: Why didn't Intel call the Pentium the 586?

A: Because they added 486 and 100 on the first Pentium and got 585.999983605.

Q: According to Intel, the Pentium conforms to the IEEE standards 754 and 854 for floating point arithmetic. If you fly in aircraft designed using a Pentium, what is the correct pronunciation of "IEEE"?

A: Aaaaaaiiiiiiiiiieeeeeeeeeee!

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NOVELL & X/OPEN GIVING UP? XENIX APPLICATIONS TO STAY IN UNIX SPEC

Novell Inc and X/Open Co Ltd are backing away from requests to Microsoft Corp that it drop its compatibility requirement that Unix for Intel machines must run a suite of obsolete Xenix applications. Novell says if X/Open can wrangle such a concession out of Microsoft that's fine, but Novell won't agree to sign the new royalties deal that Microsoft wants in return for dropping the applications suite. Caught in the middle, X/Open is prepared to simply live with the old requirement for anything it certifies as Unix for Intel boxes. X/Open executives said last week that they're asking Microsoft for a set of the required applications and will provide them to third parties for a handling fee. A number of substantive points remain unclear, including how long the Unix industry has not been meeting the contractual requirement; whether all the Unix-on-Intel software currently on the market can still meet the Xenix specification; and what kind of fallout will ensue if they can't. At press time nobody seemed to know the answers to these questions, but already there was speculation in some quarters that someone somewhere would figure out a way to avoid the Microsoft taxes. X/Open is desperate to avoid any further delays to its Unix branding programme (UX No 517) and is adamant that a UniForum love-in for the first crop of successfully tested Unixes is still scheduled. Novell is upset that the issue has become public, not just because the Xenix royalties it has to pay Microsoft have been a secret from the rest of the industry, but because it would just have preferred to avoid the glare of publicity over the issue.

Non-disclosure

Sources said Novell's chief attorney David Bradford posted a letter to Microsoft last week swearing that Novell had not leaked the request to drop the Xenix applications requirement to the press. He insisted Novell has scrupulously complied with the non-disclosure clause in the Xenix royalties contract. Novell was also reported to be pressuring X/Open to adopt a similar stance and refuse public comment. It muzzled its own executives, sending out a memo containing a brief six-sentence statement that was supposed to be all they could say. In the memo Novell said it was content with the agreement, originally made between Microsoft and AT&T. "Novell has maintained full compliance with the Agreement with Microsoft since it was signed and intends to continue to meet its terms. Therefore, regarding this Agreement, there is nothing to reaffirm," it said. Sources inside Novell last week went a little further than their instructions and claimed that Novell did not want to sign a new royalty deal out of fear Microsoft really wants a "commitment in perpetuity" which would mean that "even if Xenix was to die you would still have to pay Microsoft." The original 1988 AT&T agreement, which became binding on Novell when it acquired Unix last year, saw Microsoft drop its Xenix product line in return for the compatibility suite pledge and royalties said to be slightly more than \$10 a copy. The issue of dropping the Xenix applications suite and substituting a binary compatibility standard instead arose when Novell made X/Open responsible for Unix branding, ostensibly to unify the fractured Unix world around a single standard. According to sources present at the time, X/Open spotted the requirement then and wasn't happy with it. Novell in turn asked Microsoft to drop it, a request it reportedly hasn't repeated. X/Open seconded the request, however, escalating the issue from private talks between Microsoft and Novell to a public event. Microsoft agreed to drop the Xenix suite requirement if Novell would sign a new deal reaffirming it owes royalties for Unix on Intel, a step Novell clearly doesn't want to take. Its refusal has been more than a minor embarrassment to X/Open. It makes the idea of unified Unix look shakey and makes it clear that even with its new branding powers, Utah is still calling the shots.

Microsoft seeks Solaris royalties

A side issue has also arisen over the royalties due on SunSoft Inc's Solaris x86. Microsoft says it's owed royalties from Novell on SunSoft's sales of the operating system. A source with access to the contract between Sun and Novell, drawn up when Sun bought out its Unix revenue stream from Novell back in March, says it includes a clause making Sun liable for the Xenix royalties due Microsoft. Novell's current attitude seems to be that Sun should send cheques directly to Microsoft while Microsoft feels the checks should come from Novell. Sources last week indicated there was worry that Sun may try to use the controversy to find a way not to pay its Microsoft taxes and leave Novell holding the bag. The issue of who actually writes the cheques sounds kind of silly until one considers the personalities involved. No one is willing to say whether Sun has ever actually sent Microsoft any money, although a source inside Microsoft, trying to remain equivocal, said "I don't think so." If true, that ought to stir things up some.

This is the last edition of Unigram.X before Christmas. The next edition - No 519 - will be cover-dated 26 Dec to 6th Jan. Revelling Unigram staffers, however, are waiting to put down their sherry glasses and will stop entertaining Auntie Beryl immediately upon hearing of a major story breaking. In the meantime we wish all of our readers a happy Christmas and a prosperous New Year.

SANTA CRUZ PAYS \$14.75m FOR VISIONWARE

Santa Cruz Operation Inc last week confirmed that it is buying UK firm Visionware Ltd, Leeds, paying \$14.75m for the X Window-on-PC software developer. Despite constant denials, *Unigram.X* first learned that Visionware was seeking a buyer back in October (UX No 509). The deal is mainly for cash - SCO had \$70m in the bank - with a small portion paid in new SCO shares. The acquisition is part of SCO's ongoing Windows-friendly strategy and is SCO's second UK buy, after IXI Ltd. Visionware will provide the technology to enable full integration of Windows clients and SCO Unix servers. IXI chief Ray Anderson will head a transition team looking at Visionware's future role and products. Visionware, a distant second to Hummingbird Communications Ltd in the X server market, will continue all development at its Leeds base. Its US base in Menlo Park, California remains and the company will be run as a wholly-owned subsidiary. The acquisition is a good fit although strategically an integrated PC X server integrated would have made sense a couple of years ago when SCO was assembling its Windows friendly strategy. IXI has already used Visionware's PC X server in its Eye2Eye Windows-styling for Unix software. As it is, the rest of the Unix-on-Intel crowd isn't far behind now (UX No 517). Whether Visionware has ever been profitable isn't known. The company has estimated its revenue next year at \$14m over the \$12m it did in 1994. SCO is less interested in Visionware's distribution business - far behind Hummingbird and less focused than AGE Logic - viewing PC X servers as soon-to-be commodity items. SCO will next year deliver software for administering networked and stand-alone Windows PCs and NT clients remotely from a single server.

LEO SEEN AS ORACLE'S LOW-END LION

After a bunch of false starts, Oracle Corp is readying a low-end strategy for the new year, according to *PC Week*, including Personal Oracle7 for Windows, Mac and OS/2 clients requiring 8Mb RAM and 30Mb. The paper says LEO, Low-End Oracle, will launch Oracle into the shrink-wrapped market and allow Microsoft Access and FoxPro and Borland dBASE and Paradox database users to migrate to Oracle by dragging and dropping their data. There will be Workgroup Servers for NT, OS/2 and NetWare. Also in the frame are Oracle's Project X Basic and OLE graphical desktop development tools, Oracle Objects and a set of OLE dynamic link libraries for replacing ODBC engines. Oracle in Motion is for wireless users and Oracle Information Highway Server provides net access. As well as new marketing and distribution programmes the company is readying Oracle 2000 for later in the year which will add object-oriented features to all Oracle products including the forthcoming Oracle8 which will accommodate relational and object data.

INFORMIX PUTS MICROSOFT RELATIONSHIP BEHIND IT

Informix Software Inc top brass breezed through London recently for a tub-thumping Informix EuroForum. It didn't detail the response it's planning next year to Sybase Inc's data warehouse campaign (UX No 516) except to say that there will not be an attempt on its behalf to cover all bases of the data warehouse ball park. There were snipes (yawn) at Oracle Corp's distributed lock manager, CA-OpenIngres as a spent force in the market and Sybase buy-not-build PowerSoft tools acquisition. Informix isn't convinced by Sybase's performance estimates for IQ Accelerator (UX No 516); it claims IQ Accelerator will not improve performance time because it still has to extract data, and Sybase has a problem with I/O response. Steve Sommer, Informix VP marketing, admitted that in previous years Informix hasn't done a good job of marketing itself. Indeed it wasn't long ago when company executives with mainframe IT structures would likely not have heard of Informix. Of course, Sommer insisted, all this is a thing of the past. Informix marketing is more focused now with its new sales model (UX No 509). Informix is wary of moving down to desktop *a la* Oracle - see page 1 - fighting shy of Microsoft and small margins. Its reticence is also based on the experience of its unhappy collaboration with Microsoft, which lasted until June of this year. The arrangement, announced last year, saw NTAS 3.1 bundled with Informix SE. It gave Microsoft the opportunity to get to the Informix VAR base and get them to convert from Unix to NT. Informix had hoped to capture a portion of the anticipated NT market but admits there were problems not least with Microsoft channel operators in Europe who viewed the tie-up as a conflict with Microsoft's own SQL Server offering. Around 10,000 copies of the bundled software were shipped, 8,000 through Microsoft, 2,000 via Informix. The alliance, now terminated, has left Informix with an uneasy NT strategy.

...AND ADDS NEW PARALLEL FEATURES TO DYNAMIC SERVER

Informix Software Inc is pushing on into the larger system space, putting version 7.1 of its OnLine Dynamic Server 7.1 up on 11 platforms, including AT&T GIS, DEC, HP, Cray Superservers, IBM, Pyramid, Siemens, Sequent, SGI and Sun. Version 7.1 includes the same parallel data query, database partitioning, dynamic system configuration and memory grant manager modules as 7.0. Version 7.1 comes with a GUI-based database administration toolset, improved high availability features, parallel data loading for data warehousing and distributed replication, and multisite replication. Prices are from \$7,500 for five users and \$1,125 for runtimes. Informix is being offered on Hewlett-Packard servers as part of the company's Intelligent Warehouse software component of its OpenWarehouse strategy.

UNIFACE BEING FOLDED INTO COMPUWARE

Currently an independent unit of Farmington, Michigan-based Compuware Corp Dutch 4GL house, Uniface will be integrated with its mainframe middleware parent during the next quarter. Compuware also intends to begin using the Uniface name on other development tools. In addition, Compuware will build new products around the current Uniface catalogue. In the short term this will mean two enhancements to the Uniface Six application development tools for DCE and lifecycle tools. Meanwhile, Uniface UK is relocating into its parent's offices in Dunstable, Bedfordshire where it'll reside with CompuWare's other acquisition, EcoSystems Inc

BELL ATLANTIC CHOOSES SEQUENT FOR VIDEO-ON-DEMAND TEST

Sequent Computer Systems Inc is teaming up with Bell Atlantic Video Services Company (BVS) to launch into video-on-demand. BVS is supposed to test market its service in North Virginia next year. Sequent will provide the Symmetry hardware running Oracle7 for these Stargazer trials. The application software will include a customer database for billing purposes and future marketing. Customers generate the billing information when they order video programmes on the set-top boxes in their homes. The Symmetry system will confirm account eligibility, manage transaction processing and update the user preference profile. It will then relay the instructions to the Oracle Media Server so the right video is delivered at the right time to the right location. Sequent recently announced that it is also supporting interactive TV trials with BT in the UK.

PEUGEOT CITROEN TEST PARISIAN PILOT TRAFFIC NAVIGATION SYSTEM

PSA Peugeot Citroen SA is testing a navigation system that identifies ~~the quickest route to any destination in Paris and the suburbs.~~ The system, Inf-flux, has been developed by the car manufacturer, Urba 2000, an organisation charged by the Mayor of Paris with devising more efficient traffic systems, traffic management company CGA, subsidiary of Cegelac SA, itself a part of Alcatel Alsthom SA, and utility company la Compagnie Generale des Eaux SA. The Inf-flux system draws on existing technology including a network of sensors installed in Paris to regulate traffic lights, and the Radio Data System. In the car is an 8-bit Intel Corp microcontroller with some program logic array in order to minimise the number of integrated circuits; a Radio Data System decoder; and the Vehicle Area Network protocol, which reduces electromagnetic interference. The user interface is the standard liquid crystal display unit Peugeot Citroen already uses for its clocks. The on-board system was developed by Peugeot Citroen, Renault SA, Siemens AG and Philips Electronics NV. Drivers identify their point of departure and destination from a list of choices, and the screen blinks back the estimated time of travel between key Paris landmarks, depending on the route taken. The information to be able to do that comes via the multitude of sensors embedded at Parisian traffic lights which send information every three minutes, via some 700 cables embedded in roadways, on speed and density of traffic to the Paris traffic authority's head office. There, the data is concentrated on an X.11 Unix server. Specialised software to access the database, developed by Clique Development, was created by Carte Blanche Conseil on behalf of Urba 2000. The data is then sent back to the car via the Radio Data System, using industry-standard protocols and over FM radio waves. Peugeot expects to offer Inf-flux as an option on cars sold in the French capital in 1996. There are plans to add other services, such as a voice server, so drivers with Groupe Speciale, Mobile phones could call the server and receive spoken traffic information.

SYNON WINS JAMES MARTIN AS BACKER OF OBSYDIAN TOOL

Reston, Virginia-based James Martin & Co says it will develop a version of its methodology for Larkspur, California-based Synon Corp's Obsydian development tool sets (UX No 515). James Martin plans an enhanced version of its The Client-Server Methodology that will be an interactive methodology designed to give practical help to developers building enterprise-wide client-server systems for distributed networks. James Martin's decision is good news for Synon for which Obsydian is a crucially important product, as it marks the start of a significant shift out of Synon's traditional market, AS/400 users. Obsydian has taken up \$4m in research and development funds and will take up more and more of the firm's resources as Synon pushes into the Unix market. Obsydian for AS/400 has just started shipping and the Unix version will be out at beta sites in January when the Unix generator is made available. In preparation, Synon in the UK, the company's original home, has taken on Steve Broughton, formerly of Informix UK Ltd, to develop a value-added reseller channel among Unix dealers, although he has yet to approach any. He has, however, been courting AS/400 resellers and says there has been considerable interest, which is not surprising as Synon is not the only company with an AS/400 legacy looking to break into client-server to prevent its revenues dwindling. "We want to grow, maybe not in 1995 as that's a year of transition, but in 1996 we will want to grow and we see that we have to be in new markets," Broughton said. And as a small firm - turnover is \$68m, it needs resellers to handle its products. Broughton said Unix resellers should prepare for overtures when the Unix generator is ready.

AXIL ADDS COMMUNIQUE! AND PARALLAX BOARD FOR SPARC VIDEOCONFERENCING

As expected (UX No 516) Hyundai's Axil Computer Inc has dished-up a couple of video-conferencing technologies for its Sparc-compatibles. The Axil2i kit includes InSoft Inc's Communique! conferencing software - InSoft's Shared Application Resource Environment application-sharing mechanism is an add-on option - and Parallax Graphics' PowerVideo JPEG board. The board and software are from \$9,500 - integrated in an Axil box, the Axil245i2i is \$16,700 the Axil320i2i \$21,100 both with from 32Mb RAM and 1Gb disk.

DEC AND TRANSARC HAVE DCE TRANSACTION PROCESSING FOR OSF/1; NT AND CICS/6000 DUE

DEC and IBM's Transarc Corp unit last week unveiled the first fruits of their February alliance on OLTP (UX No 488). From January, DEC, will offer version 2.0 of its ACMSxp transaction processing monitor, now built upon Transarc's Encina toolkit and Distributed Computing Environment structured file server, for its OSF/1 Alpha implementation. It doesn't include Encina's recoverable queuing service or peer-to-peer communications. DEC plans implementations for Windows NT and OpenVMS and is promising an NT ACMSxp developers kit next year. ACMSxp 2.0 is from \$100 to \$200 for client runtimes (now including support for Macintosh) and from \$9,000 to \$85,000 for the developers version. Meanwhile, and as planned, Transarc will offer a full implementation of its Encina TP Monitor on Alpha OSF/1, also from January priced at \$150 for runtimes and between \$800 and \$2,400 for server software. Transarc's promised NT implementation is now slated for "sometime next year". It says NT hasn't taken off as fast as Microsoft expected. DEC also has rights to sell Encina on OSF/1 but now that it's shifting its sales model from direct to indirect channels says it has no current plans to offer the software itself. DEC's third Encina-based OLTP environment, CICS/6000 for OSF/1, has been ported by IBM's UK Hursley Labs and is currently in beta. DEC will ship the software early next year. It doesn't currently plan to put its CICS/6000 implementation up on NT. The Encina toolkit and structured file server are the same across all three products, however, each has a different queuing mechanism and application programming interfaces. DEC's other OLTP products include Novell Inc's Tuxedo monitor on OSF/1, for which it claims "several" users, VISystems' CICS-compatible VIS/TP monitor, and its own OpenVMS-based ACMS environment. Either a confusing array of technologies or a full product choice, depending on your point of view. DEC says it'll continue to support ACMS indefinitely and claims 40% of ACMS sales are to new customers.

Admire

Meanwhile, DEC plans a major upgrade to its Admire forms-based OLTP tools early next year which, it says, will bring cross-platform compatibility and client/server functionality to both ACMSxp and ACMS application developers. The company says that with the new, release, developers will be able to create one logical application definition in Windows and generate versions for a range of OLTP environments, also enabling users to move applications between ACMSxp and ACMS. It'll include a Visual Basic TP client that can work with both environments and ODBC links. DEC is unphased about Microsoft Corp's rumoured Viper OLTP environment for Windows NT, figuring that if Viper is as gappy as Microsoft's systems management software then there'll be plenty of opportunity for DEC's own OLTP offerings.

OLENIK IS CEO PICK

The selection committee over at Pick Systems Inc made its move last week and appointed George Olenik president and chief executive following the death of Pick founder Dick Pick. VP Brian Stone has been acting head of the company since Pick's death (Ux No510) and there were notions of Pick's son Mark Pick filling his father's shoes. Olenik was executive VP of Microdata, the first company to commercialise a Pick operating system, from 1970-1980. He then became a turnaround artist for Inco Ventures, the venture capital arm of Canada's International Nickel, handling Micro 5 and later Alpha Microsystems for which he bought Rexon Business Systems and Fujitsu Micro.

CA ADDS SNMP SUPPORT TO UNICENTER SYSTEMS MANAGEMENT

Computer Associates Inc last week unveiled the anticipated 1.1 revision of its CA-Unicenter systems management environment with support for version 2 of the simple network management protocol. Version 1.1 can run as an application from within established SNMP systems such as SunNet Manager, HP OpenView and IBM NetView for AIX. It can also be configured as a console to receive SNMP events. CA-Unicenter includes security, scheduling, backup, archive and restore and console automation. It's up on Solaris, HP-UX, DG/UX, AIX and Sequent Unix. Windows NT, OS/2 and Netware versions are due in the first quarter.

DEC VOWS TO SET "REAL" CORBA 2 STANDARD

DEC, the prime mover behind the failed bid to make OSF's Distributed Computing Environment object request broker the Corba 2 transport, says we haven't heard the last of its technology and predicts that it will become the de facto industry standard as opposed to the Object Management Group's de jure selection of the competing TCP/IP-based UNO proposal two weeks ago (UX No 517). Robert Bismuth, DEC's chief spokesman for the DCE Common Interoperability ORB proposal, claims that unaligned companies such as AT&T GIS and Compagnie des Machines Bull SA have told him they intend to implement the DCE transport as their premier transport mechanism despite the OMG's selection of a TCP/IP-based solution. Hewlett-Packard Co, of course, is already aligned with DEC and will implement it, as might, IBM Corp, which has had a foot in both camps. Bismuth predicted that there would be other adherents, even venturing to name Sun Microsystems Inc as a possibility although its name is squarely attached to UNO. Lotus Development Corp, for instance, Bismuth said, is opposed to multiple stacks and needs to support Common Object Model so it can follow Microsoft Corp. However, Lotus, which has one of the 25 board seats at OMG, was barred from voting at the meeting that decided in favour of UNO, he said, because of some hiccup in the credentials of the representative they sent. By the time that issue was resolved the vote had already been taken despite DEC's reported protests over the secret ballot. Bismuth claims that only the DCE proposal garnered unbidden user support from a dozen entities such as the US Department of Transport, which is using DCE for Federal Aviation Administration (FAA) air traffic control, Merrill Lynch and 3M Corp. No user, he said, contacted the OMG to throw its support behind UNO.

Untested and not proven

Users, he claimed, are dismayed over the unimplemented, untested nature of UNO's fundamentals as well as ambiguous nature of what conformance actually is. But, he said, the OMG dismissed their input as misguided, uninformed and not valid. Speaking for itself, 3M, which has been evaluating DCE and apparently likes what it sees, is concerned about the two years it estimates it will take the industry to implement Corba 2 products, longer than it would take with DCE. It is also upset that Corba 2 appears to ignore its extensive Windows client base, support for which is implicit in DEC's technology. Bismuth attributed concern over Microsoft - which DCE opponents see in DEC's closet - and the OMG staff's anxiety over press reaction to any delay to what he termed the hurried nature of the decision. DEC and HP are now pushing the pedal to the floor and hope to be able to show off their technology during the interoperability trials at Object World this summer although it won't be available as a product for some time after that. They should, however, be able to give licensees something to work with by then.

COMPLEX DEAL SEES NCR ADDS ENDING UP AS PART OF SUNRIVER

AT&T Corp is still selling off NCR Corp assets, and the latest to go is Applied Digital Data Systems Inc, the Hauppauge, New York-based builder of display terminals and the ADDS Mentor Pick systems. It has gone to All-Quotes Inc, which bought the company for \$21.75m through its newly formed SunRiver Acquisition Corp. About \$16m of the purchase price is payable no later than December 9 1997, with the first \$8.75m due by December 9 next year. All-Quotes has also issued 63% of its equity to SunRiver Corp, the Austin, Texas builder of X terminals and other special function display terminals, and a specialist in turning alpha terminals into X Window terminals, in exchange for SunRiver's assets. It now intends to change the All-Quotes name to SunRiver Corp. SunRiver Corp will combine with Applied Digital Data Systems to create SunRiver Data Systems. AT&T Global Information Solutions will buy X-stations and display terminals from SunRiver Data Systems and market and sell these under the AT&T logo, and will supply computer systems to SunRiver Data Systems for resale with its system software. It has also agreed a long-term deal under which AT&T Global will provide field support services to SunRiver Data Systems customers.

PENTIUM GAGS CLOG AIRWAVES BUT THE FIRST INTERNET-FED CRISIS IS NO JOKE FOR INTEL

By Chris Rose

It is not often that the president of an \$8,000m-a-year and rising company spends the weekend drafting a message to be posted to a newsgroup. ~~But that is what Andy Grove, head of Intel Corp found himself doing. Over the past three weeks the Usenet newsgroup comp.sys.intel has been dominated by an angry debate over a bug in Pentium's floating point unit which causes errors in the occasional division sum. If you are using a Pentium machine today then it will have the bug - Intel is now saying that it is sampling fixed chips with its manufacturer-customers, but that machines with corrected chips are not likely to appear in the shops until early next year.~~

What so enraged the Internet-based users, was not so much the bug itself; bugs do appear in processors and all processors go through a constant process of improvement. Rather, it was Intel's apparent attitude to the problem. The company acknowledged that it had known about the problem since the summer, but the perception was that it did not actually let on until Dr Thomas R Nicely of Lynchburg College, Tennessee, let the cat out of the bag. Dr Nicely had been doing some heavy duty number-crunching when he realised that the answer to one sum 1/824633702441 was only accurate to eight significant figures rather than 15 decimal places.

Subtle flaw

He had noted the problem in June and, having excluded all other sources of error, reported it to Intel on October 16. The matter became public on October 30, when a memo to his colleagues was re-posted on CompuServe. Other researchers quickly chipped in and it was discovered that the problem extended across a range of numbers. The clearest analysis of the problem so far is contained within a 'frequently asked question' document put together by Mike Carlton of the University of Southern California Information Sciences Institute. Currently no-one outside Intel is sure exactly how many division-pairs will cause errors, however it is known that at least 1,738 unique cases result in accuracy less than single precision and of these 87 cases produce answers accurate to only around four decimal places. Intel's initial public response stoked the flames, rather than calmed them: the company set up a fax-back system to brief worried users. The message described the bug as a "subtle flaw" and estimated that the average "spreadsheet user" would encounter the problem only once in every 27,000 years. The idea that Intel wanted to get across was that the rest of the personal computer was bound to fall apart before your Pentium processor produced an incorrect answer. However, the users immediately interpreted this as meaning that around three spreadsheet users a day worldwide would be getting erroneous results from their spreadsheets, with even more frequent errors for people doing serious scientific work. Most importantly, anyone doing iterative functions, where a variable is repeatedly calculated, could see the inaccuracies snowball through their calculations. But above all, the question raised by the newsgroup was "Why did you not tell us when you knew that there was a problem, rather than keeping us in the dark?" The second question is invariably "Will you replace my chip?" Unless you can show Intel that you are doing high powered mathematics that needs full double precision figures Intel is unlikely to oblige. To date we only have two reported examples to draw on: one Pentium user an undergraduate mathematics student says that he had his request for a replacement turned down, despite the fact that he could be doing these complex calculations on his personal computer. The other user, using his computer for medical analysis says that he was put on the list for a replacement after 10 minutes of discussion with an Intel representative.

Mask

Intel now admits that it should have been more open about the bug from the start. It was, if you will excuse the gallows humour, a miscalculation on its part. But, it says, its initial engineering analysis convinced it that the bug was very unlikely ever to affect users. So, the problem was noted and forwarded through the usual channels to be fixed in the chip's mask. To give a feel for how often this happens, the 80486 mask has been through around 30 revisions. The changes to the Pentium were not rushed through, the idea was to trickle them into the channel. It is incorrect to say that Intel did nothing until Dr Nicely dropped his small bombshell-ette - corrective action was already under way, it says. As a matter of interest, Nicely is now consulting for Intel, and has signed a non-disclosure agreement. The message from

lematical it was for the company: "We would like to find all users of the Pentium processor who are engaged in work involving heavy duty scientific-floating point calculations and resolve their problem in the most appropriate fashion including, if necessary, by replacing their chips with new ones. We do not know how to set precise rules on this, so we decided to do it through individual discussions between each of you and a technically trained Intel person... I would like to ask for your patience here." The problem is compounded, of course, by the fact that Intel had been partially targeting Pentium machines as low-end workstation replacements. While Intel and users debate how often the error is likely to occur, the question of how this will effect Intel's business in the short, medium and long term also remains to be resolved.

News

That depends on how long the issue remains "news" and so remains in the public's mind. At the beginning of last week, most financial analysts were saying that the story was interesting, but suggested no one would remember it in a week's time. Indeed an initial 2% slump in Intel's share price was followed by a swift recovery. Then analysts at Prudential Securities said they believed that the technical difficulties with Pentium's FDIV instruction were more deep-seated than previously thought, and a rumour spread of a full recall. Intel denied both suggestions and its share price stabilised again. But one of the most interesting aspects of the story is the Internet's role in all this - the story first fermented in the Internet newsgroups for some time before bubbling over into the mainstream media. *Electrical Engineering Times* gets the credit for first picking up the story on November 7 though it buried it inside the backpage. Since then however, *CNN* and the *Washington Post-Wall St Journal* double-act have done their pieces, and the problem has appeared in *The Economist*, which pointed out that some banks track interest rates with a degree of precision that takes them into the danger zone. Even *Channel 4 News* in the UK took a bite at the cherry; not its usual fodder at all. Intel's latest admission, that machines with the fixed chips will not appear until next year is also guaranteed to keep the story bubbling, and no doubt the trade mags will keep an eye on the situation, looking for the first bug-free machine to ship. And of course, things will carry on bubbling on the Internet, already users are talking about pursuing Intel or its suppliers through the courts on the grounds of selling faulty goods; there is nothing like a bit of litigation to keep people interested. There is even the possibility that one of the leaner, hungrier clone makers could be tempted into running an advertising campaign along the "99% Pentium-compatible, trust us, you don't want the other 5%" lines.

Jokes

Doing so would be risky, positioning the advertiser as a hostage to fortune; still the US advertising market is a rough place and no doubt someone will take a dig at the Intel Inside campaign, or 'Insel Intide' as the *Economist* dubbed it. But perhaps the worst news for Intel is that the jokes have already started. Every human or marketing disaster is swiftly followed by black jokes; for a long time in the UK the Czech car maker Skoda became the butt of jokes about its build quality - "Q. How do you double the value of Skoda? A. Fill its tank with petrol." It took a long time for the company to shift that image, despite the fact that Volkswagen took over the company and improved quality beyond recognition. Even today, Skoda drivers in the UK walk around with a sheepish air. The fact that it took less than a week for the jokes that we have relayed, (UX No517) here to begin flying across the Internet suggests that Intel's damage control has completely failed. The problem is that people no longer really care that the bug is almost certain not to affect them; Pentium's inability to count has already become an urban myth and the jokes will continue to fly, irrespective of the calming messages from Andy Grove on the Internet.

INTEL IN A FIX...

Intel Corp is getting its Pentium product name emblazoned across the front pages of the dailies, the trade press and newsstand magazines in the US and elsewhere. Unfortunately for it, the flaw in its Pentium CPU is good news for the publishing industry which would otherwise be having to dig deeper for Christmas columns. Intel may have exacerbated its problems by not admitting the scope of the flaw (or properly explaining its limits to a non-technical audience), having kept the lid on the problem since the summer, by not offering to replace Pentiums on demand and not openly addressing consumers' concerns, but it's definitely not the only computer company that has problems with bugs. Indeed, scouring the industry's press suggest that manufacturers very often get technology wrong as much as they get it right. The problem is that people expect computers, and especially their 'brains', the CPU, to get the answer right. All of the time. And Intel is the biggest 'brain' company. As one consultant who until last week used a Pentium system for bookkeeping and accounting told the *New York Times*, "I can't believe that Intel says it's not that important to most users. I don't think the IRS would accept, My Pentium made be do it". And as one Internetter observed, Intel's problematic defence is going to crumble pretty quickly when somebody asks: How much would you pay for a handheld calculator or math chip which, reportedly, mangles 7 / 402651871. Although the negative press doesn't seem to be hurting sales so far, that could change. Some 50% of the estimated three or four million Pentiums shipped have gone into the home market. Pentium sales to corporates have yet to kick-in as most are still using 80486 systems. ISVs are already offering patches that solve the problem by re-routing problematic calculations to be done by software, but that slows systems down. Intel is expected to offer a patch by the end of this year that it says will slow Pentium systems by only 5%. Meantime, volumes of good parts are expected in a month or so.

...AS IBM HALTS PENTIUM SALES

IBM Corp last week decided to suspend deliveries of its Pentium systems saying results from its Research Division indicate that whilst Intel's description of the Pentium chip flaw is technically accurate, there are many customer situations in which the risk of error may be significantly higher (than once in 27,000 years). Running Lotus 1-2-3 and recalculating for 15 minutes a day IBM says could produce an error once every 24 days. Given that only 5% of the systems it ships are Pentiums, that it has ambitions to become a major fabricator of iAPX-86-compatible microprocessors itself, and that it's hoping to usurp Intel's dominance in many areas with its PowerPC RISC, IBM's response is in part a tactical move to embarrass Intel further. Nevertheless IBM has offered to replace Pentiums in the 100,000 or so systems with the chip it has shipped, although neither it or Intel are prepared to pay for the cost of the labour involved. A full recall of all Pentiums - an unlikely event - would cost Intel between \$400m and \$800m by Wall Street estimates. Intel has spent \$80m with Madison Avenue on promoting Pentium and "Intel inside" in the US this autumn.

SHOWTIME SHOWDOWN

There's been a brouhaha brewing in the database software trade show world ever since Unix Expo organiser Blenheim acquired Denardi's popular DB/Expo show and decided to replicate the West coast affair back East. The first DB Expo East was staged at New York city's Javits Convention Center between December 5 and 9 a couple of weeks ago. The same week as Digital Consulting Inc's Database and Client/Server World in Chicago. It'll be the same next year when both are scheduled for the week of December 4 to 8. Vendors we spoke to weren't best pleased at having to choose between the two or divide their exhibition teams and resources. 11-year-old DCI is miffed at Blenheim's timing citing, crying "we were here first". Its show started as a Boston symposium in 1977, had its first exhibitors in 1982 and became a trade show in 1989 in Chicago. DCI's East coast affair in June in Boston, comes after DB/Expo West in San Francisco, in May so there's no overlap. It doesn't want to move its dates but says it is examining the possibility. It's got December 10 to 12 penciled for 1996. Blenheim admits the current arrangement is "not a healthy situation," but denies it's trying to kill-off Database and Client/Server World, claiming DB/Expo is aimed primarily at New York's financial community (though we saw more college kids than Wall Streeters) and that even though it organises much larger shows on the same site wouldn't be able to get different dates at Javits because of booking difficulties. For what it's worth DCI says its numbers are 18,000 attendees overall and 1,800 paid-up conference delegates (where the real money comes from). DB/Expo claims 22,000 and 1,000 respectively.

UNISYS UNDECIDED ON INTEGRATED OR SEPARATE LINES FOR NEW UNIX, NT SERVERS

Unisys Corp is apparently trying to figure out how many SMP product families it should bring out next year. One of its chief goals, according to our sister publication *Client Server News*, is to streamline its boxes and establish hardware platforms common to both Windows NT and Unix. That being said, it is currently deciding whether to have two or three families or whether the overlap makes for a sloppy marketing pitch. The trouble started earlier this year when not everyone at Unisys bought into the idea of putting NT on the company's P54C/Unix-based U6000/500s, the first machines anyone ever promised would eventually upgrade to the Intel P6 chip (UX No 484). It wasn't until a week or so ago that Unisys saw a way around an architecture and ASICs that weren't optimized for NT by rewriting the HAL. In the last 90 days, Unisys also lowered its costs and upped performance making the U6000's price/performance sexier. That put the box and its future descendants, currently not on the Unisys roadmap, back in the running and a strong contender for release as an NT machine because of a whiz-bang proprietary bus that can run at 512Mb and be fitted with PCI interfaces. When it looked unlikely that the U6000 servers would be turned out for NT, Unisys started developing two other SMP lines: one currently due next quarter as a maximum six-way and another Pentium 90/PCI rig that would max out as a four-way currently due in the second quarter. The six-way would then be expanded in the second quarter into an eight- or 12-way. All of them would eventually embrace the P6 in the second half. Now with the possible revitalization of the U6000 as an NT vehicle, those developments could go by the boards. The U6000 could initially max out as an 8x and expand later to 16, another incentive to keep it around.

ESIX SHIPS SVR4.2MP ON INTEL, POWERPC PORT DUE; EN.GEN TO RESELL ESCALAS

Esix Systems Inc, the Anaheim, California-based Unix on Intel developer, is making a move away from the Intel architecture by porting its implementation of Unix SVR4.2MP over to the PowerPC chip. And Groupe Bull has signed up Esix's sister company, En.gen Inc, of Tempe, Arizona, as a master distributor for its PowerPC-based Escala symmetrical multiprocessors and uniprocessor DPX/20 lines, allowing En.gen to sell the boxes with either SVR4.2MP or IBM's AIX operating system. Both Esix and En.gen are owned by James Hillegas of The James River Group, the PC to Unix integration company which rescued Esix when its previous owners Everex went into Chapter 11 at the beginning of 1993 (UX No 421). The original Esix development team is still at Anaheim. Esix has had a low profile of late as it struggled to get its new SVR4.2MP implementation out the door, some 15 months after originally expected (UX No 437). But it says that those who have looked at its code agree that it has cleaned out more of the bugs in the original source than anyone else has managed to do, and it is claiming a two times performance increase over Solaris and four times increase over Novell's UnixWare. It boasts optimised multi-threaded code, own-coded device drivers and a smooth installation process. Esix SVR4.2MP for Intel has now begun shipping, and is presented as a simple, shrink-wrapped Unix costing \$1,200 for unlimited users, or \$900 for single or dual users. The PowerPC port is currently in its initial stages, and will make its debut some time next year. Although Esix has concentrated on the Intel marketplace, a prototype Motorola 88000 RISC port did briefly appear at Comdex in 1990, which must at least have helped with the I/O and bus handling aspects of the PowerPC port. It is not interested in any other RISC ports. En.gen is a systems integrator and distributor, once known as Unizone Inc, which targets a wide range of vertical markets ranging from industrial automation through to finance, legal and healthcare. It hopes that by providing SVR4.2 on Bull hardware it will ease the migration path for its Esix customers currently running Intel boxes. Esix faces tough competition in the Unix on Intel world, and won't be alone in offering SVR4.2 on PowerPC systems: Novell (with UnixWare) Sun (with Solaris) and Harris (with Secure/Power) are also after business on the chip.

AMDAHL LICENSES LEGENT LEGACY INTEGRATION TOOLS FOR MPP XPLOER

Amdahl Corp has licensed Legent Corps LDM/XP legacy database migration applications for its massively parallel Xplorer 2000 database servers (UX No 489), which include the nCube parallel processor, Oracle7 Parallel Server and Information Builders data access software. Amdahl is using Legent's LD-Extraction to extract data from IBM DB2 and VSAM sources, and LD-Conversion to convert the data for Oracle7.

MORE DETAILS ON COPLAND PRE-EMPTIVE MULTI-TASKING

Apple Computer Inc has filled in a little more of its forthcoming operating system software strategies in a Mac OS white paper. As expected the 'Copland release' of the operating system will be microkernel-based and will introduce the first pre-emptive multi-tasking. It will also see substantial amounts of the operating system move from running under emulation to running as native PowerPC code. There is, in addition, the promise of a "high performance 68000 emulator". While Apple is saying little else, *MacWeek* reporter Robert Hess has been talking to what sound like authoritative sources and has come up with details of how Apple intends to avoid breaking today's applications that use programming techniques incompatible with the protected memory systems needed for pre-emption. According to *MacWeek*, Copland will load the Mac Toolbox into its own separate protected memory segment to avoid applications from treading on it. All old-style Macintosh applications and extensions will share another single address space, dubbed the 'Blue Box' by the paper. Copland-aware applications, however, will be allocated their very own protected memory segments. The practical upshot is that, if an old-style Mac program crashes, it may bring down all of the other applications running in the Blue Box, just as they can in today's Macs. The separate, pre-emptive applications should be isolated from such mishaps, however. Copland applications will be able to spawn separate tasks, or threads, each within their own address space, but the *MacWeek* article suggests that these threads will be granted only limited access to Toolbox routines, so they will not be able to write to the screen directly, though they will probably be able to use input-output. However, it seems likely, therefore, that even Copland-designed applications will tend to be hybrids, with Toolbox-intensive parts sitting in the Blue Box, with the rest outside - which means that they will not be fully protected after all. While Copland is a half-way-house to full pre-emption, its successor, code-named Gershwin is being touted as the real thing. The company's white paper promises "advanced multi-tasking and memory protection for all processes, sub-processes and applications". It is also promised to be based on the OpenDOC component software from top to bottom. However, it is clear that these promises can only come true if developers follow Apple's lead.

APPLE, BANDAI DISCLOSE THEIR PIPPIN MAC-DERIVED CD-ROM MACHINE

Apple Computer Inc has now acknowledged the home multimedia player it is developing under its agreement with Japanese game and toy maker Bandai Co Ltd. The latest fruit from the company's orchard is called the Apple Pippin; it includes a CD-ROM drive and is designed to enable users to play music, games and educational software when connected to a television set. Apple plans to license the system to vendors in different countries, starting with Bandai. Nippon Motorola Ltd is to supply the PowerPC microprocessor for the Bandai machine but it is not clear which version of the chip it is, although it is assumed to be the unannounced PowerPC 602. The Bandai player, priced at about \$500, will be introduced worldwide in late 1995 as the Power Player. The company is aiming for world sales of 500,000 to 1m in the first year; it is being made by an unidentified Tokyo computer manufacturer. The machine runs a cut-down version of Mac OS and Apple says it is working with software developers to make 'slight' modifications needed to enable Mac CD-ROM software to run on Pippin. More than 50 CD-ROM programs are promised at launch.

ILLINOIS SUPERCONDUCTOR BUYS BRITISH TECHNOLOGY

Illinois Superconductor Corp, Evanston, Illinois has acquired exclusive rights to superconductor fabrication technology for producing superconducting thick films originally developed by Imperial Chemical Industries Plc and the University of Birmingham in the UK. Financial terms were not disclosed.

CONCURRENT TARGETS THE ENEMY ABOVE

Loral Electronic Systems is ruggedising versions of Concurrent Computer Corps real-time Maxions for Wright Lab's electronic and space warfare divisions which will use them in flight simulators. The US military specification-compliant Lance systems are configured with four-way Mips R4400 SMP Maxions that fit the Air Transportable Rack standard at 7 wide, 10 inches high and 23 inches deep weighing 35lbs with up to 264Mb RAM and 4Gb disk.

AURORA SPEEDS INTERNET POINT-TO-POINT FOR SPARC

Aurora Technologies Inc, Waltham, Massachusetts has introduced a series of Point-to-Point Protocol accelerators said to provide up to 32 remote links. The company claims the products boost the speed of Sparc-based Internet links over standard dial-up telephone lines to 115.2Kbps full duplex over all line simultaneously. This, it says, is three times the speed of any Sparc system's native serial communication ports. The accelerators are optimised for Internet and remote communications using the integral Point-to-Point of Solaris 2.3 and 2.4. On-board RISC communication controllers and data buffers enable 'dozens' of network users to send electronic mail around the world, access remote files with the File Transfer Protocol, browse libraries with Gopher, and gather information from Usenet newsgroups without affecting the performance of other network applications. The accelerators connect to the host system via any available SBus slot, says Aurora. For users of SunOS and Solaris 2.0, 2.1 or 2.2 - where Point-to-Point is not bundled with the operating system - the company says it also offers standard Point-to-Point Protocol software. Plug-and-play options include RS-232, RS-422 and RS-485 support, asynchronous and synchronous communications programmable at the individual port level, and DB-25 or RJ-45 physical interfaces. The four-port ACCelerator lists for \$800, with the eight-port model at \$1,100, and the 32-port at \$5,000. All are shipping now.

HEWLETT, SYBASE, SCIENTIFIC ATLANTA WIN IN VIDEO TRIAL

Winners in Southern New England Telecommunications Inc's West Hartford, Connecticut video-on-demand trial are led by Hewlett-Packard Co for the MediaStream Server and Sybase Inc for the database software to handle content and transaction management, navigation and custom operational and business support applications for complete management of interactive services. Scientific-Atlanta Inc will supply both analogue and digital subscriber home communications terminals, including the analogue 8600X system, and the analogue and digital head-end equipment, with the digital system incorporating the new PowerTV operating system running Sybase applications. AT&T Corp's Network Systems will supply the Asynchronous Transfer Mode devices to switch video streams among serving exchanges, and ADC Telecommunications Inc's American Lightwave Systems will do digital transport technology to enable services to be broadcast across the trial areas. The service, to be tested in up to 150,000 homes in Hartford and Westfield counties next year, is to provide video-on-demand, enhanced pay-per-view, banking, travel, home shopping and interactive games.

ORACLE PROMISES VIDEO ONLINE NEXT YEAR

Oracle Corp is rushing multimedia products to market, and next up will be Oracle Video Online, chief executive Larry Ellison told *Reuter* at the Oracle Financial Services conference in New York last week. Oracle Video Online will enable its customers and on-line services to offer video over digital telephone lines. Oracle hopes to have Oracle Video Online ready for its database customers and partners in March, but it plans to work with on-line service providers, such as America Online Inc, so that they can provide their customers with video. Oracle is working with Intel Corp and its ProShare video conferencing technology to make on-line services 'video-centric,' using currently available Integrated Services Digital Network lines. Oracle plans to work with all on-line service providers apart from Microsoft Corp. "We have built all this stuff for broadband," Ellison said at the conference, adding that widespread deployment of broadband cable is going more slowly than anticipated. "So we thought, why don't we deliver the technology now over narrowband ISDN," he added. One application planned for Video Online will be video mail, with a video of the person speaking, to supplement electronic mail - so we can expect some truly delightful on-line Christmas cards next year. Oracle is also working with Cable News Network and Cable NBC to offer news on demand. Oracle Video Online will be bundled with other Oracle products and will be included to Oracle customers as part of their support package, with the payback coming from deals it sets with on-line service providers, telephone companies and others, after the first half of next year.

AIX AND GROWING PAINS CAUSE INDUSTRY TO ASK "WHAT IS POWEROPEN FOR?"

"Whether Apple is in or out is not an issue for the Organisation," says Tom Mace, president of the PowerOpen Association, adding, "though we would love to see them in." Certainly from a funding point of view, the Association can do without Apple Computer Inc - the company was only ~~set to contribute \$250,000 to the coffers anyway. It is not, however, exactly the best of signs for an organisation that is hoping to be the driving force behind the new, open, Unix-based operating system designed to be widely accepted across the PowerPC Community. Particularly since~~ PowerOpen itself admits that it lost momentum earlier this year when it moved headquarters from Boston to Cupertino, California - partly to be just around the corner from Apple. Back in 1992 the idea was very simple - an association of companies would design a set of application binary interfaces and application programming interfaces that could be implemented by operating system designers.

Make-over

Once certified, any such operating system would be guaranteed to run PowerOpen-compliant applications out of the box - no recompilation required. In addition, Apple said that it would implement Macintosh Application Services, so that Macintosh Applications would be able to run on top of the operating system too. Sensibly, the partners decided against trying to build an operating system specification from scratch, there was, after all, a version of Unix already available for the Power architecture - IBM Corp's AIX. So they gave AIX a make-over, stripped out some of the interfaces that were there for purely historical reasons, dusted the system down and published the results in two huge tomes: the PowerOpen Application Binary Interface and the PowerOpen Application Programming Interface. And the most attractive aspect of this for the partners was that, by making their machines PowerOpen-compliant, they could offer their customers the majority of the existing AIX application base. What has happened in practice is that the membership has dashed out and licensed AIX from IBM. Of the entire group of companies, only one, Harris Computer, is attempting to build its own PowerOpen implementation without relying on AIX. The signs are that it does not feel comfortable in that situation. "There is a feeling that it [the PowerOpen Association] is becoming an AIX club," said Rick Siebenaler, director of software development at Harris. The question he posed is, why software writers would want to write to the PowerOpen Application Programming Interface or Binary Interfaces rather than straight to AIX. In addition, he suggested that the PowerOpen architectural board is dominated by AIX interests, with PowerOpen having to follow the IBM operating system, rather than the other way around. This is denied by Tom Mace, who gives as an example the fact that IBM had to delay the release of the AIX version 4.1 when it discovered that parts of its X Window implementation were not PowerOpen-compliant. Harris's own approach to PowerOpen compliance is innovative. It is aiming to envelop its own operating system, based on Unix System V.4.2, in a layer of software that will enable it to run PowerOpen binaries. It is the kind of software that could potentially be licensed to other System V licensees. Unfortunately it is still in development, with availability at least a year away, according to Siebenaler, and development is not being pushed at top speed due to the company's uncertainties about PowerOpen's stability. Asked why Harris decided to go it alone, rather than use AIX, Siebenaler said it was "a fair question". The answer boiled down to the company's desire to keep the work it has done to adapt its own Unix for secure and real-time operation. It might be thought that one measure of the Association's success would be the number of non-AIX-based implementations, but Tom Mace rejected this completely. So if AIX remains the only implementation of PowerOpen, why should software vendors bother with it? Why should they not simply write for AIX? Because it is safer to stick with the PowerOpen specifications according to Mace, who pointed to the certification suites that are being built and the strong commitment from the membership to support the architecture into the future. The trouble is that the same commitments to continuity are available from IBM AIX salesmen, who will tell you that if you write to documented AIX calls, your application is bound to run in future releases. If the Association is quite happy with AIX being the only incarnation of PowerOpen, then where does its future lie? In software and hardware certification suites and testing.

Wares stamped

Currently all funding comes from membership dues, however Mace said the Association was on track to earn over 50% of its money from sold services by the end of next year. The idea is that hardware manufacturers, AIX licensees and applications developers will pay to have their wares stamped with the PowerOpen label. IBM is very keen on this idea indeed, since it does not have a formal AIX certification programme at the moment. One of the reasons that the Association is so low-profile at present is that it still does not have anything to sell. The systems certification tools are in the beta phase, but the applications

certification side has been withheld while some problems are ironed out. Tom Mace would only say that the finished suites will appear "some time in the near future", though he acknowledged that this probably meant some time around the first quarter next year. Once they appear, PowerOpen's success will be more measurable. Mace said that in the first year he would like to see several hundred applications certified and a fair amount of certified equipment. Ranged against the allure of a PowerOpen splash, however, is the fact that the PowerOpen members that we have spoken to over the last few days, including Apple and Bull tend to highlight the fact that they are working closely with IBM to implement AIX and that today's AIX applications will run on their machines anyway. *Chris Rose, PowerPC News*

APPLE RETHINKING UNIX STRATEGY

Apple Computer Inc, previously expected to launch its own Unix server hardware sometime early next year, is reviewing its entire Unix strategy. It's not renewing its principal membership of the PowerOpen Association for starters (UX No 516). Jim Groff, vice-president and general manager of Apple's business systems division said "we are actively evaluating our Unix and Unix-on-Mac game-plan in the light of the new common PowerPC hardware architecture] announcement". Apple is, he said, talking to its customers to try and decide whether it is worth producing a Unix server next year, or whether it should simply wait for the common system in 1996. "It is absolutely right that the new common PowerPC standard development should impact our plans in the Unix arena," said Groff. Groff is adamant that Apple is still committed to using AIX as the base of its server offering. Apple's main interest in PowerOpen was the need to build Macintosh Application Services which would run Macintosh Applications on top of the PowerOpen environment (effectively AIX, today). The chances of Mac Application Services ever seeing the light of day now looks slim; no one is saying that it will appear and Groff pointed out that the Common Platform, with its ability to run multiple operating systems, virtually obviates the need for them. Previously Apple had been committed to building its own server hardware, but Groff says that the standard makes "the make versus buy-in question a more open one". *Chris Rose, PowerPC News*

SQL FINANCIALS ADDS REVENUE ACCOUNTING MODULE

Fast-growing SQL Financials International Inc, Atlanta, Georgia, has added an object-oriented accounting module to its financial and accounting suite. Like its other accounts receivable modules, Revenue Accounting (RA) has been developed in Gupta Corp's SQL Windows 5.0. An RA loader allows data to be loaded from other SQL Financials software or other in-house applications. Also introduced is a Financial Manager Utility for tasks like maintaining accounts charts, analysis codes, accounting periods and currency exchange rates. Revenue Accounting will be added to Accounts Receivable from January at from \$65,000. SQL will add Asset Manager and Purchase Order modules to complete a seven-strong suite of General Ledger accounting components during the first half. It's rivals are D&B Software and PeopleSoft. The software runs on most operating systems and will work with a range of databases.

MDI OFFERS NEW GATEWAYS

Sybase Inc's Micro Decisionware has delivered the promised enhancements to its interoperability software its parent offers as Enterprise Connect. The OmniSQL Gateway-compatible MDI Database Gateway now includes support for DB2, AS/400, SQL/DS DB2/2 and Teradata. InfoHub is compatible with Sybase Net Gateway and OmniSQL Gateway for access to IMS, IDMS, Adabas and VSAM. In addition OmniSQL now supports NT and OpenVMS. There are new OmniSQL Access Modules for Informix, Rdb and Model 204 (the latter done by Cambridge, Massachusetts-based Sirius Software Inc). MDI boasts the additions offer read/write access to 21 relational and non-relational databases. There is also a generic access module so users can write to other data sources.

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If you want to see the Pentium bug in action, the *New York Times* offers this simple demonstration: ask your arithmetic program to divide 4,195,835 by 3,145,727, and then to multiply the answer by 3,145,727 (shouldn't there be a decimal point and a zero at the end of each of those numbers); mindful of the woeful state of education in the US as in the UK, it helpfully prompts that the right answer is 4,195,835, while in Pentium arithmetic, the answer will come out as 4,195,579.

The **Sphinx Level V** subsidiary of **Vistec Group Plc** is no longer bemoaning the loss of **Informix** business: it has duly won the Big One, signing a distribution agreement with **Oracle Corp UK Ltd**

Erstwhile head of the Unix Systems Group Kanwal Rekhi, who just resigned as executive VP and technology chief over at **Novell Inc**, has been named chairman of **Intellimatch Inc**, a San Jose, California company with an on-line client/server approach to job recruitment.

In the event it's eventually run into the ground by **Microsoft Corp**, **Novell Inc** will at least be able to surface in another industry. If you were at Comdex you may have noticed them peddling a line of sports clothes dubbed WallabyWear after the character Wallaby Jack who stars in some kids' software it's introduced. Now we understand Wallaby Jack may appear in a Saturday morning cartoon series.

Quoting unnamed internal sources, *Information Week* says that when **IBM's** PowerPC desktops finally come out next year, the company may have a dedicated sales/support team in place to help them integrate into enterprise networks.

Start-up **Illusta Information Technologies Inc**, the object-relational database house, is going to lose one of its good right arms now that marcom director Kay Hart is going to **Sybase Inc** to be queen bee of communications over there, a jump that gets her the coveted vice-presidential chevron.

Maspar Computer Corp founder Jeff Kalb, credited in some circles as the father of the MicroVAX, has become president and CEO of **California Micro Devices Corporation**, the Milpitas, California silicon-based maker of integrated passive electronic components.

Sun Microsystems Computer Co, the hardware arm, is now shipping Solaris 2.4; Wabi 2.0 is bundled.

Uniforum is looking for contestants for an Open Awards contest it plans to stage at the next show in March. Entry deadline is January 31. It wants to reward architects who are designing, developing and managing custom solutions to solve a business problem that run across multiple platforms and are currently in use. It's set up a bunch of vertical market categories.

Heard: "from Motorola: 'What you want inside is a future.'"

From the get a life department: We were reading back issues of *Computer Reseller News* over the weekend when we noticed a little item saying **Novell Inc's** headquarters has quietly changed from Provo to Orem, Utah because CEO Bob Frankenberg wanted to be near the unit he knew the least about, namely WordPerfect. He apparently did give up the notion of sharing a cubicle with other employees *a la* HP and got himself a proper office.

IDC is losing its star Unix follower David Smith, its director of systems and software research. In the new year he's making the jump to the **Gartner Group** where he'll be research director for system software technologies, which covers stuff like middleware, objects and messaging rather than operating systems. He's likely to be even more dangerous than he is now because he'll have more truck with users.

Transarc Corp reckons it did around \$2m each on DCE and Encina last year and will do \$5m on each this. It says those sales are split 50/50 between OEM and indirect/direct.

As anticipated (UX No 517), **Amdahl Corp** is now shipping its A+ Edition 1.1 extensions for Solaris 2.4 Enterprise Server. Prices start from \$1,500 to \$2,500 per CPU.

AT&T GIS says its promised **Teradata** database release on the System 3500 symmetric multiprocessors has been postponed until the end of January for further testing (UX No 511).

Novell Inc has gone public on its appointment of Christine Hughes as senior VP marketing (UX No 516). In addition Novell has promoted **WordPerfect** VP and corporate counsel Duff Thompson to senior VP corporate development responsible for all acquisitions and merger activity and strategic partner relationships. Both report to Frankenberg, who's other executive reports are COO Mary Burnside; CFO James Tolonen; executive VP worldwide sales Joseph Marengi; and general counsel and senior VP David Bradford. In addition Frankenberg has four executive VPs serving as general managers of the product groups: Richard King at NetWare Systems Group; Mike De Fazio at Unix System Group; Ad Rietveld at the Application Group; and Steve Markman at Information Access and Management group.

Sequent Computer Systems Inc has sold a cluster of three Symmetry 5000 SE60s with a total of 48 CPUs and 500Gb disk into Oracle Corp's Enterprise Systems Center. The Massive Open Systems Environment Standard (MOSES) consortium is using the centre to draw information for its proposed distributed management spec for large-scale systems.

DEC watcher Terry Shannon of **Illuminata** says DEC is supporting development of an Alpha version of **Linux**, the Unix clone. Linux/Alpha, he says, is a 32-bit port of Linux to the DEC architecture. The kernel and an SDK should be ready by the end of the year, which by our calendar means imminently.

CAD/CAM house **Mentor Graphics Corp** has acquired EDA firm **Model Technology Inc** and will run it as a wholly-owned subsidiary.

Franz Inc has sold its **Lucid Inc** Energize object development environment to Ada, C and C++ developer **Tartan Inc**, Pittsburgh, Pennsylvania. Tartan promises continued support.

IDC reckons 82% of the \$1,235m database licence revenues sold on advanced operating systems were generated by Unix last year, compared with NetWare - 9.2%, OS/2 - 7.5% and Windows NT - 1.3%. Unix's share was down 1% over 1992. Unix sales accounted for 68% of license shipments, NetWare 19.5%, OS/2 11.3% and Windows NT 1.2%. The market researcher predicts RDBMS revenues will reach almost \$7,000m by 1998, 75% of which will be Unix sales (52% of unit ships), 17.1% Windows NT, NetWare 5.6% and OS/2 2.3%. It casts NT as the fastest growing advanced OS platform for database license revenues to 1998, OS/2 the slowest.

Oracle Corp has taken Santa Clara, California-based **Peer Networks'** SNMP multi-management information base agent and toolkit for use with Oracle7.

The first **IBM Corp** SP2 PowerParallel installed in eastern Europe has gone to the Department of Theoretical Chemistry at Budapest in Hungary; it's a seven-node affair.

In Europe, the **Ford Motor Company** has chosen **Insignia Solutions Ltd's** SoftWindows Windows-on-Unix software over SunSoft Inc's Wabi after extensive testing, it says. Ford has more than 18,000 PCs and 1,300 Unix workstations in Europe. SoftWindows will be used to integrate Ford's CAD/CAM Unix applications and its PC-based Standard Office Automation system, running Designer, WordPerfect and Excel.

London porting house **UniSoft Ltd** says it has signed 14 source licensees for the ABI Verification Test Suite it has developed for testing against generic ABI Third Edition and processor specific ABIs for **Novell Inc** UnixWare on the Mips and Intel architectures. UniSoft signed with Novell in August 1994 as an approved Novell Verification Test Center (NVTC). It's still mum about its UnixWare-on-PowerPC port.

AT&T GIS says it will do a PowerPC client version of its Top End OLTP monitor if anyone wants it (nobody has asked so far). It reckons it could do the job in three months. Meanwhile, the object-oriented framework supposed to appear for Top End by the end of this year (UX No 480) has been lost in the mire somewhere.

Taligent Inc boss Joe Guglielmi has a bet with Bud Tribble that his Taligent Inc CommonPoint application environment will ship - ie be generally available - on a single platform before **SunSoft Inc** ships its Distributed Objects Environment (DOE) on Solaris. Loser buys the other dinner at the restaurant of his choice. Taligent is saying second half, SunSoft sometime after mid-1995 (UX No 517).

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