Novell eyes way to boost E-mail
Taps Da Vinci to shore up front end

By Lynda Radosevich

Novell, Inc. is rushing to bolster its weak enterprise messaging presence with partnerships before Lotus Development Corp. and Microsoft Corp. come out with their enhanced messaging lines next year. But users and analysts said the company may be doing too little too late to sway the corporate messaging market.

In its latest arrangement, Novell last week disclosed that it has personalized Da Vinci Systems Corp. in Raleigh, N.C., to sell its electronic-mail client software in Novell's signature red box. Also, Novell has authorized resellers to bundle Da Vinci E-mail with NetWare and the NetWare Messaging Handling Service subsystem.

Novell and Retix unveiled a similar partnership last June for X.400 messaging services, and more partnerships are under discussion, according to Novell.

Novell's strategy is to provide MHS as a core messaging service in the NetWare Version 3.12 and 4.x operating systems and let users pick from a variety of third-party front-end Novell, page 15

Notes goes mainstream

By Michael Vizard

ORLANDO, FLA.

Seeking to make Notes more attractive to deploy, Lotus Development Corp. is working on several initiatives that should make it easier for corporate sites to more quickly recoup their investment in the groupware package.

Lotus last week revealed plans to ship in February a version of its groupware that runs seamlessly with Novell, Inc.'s NetWare. Moreover, the company plans to deliver a more user-friendly interface in a major upgrade due within a year.

The company made both announcements at its user conference here.

The Notes NetWare Loadable Module could help reduce the time it takes for most companies to gain a return on their investment in Notes. That is because many sites will no longer have to purchase a separate OS/2-based server to run Notes. Additionally, the improved user interface should reduce training costs, analysts said.

Also contributing to reduced training costs will be a new set of applications being developed using graphical tools from companies such as PowerSoft Corp. (CW, Jan. 6). Meanwhile, users are getting around the Notes interface by employing standard PC applications as a front end to the Notes environment (see story page 14).

Waiting for return

But most Notes sites have yet to fully see their investment in Notes pay dividends, according to a study to be released next month by International Data Corp. in Framingham, Mass. (see chart page 14). That research indicates that the larger the Notes installation, the more difficult it is to recoup the investment. Previously, Lotus execs Notes, page 14

HP edges toward NT support

By Mark Halper and Jean S. Bozeman

Hewlett-Packard Co., the leading Unix vendor, is taking a large step toward supporting Microsoft Corp.'s Windows NT operating system on its workstations and minicomputers by altering the processor that powers those boxes.

The company last week said it is adding an Intel Corp.-type "little endian" byte-ordering scheme, in which bits are arranged in ascending order, to HP's descending "big endian" PA-RISC processor. As a result, the chip will become bi-endian.

While HP stopped short of saying it is porting NT to PA-RISC, the little endian addition eases the porting task by properly aligning the chip with the data structure in NT, according to Peter Rosenbladt, group research and development manager of HP's minicomputer and workstation business. By comparison, HP's PA-RISC port of NetWare, another Intel-oriented operating system, was tedious.

In the past, HP expressed only a lukewarm interest in NT. HP, page 12

Utility sparks IS revamp to plug credibility gap

By Mitch Betts

The Tennessee Valley Authority last week reorganized an information systems department in deep trouble.

The radical restructuring is TVA's latest effort to turn around an IS department plagued by procurement scandals and viewed by the business units as a slow, unresponsive bureaucracy that is best avoided.

In fact, the IS department at the huge quasi-public electric utility has been losing business to "shadow IS groups" and outside contractors, TVA executives acknowledged. TVA's finance department, for example, turned to Coopers & Lybrand and Oracle Corp. for development of a major financial system because it lacked confidence in the IS department's ability to build the client/server system in a timely fashion.

Putting customer first

The overhaul is intended to make IS more responsive to the business units, restore that lost confidence and compete for business with outsiders, said William F. Malec, who oversees the IS department as TVA's executive vice president and chief financial officer.

Internal clients, such as the financial department, were dissatisfied. TVA, page 16

MAKING THE MEXICAN CONNECTION

WHAT NAFTA DOESN'T SAY

Mexico is open, but that doesn't mean it's accessible. Can you build a reasonable information technology infrastructure in Mexico? Yes, you can — but don't expect to solve problems the way you did here.

See Management, page 91.

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Now Imagine Letting NT Fly On Alpha AXP.

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You Can Play Around With Windows NT On Another Microprocessor.
Executive Briefing

Think hard about the way you divvy IS chores. Old organizational models may not work, particularly as you move to more distributed systems environments.

Division of IS personnel along business lines resulted in redundant and incompatible systems at the Tennessee Valley Authority. So as part of a general reform effort, the TVA is restructuring the IS organization into technical experts and "strategic consultants." The consultants will interact with business units to identify system opportunities but have a higher level and more unified view than is typical for IS personnel assigned to a specific unit. Cover 1

Old functional divisions based on system expertise can also create problems these days, according to senior networking editor Elisabeth Horvitt. Trying to build new client/server systems with teams of specialists is counterproductive, she says. Page 33

Return on investment: It helps to know what you are trying to do. According to Seth Pinsky, IS manager at Sandusky Pharmaceuticals and a committed user of Notes, a key reason why many Notes sites don't get the payback they expect is they treat the product as an E-mail extension in search of an application rather than as a set of distributed databases that require management. Cover 1

Smoke and mirrors? Healthy skepticism has grown up in the market of late. Many users and observers are taking an "I-believe-it-when-I-see-it" attitude toward the Plug and Play Initiative, endorsed by many top tier vendors as a way to make it easier for users to install and automatically configure a range of hardware and software products. Consultant Mike Drips expressed the mood in comments about a preview of Microsoft's Chicago: "A lot of the plug-and-play stuff is still smoke....Microsoft will try to sell everyone on it and hope they buy into it quickly." Page 2

Wireless developments: Data exchange with the office using cellular-based wireless data services is about to get easier as service providers join hands around the modem pool, swearing that they will all provide subscribers with access in the same way. This means users won't have to change scripts to send data to and from different regions. Page 4

Bell Atlantic has announced that five cells and one switch in its Washington/Baltimore cellular network are now equipped with Cellular Digital Packet Data (CDPD) service. Page 4 And the technology has gained an important convert. Price Waterhouse/CIO Sheldon Laube, long a critic of wireless data transfer technology, has now committed to outfitting all the company's portable computer users with CDPD-capable systems. It's not the real answer, he says, "but it's the best we have for the next five years." Page 4

Stirring statistics: According to software productivity expert Capers Jones, cancelled software projects accounted for a total dollar waste of $1.43 billion in 1992. Page 116
Developers head for Chicago
Upcoming Windows 4.0 plug-and-play capabilities draw interest

By Ed Scannell

News

Chicago's plug-and-play aspects promise to make computer installation a much simpler task than it is today.

The starting gun on development for the largest developers conference ever.

The company's much-anticipated Chicago also known as Windows 4.0 — will be fired this week at the company's largest developers conference ever.

More than 5,000 developers will likely receive a high level of technical detail on Chicago and will hear about Windows NT Version 1.1 (see story at right) and Cairo, the company's object-oriented follow-up to Windows NT. Microsoft will have 200 hands-on systems for developers, with 170 of them located in Chicago, to show off the 32-bit environment's power and ease of use.

Of particular interest to many developers and information systems managers are Chicago's plug-and-play aspects. They promise to make computer installation a much simpler task than it is today. But many users remain unclear about the immediate advantages for existing systems and the investment needed to take full advantage of the concept.

The plug-and-play initiative, backed by most of the industry's top-tier companies, is a specification that makes it easier for users to install and automatically configure a wide range of hardware and software products.

Oracle to aim small with planned low-end database

By Kim S. Nash

Oracle Corp., plans to disclose next month a slimmed-down version of the Oracle 7 relational database designed to enter to small workgroups of 10 or fewer users.

The product, dubbed Oracle LAN Server, is part of Oracle's effort to elbow into the low-end client/server market, said Chief Executive Officer Larry Ellison. Oracle LAN Server will require several megabytes less memory than Oracle 7, partly because it lacks heavy-duty features such as parallel query. The product will be shrink-wrapped and sold through Novell, Inc.'s resellers, Ellison said.

Oracle LAN Server, due to ship in the first quarter of next year, will be "a one-button install ... that needs no database administrator," he said.

While Oracle LAN Server is bigger and more functional than a single-user database such as Microsoft Corp.'s Access or Borland International, Inc.'s Paradox, it is smaller and expected to be less expensive than OracleWare, Ellison said.

The first incarnation of OracleWare, Oracle 7 bundled with NetWare 3.12 — is priced at $3,095 for a five-user version.

Out with the old...

WINDOWS NT 1.0

- Minimum memory requirement: 16M bytes.
- Runs 16-bit Windows applications in a virtual device machine.

WINDOWS NT 1.1

- Minimum memory requirement: 256M bytes.
- Runs Windows 3.1 faster using Microsoft's Windows on Windows technology.
- Network server and redirector.
- Improved support for TCP/IP and IPX/SPX network protocols.
- Support for OLE 2.0 on workstations.

Focus on Win32

At this week's conference, the company will once again advise developers to focus on one application programming interface, namely Win32, to create applications that work with both Chicago and Windows NT (CW, Oct. 25).

While Microsoft will not kick off serious beta testing of the product until February or March, company officials still say they can deliver the 32-bit operating system by the fall of 1994.

Given its delivery record with Windows NT and the aggressive beta program that could include as many as 20,000 or more sites, Microsoft will have to struggle to meet its fall deadline.

"If it's large-scale, the beta doesn't begin until February or March, it's difficult to see the product in retail stores by the end of 1994. I think the end of first-quarter 1995 is more real," said another beta user.

"A lot of the plug-and-play stuff is still smoke at this point. Until you start getting cards that have the plug-and-play ROM BIOS interface on it, there isn't much you can do," said Mike Drips, a consultant and Windows beta-tester in Tampa, Fla. "Microsoft will try to sell everyone on it and hope they buy into it quickly."

Drips and other users said the lack of hardware and applications, and/or their added expense, could force some users to hold off on buying Chicago.

At the same time, however, many observers said enough vendors will sign on to plug and play to put a large number of products on the market even before Chicago arrives in the fall.

Added features

Chicago's plug-and-play capabilities will not offer much help for IS managers with thousands of old-style products, but Microsoft said it will help them to at least diagnose many problems faster. Company officials also said the operating system's added speed and features, compared with 16-bit Windows 3.1, will sell it while plug-and-play compatible products dribble out to market.

"We are working closely with a lot of partners to create a 'no excuses standard,' which means making systems easy to modify through plug and play," said Brad Silverberg, vice president of Microsoft's Personal Systems group.

Not much more than NT

Besides having all 32-bit networking code, the second Chicago alpha, which was delivered to some beta users last week, has a few features that Windows NT does not have.

These include support for Microsoft's Telephone Applications Programming Interface and the company's color management scheme, which Silverberg describes as 'TrueType for colors. With it, users will be able to more accurately print out complex color schemes as they appear on-screen.

Despite this, Windows NT will remain a superset of Chicago, with these and other features added into a version of NT that will come out shortly after Chicago.

Operating systems

Microsoft outlines memory, speed upgrades for latest NT

By Ed Scannell

Microsoft Corp. will fix some of the definition that users have cited in Windows NT with an improved version that is speedier and requires less memory.

"While Microsoft won't kick off serious beta testing its next month, will be about twice as fast as the current version when running on a server," Silverberg said. He added that the company does not yet have definitive results for the improvements.

Other improvements include the ability to preemptively multitask 16-bit Windows applications in a virtual device machine, which quickens desktop processing. In the first version, Microsoft used its own technique, called Windows on Windows, which technically was not true preemptive multitasking.

Brad Silverberg, vice president of Microsoft's Personal Systems group, during an interview here.

Twice as fast

The new release, expected to enter beta testing next month, will be about twice as fast as the current version when running on a server, Silverberg said. He added that the company does not yet have definitive results for the improvements.

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"Twice as fast"

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Redirector addition

The new version will also have a Novell, Inc. NetWare redirector that allows a Windows NT Server to act as a gateway to NetWare to service multiple clients. That eliminates the need to have a NetWare redirector in each client.

The company has also added better TCP/IP support that essentially gives information systems departments more flexibility in either choosing the TCP/IP support already built into Windows NT or substituting another vendor's implementation.

A company spokesman said Microsoft expects to ship Version 1.1 in the first half of next year. Pricing has not been established.

While the alpha version does not have the new document-centric interface Microsoft has been touting, developers can begin doing useful program development with it, according to Silverberg.
IF IT WERE GREASED, IT
WOULD BE ALMOST AS FAST
AS SYNCSORT.
AT&T launches Sonet links

By Joanie M. Wexler

AT&T last week filled in a big chunk of the nation's information superhighway when it served up the first interexchange Synchronous Optical Network (Sonet) service in the U.S.

The service will allow users to create dedicated links running at 155M bit/sec speeds among sites in about 200 U.S. cities. Early applications will likely include disaster recovery, supercomputer communications and state-sponsored distance learning programs, said Hamant Vaidya, AT&T's product line manager for Account Executive Services.

Sonet is a very high-speed international standard for a fiber-based transmission infrastructure. Imminent business applications that mix voice, data, graphics and images will soon require a Sonet foundation to carry Asynchronous Transfer Mode (ATM) frame relay and other high-speed network services that can transport this bandwidth-intensive traffic.

"The merging of voice, data and image-into a single network has become a general business requirement," said Larry Gessini, president of the International Communications Association (ICA) user group and director of telecommunications at Agway, Inc., an agricultural cooperative in Syracuse, N.Y.

"Any major network effort that could support major applications and faster movement of information—hopefully at a lower cost—would be looked on very favorably" by the ICA, he said.

Meanwhile, corporations that offer network-based services are already eying AT&T's Sonet service. Comdisco Disaster Recovery Services, based in Glenview, Ill., for example, just completed a trial of the AT&T dedicated-line service, called Acenom T155, among facilities in Illinois and New Jersey. Sandberg will probably install the Sonet links, said John Sandberg, vice president of networking products and services.

Sandberg said Comdisco needs Sonet for two main reasons: to support the new high-speed network services its customers are migrating to (such as ATM) and to streamline its own operational efficiencies.

"This is the first technology with built-in interoperability among different vendors' equipment and using the same management structures across heterogeneous devices," he explained.

Currently, in Comdisco's backup operations center the company must duplicate each customer's transmission switch of choice. With Sonet, Comdisco could whittle down the number of switches it supports because Sonet compatibility would allow the company to logically and physically partition a given device among several customers, Sandberg said.

The availability of long-distance Sonet links also moves the country a notch closer to Vice President Al Gore's vision of solving social and environmental problems and fostering economic growth through the use of information technology, said Ken McGee, vice president at Gartner Group, Inc.

Future vision

"This is the first three-lane highway in achieving those visions," McGee said. The Sonet service represents "the next generation of transmission hierarchy in America—the migration from the asynchronous structure we've had for 90 years," he said.

Most companies will not need nationwide Sonet right away, though, as evidenced by the meager acceptance of T3 (45M bit/sec) services, whose tariffs have remained too high to become mainstream. Vaidya said the Acenom T155 service will initially be tariffed on a customer-by-customer basis, and said he expects per-bit prices to be 10% to 15% higher than T3, provided customers use up the bandwidth.

Price Waterhouse to give CDPD a chance

By Michael Fitzgerald

Price Waterhouse has signed up to test Cellular Digital Packet Data (CDPD) early next year despite initial misgivings about the nascent wireless service's data transfer protocol. The Big 6 firm will begin tests of the technology via McCaw Cellular Communications, Inc.'s network in January or February next year, according to Sheldon Laube, Price Waterhouse's national director of information and technology.

Price Waterhouse joins such companies as United Parcel Service, Inc. and America Online, Inc. in preparing CDPD pilots [CW, Nov. 22].

Depending on pricing, Price Waterhouse intends to outfit all of its portable computer users with CDPD-capable systems, in part by leveraging software expected from a recent McCaw/Lotus Development Corp. agreement to bring CDPD to Lotus' Notes [CW, Nov. 15].

Laube intends to be there at the beginning of CDPD use, Laube said.

Price Waterhouse's move to support CDPD is somewhat surprising since Laube is intensely critical of wireless this year, saying it provides poor support for large data files [CW, June 29].

Apparently Laube has softened his attitude to some degree. CDPD "is not the real answer, but it's the best we have for the next five years," he said last week. Portable technology is particularly important to Price Waterhouse because the company's revenue comes from having its employees in the offices of other firms. Price Waterhouse is one of the most aggressive adopters of notebook computers—some 80% of its PC purchases are notebooks.

Where to plug in

Laube said wireless connectivity was a must for his users. "If [any people] are in your office and you have a Rolm or any other digital phone network, how can they plug in their modem? The benefit here is that I don't have to have a phone line to connect the computer," he said.

Laube said Price Waterhouse expects combination land-line/CMDP capable modems to hit the market in 1994. The company will buy only this sort of modem as soon as it is feasible, Laube said. Currently, no CDPD modems are available, but several have been announced for availability in January.

Comdisco Disaster Recovery Services has selected CDPD as "the best we have" to interconnect its regional offices. "It's not the real answer, but it's the best answer to some degree. CDPD is 'best we have'" for its users. "If there's going to be a wireless network, this is it," Laube said.

Bell Atlantic last week said it will use Primary Access Corp.'s WireAccess cellular modem in its Airborne Gateway service to provide cellular/land-line protocol conversion between remote data devices and host computers over its cellular networks. "The gateway service will enable users to walk into any computer store, buy a cellular modem for their portable, and they're in business—without worrying about their land-line connection," said Benjamin L. Scott, executive vice president and chief operating officer at Bell Atlantic Mobile, the cellular subsidiary of Bell Atlantic Corp. in Bedminster, N.J.

Available now in Baltimore, Philadelphia and Washington, AirBridge Gateway will be offered in all Bell Atlantic markets by the end of next year, Scott said.

The announcement was made at Wireless Datacom '93 here.

Cellular modems pick up support

By Stephen P. Klett Jr.

WASHINGTON

That all said we're going to be compatible and will provide subscribers with access to the modem pool in the same way, which means users won't have to change scripts to send data from region to region," said Greg Odalan, director of wireless data at Ameritech in Chicago.

Analysts said the modem pool would help cellular technology move forward because it prepares users' investments by not requiring them to change the host computer's modem.

Bell Atlantic also announced that it has provided the first five cells and one switch in its Washington, D.C., area cellular network with Cellular Digital Packet Data service, using technology from AT&T. Called AirBridge Packet, it is also slated to be available to all Bell Atlantic markets by the end of next year.

Motorola moves

Wireless vendors' reaction to Motorola, Inc.'s recent announcement that it would charge license fees to companies deploying Cellular Digital Packet Data (CDPD) was less than enthusiastic. Motorola has claimed some of its patents cover technology inherent in the CDPD spec, which became final in August.

A Motorola spokesman said the company raised the possibility of patent issues to the CDPD consortium in April, when the direction of the CDPD specification began to gel. "I suppose, with what Motorola is doing, and my sense is that it has no desire to slow down CDPD implementation," said Benjamin L. Scott, executive vice president and chief operating officer at Bell Atlantic Mobile. "The patent claims will not be a major factor in our CDPD plans."

Jeffrey Wolf, director of sales and marketing at McCaw's Wireless Data Division, said, "Motorola has said it will have, in some cases, reasonable with terms and besides, look at who their biggest customers are: the group of carriers that form the CDPD consortium. I don't think they'd want to upset us."

It is unclear at this time, however, what the cost of CDPD licensing will be to equipment vendors and their customers. Motorola is striking individual licensing deals with each supplier, rather than charging a fixed percentage of the equipment cost, a Motorola spokesman said. —CW/staff
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Apple already missed its best open shot

Apple has decided to open up its Macintosh operating system as a way of broadening its appeal and generating a larger community of third-party developers. This is a good move but about a decade too late.

If Apple had responded quickly to the implications of the IBM PC's success, it would have fielded the Macintosh as a volume contender for the business desktops when the market was burgeoning. But Apple's roots, its individualistic culture and its persistent interest in high margins didn't allow it to do that.

Now it's raising its hand from the back of the room to say, "Me, too," on the open systems front. It's too little too late, although there's a sliver of hope that Apple will get a second chance, complementing its persistent interest in high margins didn't allow it to do that.

For many years, Digital sold computers that were more open than IBM. Its software developers paid keen attention to industry standards, and each generation of equipment was more programmable in the language of the user's choice. The process ended a year ago, a crowning achievement in open hardware design.

But the decisive step may have come too late. For much of its history, Digital was an open systems vendor only insofar as it was more open than IBM. Digital zigzagged toward an open systems strategy, but it fell short of committing to one. Indeed, it became increasingly hard for Digital's leadership to accept Unix as an "open system."

Then one day it woke up to find an upstart, Sun Microsystems, using Unix to drive Digital what it had been doing to IBM—posing as the more open vendor. (At one time, Sun sold 75% of its workstations to Digital customers, according to brokerage house Sanford Bernstein & Co.'s analysis.)

Now it is Apple's turn to belatedly turn toward an open systems strategy. Its AppleSoft Division will make System 7 available to other PowerPC vendors to produce clones.

"A variety of hardware suppliers sprang up, the number of applications developers multiplied, and Microsoft, to its credit, recognized them as resources that could be cultivated to expand the market," said Charlie Babcock, a Computerworld technical editor.

The best way to create a vibrant clone community is for the originating vendor and clones to compete on near-equal footing, trying to outdo one another in coming up with customer choices. The sooner the clones make their entry, the better. This proliferation occurred with the IBM PC because no single vendor controlled all the parts, and Microsoft was willing to sell MS-DOS to all comers.

A variety of hardware suppliers sprang up, the number of application developers multiplied, and Microsoft, to its credit, recognized them as resources that could be cultivated to expand the market.

Expecting the same thing to happen with System 7 at this late date is problematic. Apple may want to happen, but much of the fertile ground that might foster it has been closed off. The Apple customer has been trained for 16 years to think that only Apple can deliver the hardware, and customer loyalty at this point will stymie the playing power of clone start-ups. Apple has also been rapidly lowering the price of the Macintosh, leaving less room for newcomers to maneuver on price/performance appeal.

The possibility that intrigues me is that Apple and IBM teaming up to develop System 7 and something else—"Jalapen$? ADX/OS?"—on a single PowerPC platform, increasing the stakes by creating a more open system than any single PC that has gone before it.
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Chris Nicholls
Manager IS Dev.
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Digital plans customer service fixes

Targets contract administration and telephone support

By Craig Stedman
SAN FRANCISCO

Digital Equipment Corp.'s customer service unit last week laid out a plan to improve its telephone support and handling of contract administration, two areas that have drawn user criticism. However, the company said the full effect of the changes will not be felt until 1995.

The promised service changes are part of a wider overhaul of Digital's business practices and internal information systems that senior management approved late last month. The re-engineering will also touch on areas such as order processing and billing, company executives indicated.

While Digital said there is hope that some improvements will become evident by next summer, the key part of the service plan — integration of separate data bases for contract administration, call handling and service dispatch — is not scheduled to be implemented until April 1995 at the earliest.

**At your service?**

Digital is trying to resolve contract administration problems. Some examples include the following:

**Problems**

- Slow response on contract renewals and changes.
- Inaccurate information on contracts.
- Users routed to multiple offices for approvals.
- Slow updating of service call information.

**Planned actions**

- Eliminate need to enter invoices in multiple databases.
- Implement one 'per-person for handling contracts.
- Simplify and reduce size of contracts and invoices.
- Link local office and telephone support center databases.
- Offer continuous service and payments to reduce renewal process.
- Eliminate need to enter data more than once for multilocation customers.
- Integrate key functional databases.

“This is not a quick-change process,” said Phil Pietrowski, Digital's business operations manager for multivendor customer services. Especially in the area of contract administration, Pietrowski added, the firm is trying to fix a situation “that we understand is broken.”

**No choice but change**

Attendees of the Digital Equipment Computer Users Society (DECUS) conference here made it clear that changes are necessary. Robert Koskovich, information services manager at EDM Supplies, Inc. in Downey, Calif., said the mechanics of renewing and altering Digital service contracts “have been a nightmare.”

“Digital is finally waking up and smelling the coffee,” added Steven Tihor, assistant research scientist at New York University. He said it can take up to five months to renew the school's annual maintenance contract because of Digital's inability to quickly reconcile information from its various databases.

A system manager for a government operation in Colorado, who asked not to be identified, said his 1993 service contract was just recently finalized. “And it’s still only close to what it should be,” he said. “There are some things that we don’t have anymore that we’re paying for service on and vice versa.”

“It’s a classic legacy systems problem,” said Bill Mayhew, president of the Village Systems Workshop, Inc. in Natick, Mass., and chairman of DECUS’ business practices service group. Digital's need to manually load inventory into one database is not only labor-intensive, leading to higher costs, he noted.

Dave Beresford, U.S. customer administration manager at Digital, acknowledged that systems shortcomings contribute to poor responsiveness, inaccurate contracts and late updates to service delivery information.

Digital has already integrated some of its overseas service databases, but Beresford said the April 1995 date for completing the U.S. overhaul would not likely be a major problem, as long as Digital can make some intermediate improvements. “1995 is a long time to wait, but it’s a big octopus they’re wrestling with,” Koskovich said.

The company also indicated that it now plans to measure the performance of phone workers based more on customer satisfaction than on the number of calls closed. This shift is supposed to be phased in over the next few months, along with an increase in the number of high-level service engineers available to take calls, Digital executives said.

The previous approach led some users to complain that they were being rushed to make the call quota, according to Mayhew.

All shook up

The DECUS board last week stepped up the pace of the U.S. chapter's reorganization, approving a plan that cuts funding from all local user and special interest groups and shifts more business responsibilities to the unit's professional staff.

While the reorganization of the 32-year-old user group has been in the works since February, the board accelerated its implementation in the face of a deficit that DECUS sources said could approach $800,000 for the first half of the chapter's fiscal year, which ends this month.

“We didn’t want to slip into a position of cashflow difficulties,” said Margaret Knox, U.S. chapter president.

A “tokens” membership fee, yet to be finalized, is also being added. And local user groups are being moved “to more of a peer relationship,” with DECUS, in which they would be responsible for their own activities and finances, Knox noted.

— Craig Stedman
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Former Kodak IS director to head global plastics company

By Joseph Maglitta

Katherine M. Hudson, a former information systems director who became Eastman Kodak Co.'s top female business executive, has been named president and chief executive of a $243 million international plastics manufacturing company.

Hudson, 46, is ending a 24-year career at the Rochester, N.Y., giant to head up W. H. Brady, a diversified Milwaukee-based maker of coated film and industrial products, effective Jan. 1.

Hudson said she hopes to leverage her IS experience into global expansion and value-creating growth at Brady, an 80-year-old company that manufactures 20,000 different products.

Hudson said she is "very impressed" with Brady's centralized, AS/400-based operation and expects that a number of pilot re-engineering programs will be expanded. She declined to be more specific.

"Brady has used a good selection of external packages that are keeping [software] development costs and staff down," she said. "They are a decentralized company providing a source of standard technology that can then be used by the divisions. [That] was something I was working for ever when I was at Kodak."

As for how involved she plans to be in the firm's technology planning, Hudson said, "In general, I'm a hands-off type of manager. However, she added that she expects Administrative Vice President Tom Turner, who now oversees IS, to play an important role in corporate decision-making. "Anybody who has lived through an IS position knows that, clearly, the IS function should have a role at the strategy development table," Hudson said.

Ideal background

Hudson said she views her new post as evidence that IS is a good background for corporate advancement.

"CEOs of the future are going to have a significant amount of multifunctional, cross-functional background," she said. "That's something that you learn in IS because systems supports the whole enterprise."

But don't get too excited, cautioned Nancy Wendt, an IS consultant in Greensboro, N.C. Chief information officers "are at a tough juncture," Wendt said. "They're at the survival point. It's not the time to worry about where to go after IS."

Hudson gained international attention for arranging the 1989 landmark outsourcing deals between Kodak and IBM, Digital Equipment Corp. and Businessland, Inc. Most recently, Hudson served as vice president and general manager at Kodak's professional publishing imaging division. She worked in finance, legal, public affairs, investor relations and general management before being named head of a new corporate IS group in 1987. In that role, Hudson oversaw 3,000 employees and a $500 million annual budget.

Albert F. Turner, an analyst who followed Kodak for Duff & Phelps in Chicago, said that although Hudson played a large role, her departure was unlikely to disrupt business too greatly.

"Eastman Kodak has a lot of soldiers ready to fill the ranks," he noted. "They are not going to have any difficulty in filling this position."
"We were born mainframers. Then Micro Focus introduced us to a new way of life."

Mark Mroz and Dan Hendricks, Consumer Information Management, AT&T.

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Dan Hendricks and Mark Mroz in Consumer Information Management at AT&T are part of a 1000 strong programming staff in Piscataway, New Jersey.

As mainframe programmers, they both know what it's like to be 300th in line for compilation. "A typical fix to a program, maybe a quick edit and compile or something, could easily take you half a day on the mainframe," says Mroz.

They began using the Micro Focus Offloading Solutions two years ago and found "everything we could do on the mainframe we could do with Micro Focus COBOL." The PC is so much faster. There are still times when I have to go back to the mainframe, but I really do not like it. I try and steer clear of it, if possible."

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Apple tries to fire up Newton developers

By James Daly
SANTA CLARA, CALIF.

Four months after Apple Computer, Inc. launched the Newton personal digital assistant, the company last week gathered more than 1,000 developers interested in crafting software for the product line and bluntly said the machine's success or failure rests squarely on their shoulders.

"This industry is based on content," President Michael Spindler said at the Newton Platform Development Conference. "We need your applications to foster the communication that Newton is all about.

Spindler acknowledged that the Newton MessagePad, the line's first product, has been "a bit of a Liberal barb since its introduction at this summer's Macworld Exposition."

He compared its rocky reception to the early days of television, when the technology was awkward and incomplete and gave no hint of the immense societal changes it would come to.

To make Newton appealing to corporate America, analysts said, Apple needs to fill critical gaps, including a software developer's kit that is still in beta testing and the lack of two-way paging capabilities.

"It's hard for companies to commit when the pieces aren't all in place," said Pieter Hartsook, editor of "The Hartsook Letter" in Alameda, Calif.

CONTINUED FROM COVER 1

Illustration: The Newton in use.

Hot commodity

Newton sales are expected to more than triple by 1995

94 105,000

95 400,000

(Units sold)

That discrepancy is going to make the Newton a tough early sell to the "business professional," whom Gaston Bashein, vice president of Apple's Personal Interactive Electronics Division, said represents the Newton's target market.

Hartsook said he expects most of the key components — including full delivery of connectivity components — to be available within six months.

Until those pieces are in place, some Macintosh fans will look on the Newton as a fascinating piece of technology but not a critical business tool.

"If they start improving their digital and cellular communications capabilities, then they may have something really appealing and we'll give it a harder look," said Young, director of neu-ropharmacology computing at the Scripps Research Institute in La Jolla, Calif. Young has considered outfitting nurses and doctors with the Newton.

Budget constraints

The MessagePad's success will hinge on Apple's ability to convince users that they cannot live without its "anytime, anywhere" capabilities. That could be a tough sell in a land where corporate information systems budgets have tightened considerably in the past two years.

"I'm more interested in putting full-fledged workstations on desks than getting the Newton in the hands of users," said Dr. Steven Erde, director of academic computing at Cornell University Medical College in New York.

The upcoming enhancements are great, some users said, but Apple still needs to work on some of the hardware.

"It's still agonizingly slow," said Bruce Gordon, a designer at Walt Disney Imagineering in Glendale, Calif. Gordon then spent two minutes trying to beam his business card from his Newton to another Newton user about 2 feet away. After several unsuccessful attempts, he shrugged and said he had done this before, reached into his wallet and pulled out a traditional paper business card.

Follow the script

Also still troubling is the lack of a final software developer's kit. The Newton operating system, called Newton Intelligen-dence, demands that independent software vendors develop applications from scratch using the Newton Toolkit. The Toolkit has its own object-oriented pro-gramming language, called Newton-Script, that enables developers to pro-gram functionality as a series of reusable objects.

Developers said the beta developer's kit works fine for developing applica-tions, but the lack of a final version could cause corporate users to hesitate. The delay in making a kit available represents the classic comumdrum when attempts to establishing a new operating system platform: Users will buy it only if a wide range of applications are avail-able, but software vendors will develop applications only if there is a large in stalled base of users.

While only about 10 applications are now for sale for the Newton, 30 others are nearing release. Apple officials said about 2,000 developers are active in New-
ton development. That is an impressive number for a device with an estimated in stalled base of less than 100,000.

"It took Hewlett-Packard two years and $525,000 palnplotts to interest that many developers," said Jeffrey Hennin, a senior industry analyst at BHS Strategic Decisions in Norwell, Mass.

Spindler said the company had shipped 50,000 Newtons by the end of the September, but he said he would not release recent sales figures until after the first of the year. "We're pretty satisfied with sales," he noted.

Consultants say Microsoft may one-up Apple in PDAs. See column page 46.

Next Newton

Apple analysts said they expect to see several additions to the New-ton product line next year, includ ing the following:

* The NotePhone from Rijm Corp., which is a standard analog phone with a docking station for a Mes-sagePad. Expected price: $1,000. Shipment: June.

* A larger and heavier model (8 by 10 in. and weighing about 3 pounds) geared toward vertical applications such as data collec tion tasks within a company. Ex pected price: $900 to $1,000. Ship ment: June.


James Daly

On the workstation and minicomputer levels, "HP is probably hedging their bets," said Sam Ellis, associate vice president of information services at Portland Community College in Portland, Ore.

"But they're not going to bet their corporation farm on it." Ellis, whose HP equipment includes a large Unix version of HP's mainframe alter native Corporate Business System, said NT is a long way from his own multi user plans.

"This is a bid for market share by HP, but they're not turning their back on their current user base," said Eric Fisher, principal at Fisher Systems Consulting in Groton, Mass.

Fisher further pointed out that the bi endian design opens the way for supporting other Intel-associated operating systems. "That includes OS/2, Chicago, and all of those things." Fisher said.

"And if you really want to hold your nose, it includes DOS."

Users are both concerned and excited about HP's post-PA-RISC era. See story page 72.

HC support for NT

CONTINUED FROM COVER 1

NT commitment above the PC level. The company now appears to be hedging its bets, positioning itself in the event that NT catches on in the workstation and minicomputer markets, analysts said.

Interest in NT by PA-RIISC licensees is also forcing HP's hand.

"We cannot ignore the existence of NT or its gradual evolution," nor can our partners," Rosenblad said.

"NT has a strong history with the Intel environment and therefore requires this [Little endian] type of architecture," he continued. "Today, it is prudent to develop microprocessors that can do both byte-and-word schemes.

Rosenblad noted, however, that Mi crosoft is not working with HP on the byte-ordering project.

HP's forthcoming "bi-endian" design will continue to support software written for PA-RIISC machines while easing support for software written for NT and other Intel-associated operating systems.

Industry analysts agreed that HP antici pates the shift in the workstation mar ket once rivals Sun Microsystems, Inc. and IBM field workstations that run NT next year. Digital Equipment Corp. and workstation start-up Netpower, Inc. already are selling NT RISC machines; they were designed around Alpha and MIPS Tech nologies, Inc. RISC chips, respectively.

Live demonstration

Linley Gwenap, editor of the "Micro pro cessor Report" in Sebastopol, Calif., said HP gave a back-room demonstration last month at Comdex/Fall '93 of a workstation running NT software using a bi endemic, trimmed-down version of PA RIISC, called PA-RIISC 7100LC.

But the LC, or "low-cost," version will not appear in HP's multiseri es systems be cause it runs at a maximum of 27 MHz, well below the 90-MHz speeds HP uses widely today in its minicomputers, HP said.

On the plus performance side, how ever, HP will use a 48-bit design on the LC chip, compared with the 32-bit design on today's PA-RISC, the company said.

"The LC is suited to desktop systems but not really designed for large ser vice systems," Gwenap said. "It has a smaller cache and doesn't have the same performance as the high-end chips. But the im plication is in the future, they could put it on a PA-RIISC server."

Users and analysts noted that the bi endian development gives HP a nearly ready-to-go entrée into the NT market with its workstations and minicomputers and that HP will complete a port when NT takes hold in those markets.

"NT is not taking the workstation mar ket by storm," said Bill Bluestein, direc tor of Computing Strategy Research at Forrester Research, Inc in Cambridge, Mass. "NT will probably build up a core of application support in that area, but it's certainly not the case now. I think HP will be ready to use it when it is."

Analysis further noted that the 7100LC chip should gain HP entrance into the low-end workstation market, where it does not have a sub-$5,000 offering to compete against boxes from Digital, IBM, Silicon Graphics, Inc. and Sun.

DECEMBER 13, 1993
Enterprise Client/Server: The Database Engine

"Choosing the right database means looking past the check-box features. You have to look at the significant differences, the things that affect your ability to build an enterprise-wide system. And by far the most important is..."
SmartSuite to get Notes

By Michael Vizard

Although Lotusphere attracted a veritable Who's Who of attendees from Fortune 1,000 companies, even Lotus's best efforts couldn't keep a Notes forum up and running smoothly for four days.

The Notes server used by attendees at the show crashed for an extended period at least once, had to be rebooted several times for reasons subject to single-system performance and at one point fell victim to a virus sent over electronic mail that crashed every Notes session on the network.

One of the reasons Lotus has had trouble maintaining a consistent level of Notes support may actually lie in the prices it charges for consulting. Because Lotus consultants typically get paid about $100 per hour, the most reasonable charge for a support cover they can venture out on their own and charge considerably less than Lotus.

Two of the larger vendors to join the Notes bandwagon last week were Wang Laboratories and, as expected, Powersoft. Close to three quarters of Powersoft's installed base has Notes installed, said Bill Critch, Powersoft's director of business alliances.

Edge Research, a start-up founded by Mark Klein in Portsmouth, N.H., who also founded Channel Computing, has developed a highly polished alternative application programming interface for Notes. The company's first offering is a tool linking Visual Basic applications to Notes, which Edge Research will give away to customers. However, Edge Research will charge for support calls.

change the business cycle.

Pinsky said many Notes installations fail to achieve specific ROI targets for Notes because their implementations goals are too vague for what is essentially a set of 16-byte distributed databases. Instead, many sites approach Notes like an extension to their electronic-mail system that is deployed in search of an application, as opposed to an environment that has to be managed like any other database, he said.

"Notes becomes a different type of animal at the enterprise level, and it grows everywhere. You have to make sure the technology doesn't outpace your ability to support it," said George Goldsmith, president of the Human Interface Group in Wethersfield, Conn. Despite these caveats, large IS organizations are still plowing ahead with Notes deployment.

"Notes is a required technology platform for everybody. You can apply an ROI to specific tasks, but ROIs don't take into account the investment in technology people are making for future applications," said John Faig, an industry analyst at Meta Group, Inc. For example, Boston Chicken is deploying 2,000 copies of Notes to link its restaurants with its corporate IS headquarters in Chicago.

And the Canadian National Railway way system is using Notes to track its efforts to re-engineer the railroad using technology acquired from the Santa Fe Railroad Co., according to systems manager Glenn Chafee. The railway is using Notes as the primary vehicle for keeping track of the specific jobs on the $150 million, four-year project.

Cooperative cartel

Meanwhile, Lotus chief executive officer Jim Manzi said Notes will be one of the technologies that fosters the creation of 'electronic keiretsus,' among companies. Keiretsu is a Japanese term for a cartel of suppliers and customers who work cooperatively together.

Partly with that goal in mind, QCS Development Co. in Valbonne, France, plans to use Notes as part of a clearinghouse for buyers and manufacturers that will allow retail stores to order goods from suppliers in the Far East, said IS manager Steve Roosenga."
Novell messaging
CONTINUED FROM COVER 1

end clients and wide-area services [CW, Sept. 13].

The Da Vinci pact is meant to assure customers of a high degree of integration between front-end and back-end messaging pieces and provide a single point of support, like they receive in single-vendor solutions, a Novell official said.

However, while Da Vinci is a third-place player in most LAN surveys, its strength is mainly in small businesses, not in the corporate market.

Furthermore, "displacing the leading players will be very difficult because most big companies already have set their LAN E-mail standards, and they aren't MHS-based," said Chuck Stegman, a principal analyst at Dataquest, Inc.

In a recent study of 200 medium to large-size companies, 71% said they had standards in place, but only 2% mentioned having any MHS-based products, Stegman said.

"What's hurt Novell is its lack of marketing and inability to build demand in the NetWare marketplace," said Terrence McCarthy, managing director of Neoteric, Inc., a systems integrator in New York.

Additionally, the messaging landscape very likely will change next year when Microsoft saturates the messaging market by bundling E-mail clients for free in its next version of Windows.

"If Microsoft only gets 25% of Windows users to upgrade, that's 20 million copies of Microsoft Mail out there. Even though the back end will be open, that would entice a large user to consider a Microsoft back end for support reasons," said Jim Lisiak, a software engineer at Chevron Information Technology Co. in San Ramon, Calif.

Although tight network operating system and messaging integration would be a bonus, it is not enough to draw the city of San Carlos, Calif., which recently standardized on Lotus' CC:Mail, said Brian Moura, an assistant city manager.

"The key is most E-mail packages can read the NetWare bindery. In CC:Mail, that process is not as smooth as it can be, but it's easy enough." Ultimately, the lack of strength in enterprise messaging could hurt Novell's network operating system sales.

"They can do well for a while without an interesting strategy because they have a huge LAN market share, but it'll hurt them when Microsoft comes out with a stronger back-end operating system," said Sara Radicati, president of the Radicati Group, a consulting company in Palo Alto, Calif.

But McCarthy said that although Novell's marketing is weak, its MHS products are strong. In fact, several large customers have standardized on MHS and either Da Vinci E-mail or Beyond, Inc. E-mail clients, including Guinness North America and Revlon, Inc., he said.

X.500 or not?

Although Novell's Global MHS messaging directory will tightly integrate with the NetWare Directory Services (NDS) in NetWare Version 4.01, for users the question is how easily the information will integrate with other systems' directories.

Novell claims NDS and Global MHS are based on the X.500 directory standard. NDS and MHS architecture is like X.500, but Novell built the directories on its IPX and SPX stacks so they are no longer protocol-compliant with X.500, which lives on top of an Open Systems Interconnect or TCP/IP stack.

"The point is that because of the way Novell has done it on the wire, if you can capture their packet, it's not compliant and understandable by an X.500 implementation," said Sara Radicati, president of the Radicati Group and a principal designer of the X.500 standard.

However, Novell has assigned an application programming interface to its directory that is very similar to the X.500 API, so it would be easy to write software that goes between the two, Radicati said.

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COMPUTERWORLD DECEMBER 13, 1993 15
WordPerfect names new CEO

Alan Ashton, WordPerfect Corp.'s co-founder and chief executive officer, is moving up to co-chairman on Jan. 1 and will be replaced by Adrian Rietveld, who had been senior sales and marketing vice president. Ashton said WordPerfect needs a more aggressive CEO as it restructures operations next year.

CA ships OS/2 project package

Computer Associates International, Inc. last week began shipping CA-SuperProject for OS/2, a native 32-bit project management application designed to exploit OS/2 strengths such as the WorkPlace Shell, preemptive multitasking and enhanced memory management. The package provides binary compatibility of SuperProject files across four platforms: OS/2, Windows, DOS and Digital Equipment Corp. VAX/VMS.

New notebooks from NEC

NEC Technologies, Inc. introduced the Versa E notebook series, which features faster processors, accelerated local storage and three-hour battery life on its thin-film transistor, active-matrix color model. NEC has also built in an integrated trackball for its latest-generation notebook. NEC is the second major vendor after Toshiba America Information Systems, Inc. to use Intel Corp.'s SL-enhanced 486/66 MHz DX2 and 25/50-MHz DX2 in a notebook line.

Tate leaves MMA

Priscilla Tate has left her position as executive director of the Microcomputer Managers Association (MMA) in Warren, N.J., to convert to an independent consulting business. Alex Kass, a founder of the MMA and former president, became interim director.

France Telecom, Bundespost team

France Telecom and Germany's Deutsche Bundespost Telekom last week said they have signed an agreement to cooperate and provide X.25, frame relay, Internet Protocol, virtual private network, very small aperture terminal and other services throughout the European Community bonded by a common network management system. The single-backbone venture, expected last month that the two European telecommunications companies would be more interested in commercial services and head of the 925-employee IS department. Yates said he expects the new organization to produce tangible results such as new IS executive centralized the then-IT management team to work operations, PC-user support and IS administrative functions.

A "consultancy" of about 30 people to help business units with IS needs assessment and financial analysis, as well as market the IS department's capabilities.

A small office of IS "architects" to facilitate the development of comprehensive technology standards, which are sorely lacking at TVA.

TVA overhaul continues from cover 1

Malcolm said the overhaul of the IS department must help TVA respond to the "sea change" of deregulation, which is introducing competition in the electric utility industry. The end of monopoly status requires electric utilities to slash costs, radically re-engineer business processes and replace old information systems with ones that support the new way of doing business, said George M. Hill, the Phoenix-based head of Andersen Consulting's utilities practice.

Prior to last week's reorganization, the IS department was divided among business lines, such as power generation and marketing. That meant the IS groups at the Knoxville-based utility were building redundant, incompatible systems, such as those for personnel, for each of the business lines, according to Jack Flack, who has the new title of information technology architect.

New roles

The new wave-organizational chart clarifies the roles of IS professionals by allowing technical experts to focus on technology and creating a separate group of "strategic consultants" to build better relationships with the business units.

The consultants will have the full-time job of "interacting with the key opinion leaders [in the business unit] to build new strategic IS opportunities that we're missing now," said Robert L. Yates, TVA's vice president for information services and head of the 925-employee IS department.

Previously, that sort of strategic thinking was supposed to be done by line managers, Yates said, "but you can't expect them to do it in their spare time because there is no spare time."

By separating the roles of technologists and business consultants, the consultants can recommend IS applications without bias about what technology — such as mainframes or PC networks — to use, Yates explained.

Otherwise, it is human nature for technologists to recommend their pet platform without regard to business needs, he said.

The restructuring is just the latest in a series of efforts to reform the IS department. TVA's previous IS executive centralized the then-scattered IS department, but that offended the business units, Flack said.

The previous chief also started to drug the IS department away from IBM mainframes and into client/server computing on smaller platforms. He signed a $16 million contract with Oracle for software licenses, Flack said, which alienated the mainframists, who felt management was "shoving Oracle down their throats."

TVA's inspector general is investigating the Oracle contract due to allegations of conflict of interest and kickbacks, TVA sources said. In addition, the inspector general is probing allegations of improper procurement of a PeopleSoft, Inc. payroll system [CW, June 21].

Still pending

Jim Reed, manager of financial investigations in the inspector general's office, declined to provide details but said investigations of the PeopleSoft and Oracle contracts will be resolved soon. Flack said the IS department was cleared of wrongdoing in the original Oracle contract, but certain revisions to the contract are still under investigation.

In August 1992, Malee brought in Yates, who had been corporate treasurer, to "clean up the mess" in the IS department, according to sources. Yates said he found a department with "a lot of turf battles, no clear-cut domains and built-in conflicts of interest," which is why he forged ahead with the reorganization.

Yates said he expects the new organization to be stabilized — and produce tangible results such as better client satisfaction — in three to six months. The next big step will be billing the business units for IS services so they recognize IS is not a free resource, IS officials said.

TVA closely followed a blueprint developed by IS management consultant N. Dean Meyer and Associates, Inc. in Ridgefield, Conn. However, Yates said he opened the process to employee input rather than keep it secret until the announcement. Employees in TVA's IS organization are represented by three unions, so Yates said it was crucial to get union buy-in for the restructuring.

West Coast correspondent Kim S. Nash contributed to this report.

Sun sets on technical users?

By Joe S. Bozeman

SAN JOSE, CALIF.

Technical users at last week's Sun User Group said they feel their vendor has shifted its focus to commercial sites and is leaving them behind.

Sun Microsystems, Inc. appears to be more interested in commercial users than its original cadre of scientific and technical installations, some of the 200-plus attendees said.

"Sun is selling a lot of Classics and LXs to people who don't know about Unix," said Gene Rackow, a systems manager at Argonne National Laboratories in Argonne, Ill., and a user group board member.

Some users are toying with the idea of moving to other Unix computers when their Sun hardware wears out. "Why do I buy a Sun when I'm changing my environment [to Solaris 2.3] and my users have to learn again?" asked Michael Pearlman, a systems manager at Rice University in Houston.

Other users said they see machines from Hewlett-Packard Co., IBM and Silicon Graphics, Inc. as the way to go. "Now we're beginning to see [end users buy] many other workstations," said S. Lee Henry, a Johns Hopkins University systems administrator.

"We are 90% SunOS and 9% Solaris 2.x," said Govind Desale, a network systems manager at National Semiconductor Corp. in Santa Clara, Calif. "Because we have SPARC compilers and packaged applications, the cost to convert would be small."

A Sun spokesman said the firm is taking a balanced approach. He cited graphics enhancements and new higher-speed SPARC-based systems that should appeal to both technical and commercial users.
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Tandem tries to make nets more dependable

By Jean S. Bozman
CUPERTINO, CALIF

Tandem Computers, Inc. and its Ungermann-Bass, Inc. subsidiary last week launched a fault-tolerant networking system for PC LAN applications, the first in a series of products that the firms said would make client/server computing more reliable.

The two firms plan to extend Tandem's fault-tolerant hardware features, which were built to run on its proprietary NonStop operating system, to network wiring hubs and PC LANs made by other vendors. Users installing the products could reduce client/server application outages by up to 80% [CW, Dec. 6], according to Tandem, which said it gauged the reliability boost using a self-developed 1,000-user LAN model.

"We need to get to a point where we get client/server dial tone," said Gary Sabo, Tandem's director of product marketing for open access systems.

Looking ahead

One longtime Tandem and UB site, the Coffee, Sugar & Cocoa Exchange in New York, plans to use the products for LAN applications slated to go into production early next year, said Phat Leung, the exchange's director of systems and planning.

Tandem built many elements of client/server technology early, analysts said, but has not capitalized on these strengths — or on its ownership of UB. "Tandem is trying to make waves in the marketplace to show they're very much in the [client/server] mainstream," said George Weiss, a vice president at Gartner Group, Inc.'s Mid-Range Computing Strategies group. "They need to supplement the hardware for fault-tolerant hubs with software."

Rival approach

Tandem rival Stratus Computer, Inc. in Marlboro, Mass., has taken a software-oriented approach to building fault tolerance into Novell, Inc. NetWare LANs. The company is beta-testing NetWare for Unix software, which would enable Stratus machines to bring fault tolerance to NetWare servers [CW, Aug. 2].

Separately, Ethernet switching pioneer Kalpana, Inc. last week introduced a two-tiered approach to bullet-proofing its EtherSwitches, internetworking devices that allow users to dedicate an Ethernet's worth of bandwidth to one or a few resources to boost network throughput.

Users can purchase a $7,500 to $9,500 device consisting of completely redundant EtherSwitch components, all operating in parallel. The second option is to pay an extra $1,000 over the cost of a standard $2,000 EtherSwitch chassis for dual-power supplies only.

Senior Editor Joanie M. Wexler contributed to this report.

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Middleware brings host data to PC apps

By Johanna Ambrosio

Middleware unveiled last week by Early, Cloud & Co. promises to give mainframe applications a kinder, gentler means of achieving client/server nirvana.

With Message Driven Processor (MDP), users will be able to tap into virtually any host-based application that supports IBM's CICS and bring the data into almost any PC-based application, according to officials from the Newport, R.I., company.

Available immediately for a limited number of customers, MDP sells for a minimum of $40,000 because services are bundled with the very complex package, which includes 250 programs and some 400,000 lines of code.

The software message-oriented middleware simplifies the data-gathering process from both an end user's and programmer's perspective, officials said.

"When a client machine makes a request, MDP takes the message, opens up the envelope, defines the tasks needed to answer the question, taps the back-end systems and puts the answer back into the envelope, and sends it to the client machine," said Gary Krueger, vice president of sales and marketing. "With workflow automation part of MDP, all of this happens behind the scenes, he added.

The approach MDP takes differs from that of remote procedure calls (RPC), Krueger said. While RPCs require clients to wait for the reply before they can proceed to other processing, MDP does not, he said.

"With MDP, the client can go on and do other things while waiting for the answer," Krueger said.

Early interest

At least four large banks are beta-testing MDP, which is based in part on a previous Early, Cloud package that automates the customer service function, Krueger said.

First Bank Systems in Minneapolis is not yet using MDP but is "very interested" in it, said Bernard McGarrigle, vice president of emerging technologies at the bank, a longtime user of Early, Cloud telemarketing software.

"Right now our applications are terminal-based, and we want a workstation-based environment," he said; MDP will likely "expedite that process for us.

Similarly, Norfolk Southern Corp. in Atlanta has been using Early, Cloud's telemarketing software in its customer service center, said Allen Childress, assistant vice president at the transportation concern.

To help answer customers' questions about the status of their shipments, "we are extrapolating data from several applications and bringing them down to an intelligent workstation with a graphical user interface, MDP, or something like it, would help with that effort, he said.

MDP, available now for any MVS-based mainframe that also runs CICS, will be delivered next year for other CICS platforms, including OS/2 and AIX. Others will follow.

Satisfying the client

On the client side, MDP supports development tools, including Microsoft Corp.'s Visual Basic, Easel Corp.'s Workbench and Powersoft Corp.'s PowerBuilder.

The basic MDP set includes an application development environment with a workflow management tool set, a runtime environment, technical support and maintenance.

The major component of the development environment is a script builder that contains executable objects that fulfill the client's request.

Scripts are created in the development environment and executed in the runtime environment.
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**SGI takes Challenge to commercial mart**

By Jean S. Bozman

Seeking to further diversify its scientific/technological roots, Silicon Graphics, Inc. (SGI) plans early next year to make a splashy push into the commercial database server market. The move could signal an aggressive stance by $1 billion SGI against $4.3 billion Sun Microsystems, Inc., which sells many high-end machines to commercial sites as database servers, said Tony Iams, a research analyst at D.H. Brown Associates, Inc. in Port Chester, N.Y.

SGI will elevate its commercial presence by getting systems integrators to pitch its Challenge server as a high-speed, high-capacity database engine aimed at a variety of computationally intensive applications, including multimedia. SGI began diversifying its business last summer when it formed its Information Products Division (see story at right).

**Visualizing is key**

"You can fly through your corporation," said Jim Presley, regional operations manager at Electronic Data Systems Corp.'s High-Tech Industry Division in Pleasanton, Calif. Visualizing a business model, he said, "can show a corporation what they need to do to get their financial systems in tune, or what type of information their sales organization should be providing to them and how often."

Early users said the SGI machine's high performance and big database capacity outweigh concerns about the price tag, which ranges from $800,000 to more than $730,000 for a 36-processor Challenge machine. In contrast, Sun's SPARCcenter 2000 ranges from $805,000 to $1397,000.

Both SGI and Sun are trying to shake their images as technical workstation vendors. But SGI may have an edge, analysts said. "They definitely have an edge," Iams said. "SGI [machines] have buses with enormous bandwidths to push pixels around." A SPARCcenter 2000, which is a symmetrical multiprocessor with about 500 Mbyte/sec. of I/O bandwidth, would be outpaced by a high-end SGI Challenge and 1 Gbyte/sec. aggregate bandwidth, Iams said.

SGI plans to bank on benchmarks to show that Challenge machines provide better overall performance than the less costly symmetric multiprocessor servers from Sun and other Unix vendors. "The key to their success is going to be that the cost of their transactions per second will be way down compared to others," said Donald Feinberg, a program director at Gartner Group Inc.'s Software Management Strategies Group in Santa Clara, Calif.

Some users said they are considering the plan. One information systems planner at a large petrochemical company said SGI recently stopped by to present its database plans. "That new machine they've got has a high-bandwidth backbone," the planner said, referring to the Challenge machine, "but whether it works as well as they think it remains to be seen."

SGI machines have been used at commercial sites for years. United Airlines in Elk Grove Village, Ill., has been using two SGI Iris machines to run flat-file databases since 1981. United downsized a crew-scheduling application from an IBM 3090 mainframe host to run on IBM RS/6000 and SGI workstations, users said.

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**Object orientation**

Sun extends net management

By Lynda Radoshevich

SunConnect last week unveiled a distributed, object-oriented network management platform, in addition to filling in strategy details and introducing enhancements to its existing SunNet Manager platform.

The Mountain View, Calif., division of Sun Microsystems, Inc. said it will take a three-tiered approach to network management.

At the high end, SunConnect will offer a product called Encompass that will be aimed at users who need a fully distributed enterprise network management platform. The low end will be a continuation of the current SunNet Manager line and a midrange strategy will include software that allows SunNet Manager's server to synchronize data.

SunConnect said it will ship Encompass, which is based on distributed, object-oriented technology licensed from Net Labs, Inc., to customers by the fourth quarter of next year (CW, Dec. 6). A developer's release will ship in the second quarter. Encompass is based on a shared object-oriented data repository. It will enable application integration and security levels for multiple managers, according to SunConnect.

**Help with integration**

William Gray, a systems programmer at the University of Tennessee, a SunNet Manager site in Knoxville, said he hopes the new release will help him integrate divided network management sections into a global view. "Currently, if we want to look at a particular section of the Network we have to put up a monitor in that area," he said. Encompass will allow low administrators to manage dispersed network functions from one screen and to call up that screen from various points on the network.

**Intelligence added**

Additionally, Encompass will include "nerve center" technology from Net Labs that can add some intelligence to network management. For example, the nerve center can be programmed to act on specific alarms, according to Brian Biles, a SunNet product line manager.

One concern users may have is that existing applications written for SunNet Manager Versions 2.0 and 2.1 will not run on the Encompass platform. Instead, users will have to rewrite applications or use Version 2.2 as a bridge to send information from earlier releases to Encompass, Biles said.

At the lower end, for managers of discrete network segments, SunConnect will ship in the first quarter of next year an updated version of SunNet Manager that runs on Intel Corp. 486- and Pentium-based machines. Also, the management platform will be available for the Solaris 1 operating system — used by 50% of Solaris users, Biles said.

To link multiple SunNet Manager segments, SunConnect will also ship in the first quarter two platform extensions that provide a common repository and reporting mechanism for information sent by multiple SunNet Manager systems.
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Hubble trouble

Watching the Endeavor astronauts in space working on the Hubble telescope for about 30 hours last week made me wonder: Is there anything they didn't fix up there? I mean, did NASA launch a '78 Chevy by mistake and now they're trying to replace it piece by piece?

Actually, the Hubble experience may strike a familiar chord with many IS managers because what NASA is doing 350 miles above the Earth is coping with a bad legacy system. Imagine Hubble was instead an old accounting application. Launched years ago, the system is no longer able to accommodate its users needs.

The company's got too much invested in it to throw it out and there's no guarantee a replacement will work any better. So the owners just keep patching it up.

Chances are there's a system like that in your organization. IBM software restructuring guru Eric Bush says he's seen applications in some IS sites that are 90% constructed of 90% dead code. That's program logic that doesn't do anything other than take up memory space but is so poorly documented that everyone is scared to get rid of it.

Like it or not, the legacy is here to stay and the smart providers of software and services are going to be those who recognize that. "The future of computing is in applications that span platforms," wrote Humana's Joe Vincent in a defense of the mainframe that appeared in Computerworld last month.

Many vendors still don't understand that legacy systems will be one of those platforms. Remember application downsizing? A couple of years ago a lot of vendors were saying you should move mainframe applications down to client/server platforms. But just about no one could do it. Even if the applications worked on the network, performance suffered and user training and support problems overwhelmed the hardware savings. Now the buzzword is "right sizing," which can mean whatever you want it to mean.

The technologies that get press are the ones that push the leading edge. But the ones that get the attention of IS management are those that leverage existing investment. A legacy system is a lot more than an application. It's the key skills of the IT staff, the technical experience of the network managers and the business knowledge of the whole organization. Any vendor that tells you that stuff isn't important — that mainframes are dead, Cobol is a dinosaur and SNA is a has-been — is brain-dead. Some vendors in the industry — Computer Associates, Legent, Electronic Data Systems, IBM, Computer Sciences and others — are those that understand how to leverage the resources users already have. There's a lot of value in those old systems, even if they don't work so well anymore. Just ask NASA.

Commodore Amiga overlooked, again

I must express concern over a glaring misstatement in your report on Michael Spindler's keynote speech at Comdex/Fall '93 ["Apple declares micro war," CW, Nov. 22].

Your report states, "Apple will be the only PC company with a machine that can run DOS, OS/2, Windows, Windows NT, Unix and Macintosh software." You owe it to your readers to point out that a suitably equipped Commodore Amiga already has the ability to run "... DOS, OS/2, Windows, Windows NT, Unix and Macintosh software" (not to mention AmigaDOS software). Why has this escaped the mainstream press for so long has been the subject of endless speculation and accusation.

The Amiga's 32-bit preemptive multitasking operating system, its object-oriented graphical user interface, its 1,280 by 1,128, 262,000-plus color screen mode, its 30 frames per second full-screen animation, its robust, interprocess communication, its Auto-Config hardware specification and other features are considered cutting-edge only now that the heavy hitters are targeting them.

All of this, combined with support for multiple (simultaneous) operating systems, should earn the Amiga at least an acknowledgement, if not full-scale coverage in the mainstream computer press.

Commodore Amiga overlooked, again

The complexity of software contracts

In the article "Software contracts" [CW, Nov. 8], put simply, there is some bad advice.

It is suggested that "an adequate warranty is one that provides for a total refund at the customer's option..." A computer user's damages for a system that fails to perform in accordance with specifications often can lead to that user's bankruptcy or, at the very least, damages far in excess of the price of the system. Computer contracts involve complex legal issues. Your readers should be cautioned not to forget that.

Regarding "Software contracts," the writers' suggestions are a typi
cal knee-jerk reaction to a few common software contract provi
dences that software users will inevitably encounter.

Notwithstanding the boilerplate that is lumped into so many soft
ware contracts, there are no clauses or provisions that should be automatically inserted into any contract.

Each software contract uniquely defines a relationship between a vendor and a user, and that relationship must be the paramount element in any negotiation of contract terms.

If you build your contracts solely out of the boilerplate that will give you the best initial advantage in litigation, you will neglect the core purpose of the contract.

Waxing antithetical

Regarding your editorial, "Friends, Romans..." about John Sculley [CW, Oct. 25], why did you decide to use a word such as antithetical? It is not in my 1980 Oxford American Dictionary (paperback edition) and my spell checker just laughed.

I realize as a writer, you want to stretch your reader's minds, but I bet you lost most of them on that one.

Of course, it is easy to guess the meaning of the word from the context.

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Interactivity means ‘active’ participation

Esther Dyson

If you think interactivity is all about home shopping, you're missing the most important implications.

Many found network services hard to use via DOS commands — and so were using them as little as possible.

Crossing that line between the network and the desktop gave this man some real insight into how to help users make the most of the company's client/server systems. His organization switched the user interface to the services from DOS to Windows, and users who had barely touched the network became enthusiasts.

The third hammer stroke is falling now — not just on me, but on this publication.

As our readers move more and more into client/server, we're beginning to realize we cannot afford to keep the old separations between reporters' beats.

A lot more cross-fertilization is taking place across reporters' areas of specialization — between the desktop operating system report- ers and the networking people, for example. And we are all beginning to bone up on technologies that used to seem totally irrelevant to our jobs.

This is enabling us to better understand (and also sympathize with) what our right-sizing readers are going through. But boy, have we all got a lot to learn!

Horwitt is a Computerworld senior editor, networking.

Elisabeth Horwitt

Forget the old distinctions

Y ou know how it is when the gods seem intent on hammering something into your thick head? This happened to me recently, and it seems I am far from alone.

It happened this way: I was at a client/server conference, and a guy from a major investment company was telling a horror story about what happened when a group of old-guard IS managers were turned loose on their first mission-critical client/server implementa-

The company had provided training to reorient the IS managers' mainframe skills to analogous PC-based products — DB2 to dBase II and so on. However, three months into the project, the group was already six months behind. Where they got stuck, my source said, was in trying to find the ideal combination of LAN, client, PC software and server products.

And software people kept switching out products that didn't work, and they were getting in-
drawn-out debates with the database design- ers about which pieces of data would stay on the host and which would go on the LAN server.

The group finally figured out that they couldn't get away with the old data center or- ganizational model, with separate slices of database, network and hardware experts oc-
casionally exchanging E-mail. Successful client/server implementa-
tions require a single project team of people who have at least a basic working knowledge of all disciplines, so the different disciplines can have meaningful dialogue, he said.

Right, I said. That makes sense.

A week later I got another tap from the hammer. An extremely savvy technical support manager told me that when he was just a net-
work administrator, he assumed all he had to do was deliver network services to users' desk-
tops and they'd start using them. He got a real awakening when he started working closely with users on the desktop. He learned that...
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It's a winner.
Microsoft to offer FoxPro for Macintosh

By James Daly

Microsoft Corp. is likely to make a splash at next month’s Macworld Exposition in San Francisco when it delivers its first database for the Apple Computer, Inc. Macintosh.

FoxPro 2.5 for the Macintosh, which will be announced this week, not only fills a hole in Microsoft’s Macintosh product line, but looks to bring some introductory price is expected to start off a pricing donnerbrook among established competing products, such as Claris Corp.’s FileMaker Pro and Acius, Inc.’s 4th Dimension, both of which sell for hundreds of dollars more.

Microsoft will also emphasize FoxPro 2.5’s cross-platform compatibility, which offers support for Windows and DOS. In addition, FoxPro for The Santa Cruz Operation’s Unix and Xenix will be available by June, Microsoft officials said.

One standard

FoxPro for Macintosh-based applications can be run, unchanged, in FoxPro for Windows, FoxPro for DOS, and Unix and Xenix, said product manager Bob Fortner. Likewise, FoxPro for Windows and DOS applications can be run without modification in FoxPro for Macintosh.

For developers, this means building an application once and running it on four platforms. For corporations, it means supporting only one database management system standard. Support, training and maintenance can be consolidated into one product for users of all levels on multiple operating systems, Fortner said.

That simplicity is support is hitting a nerve among IS managers who are looking at adopting new programming models and training users on how to take advantage of highly integrated applications. They also must support in a world where the source of a particular file is one user’s file that may actually be in an application that was originally created on another user’s system.

Once these object standards are deployed, IS managers will find themselves confronting a host of object interoperability issues that vendors are just beginning to address [CW, Dec. 6].

OLE vs. the rest

Driving the move toward object technology on the desktop and the industry at large is Microsoft Corp.’s decision to add object-oriented technology to Windows using its Object Linking and Embedding (OLE) 2.0 interface. Meanwhile, IBM, Apple Computer, Inc. and several other vendors are pursuing the rival OpenDoc standard, which purports to provide similar capabilities on other operating systems.

But OLE and OpenDoc are more than just another set of programming interfaces. OLE 2.0, for example, actually consists of more than 400 object-oriented interfaces, which make up the first step in Microsoft’s drive to turn its desktop operating system into a truly object-oriented environment.

IS managers are looking at adopting new programming models and training users on how to take advantage of highly integrated applications. They also must support in a world where the source of a particular file is one user’s file that may actually be in an application that was originally created on another user’s system. Once these object standards are deployed, IS managers will find themselves confronting a host of object interoperability issues that vendors are just beginning to address [CW, Dec. 6].

“OLE 2.0 is the beginning of object technology,” said Tim Harmon, an industry analyst at International Data Corp.

“Most people will probably look to embrace their existing applications before moving completely to an object environment,” said Tim Harmon, an industry analyst at Meta Group, Inc.

Interface intricacies

Technologies such as OLE promise to ease the exchange of data across applications by encapsulating data into objects that can be more easily manipulated by other applications across live links.

That is because the applications have to be aware of the interface, known as the "handle," that surrounds the data they are looking to access. In a PC application, OLE 2.0 technology will translate into support for a true drag-and-drop protocol that allows users to exchange data across applications simply by dragging an icon that represents that data across the screen and clicking on another application.

In addition, users will be able to launch an application, such as electronic mail or a spreadsheet, from within a word processor and actually edit data in that spreadsheet using the standard commands associated with that application. This latter capability is referred to as in-place editing.

Beyond that, IS shops will benefit from being able to address common interfaces in the same applications with a common macro language. Using this capability, developers can create macros for multiple applications or write applications that incorporate off-the-shelf spreadsheets or word processors in their custom applications. — Michael Vizard

Object technology: Ready to fly?

Long-term promise in PC applications tempered by current IS realities

By Michael Vizard

For months now, PC developers have enticed users with the promise of applying the limited number of applications that support OLE 2.0. Even Nordstrom, Inc., a leading-edge user of Microsoft technology, is moving with caution.

“OLE was still going to be a little slower to take OLE 2.0.”

Microsoft’s addition of OLE 2.0 is driving the industry’s move toward object technology.

“OLE 2.0 is like getting a Lego set. But it’s going to require a complete retraining of users, and they are resistant to change. And there will be so many things that probably won’t work that I don’t see it providing anything other than headaches,” he added.

A large part of this protracted roll-out of OLE 2.0 applications is due to the fact that for OLE 2.0 to be truly effective, most of the applications in the current market require some level of customization to use OLE 2.0’s capabilities. — Michael Vizard

Taking their time

Other shops will be slower still to tackle OLE 2.0.9

“We won’t move to it anytime in the near future and probably won’t begin to evaluate initial OLE 2.0 applications until late 1994," said Gary Falk, a PC application specialist at Nixon, Har-grave, Devans and Doyle, a law firm in Rochester, NY, with more than 700 PCs.

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COMPUTERWORLD DECEMBER 13, 1993 37
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In fact, with an incredible new price of $249 in a 50-pack, and only $299 for a single card, the SMC TokenCard Elite is priced far lower than any other Token-Ring adapter.

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'Bars' smooth data access

By Michael Vizard

Looking to give users an easy-to-use tool for analyzing data drawn from databases, Computer Concepts, Inc. in Boehe- mia, N.Y., has released a proprietary database that presents users with a bar chart metaphor.

Called D.B. Express 1.0 for Windows, the database uses dual indexing algorithms to sort through data that has been downloaded from SQL or PC databases. One indexing algorithm keeps track of data stored in D.B. Express, while the second links that data to the appropriate bar chart display.

Attracted by D.B. Express' ability to give end users a tool for quickly doing drill-down analysis of data, Mellon Financial Services in Ridgefield Park, N.J., adopted the product as a component of its Executive Inquiry System.

At Mellon Financial, data from a flat-file system running an IBM mainframe is downloaded into a Clipper database from Computer Associates International, Inc., that is then transferred to users running D.B. Express.

"We spent some time up front to set up the interfaces that link D.B. Express and the databases," said Vincent Scilla, Mellon senior vice president of information technology.

Using standard Windows mouse commands, users can navigate through D.B. Express to create bar chart representations of queries. Scilla said he envisions users employing D.B. Express as part of their interactive presentations.

"Whenever you go into a presentation with presorted data, somebody always has a question. Now you'll be able to answer that question by running a query against D.B. Express at the presentation," Scilla said.

Pricing for D.B. Express is $905.

Desktop enhancements

AST adds multimedia to Premmia, Bravo

By Michael Fitzgerald

AST Research, Inc. last week became the latest major PC vendor to add multimedia capabilities to its business-focused PCs, building CD-ROM drives, sound and full-motion video support into its Premmia and Bravo desktop lines.

AST already has such features in its consumer line, where accoutrements such as CD-ROM drives are becoming checklist items. AST joins other PC bigwigs such as IBM PC Co. and Compaq Computer Corp. in adding at least some multimedia features to its business-oriented PC lines.

AST has limited the features to two models: a Premmia with a 33-MHz/66-MHz DX2 chip and a 340M-byte hard drive starting at $5,149, and a $1,627 Bravo LC with a 33-MHz 486SX and a 170M-byte hard drive. AST will bundle Macromedia, Inc.'s Presentation Pak, multimedia clip art and Microsoft Corp.'s Runtime Video with a 33-MHz/66-MHz DX2 chip and a 340M-byte hard drive. AST will bundle Macromedia, Inc.'s Presentation Pak, multimedia clip art and Microsoft Corp.'s Runtime Video into Windows on the Premmia. It will add Microsoft Publisher and Kodak Corp.'s Photo CD Access and Photo Sampler to the Bravo.

Watch your step

AST's cautious step into business-oriented multimedia reflects the market, analysts said.

"It's a big thing in consumer channels but hasn't been prevalent in the business channel," said Richard Zwetchkenbaum, an analyst at International Data Corp. in Framingham, Mass. Zwetchkenbaum said a variety of factors, including digital signal processors, new 16-bit audio boards and Pentium chips, were beginning to spark an interest in the high-bandwidth applications.

While large corporations such as SmithKline Beecham, Inc. and Caterpillar, Inc. have embraced multimedia, many other companies continue to study how to apply the new technologies.

"At this moment it's a little bit premature for us," said Victor Mutnick, corporate vice president at New York Life Insurance Co. Mutnick said New York Life is examining ways to use multimedia and sees it as potentially useful for training and sales.

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Object technology
CONTINUED FROM PAGE 37

ganization have to support it. Most vendors will not comply with OLE 2.0 until sometime next year, and custom applications built by IS shops probably will not support OLE 2.0 until late next year or early 1995.

In fact, Microsoft has yet to ship a complete OLE 2.0 developer’s kit to IS shops, and most developers will hold off major projects until higher-level development tools, such as class libraries and object-oriented programming languages, add support for OLE 2.0.

Waiting on Microsoft
Tools providers say they will not proceed until they see how Microsoft has implemented OLE 2.0 in its Microsoft Office 4.0 suite, which is scheduled to be completed early next year.

“OLE has a reputation for being hard to write for, so a lot of people are going to wait to do anything until the higher-level tools come out,” Williams said.

“The OLE 2.0 development kit has not been widely circulated yet in a shrink-wrap form. Most people are working from prerelease kits and are itching to get ahold of it,” said Roy Wetterstrom, managing partner at Micro Modeling Associates, Inc., a developer in New York.

Things to come
Once these technologies are implemented, they promise to greatly simplify the use of software packages that are currently discrete entities unto themselves.

“I do a lot of cutting and pasting. The thought of simply double-clicking to open another application is desirable, especially when using a presentation package and you need to open the original parent application to access a file,” Madden said.

But in a trade-off to keep these environments manageable, CIO managers will probably have to base their approved purchase lists around products that are compatible with the OLE 2.0 implementations employed in the suites from the major PC application software vendors.

As a result, applications from other vendors will essentially become “applets” that plug into a specific suite.

“This will be the path of least resistance for most customers, and the major PC software vendors are certainly counting on it,” said Krystyna Filistowicz, an analyst at Dataquest.

— Michael Vizard
But even when developers get the kits, they will find the tools for tracking individual objects in an application are not that robust.

"OLE is not that easy to work with right now, and there's nothing available yet to help you keep track of what's linked to what. I suspect, though, that once you link OLE applications, it will become easier. And the benefits will outweigh the complications," said Krystyna Filistowicz, an industry analyst at Dataquest, Inc. in San Jose, Calif.

In the meantime, IS shops will spend the next several months "bumping up on OLE 2.0. "It's definitely real; it's definitely real significant technology that will allow us to build more intelligent applications and robust solutions. As a developer, the benefits will outweigh any of the costs," Claar said.

"People really like the idea of being able to take a module and use it in multiple applications," Wetterstrom added.

In fact, OLE 2.0 represents an advance shops will spend the over existing data integration technologies such as Dynamic Data Exchange (DDE) protocols, which accomplish many of the same tasks. OLE 2.0 is expected to provide a more structured environment for linking applications.

"The problem with DDE is that there is no documentation from anybody on how they used it," Claar said.

Obex the right Rx?

Microsoft's rivals say that while they intend to support OLE 2.0 in future iterations of their software, many of the benefits of object technology can be had in the short term without causing a major upheaval throughout the organization.

To this end, Lotus Development Corp. promotes the object store capability of its Notes database, which provides a mechanism for linking related documents in a database. And Borland International, Inc. has recently begun delivering its Object Exchange (Obex) facility, which provides a relatively thin layer of object technology that can be used to encapsulate data so that it can be exchanged directly with another Obex-compliant application across either electronic mail or network protocols.

But Obex is only a short-term solution that wraps object interfaces around existing DDE protocols and e-mail to give users some of the capabilities of OLE 2.0, said Ezra Davidson, manager of IS at the Brown Organizations, a Los Angeles-based conglomerate that manages radio stations. "I'll give Obex to my users, but I'm not going to build a corporate-wide strategy around it. I await for OLE 2.0 to do that because it will give me the live links and a common macro language across multiple applications," he said.

— Michael Vizard

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— Michael Vizard
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Who's the PDA king?

Microsoft could do it again. Apple commercialized the GUI, but Microsoft popularized it and profited the most from it. Apple has just commercialized the personal digital assistant (PDA), but Microsoft has a good chance of popularizing it and profiting the most from it.

The secret to Microsoft's chance for success is that it understands the customer's near-term need for handheld computers better than Apple does.

When describing the Newton, Apple waxes eloquent about a personal assistant's helping people manage their public and private lives; about giving them access to libraries of digital information and helping them easily communicate with others.

It is a compelling vision, but Apple is espousing a vision of a new industry, and new industries take time to build. Software has to be written. Digital information has to be created, and communications hardware and services have to become less expensive.

Microsoft, for its part, is discussing a new market within the existing industry. Microsoft has partnered with Compaq, Intel and VLSI to develop its vision of handheld computing, which it calls the "mobile companion."

The premise of the mobile companion is simple: Users have PCs on their desks but go without computing power when they are away from their desks. In fact, a survey of 1,500 mobile professionals revealed that 59% had PCs at their desks, but only 10% had portable computers when they were away from their desks.

That same survey showed that 70% of the time mobile professionals are away from their desks, they are on-site. For such situations, notebook PCs are too heavy to lug around and too expensive to justify. ("You want me to buy you a PC for when you're in the office but away from your desk??") Mobile companions, on the other hand, will be half the cost and one quarter the weight of notebooks.

Microsoft's PDA-like operating system, At Work for Handhelds, is not expected to be particularly innovative, being a subset of Windows with an API that's 80% compatible. This means that At Work for Handhelds reuses past Windows technology rather than pioneering new technology. This makes it easier for independent software vendors — already fluent in the arcane Windows API calls — to develop At Work for Handhelds software.

Apple's biggest challenge, however, may be in marketing to the installed base of PC users. It's a Windows world, and Windows customers are, for the most part, satisfied with Microsoft. Moreover, these customers view Apple with some suspicion because of its aggressive rivalry with Microsoft.

Unless Apple takes strong action soon to make the Newton more suitable for PC users, it may find itself once again blazing the trail that Microsoft develops into a superhighway.

Jeffrey Henning
Senior Industry Analyst at BIS Strategic Decisions in Norwell, Mass.
Software

Baarns Consulting Group, Inc. has announced The Baarns Utilities 5.0, a utilities program designed for Microsoft Corp.'s Excel 4.0 and Excel 5.0. According to the Sylmar, Calif., company, the product was designed to work with the Excel 5.0 menu structure, plus it offers an autodialer and 23 enhanced utilities.

The utilities include Baarns AutoDial, Baarns AutoSave, Baarns Delete, Baarns Paste Date/Time, Baarns Reminders, Baarns Startup and the Baarns Template Wizard.

A single-user version of The Baarns Utilities costs $89.95.

Future Labs, Inc. has announced TalkShow Version 2.0, desktop document conferencing software for Windows. According to the Cupertino, Calif., company, the product can be used for corporate desktop conferencing over wide-area networks because it supports NetBIOS for LANs, TCP/IP and IPX.

Features include multipoint conferencing over modems, a zoom feature, a phone directory, a colored highlighter, a whiteboard pointer and a document presentation tray.

TalkShow 2.0 costs $199 per single-user license.

Vermont Creative Software has introduced Vermont HighTest, a software testing tool. According to the Richford, Vt., company, HighTest was designed for users who produce software for Windows applications. The product records "test scripts" as the user runs a program.

HighTest's interactive Suite Manager joins the test scripts, forming test suites. Without programming, the Suite Manager creates script hierarchies and sets up loops for multiple script execution.

Vermont HighTest costs $485.

Clinical Research Systems, Inc. has announced Clinical Research System for Windows (CRSWIN), a PC software product for management and analysis of clinical trial and patient data. According to the Minneapolis company, CRSWIN was created for users interested in collecting, analyzing and managing clinical information, including medical device manufacturers, pharmaceutical manufacturers, universities, hospitals and clinical trial management organizations.

CRSWIN features built-in word processing and can study management functions such as monitoring, reporting, analysis, data entry and data validation. CRSWIN was designed to run as a single-user or network system in the Windows environment.

Single-user pricing starts at $7,500.

North Coast Software, Inc. has announced Conversion Artist 2.0, an image conversion application for Windows. According to the Barrington, N.H., company, Conversion Artist 2.0 includes an assortment of imaging and prepress features such as color correction, style filters and image editing.

Screen capture, batch conversion of multiple images and 35 popular image formats and format variants are also included.

Conversion Artist 2.0 costs $149.95.

Asymetrix Corp. has announced an upgraded version of Asymetrix MediaBlitz, a multimedia utility for Windows.

According to the Bellevue, Wash., company, the product allows all levels of Windows-based users to add multimedia to their applications. Users can combine and synchronize sound, video, graphics and animation to produce a multimedia score. The scores can be used alone or in applications that support Object Linking and Embedding.

The upgrade also features media editing tools, extended graphics capabilities and text support, transition effects and portability capabilities. MediaBlitz 3.0 costs $95.

Micro Express has introduced the NB298, an active-matrix color notebook. According to the Santa Ana, Calif., company, the notebook includes 4M bytes of memory, expandable to 20M bytes, a 200M-byte hard disk, 3.5-in. floppy disk drive, color LCD display and a built-in trackball mouse.

The notebook includes a PCMCIA expansion slot and intelligent power management to maximize battery life. The NB298 costs $4,499.

Hardware

Micro Express (714) 852-1400
When Microsoft went searching for a processor to develop Windows NT, where did they turn? To the best brains in the business.

The mighty MIPS R4400 RISC microprocessors.

Which isn't surprising, really. The NEC V4400° 150MHz MIPS processor is already at the heart of the most powerful workstations in the world.

And now, thanks to Windows NT, the same 64-bit brain that powers these machines can be right on your desk. Manipulating spreadsheets. Processing data. And, perhaps, even changing the course of history.

The reason Microsoft chose the MIPS RISC architecture is simple—raw, unadulterated speed. In fact, NEC's V4400 runs Windows NT almost twice as fast as Pentium° and nearly four times as fast as the 486° DX2/66.°

So before you buy a computer to run Windows NT, think about what's inside. After all, it only makes sense to choose the quickest processor that processed the program.

If you're responsible for evaluating new PCs running Windows NT, look for the new V4400-based systems. They run faster, save you money and even let you use your existing DOS and Windows 3.1 applications.

If you want to discover more about our V4-Series microprocessors, and to receive a list of systems vendors shipping V4-Series based PCs, please call NEC Electronics Inc. at 1-800-366-9782. Or fax us at 1-800-729-9288 and ask for Info Pack #167. For information on NEC MIPS-based PCs, call NEC Technologies, Inc. at 1-800-NEC-INFO.

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Backup industry to become more open

By Stephen P. Klett Jr.

The backup market has lagged the computer industry as a whole in embracing standards. However, recent announcements by Palindrome Corp. and Mountain Network Solutions, Inc. indicate that storage vendors are beginning to change their proprietary attitudes.

The two companies have started shipping backup software for Novell, Inc.'s NetWare environment that they claim is 100% compliant with Novell's Storage Management Services (SMS). SMS is a standard set of application programming interfaces designed to aid reliable backup and storage management application development in a heterogeneous environment.

What full SMS-compliance means for users is that they no longer have to upgrade their backup software when a new version of NetWare is released. In addition, they are no longer locked into one vendor for client support, and they can interchange tape, other media and files among different backup software packages.

"SMS compliance is important because if a change is made to NetWare, you don't want to have to update your backup software and change all your agents as well," said Michael Kaunitz, network administrator at St. Paul Reinsurance Management Corp. in New York.

Both Palindrome's Network Archivist SMS 3.0 and Mountain Network's FileSafe for Windows Rescue NLM support all three main components of the SMS architecture (see story at right).

While many vendors have come out with products boasting SMS compatibility, most have complied with only one or two SMS levels, analysts say.

Santa Clara, Calif.-based Mountain Network and Scotia Valley, Calif.-based Palindrome are the first to support all three, they said.

While Kaunitz, who uses Legato Systems, Inc.'s Networker 2.2, agreed that the first two compliance levels were essential, he questioned the practicality of System Independent Data Format (SIDF), the third level, which ensures interchangeability among storage media.

Legato, in Palo Alto, Calif., was one of the first companies with SMS-compliant backup and recovery software when it released Networker for NetWare in April last year. However, Legato is pushing its own standard tape format called Open Tape Format, whichmore than 30 vendors support, including IIBM, Sun Microsystems, Inc. and Silicon Graphics, Inc.

With Open Tape Format, Legato is aiming Networker at users who want enterprise-wide storage management from any point on the network. "SIDF is NetWare-centric while [Open Tape Format] is network-centric," said Edward Cooper, vice president of marketing at Legato. "We don't care what server you use for backup."

Kaunitz said Legato's cross-platform approach makes more sense than SIDF, especially for users moving from Windows NT to NetWare.

Notes, Microsoft apps linked

Software packages promise expanded groupware capabilities

By Michael Vizard

Corporate Software, Inc. in Canton, Mass., is out to create a business on top of the schism over groupware between Microsoft Corp. and Lotus Development Corp.

At Lotusphere '93 in Lake Buena Vista, Fla., last week, Corporate Software announced that it has begun beta-testing two utilities that will allow Notes users to access information in Microsoft Project for Windows and Windows NT.

Meanwhile, Cambridge Publishing Group, Inc. in Columbus, Ohio, last week said it will ship a similar Notes-to-Project package, Project Link, on Jan. 1, at a price of $99.

Corporate Software's utilities are built on top of the Mail Express Gateway, which links Microsoft Mail to Lotus' Notes. Corporate Software announced the gateway earlier this year.

Looking for the link

"Project management software is an ideal workgroup application for Notes," said John Casey, director of CSI Technologies, the Corporate Software unit charged with developing new applications.

CSI Technologies' primary focus will be to build tools that link Notes with various applications from Microsoft.

Earlier this year, Microsoft, along with WordPerfect Corp. and Borland International, Inc., announced its intention to add Notes support to its applications. Since then, however, Microsoft has not outlined any specific plans for Notes.

"We don't want to build any products that Microsoft intends to build themselves, so we are negotiating with them to see what they want to build vs. what we can build," Casey said.

Users looking for better way

Meanwhile, users report they are looking for ways to better integrate Microsoft applications with Notes.

Paul Pritchard, manager of end-user computing at Compucon Systems, Inc., a PC reseller and Windows shop in Dallas, said it appears that Microsoft's intention to support Notes is just a feint to hold the market in place while it works on its own workgroup strategy for Windows and Windows NT.

As a result, Pritchard said his company will move ahead with Notes and look to third-party vendors for tools to integrate Notes and Microsoft applications.

Pricing for the latest Corporate Software utilities, scheduled to be available in the first quarter, has yet to be determined.

SQL Access seeks user input through board

By Kim S. Nash

The SQL Access Group has named an advisory board of five industry analysts in an effort to inject more user opinion into standards proposals for getting packaged and user-built applications to talk more smoothly to relational databases.

The group also plans to build more uniform relational database communications blueprints to let users more easily swap databases and query and development tools.

“Our push is to make all tools work with all databases,” said Merrill Holt, vice chairman. Holt is also a principal product manager at Oracle Corp.

However, because archivists such as Oracle and Sybase, Inc. belong to SQL Access Group, cross-product query languages and other interfaces are likely to be slow in coming. Holt acknowledged.

Ultimately, however, competing companies will see the wisdom in cooperating because working together could propel database sales, he said.

“If the overall database market grows because we can deliver interoperability, then this is good for all vendors,” he explained.

Because hardware and software makers account for $34 of the group's 39 members, SQL Access Group has been critical.
Workgroup Computing

SQL Access
CONTINUED FROM PAGE 49

cized for not representing user views. Membership fees and the substantial investment of time required to participate have kept some users out, according to John Deutsch, chairman. To join, users, or specification reviewers, must pay a one-time fee of $2,500, plus $5,000 annually. To actually help build specifications, the annual fee is $10,000.

SQL Access had relied primarily on a close relationship with the vendor/user consortium X/Open Co. for user feedback, said Deutsch, who is also technical director at Information Builders, Inc. An unpaid advisory board, which will more closely reflect user views, is scheduled to meet twice a year, with its next confab slated for June 1994. The first meeting was in November.

Elsewhere, the 4-year-old group announced that its call level interface (CLI) specification has advanced from a primitive "snapshot" guideline to the next stage of maturity, dubbed a "preliminary specification."

The SQL Access CLI defines interaction between third-generation languages such as C or Cobol and SQL, which is used to talk to relational databases. Microsoft Corp., Fulcrum Technologies and other software firms had built CLI into products such as Open Database Connectivity gateways when CLI was still in snapshot stages.

Data access

Business Objects enhances database query facility

By Michael Vizard

Business Objects, Inc. in Cupertino, Calif., this week will release Version 3.0 of Business Objects, which adds a CASE Access utility that automatically maps Business Objects to a data dictionary running on a SQL database.

In addition, the release adds support for a companion product that lets users perform multidimensional analysis on data stored in Business Objects, a report writer and the ability to access SQL databases via Microsoft Corp.'s Open Database Connectivity interface.

According to Business Objects executives, the ability to automatically map the software—which was designed to allow end users to query databases without knowing any SQL commands—was required to make it easier to configure systems for end users.

But information systems departments may still prefer to map Business Objects to SQL databases manually because most SQL databases were not created with the goal of giving end users the ability to do queries.

"Most of the names used in a database are not all that user-friendly, so you may not want to adopt those names. We find it more effective to work with users to create names for the object they want to work with and then map them to the SQL database. Most of the names in the SQL database tables were created with application developers in mind," said Brian Cheney, PC project leader at Nintendo America, Inc. in Bellevue, Wash.

Giving users access to data

Cheney said Nintendo adopted Business Objects because it was looking for a tool that could give users access to data, while keeping a modicum of control in the hands of IS. In contrast, PC applications that have SQL interfaces are not linked into any database management services.

"We wanted to protect ourselves from runaway queries," Cheney said. In addition, he noted that since Business Objects is used primarily as a read-only querying tool, IS managers do not have to worry about users tampering with the integrity of a database through updates.

CASE Access will initially support computer-aided software engineering (CASE) data dictionaries from Oracle Corp. Drivers for products from other CASE vendors will be available in 1994.

Pricing for Business Objects, which runs on Windows, Macintosh and Unix platforms, is priced at $595 per user. The database administrator module is priced at $3,495. Business Analyzer is priced at $2,590.
Backup industry

CONTINUED FROM PAGE 49

While analysts said the appearance of compliant products was a good sign for SMS' viability as a standard, they said a good deal of confusion still surrounds full SMS compliance.

"There's a lot of finger-pointing going on right now among all the vendors, which makes it hard to tell how much of this SMS hype is a marketing ploy," said Stan Corker, an analyst at International Data Corp. in San Diego. However, Corker said Palindrome and Mountain Network's added SMS capabilities probably make up for some of the weaknesses of proprietary backup software.

Changing their proprietary nature is becoming a necessity because of customer preoccupation with open systems, which may result in a better quality product, said Nick Blozan, product manager for SMS at Mountain Network.

Network Archivist SMS 3.0 integrates backup, automatic archiving and hierarchical storage management. FileSafe for Windows offers traditional backup/restore functions plus automated disaster recovery features. Both are available now as NetWare Loadable Modules and cost $1,695 and $495, respectively.

Forms Engine takes off in federal agencies

By Gary H. Anthes
WASHINGTON

Surely no organization has more forms, or more forms users, than the federal government. That may explain why a PC-based software package that helps users design, fill out, transmit, print and store forms is moving into high gear here.

Called Forms Engine, the product was developed for the U.S. Army by Computing Devices International, a unit of Ceridian Corp. in Falls Church, Va. Under the agreement with the Army, Forms Engine is available free to any federal agency, and it has found uses so far in the White House, NASA, the departments of Agriculture, Commerce, State and Veterans Affairs and a few other places.

There are some 250,000 users in the government, and there is a Forms Engine Users Forum, according to one user.

Veterans Affairs has given Forms Engine to about 300 of its employees, according to Mike Berger, director of records management.

"One fellow E-mailed me the first time he used it and said, 'Forms Engine has changed my life. I never knew how much I hated [manual] forms until the first time I did it automated,'" Berger said.

Veterans Affairs, like all agencies, abounds with multipart paper forms. For example, the old travel expense forms have 10 parts separated by carbon paper. They could be filled out using typewriters and impact printers, but those are giving way to laser printers — which cannot handle the multipart forms — as part of the agency's systems modernization program.

Enter current figures

Now, Forms Engine users enter travel expense data on the PC-based Forms Engine, Berger said. Users can call up their last submitted travel form and change those fields unique to the current trip. Totals and extensions are done automatically, and the resulting form is routed to a laser printer to print the number of copies specified.

In addition to boosting speed and accuracy, Forms Engine eliminates the need to procure, ship and store paper forms, Berger said. He said the old travel forms cost 19 cents each, and although he did not know the cost of the Forms Engine equivalent, he said it will save the agency money.

Berger said the agency does not yet use the communications feature of Forms Engine, which uses a store-and-forward technique to route forms to various network nodes for storage or approval. "That's logically the next step toward the paperless office," he said.

Outside the government

John E. Flodor, program manager at Computing Devices, said he is setting up a new company next month called Software Systems Engineering to sell Forms Engine outside of the government. It will be priced at $49 for a single user. The company will continue to support federal users and provide the software free to the government, he said.

Forms Engine runs on Intel Corp. 80286 machines or higher running MS-DOS 3.1 or later. It needs 400K bytes of free memory and a hard disk.

It can import word processing files and send forms in encrypted mode. A later version will be able to interact with a number of databases. It also contains a 60,000-word spell checker.

Although Software Systems Engineering will train users in forms design and programming for a fee, Flodor said he anticipates that most users will contract with his company to do that. Charges to implement most forms will fall between $200 and $500, he said.
E-Quip Office-in-a-Box aimed at small offices

By Ellis Booker

Alacrity Systems, Inc. in Hackettstown, N.J., recently introduced a hardware/software system that adds fax and office copier functions to a document imaging software package.

Alacrity’s $499 E-Quip Office-in-a-Box bundles Alacrity’s E-Quip document filing and retrieval software with a sheet-fed, gray-scale scanner (it doubles as a copier) and an add-in card that provides copier functions to a document imaging software package.

The software also includes an optical character recognition tool from Calera Recognition Systems, Inc.

At the same time, Alacrity apparently wants to appeal to a broader base than single-user workstations. Recently, the company introduced a version of its document imaging software that runs under Microsoft Corp.’s Windows for Workgroups software. Alacrity is the first to try this approach on a general-purpose PC Windows platform.

"This [product] addresses not just document imaging but scanning, copying and printing," said Barry Teppler, an industry analyst at BIS Strategic Decisions in Norwell, Mass.

The software also includes an optical character recognition tool from Calera Recognition Systems, Inc.

The bundled offering is "aimed squarely at [small office/home office] users," said Alacrity President Jim Folts. Bundling hardware and software to take the guesswork out of an imaging system has been done with some dedicated systems, but Alacrity is the first to try the approach on a general-purpose PC Windows platform.

Brace yourself for the kind of speed and performance that makes other servers look like they’re standing still. The newest PS/2 Servers do more than run. They fly.

The new Server 95 Array models are the fastest available. With their bottleneck-eliminating SynchroStream™ controller, IBM PS/2 Servers can exploit the full power of their Pentium™ 66 MHz or 60 MHz chips and 256KB of L2 cache. And we can prove it: in complex workloads using popular workgroup applications, the PS/2 Server 95 Array beat a similarly equipped Compaq SystemPro XL by a form of Executive Information Summary Dashboards.

Prices range from $900 to $1,200 per module.

NEC Technologies, Inc. has introduced the NEC Image RISCstation and the NEC Express RISCserver, two IBM RISC-based systems.

According to the Bexboro, Mass., company, the systems incorporate the 64-bit NEC V4000 family of microprocessors based on the MIPS RISC architecture.

The NEC Image RISCstation features 16M bytes of RAM expandable to 128M bytes, 10Base-T local bus Ethernet, local bus SCSI-II and local bus video.

The NEC Express RISCserver comes with 32M bytes of RAM expandable to 128M bytes on the system motherboard and up to 512M bytes of total system RAM when using an optional memory expansion board.

The NEC Image RISCstation costs $3,749, and the NEC Express RISCserver is priced under $10,000.

Open Systems, Inc. has announced Executive Information Summary, a module designed for the company’s Open Systems Accounting Software family.

According to the Eden Prairie, Minn., company, the module provides up-to-the-second flash reports of strategic business performance indicators.

Users can retrieve status reports of sales, margins, inventory turns, balance sheet analysis and ratio analysis in the
Lotus Development Corp. has announced Release 2 of the Lotus Notes:Document Imaging (LN:DI) family.

According to the Cambridge, Mass., company, LN:DI allows Notes users to easily incorporate paper-based information into their Notes applications. Using the groupware services of Notes, users of various workgroup sizes and remote users can access and share scanned documents and facsimile images across LANs and wide-area networks.

Imaging systems can be enhanced in modular increments as needs grow, and users can add imaging support to their desktops.

Usability enhancements for the LN:DI Image Viewer include support for Object Linking and Embedding and an improved scanning user interface. The LN:DI Image Viewer costs $99.

Chorus Systems, Inc. and The Santa Cruz Operation have introduced Chorus/Fusion for Santa Cruz Open Systems Software.

According to Chorus Systems in Beaverton, Ore., the product has a micro-kernel architecture and extends Santa Cruz Operation systems software to ease integration of complex real-time systems. It also allows for clustered computing.

Components within the product include the Chorus/Fusion Real-Time Santa Cruz Operation Open Server, the Chorus/Fusion Real/Time Node and the Chorus/Fusion Development System. Chorus/Fusion Development System costs $29,560; the Chorus/Fusion Real-Time Server runtime (in 10-unit quantities) is priced at $8,118, and the Chorus/Fusion Real/Time Node runtime (in 100-unit quantities) costs $400.

I-Kinetics, Inc. has introduced I-Bridge, a family of software products that allow Windows applications to directly access databases, programs and files on Unix servers.

Through a single driver with automatic data conversion, clients of I-Bridge can communicate with a variety of Unix data sources, including different databases. According to the Cambridge, Mass., firm, an interactive user interface tool called I-Bridge Wizard is also included. A starter system, including a Unix server module and two Windows client modules, costs $895.

Dun & Bradstreet Software has announced its SmartStream Decision Support 2.0 application is available for Sun Microsystems, Inc.'s Solaris 2.2/SPARC computing environment.

- According to the Atlanta company, SmartStream Decision Support is part of the SmartStream Series, a client/server-based enterprise solution comprising integrated business applications, comprehensive decision-support facilities and a workflow enabled platform.

Pricing for SmartStream Decision Support running on the Solaris 2.2/SPARC distributed computing environment begins at $100,000.

Innovatech Corp. has introduced DocWorx, an open-architecture electronic image management software product.

According to the San Diego company, the software provides complete features for the capture and input, storage and management and retrieval of electronic images, along with document routing.

DocWorx software modules consist of a relational database server, DocWorx clients, fax server, jdbxerver, scanner interface module, high-speed image print software module, character recognition module and full text-retrieval engine.

The software runs on existing networks and computer platforms and can seamlessly integrate almost any leading off-the-shelf hardware component into the system. DocWorx was designed for commercial and government markets using applications that include litigation support, image management of shareholder accounts and operations records and check processing.

Pricing starts at $5,000 for a single scalable development system.

Procom Technology, Inc. has announced the LANforce-5, a disk array subsystem that provides fault-tolerant storage at RAID Level 0, 1, 3 and 5. The product supports up to seven Fast SCSI-2 drives and provides 1.1 to 12G bytes of protected storage. Cost: $7,385 to $21,485, depending on the capacity of drives in the system. Procom Technology, Irvine, Calif. (714) 822-1000.

Structural Dynamics Research Corp. has announced I-DEAS Master Series software for IBM's PowerPC-based workstations running under IBM's AIX Unix operating system. The product provides integrated systems for solid modeling, computer-aided testing, finite element modeling and analysis and drafting and manufacturing. Cost: $6,000 to $69,000. Structural Dynamics, Milford, Ohio (513) 576-2400.

If we're going too fast for you, there are new 486-based Server 95 models and new entry-level Server 85 models. (They're all easily upgraded to Pentium, by the way.) To find out more, call 1-800-772-2227. If you still think PS/2 Servers are just reliable, it's time we brought you up to speed.

*IBM internal study for more information and configuration of competitor machines, call 1-800-772-2227. IBM intends to support future processor upgrades based on Intel Pentium technology for the PS/2 Server 85 (586) 433 and 466. IBM and PS/2 are registered trademarks and Synchronostream is a trademark of International Business Machines Corporation. Pentium is a trademark of Intel Corporation. All other brands or product names are registered trademarks, trademarks, or service marks of their respective holders. © 1993 IBM Corp.
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The new FastRoute Dial-Up Bridge/Router from General DataComm puts you on the fast track to easy, seamless LAN interconnection.

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Additionally, the unit’s router hunt group feature provides unique convenience. FastRoute can automatically dial up any of five different stored numbers for outbound connections to remote sites. For remote users seeking inbound routing, FastRoute can exchange routing table information, so a remote site can connect to any available central site unit.

This provides a very cost-effective method of achieving LAN interconnection from multiple remote sites with maximum performance. Every time you connect, you’re guaranteed a one-to-one connection with full throughput benefits.

When you need on-demand LAN connectivity from remote sites, FastRoute provides a high-throughput solution without leased line expense. Besides its many branch office applications, it’s ideal for dial restoral to backup dedicated router links, and for remote network management.

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DECnet/OSI ships early, but interest low

By Craig Sedman

Still trying to find a wider market for its DECnet/OSI backbone networking software, Digital Equipment Corp. has started shipping a version supporting the Alpha AXP version of OpenVMS ahead of a schedule that was laid out earlier in the year.

The company in June said the introduction of DECnet/OSI for OpenVMS AXP would be delayed from the second half of this year into early 1994. But Mary Ellen Fortier, DECnet/OSI marketing manager, said last week the company was able to finish development of the product more quickly than anticipated.

Digital now offers DECnet/OSI for OpenVMS on both the Alpha and VAX hardware lines, in addition to supporting its DEC OSF/1 operating system. Analyses said demand for the OSI transport remains low, with interest limited to a few specific markets and geographies.

"Obviously there are people who have implemented OSI, but I think the time for doing that on a broad scale has passed," said Richard Villars, director of computer network architecture research at International Data Corp. in Framingham, Mass.

OSI gets some use with workstations and minicomputers due mainly to federal government purchases, but even in those sectors it represents a 10% market share, Villars added. "It's just hard to build a groundswell for it, especially for the full [protocol] stack or the transport layer."

Matt Holdrege, senior network specialist at PacificCare Health Systems, Inc. in Cypress, Calif., said his company has "no need" for DECnet/OSI. PacificCare, a health maintenance organization, uses the proprietary DECnet Phase IV for VAX-to-VAX networking and TCP/IP for its multivendor operations.

Support concerns

"TCP/IP matches OSI in every step," Holdrege said. He added that his company may eventually support only DECnet/OSI, which incorporates the DECnet Phase IV protocol but uses a different command language for network management than the earlier product.

"We don't want to be forced by DEC to start using OSI," Holdrege said. He is chairman of the Digital Equipment Computer Users Society's network management working group. "Going to DECnet/OSI from Phase IV would require a massive amount of work for people with large systems and networks."

Bill Stella, senior vice president of information services at Arkwright Mutual Insurance Co. in Waltham, Mass., said he too is not interested in DECnet/OSI for the time being. Arkwright has about 30 VAX systems spread throughout its offices, with more than 1,000 users connected to the machines.

Equal support for OSI and TCP/IP

Fortier noted that Digital expects to see demand for OSI as a transport in the telecommunications and financial services industries, in addition to the government market. Companies with global networks that want to avoid address limitations are also viewed as potential customers for DECnet/OSI, she said.

However, Fortier added, the company plans to support DECnet/OSI and TCP/IP "equally across all our product lines." Digital is already shipping TCP/IP services for OpenVMS AXP and has committed to adding support for OSI applications to TCP/IP to the OpenVMS versions of DECnet/OSI in the future.

Frank Druebeck, president of Communications Network Architects, Inc., a Washington consultancy, said applications such as X.400 messaging and X.500 directory services are the key parts of OSI, in the transport itself. "OSI's real purpose is as a service layer," he said.

The transport is finding "certain pockets of interest" in such places as Germany, Japan and the federal government here for intercompany communications, Druebeck noted. DECnet/OSI is only likely to have "a niche presence" as a result, he said.

Managing bandwidth

"More bandwidth" seems to be the prescription for all of today's networking headaches. Sure, more bandwidth is required for new bandwidth-hungry applications such as file serving, image transfer, multimedia and video conferencing.

But just as we learn that you don't mix batch or print traffic on the same network segments as your interactive traffic, we should be forewarned that no matter how much bandwidth we have, similar problems will arise when real-time data, file transfer, transaction processing and multimedia all have to compete in shared networks.

LANs are shared networks. So are frame relay and Asynchronous Transfer Mode networks. The promised savior, Open Systems Interconnect, has been vanquished by TCP/IP whose connectionless services frustrate users of both the Internet and countless Internet Protocol router backbone networks. In a connectionless network, there are no guarantees. We all compete for service.

Call it bandwidth "hunger." "When we talk about bandwidth," Fortier said, "we're only talking about the user's requirement. The hungriest applications will be those requiring high bandwidth."

"The workgroup for Electronic Data Interchange (WEDI) said the basic X12 standards are in place for electronic medical claims, and it will publish implementation manuals by mid-1994 for distribution to doctors, hospitals, payors and EDV vendors.

The WEDI blueprint would spell the end of patients filling out insurance claim forms, but it remains to be seen whether the industry can meet the aggressive deadlines.

LeRoy Anderson, senior vice president at Sheldon L. Dorenfest and Associates Ltd., a Chicago consultancy specializing in health care information systems, said it is "next to impossible" for the industry to move that fast. He said widespread EDI implementation is more likely by late 1995 or mid-1996.

Anderson said some industry players lack the money for system upgrades and others lack the incentive to get on the EDI bandwagon. WEDI officials said a federal mandate will be needed to bring stragglers into the EDI fold.

Health care

Electronic medical network planned

By Mitch Beets

WASHINGTON

An industry task force, filling in many of the technodetails missing from the Clinton administration's health care reform legislation, called for large insurers, medical groups and employers to implement ANSI X12-based electronic billing and payment networks by the end of 1994.

The Workgroup for Electronic Data Interchange (WEDI) said the basic X12 standards are in place for electronic medical claims, and it will publish implementation manuals by mid-1994 for distribution to doctors, hospitals, payors and EDV vendors.

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Some doctors have been reluctant to adopt EDI because of the hassle of needing four or five terminals for the proprietary formats of different insurers. But Lynn E. Jensen, vice president of the American Medical Association (AMA), said that barrier will fall when vendors of physician practice management systems upgrade their software to comply with the X12 standard.

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High-speed networking

N.Y. hospitals join forces

Network will track patient care throughout region

By Mitch Bettis

At a time when hospitals are under intense pressure to cut costs and beef up their information systems, hospitals in western New York state have decided they can no longer do it alone.

Eight hospitals in the Buffalo, N.Y., area, along with the State University of New York at Buffalo, are jointly creating a high-speed fiber network for sharing medical data that could improve patient care. The network is expected to be operational by year's end.

In essence, the Fiber Distributed Data Interface (FDDI) network provides the infrastructure to track the care of patients throughout the region, according to John Hammond, IS director at the Western New York Health Sciences Consortium.

The first applications are likely to be a shared clinical database and a centralized patient index, Hammond said. In addition, the network will be the conduit for an extensive, on-line medical library.

The on-line medical library, known as Hubnet and run by the university, will provide consortium members with the equivalent of 6.5 million pages of medical data, from sources such as the National Library of Medicine.

Medical network

Continued from Page 55

During the next six years, WEDI estimated, the task force, with members from a variety of insurance and medical interest groups, was formed in 1991 at the request of the U.S. Department of Health and Human Services.

Reform bills from Republicans and Democrats have incorporated previous WEDI recommendations, so the latest WEDI report is likely to affect the shape of federal legislation next year.

Confidentiality issue

WEDI unveiled model legislation to protect the confidentiality of patient data and recommended that the patient identifier be the Social Security number—an issue the Clinton administration found too hot to handle.

Privacy advocates have argued that a new numbering scheme should be invented because the Social Security number could be used to link health records with immigration, tax, welfare and marketing databases.

The issue was hotly debated within WEDI, insiders said, but the practicality and low cost of using the Social Security number won out.

WEDI's co-chairman and a former IS executive at The Travelers Corp. WEDI's co-chairman and a former IS executive at The Travelers Corp.

"Standardized and uniform data across the entire industry will make it possible to establish the regional data centers envisioned by the president," Brophy said. Moreover, both WEDI and Clinton call for a health identification card that carries only basic administrative data.

WEDI said it will develop a standard for the data content and format of the card.

Major segments of the health care industry endorsed the WEDI recommendations, including the Health Insurance Association of America, the AMA and the Denver-based Medical Group Management Association.
Network management

StarSentry adds to range

By Elisabeth Horwitz

AT&T/NCR's StarSentry recently added significantly to the range of networking environments it can manage, through support of third-party products. With the support of Peregrine Systems, Inc.'s ServerView/StarSentry and StationView/StarSentry, NCR's platform can manage NetWare servers and clients.

BridgeWay Corp.'s EvenIX provides StarSentry with the ability to monitor various systems that do not comply with the Simple Network Management Protocol.

NetWork Application Technology Inc.'s Multi-Vendor Support Series, EtherMeter, is said to monitor and diagnose LAN traffic using the Remote Monitoring standard. It then sends the results to StarSentry.

Jackowski: Managing bandwidth

CONTINUED FROM PAGE 55

tions for the network and its bandwidth. In a network, coordinated scheduling among network processors reduces network bottlenecks. At the lowest level, coordinated scheduling can reduce or eliminate contention on networks like Ethernet to guarantee access to high-priority applications.

Regulation ensures that applications stay within their bounds and do not flood the network with data to the detriment of other applications. Resource reservation provides guarantees that streams of data can be delivered in a timely fashion.

Making reservations

If an application on one system needs to transmit priority data to another, it can reserve the network resources to guarantee delivery and associated quality of service. Normal quality-of-service options are throughput (message rate, number of messages and message size), network delay and reliability. Within these, refinements can be made based on the type and content of traffic.

In particular, it is possible to set the rate of a stream, the priority of a stream (in priority-based networks), the deadline for the data (including individual frames) and the types of errors that are acceptable. For example, in video transmission, bit errors may be acceptable.

To enable these types of bandwidth services, new protocols are being implemented. Perhaps most prevalent among these is the ST-II, the Internet Streams Protocol (RFC 1190).

ST-II was designed to be used across the Internet for traffic that "absolutely, positively has to be there." It actually establishes a path and then reserves bandwidth, buffers and CPU cycles for every processor along a communications road.

It guarantees that time-dependent data will arrive on schedule without competing against other network traffic — sort of a computer lane for designated priority traffic.

The Department of Defense's Simulation Network uses ST-II for real-time simulation across the Internet and worldwide videoconferencing. Berkomm, the video conferencing and video mail service established during the German reunification, also uses it. And IBM's Ultimedia client/server products rely on ST-II support multimedia applications running across network users.

Likely candidates

As bandwidth-intensive and videoconferencing are successfully deployed in networks, other more traditional network applications, which are likely to suffer from the additional competition, are viewed as candidates for the new reservation technology. Among these are backup, file transfer and imaging. ST-II is even being considered for SNA tunneling across Internet Protocol backbone networks.

The key to successful implementation of bandwidth-management products will be their transparency to most applications.

Already, vendors of superserver products are implementing bandwidth management under the covers of their client/server offerings.

During the first quarter of 1994, regulation products will be available for the desktop that transparently control access.

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RHONDA IN SALES RECEIVES ORDERS FROM HER REGULAR CUSTOMERS VIA cc:MAIL.

Sylvia in Accounting Likes Everything About cc:Mail.
Telequent links dissimilar ISDN services

By Ellis Booker

Telequent Communications Corp. in Billerica, Mass., recently announced software for linking Integrated Services Digital Network (ISDN) voice calls across multiple central office switches from different vendors. Telequent’s Distributed Call Center is said to overcome the incompatibility issues of ISDN switches from AT&T and Northern Telecom, Inc. to create regional or national virtual private networks.

According to Michael Morin, supervisor of data center operations, Telequent’s offering was attractive because it used standard ISDN technology, which Pratt already uses extensively.

The benefits of M'tMS 3000EL extend well beyond your desktop. It may give you all the image management capabilities you will ever need. With it, you can deliver images across your entire network. By simply adding an Image Mail 3000 software module to most any PC, a user can request and receive images from a M'tMS 3000EL workstation via standard E-mail programs. Should your imaging needs expand, M'tMS 3000EL is directly upgradable to the full power of Minolta’s entire M'tMS 3000 electronic image management systems product line. All the data and images can be transported to

"Other solutions would have required proprietary hardware at each site," Morin said, adding that the Telequent setup requires only a single server at one site and only software changes to the ISDN telephones at the connected sites.

Routing made easy

Pratt’s MIS Help Desk application allows about 40 individuals at four or five sites to have calls routed to them by the Automated Call Distributor server. The server is connected to sites hanging off of a private AT&T SES5 digital switch.

Each shift has about 11 agents handling calls, although that number can increase automatically during peak hours “to take advantage of existing staff in other locations,” Morin said. Incoming calls can also be routed to particular extensions based on their automatic number identification data, he said.

Telequent said more than 30 customers are using Distributed Call Center. The system requires a 386- or 486-class PC as a controller running The Santa Cruz Operation’s Unix. The controller must be equipped with a $445 ISDN interface card from Telequent and Telequent’s call routing/te management software. The software starts at $3,000 for up to 10 users.

HawkNet tool fine-tunes net performance

By Elisabeth Horwitt

HawkNet, Inc., in Carlsbad, Calif., has announced a product that is said to enable network administrators to fine-tune network performance on Novell, Inc. NetWare installations.

NetTune is said to provide a Windows-based graphical user interface for administrators to interactively adjust more than 60 internal network parameter settings, including communications settings, memory allocations and file and directory cache buffers. As adjustments are made to the parameters, users can immediately see the effect on server and network nodes, the vendor said.

Easier to adjust settings

Without the product, administrators have to set the parameters manually at the server console, or remotely with Novell’s Reconsole utility, using complex commands, according to HawkNet.

NetTune provides graphical presentations of file server use patterns, which can be saved in a database file for later analysis and the accumulation of historical profiles of usage patterns.

The product runs as a NetWare Loadable Module on NetWare v3.11 and 4.01 servers, and as a Windows client application. NetWare parameters can be monitored and set from any NetWare client. The product is available this month, priced at $600 per server.
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And it comes with a 486SX/25 processor and includes an extra-sharp 14" SVGA display.

The new ProLinea MT, on the other hand, features a mini-tower design with five slots and five bays. It includes Local Bus Graphics and is available in three processors, from 486SX/33 to 486DX2/66, and all are upgradeable to Pentium technology.

While each ProLinea is unique, they all share features in common. Every ProLinea is already loaded with MS-DOS 6 and MS Windows. And each also includes TabWorks, a new software interface available only from Compaq that makes using Windows even easier. (And you more productive.)

Of course, no matter how many different models we make, each one has to be aggressively priced to continue the ProLinea tradition. That's why the ProLinea Net1 starts at just $1,099, the mini-tower at $1,449, and multimedia models at just $1,549. All of which is good math no matter how you calculate it. For complete details, just call 1-800-345-1518. **COMPAQ.**
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1-800-348-3221, ext. 60E.
NetManage, Inc. has introduced Newtwatch, a Simple Network Management Protocol (SNMP)-based desktop management system for Windows. According to the Cupertino, Calif., company, the product provides desktop network management and desktop analysis on any TCP/IP network running SNMP. Newtwatch can also analyze and manage network resources including routers, bridges and hubs. By pointing and clicking, users can zoom in on a remote PC and see what software it is running; they can also dynamically view statistics, view and administer hardware and network configuration, manage hosts and maintain network lists by either icon or table views.

Also included is a software-only TCP/IP packet trace and analysis package, called Newtrace, that lets users capture, view and analyze all inbound and outbound TCP/IP traffic on a Windows-based PC.

Newtwatch costs $495 per copy.

Newport Systems Solutions, Inc. has introduced Call Connection Manager support for its line of LAN2LAN/MPR and LAN2PC products. According to the Newport Beach, Calif., company, Call Connection Manager can be used for applications that occasionally require users to dial up a remote LAN, such as electronic-mail messages and network backup.

Call Connection Manager supports dial backup, activity calling, bandwidth on demand and call scheduling to establish and disconnect calls.

The product supports LAN2LAN/MPR in a dedicated, stand-alone PC and on Novell, Inc.’s NetWare platform.

The base product with two wide-area network ports costs $2,490.

Hewlett-Packard Co. has introduced the HP J2540 Router PR, a remote-access router with built-in flash memory, plug-and-play capabilities and advanced network management.

According to the Palo Alto, Calif., company, the product supports industry-standard TCP/IP and Novell, Inc. IPX routing protocols and bridging.

The router offers network management using Simple Network Management Protocol and provides one Ethernet port with a choice of baby "N" connector or attachment unit interface connector and one synchronous wide-area connection for point-to-point protocol and Dialled Services through V.25 bis. A flash memory feature is also included.

The HP J2540 Router PR costs $2,995.

Multi-Tech Systems, Inc. has announced an X.25-compatible MultiModem II based on AT&T’s 16.8K/19.2K bit/sec. V.32terbo open standard. According to the company, which is based in Mounds View, Minn., the MT1932XP combines the functions of a full-duplex dial or leased-line modem, a send/receive fax machine, an X.25 packet assembler/disassembler (PAD) and a dial-up X.32 pad in a single desktop modem.

Support for up to four "virtual" X.25 or X.32 sessions through a single PAD port is provided, and the MT1932XP offers standard or asynchronous modem operation over dedicated or dial-up phone lines.

The product costs $949 and comes bundled with MultiExpress Datacomm and MultiExpress fax software. It will ship in the first quarter of 1994.

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In fact, DataHub can save steps on almost any task. No matter how many databases you have. No matter how many LANs you support. And regardless of whether your environment is centralized, distributed or client/server.

Vendors such as PLATINUM technology, Candle, LEGENT, Bridge, InfoTel and PROGRAMART are staying afoot with DataHub’s direction, letting you integrate a variety of database management tools. You can also develop your own application-based tools for DataHub’s platform of common services.

So take the next step — call 1 800 860-2047, ext. DH1 in the U.S. or 1 800 465-1234, ext. 665 in Canada; or fax us at 404 240-7301 (U.S. only); or contact your IBM representative, and see how DataHub can help you set a new pace in managing database systems in your company.
Vendors skip TPC benchmark ratings

Budgetary and time constraints cited as driving forces

By Mark Halper

There was something conspicuously absent in the current spate of multi-user computer system announcements: benchmark performance ratings under the Transaction Processing Performance Council seal.

TPC numbers, once a mainstay of new product releases, have been missing as vendors concentrate more on emphasizing the applied sciences of their machines.

In an era of budgetary restraints, the price of running TPC benchmark tests is nudging the constraints, the price of running TPC testing takes about four to six weeks and costs about $100,000, Shanley said.

TPC results were all but mining during the past two months, when Hewlett-Packard Co., Sequent Computer Systems, Inc. and Pyramid Technology Corp. introduced high-endwares.

Sequent and Pyramid issued no TPC numbers at all. While HP reported a TPC rating of 2,110.5/tpmC for a six-processor Unix version of its Corporate Business System running an Informix Software, Inc. database, it did not provide TPC rankings for any other processor configurations (the Unix line ranges to 12 CPUs) or for any of the proprietary versions of the system. Instead, it issued its own estimates.

4D, which provides mainframe systems management software, has new clients, including Amdahl Corp., Silicon Graphics, Inc. and NEC Corp.

He noted, however, that vendors are taking a longer time to issue results because they are running the more time-consuming and costly TPC-C test. This test measures five simultaneous processes, rather than the single-process TPC-A and TPC-B tests.

Kevin Joyce, Sequent product manager for future systems, noted that TPC tests "are not something you can do overnight, and they're getting very expensive to do." Sequent did not issue TPC numbers with its Symmetry 2000 line in October but said it would eventually do so.

Cross-platform scheduler released

By Johanna Ambrosio

Fourth Dimension Software, Inc. (4D) has joined the ranks of distributed systems management purveyors. The company's first four, available now, lets users schedule jobs on several different computing platforms.

Called Control-M, the package runs on IBM computers including MVS-based mainframes, the AS/400 and RS/6000 machines under AIX. In addition, Control-M runs on Sun Microsystems, Inc.'s architecture under the Solaris operating system and on Digital Equipment Corp. VAXes under Ultrix.

Unique to 4D's implementation, said Meta Data Group, Inc. analyst Fred Joy, is the ability to schedule jobs on one platform and depend on another on different platforms — for example, a payroll job has to finish on the mainframe to feed the information to a check-writing job on a Unix machine.

This is called cross-platform dependency. "I'm not aware of anything else out there that does this," Joy said.

To manage all the platforms in one location, 4D has also announced the Enterprise Control Station (ECS), which provides a common user interface and shared database for all supported 4D products. Besides the scheduling software, 4D will introduce over the next few years packages for distributed security, console automation and backup, among other tasks, according to 4D Chairman Yossie Hoilander. All will use the ECS as the central means of control.

With ECS, Hoilander said, users can manage by exception. In other words, users are alerted only to problems or incidents that seem out of the ordinary. This allows one operations staffer to manage several machines at once, he said.

Monitor consolidation

Some customers are excited about the prospect of monitoring different functions from one location. "I'm real anxious to get ECS up and running," said Jim Rinke, manager of scheduling and control at Texaco, Inc. in Houston.

"Right now we have three consoles to monitor three different JES systems," the company's first three to six weeks it can take to complete a test can be critical time for a customer in dire need of a new system. "It seems like manufacturers are pulling back in their enthusiasm for getting these benchmarks out quickly," said Craig Sultan, an analyst at Montgomery Securities, Inc. in San Francisco.

Kim Shanley, chief operating officer of the San Jose, Calif.-based 4D, said the council has issued about as many test results this year as last year, around 100. And he said the council has signed on new clients, including Amdahl Corp., Silicon Graphics, Inc. and NEC Corp.

Relational databases

Object Design boosts its database product

By Kim S. Nash

Object Design, Inc. unveiled an upgrade to its flagship ObjectStore object-oriented relational database last week that sports features designed to make the product more appealing for mainstream business applications.

With Release 3.0, the company rearchitected ObjectStore but promises the product is compatible with existing versions. New features include:

* The ability to back up and recover without shutting down the database and accompanying applications.

Object Design is working with IBM to build gateways between ObjectStore and several IBM databases, including DB2, DB2/z and IMS. The gateways are due out late next year.

Prices for ObjectStore start at $35,000. An average workgroup configuration will cost between $15,000 and $25,000, depending on number of users and platforms, according to Object Design.

earlier this year his group "decided to back off on how much we use [TPC numbers]."

While TPC rankings demonstrate raw performance of a particular task, they do not accurately reflect real-world performance, he said.

For instance, a TPC ranking would not demonstrate how effectively a system such as the HP 3000 runs a complex work load of chores, including order entry, year-end financial accounting and manufacturing resource planning, he said.

"Some believe the benchmarks, and some believe it's just more vendor marketing hype — or benchmarketing," Adamiak said.

"When it gets down to the real world, benchmarks are benchmarks, and the needs of the users of specific applications are different," said Bill Riske, director of strategic systems and a Pyramid user at The Fronius Cos., a Memphis-based publisher of several hotel chains.

"It takes a lot of resources and time to run benchmarks," said Judson Greshong, Pyramid director of product marketing.

"I'm real anxious to get ECS up and running," said Jim Rinke, manager of scheduling and control at Texaco, Inc. in Houston.

"Right now we have three consoles to monitor three different JES systems." The company's first production scheduling going on in the RS/6000.

"The gateways are due out late next year."

"Reduced minimum database size, down to 2K bytes from 16K bytes, which can make the product less cumbersome to deploy across networks."
There are the little sports: The World Series, The Super Bowl, The Olympics. Then there is World Cup Soccer. Twenty-four of the best teams from around the world will play fifty-two games in a four-week period, with a cumulative televised audience of more than 32 billion people. Nine U.S. cities will host the final games. With three and a half million tickets sold. And twenty-seven thousand volunteers. What kind of computer can handle all this? In all the world, only one was chosen. "Sun." More than a thousand Sun workstations will be linked with fifteen Sun servers housed in...
three separate headquarters. Every mission-critical application will be run on Sun: Event management, office management, and database management. When the World Cup comes to America this June, more people will be watching than watched the landing on the moon. And a few eyes may also be on the computer that was judged simple to use, yet powerful enough to manage the world's largest sporting event.

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New architectures

HP moves into 'post-RISC' era

Users await advent of powerful system that runs multiple operating systems

By Mark Halper

A week after Hewlett-Packard Co. began outlining plans for a "post-RISC" architecture, users, while concerned with migration issues, said they would look forward to the next generation for simultaneous support of multiple operating systems, among other reasons.

While users eagerly await the quantum performance leaps that the 64-bit chip and its billions of instructions per second portend [CW, Dec. 6], users seemed equally intrigued by the prospect that HP would use the device to sell an all-in-one box supporting HP's proprietary MPE/IX, its HP/UX Unix and perhaps other operating systems, such as Microsoft Corp.'s Windows NT.

HP's MPE customers now purchase the company's HP 3000 line, while Unix users buy the HP 9000. Customers who run both say an all-in-one box would ease their purchasing processes and facilitate interoperability between MPE and HP/UX (see related story page 74).

"It would be nice to put everything on the same machine," said Rodger Lindquist, manager of business systems development at Hercules, Calif.-based Bio Rad Laboratories, Inc., which uses an HP 3000 for business applications and an HP 9000 for service and communications functions.

"Nobody has come up with one engine that fits all yet, but if they could, would it be a good thing? I think so," said Isaac Blake, technical support/advanced planning supervisor for the city of Tempe, Ariz. "We need to make the operating system a secondary issue."

Kernel the key

Peter Rosenbladt, group research and development manager for HP's computer systems organization, clarified that support for multiple operating systems is inherent in the design of an operating system's kernel rather than in the processor architecture.

By using a "microkernel" operating system design, developers narrow the content of a kernel, thereby increasing the chance of its mating with more than one operating system by decreasing the chance of mismatches.

But, Rosenbladt acknowledged, microkernels are written to specific processors. And the next-generation chip could be the first from HP that would support MPE/IX and HP/UX in the same box.

Ironically, before HP offers that capability, it is expected to offer NT in the same box as MPE/IX and, separately, in the same box as HP/UX.

That will happen when HP finishes its rewriting of its present PA-RISC chip to support the same byte-ordering scheme used by Ibm Corp.'s Pentium and x86 line of processors, which power the present population of NT machines.

Unlike the PA-RISC chip, "post-RISC" architecture — as senior vice president and head of research Joel Birnbaum refers to HP's next generation — uses a Very Long Instruction Word (VLIW) technology that enhances the processor's internal parallel processes.

While the architecture combines some of HP's present super- scalar RISC designs, some users questioned whether it also moves away from RISC's reduced instruction set dictums by making instructions more complex.

Quantity, not complexity

Eric Fisher, principal at Fisher Consulting Systems, Inc., pointed out that VLIW technology is consistent with RISC in that it does not make instructions more complex; rather, it simply increases the number of instructions per cycle.

Fisher further noted that VLIW's internal parallelism would make it "ideal" for a microkernel design that accommodates multiple operating systems.

"This could be the platform...that could run MPE and Unix concurrently," - Eric Fisher, Fisher Consulting Systems, Inc.

HP's leading "post-RISC" proponent, research chief Joel Birnbaum, is regarded by many as the father of commercial RISC. He helped IBM develop the technology and left for HP after IBM declined to market it.

HP derived its VLIW processor technology from two now-defunct companies: Multiflow and Cydrome.

And the next-generation chip could be the first from HP that would support MPE/IX and HP/UX in the same box.

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"This could be the platform on which HP will deliver something which has been rumored — a machine that could run MPE and Unix concurrently," he said, noting HP could also throw NT into the mix.

Meanwhile, Rosenbladt said HP is also exploring a switch from a CMOS fabric to Bi-CMOS to improve microprocessor performance. He noted, however, that "Bi-CMOS is not now a mainline microprocessor technology, nor is it likely to become one."

Bi-CMOS provides faster circuitry than CMOS but is far more expensive. Its typical applications include memory chips.

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Object

CONTINUED FROM PAGE 69

and higher performance, but now we're trying to make objects safe for business-critical applications," said Ian Schmidt, director of product marketing.

Moving to mainstream

Most ObjectStore users deploy the product in scientific and engineering applications such as computer-aided design.

Object Design, like other object database makers, sees opportunity in persuading systems shops to use object technology in mainstream systems, such as manufacturing and inventory [CW, Nov. 22].

Meanwhile IBM has a large hand in shaping future versions of ObjectStore. IBM bought an estimated 20% equity stake in the company early this year, while AT&T made an undisclosed but "much smaller" investment last month, according to another Object Design employee.

IBM role

IBM's influence is likely to be evident in upgrades planned for next year, Schmidt said. For example, ObjectStore is expected to be ported to run on symmetric multiprocessing machines, starting with IBM hardware, he said. "Whatever we do, IBM will play a large part in our direction," he said.

Versions of ObjectStore will also be shrunk for various vendors' laptop computers, he noted. Unlike rivals in the object-oriented database market, ObjectStore runs in several desktop environments in addition to Unix, including Novell, Inc.'s NetWare, OS/2 and Windows.

A Microsoft Corp.'s Windows NT edition is in beta testing at 60 sites and is due to ship in next year's first quarter.

IBM package spots fraud

IBM recently unveiled software intended to spot billing fraud and abuse in the health care industry. The software, which looks for suspicious physician billing patterns by comparing medical claims in a medical specialty or region, has been tested by two insurance companies and is slated to be available by the end of the year, IBM said.

Japan's top vendor

For the fourth straight year, Nikkei Computer magazine has named Nihon Unisys Ltd., a venture of Unisys Corp. and Mitsui & Co. in Japan, as the top-rated Japanese computer vendor as determined by nearly 5,000 Japanese computer users.
NEW WINDOWS FOR WORKGROUPS 3.11 ALLOWS YOU TO NETWORK SMOOTHLY AND EFFICIENTLY.

Running a network that works with the Microsoft® Windows® operating system is important to your business. Helping you do it successfully is important to ours. And once you discover what Microsoft Windows for Workgroups 3.11 has to offer, we think you’ll understand why it’s the best version of Windows to run on your network.

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A Plus for Portability
Mainframe C

**Large Systems**

**Minicomputers**

By Mark Halper

Customers of Hewlett-Packard Co.'s proprietary HP 3000 minicomputers need software that partitions the machine's PA-RISC microprocessor to allow multiple users simultaneous access and minimize agonizing waits.

Although users said HP has indicated its intentions to develop what it calls a High End Scheduler, they do not expect the product soon and are relying on third-party products to help.

HP did not elaborate on its product plans.

**Traffic jams**

Users said while they remain impressed with the sheer power that HP continues to build into the 3000, they said they are concerned about bottlenecks that can cause a high-priority user to wait while a lower-priority user completes a task.

"Today, all available CPU power goes to a single process," noted Jerry Affholter, systems manager at Medstat Systems in Ann Arbor, Mich.

Without the CPU allocation software, he noted, "you cannot allocate percentages of the CPU. Instead, you have to line up requests." "The user community as a whole has been requesting a CPU dispatcher from HP for a while," said Isaac Blake, technical support/advanced planning supervisor for the city of Tempe, Ariz.

Blake noted that while Tempe has little need for the software because it uses scattered smaller boxes that provide department access with departments, "for people who have large behemoth boxes, I can see where it's a concern." Medstat, which runs a "beehive" HP 3000 Corporate Business System accessed by Fortune 100 companies for decision support and analysis of health benefit options, is one company that could use CPU dispatching.

"We need guaranteed CPU allocation for our clients," Affholter explained.

"If we simply throw power at the machine, that doesn't assure them they won't have to wait," he said.

Medstat's urgent need for better CPU dispatching derives from a classic bane: raised customer expectations. Affholter explained that Medstat's clients have come to expect the same sort of CPU response during daytime hours that they are accustomed to during off-peak times when they are not competing for CPU access.

"During the day, their throughput could be 10 times less, and their expectations are shattered," Affholter said.

**Waiting for HP**

Blake noted that although third-party products such as Overlord from Kelly Computer Systems in Mountain View, Calif. address the problem, users would prefer products from HP.

"They feel comfortable that if they have a problem, they can just call HP," he noted.

"For HP, the decision of whether to offer a dispatcher could boil down to simple economics," Blake noted.

"The question HP fights is, do you bundle everything into an operating system and then have to maintain it?" Blake said.

Users were not optimistic that HP would offer its dispatcher soon. The company actively tends to a list of user demands, but, according to Affholter, the dispatcher is not high on the queue.

"I don't think it's in the Top 20," he said.

**Claims system debuts**

Digital and Price Waterhouse group marketing an image-based claims processing system to carriers of workers' compensation and disability insurance. The new system combines Price Waterhouse software with Digital's DECclaim software, image-management and a computing platform, including PCs and Alpha AXP servers running Oracle Corp.'s database and The Santa Cruz Operation's SCO Unix operating system. The joint offering grew out of a project in which the two companies installed a claims processing system at the Injured Workers' Insurance Fund in Towson, Md.

**Briefs**

Informix, NCR join forces

Informix Software, Inc. plans to join NCR Corp. to build a version of the Informix-OnLine database for massively parallel processors, according to Philip White, Informix chief executive officer.

Sybase, Inc. recently announced an alpha release of its SQL Server database, codenamed with NCR. Informix also plans to create a 64-bit version of its On-Line for Digital Equipment Corp.'s Alpha platform, White said. The products are expected to ship late next year or in early 1995.

ISSC, TI offer utilities aid

IBM's Integrated Systems Solutions Corp. (ISSC) and Texas Instruments, Inc. have joined to offer client/server procurement and materials management solutions to the utilities industry. TI will provide business process re-engineering and software, while ISSC is responsible for implementation, integration and support. The alliance is aimed at reducing purchasing and management costs and shortening procurement cycles. Arizona Public Service is helping develop software to support parts procurement, inventory and electronic data interchange.

NCR sails with Seafirst

Seafirst Bank of Seattle has contracted with NCR to install NCR self-service banking systems at locations such as bank branches, shopping malls and retail stores. The systems give functions such as the ability to calculate loans, obtain information on investment options, reorder checks and stop payments. In another deal, NCR won a $5.5 million contract to supply Glendale Federal Bank in Glendale, Calif., with automated teller machines at 200 locations.

System wins award

Government Services Canada has awarded a $5.5 million systems integration contract to American Management Systems for a system designed to streamline the administration of $6.1 billion in annual purchases.

Stratus ports file package

SoftCom Systems, Inc., a software vendor acquired in October by Stratus Computer, Inc., plans to port Sterling Software, Inc.'s Connect:Direct file transfer software to run on Stratus' XX/XA fault-tolerant systems. The systems will also distribute the package. Connect:Direct is slated to be available for Stratus' proprietary VOS operating system in the first quarter of next year, and for its PTX Unix derivative shortly thereafter. Prices are expected to range from $25,000 to $40,000. SoftCom was known as BellSouth Systems Integration prior to the acquisition.

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We couldn't leave without telling you a little more about new Windows for Workgroups 3.11. Like the fact that it's faster than Windows 3.1. Whether you're working stand-alone or on a network.

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David Rifeimacher, President
Bell Atlantic Public Sector Systems

"The system installation went very smoothly - no glitches. Overall, we would say that Digital has done an outstanding job in their 64-bit OSF/1™ implementation."

Jeffrey S. Jablons, President
JQC Consulting, Inc.

"Digital's unified UNIX, DEC OSF/1, is emerging as a strong contender in the commercial UNIX market. Oracle™ 7 for Alpha AXP DEC OSF/1 in its very first quarter resulted in revenue significantly higher than Oracle expects for a new product line. Our results demonstrate the high quality of Oracle™ 7 and the competitiveness of DEC OSF/1 in the commercial UNIX market."

Bonnie Crater, Director, Product Management
Midrange Products Division, Oracle Corporation

"Over the past three years, Digital has invested a considerable amount of money and development effort in UNIX. And today, the work they have done has put them in a leadership position within the UNIX Operating System Market."

Judith Hurwitz, President
Hurwitz Consulting Group, Inc.

"We have ported Sybase's Gain Momentum™ product to DEC OSF/1 V1.3 and run extensive testing. As a result, we are confident that DEC OSF/1 is of such high quality and performance that it will prove an excellent addition to the world of commercial, mission-critical UNIX computing."

Noel Laca, Vice President
Business Unit Manager for the Gain Multimedia Products Group, Sybase, Inc.

For more information call Digital's Alpha AXP Fast FAX at 1-800-842-7027 in the U.S. and Canada.
Large Systems

Software Engineering of America is offering the VSE version of Total Remote Management Solution (TRMS) 4.2, an integrated report management system for on-line viewing, distribution and archiving of end-user/production reports.

According to the Franklin Square, N.Y., company, features include the ability to accumulate more than one report simultaneously, menu-driven interfaces under VTAM and CICS, a high-speed VSAM database structure, full internal security, PC report downloading and the ability to perform archiving while accumulating and bundling reports.

TRMS/VSE is priced from $18,000 to $40,350.

Compuware Corp. has announced Release 3.0 of File-AID/PC, a product designed to improve the efficiency of programmers working with PC-based IMS databases in the Micro Focus environment.

According to the Farmington Hills, Mich., company, File-AID/PC Release 3.0 offers editing, navigating and printing capabilities along with support for downloading and editing additional types of IMS databases.

The product offers command keys that enable users to move more directly to specific database segments when producing or analyzing IMS/VS86 data. Prices for File-AID/PC Release 3.0 start at $12,000.

Cray Research has announced the Cray Research Network Disk Array, a bulk storage device designed to reside on high-performance computer networks.

According to the Eagan, Minn., company, the product enables users to store data on the network instead of on a storage device connected to and accessible only from a single system on the network.

The device can be partitioned between multiple systems on the network.

If the normal path is unavailable, users receive an alternate access path and the product is connected through a High Performance Parallel Interface switch.

Pricing for the Network Disk Array begins at $450,000.

Storage Concepts, Inc. has introduced the Concept 810 Series of real-time redundant arrays of inexpensive disk (RAID) storage subsystems.

According to the Irvine, Calif., company, the product provides 20M byte/sec. sustainable transfer rates with an upgrade path to rates as fast as 50M byte/sec.

The Concept 810 offers up to 10G bytes of storage capacity and is targeted for applications that include teleradiology, digital X-ray and pictorial archiving and communications systems.

Prices for the Concept 810 Series start at $16,900.

Business Partner Solutions, Inc. has introduced MobileEra Monitor, a message queue and system audit journal monitor that notifies IBM AS/400 users of any system error conditions, such as authorization failures, password violations, critical storage messages or pending disk failure.

According to the Westmont, Ill., company, the product notifies operators if batch jobs finish within a configured start and stop time.

The product can also submit a user-written job to react and fix the problem.

Mobile Monitor costs $595 per license.

You can read a knee-high stack of computer magazines each month and still not find the depth and breadth of news and information you'll discover each week in the pages of Computerworld.

As the only weekly newspaper for IS professionals, Computerworld is filled with up-to-the-minute articles on topics ranging from products and people to trends and technology. We cover it all — PCs, workstations, mainframes, client/server computing, networking, communications, open systems, languages, industry news, and more.

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That's why over 139,000 IS professionals pay to subscribe to Computerworld every week. Shouldn't you.
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Client/Server Computing,
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Data is one of the most strategic assets any business can have. Because businesses that utilize data well, will succeed. Businesses that don't, won't.
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Implementing client/server applications can be tough, particularly when you need to access remote data on diverse platforms.
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BIG OR SMALL, IT'S ALL THE SAME
EDA/SQL has the power and the ability to drive the largest enterprise-wide implementation, or to simply connect a single client/server application to a specific data source.
And because there's an EDA/SQL solution for every popular platform, and network protocol, you can use it in the environment of your choice.

Only EDA/SQL has the scalability and configuration flexibility to meet your client/server requirements both today and tomorrow. You can start with the EDA/SQL solution you need today. Then, efficiently and economically grow any configuration to meet your changing business requirements. Big or small.

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Next steps up to developers' praise

Company hopes to ride 486 through corporate America's door

By James Daly

Six months after its introduction, Next Computer, Inc.'s NextStep 486 is finding a welcome home in corporations weary of wrestling with complicated in-house application development.

End users hope the object-oriented programming that NextStep 486 affords will relieve the software bottleneck that has prevented them from quickly writing and adapting programs to take advantage of powerful computer systems and shifting business opportunities.

"When you're building something extremely complex, [NextStep 486] is a godsend," said Steven Jacobson, a deputy at the Los Angeles County Sheriff's Department who used NextStep 486 to build a decision-support system capable of handling several hundred users.

In May, Next took the formerly non-disclosed NextStep and ported it to the Intel Corp. platform. Since then, NextStep 486 users have praised a design that makes it easier to reuse large chunks of software code. At least for the tough jobs.

On less sophisticated applications, however, "the delta between NextStep and other application development environments is not all that great," Jacobson said. "If you're just putting together an order-entry system, NextStep may seem like overkill."

**NextStep 486 Vital Statistics**

**CORE TECHNOLOGY:**
A multitasking and multithreaded Unix operating system based on the Mach operating system kernel.

**ADD-ONS:**
- Comes bundled with client support for Sybase and Oracle databases.
- **Cost:** $795; $1,995 for developer version.

**PROJECTED SHIPMENTS IN 1994:**
- $100,000

**REVENUE FROM NEXTSTEP 486 IN 1993:**
- $10 million to $12 million

**COST TO CREATE NEXTSTEP:**
- $250 million

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Client/server tools

**LoadRunner cuts costs by estimating user support**

By Melinda-Carol Ballou

Enabling developers to test performance and then tune client/server applications before deploying them can be key to their success, analysts say. However, it can also be prohibitively expensive to set up "real world" scenarios.

New testing tools from Mercury Interactive Corp. will allow developers to cut those expenses by testing client/server application performance through emulating the load placed upon it by a full range of users, according to company officials and industry analysts.

Dubbed LoadRunner, the new tool allows testers to run multiple emulated users in parallel, each operating a real client application off the server, they said. Rather than require a machine for every user, LoadRunner can run many virtual users on each machine, officials said. These tools carry over to client/server development, a concept played out in host-centric performance testing.

Beta testers of the product said they realized savings using LoadRunner.

"The value of LoadRunner is that we didn't have to bring in 100 users and pay them to test the application — it did the testing for us," Lewis said.

Although NextStep has been available for more than a year, putting NextStep on the Intel platform also lessens the fear factor."People don't want to think that they have to junk their systems to tap Next; this lessens that perceived risk," said Dwight Koop, executive director of information technology at Swiss Bank Corp. in Lisle, Ill.

**LoadRunner Cuts Costs by Estimating User Support**

**Tool time**

**The advent of client/server application development is generating the need for new commercial testing tools because client/server applications have the following characteristics:**

- They are event-driven, so the response is relatively unpredictable.
- They are under end-user control.
- They must span a range of client and server platforms and developers are creating more of them.

**Source:** Hanbricht & Quiet, Inc., San Francisco

The release of these tools from Mercury Interactive is part of a wider trend. Client/server computing is spawning a market for graphical user interface (GUI)-based testing software that is likely to expand from around $50 million in 1993 to around $90 million by the end of 1994, according to Neil Weintraut, technology analyst at Hambrecht & Quist, Inc. in San Francisco.

In-house testing tools used for character- and host-based applications used to be the norm, largely because the developer controlled the development process. But the development scene is becoming dramatically more complex, with the advent of client/server, event-driven systems and GUIs, which make the testing process more unpredictable.

These factors and others (see chart) are resulting in the greater availability of commercial testing tools for client/server, Weintraut said.

Weintraut added that this has happened so fast that the majority of developers are not aware of the availability of these tools.

Key players in this market include Mercury Interactive, Autotester, Inc., Sogge Software, Inc., SoftBridge, Inc., Quality Automation, Inc., Microsoft Corp. with Microsoft Test and about 15 other companies, analysts said.

LoadRunner is shipping now, pricing starts at $70,000.
**Trinzic tackles database middleware**

Tool addresses user complaints about EDA/SQL

By Melinda-Carol Ballou

Trinzic Corp. bolstered its product offerings at Database World in Chicago last week with the release of its InfoHub database access tool and updates to InfoPump data routing and Forest & Trees analysis and reporting tools.

With the release of InfoHub for client/server, Trinzic, based in Waltham, Mass., is targeting the middleware database arena owned primarily by Information Builders, Inc.'s EDA/SQL. According to Trinzic, InfoHub, in combination with Micro Decisionware, Inc.'s Database Gateway, will give users the ability to read, write, update and join data located on mainframe databases with sequential files from tools that support Microsoft Corp.'s Open Database Connectivity. While some users have complained publicly of performance problems with EDA/SQL for transaction-intensive applications, Trinzic and Micro Decisionware officials claim InfoHub will address those problems.

Industry analysts said, however, that while it is important for developers to have alternatives to EDA/SQL in the middleware arena, it is not yet clear how InfoHub will perform. InfoHub and Micro Decisionware's gateway will provide access to Computer Associates International, Inc.'s IDMS, IBM's IMS, VSAM and DB/2 and Software AG of North America's Adabas. But EDA/SQL offers connections to a much broader range of databases, said Charles Venter, an analyst at Meta Group, Inc., a consulting firm in Stamford, Conn.

Information Builders is also expected to address some of the performance issues related to EDA/SQL's use of Focus Decisionware's IDMS, the mainframe databases with sequential files from tools that support Microsoft Corp.'s Open Database Connectivity.

Updates simplified

Trinzic's InfoPump 1.1 provides support for Banyan Systems, Inc.'s Vines and Digital Equipment Corp.'s Pathworks network protocols, as well as for IBM's DB/2 and Digital's Rdb relational databases. InfoPump offers server-to-server database routing, replication and synchronization. Lotus Development Corp.'s Notes and DBMS integration and host-to-server replication and downsizing, company officials said.

Users spoke of the advantages of the new version.

"We're using InfoPump to move information from traditional [mainframes] onto Lotus Notes applications," said Rodger Krammer, manager of technical systems support at publishing firm Houghton-Mifflin Co.'s Boston office, who runs InfoPump on Digital's Pathworks. "InfoPump offers the ability to update the data without having to go to extensive programming efforts ourselves."

Trinzic officials said Forest & Trees 3.1 offers improved data access, better graphics than Version 3.0 and support for Dynamic Link Libraries. It also offers a "drill-down" capability for more detail on a particular slice of a pie chart, for example. Check box and radio button support make it easier to develop more intuitive applications.

All three products ship this month. InfoHub pricing starts at $65,000, MDI Gateway pricing starts at $49,900, and pricing for the MDI Access Server, required to run the gateway, starts at $60,000. InfoPump 1.1 on an OS/2 server is priced at $90,000, and Forest & Trees 3.1 is priced at $99,000.

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Oberon ships builder to SunSoft users
Small software company thinks big with object-oriented tool set

By Jean S. Bozman

Oberon Software, Inc., a Cambridge, Mass., start-up financed by Toyo Information Systems in Japan, said last week that it has shipped an object-oriented application builder for SunSoft, Inc.'s Project Distributed Objects Everywhere computing environment. Oberon plans to attract commercial users with a visual programming environment that strings together existing objects.

The SynechroWorks application builder is a visual system that allows users to assemble programs by moving icons on a workstation screen. It also allows users to create new objects and store them in an Object Design, Inc. ObjectStore database repository (see story page 69).

The Oberon system, beta-tested at Kash 'n' Karry Food Stores, Inc. in Tampa, Fla., will replace a homegrown object environment there, said Denise Matthys, the $1.2 billion firm's systems development manager. "We wanted to get out of the tool development business so we can focus on our own business," said Matthys, who has 25 Sun Microsystems, Inc. Unix servers and hundreds of X terminals. Kash 'n' Karry's programmers had been using a C++ scripting language based on Internet shareware, she said.

Oberon's application builder links its built-in object database with a user's Oracle Corp. or Sybase, Inc. relational database. That means that images for multimedia applications can be stored in an ObjectStore database but mapped against data stored in a corporation's relational database, said Win Burke, Oberon's marketing vice president.

Oberon and other object-oriented tool set builders have an edge over traditional relational database firms that are wary of developing and selling their own object tool kit, said Julie Rodwin, an analyst at R. M. Fichera Associates in Groton, Mass. "One of the conflicts the relational database management system firms face is how far they want to go with objects," Rodwin said. "They have an enormous installed base to protect, so the smaller companies like Oberon, Servio and Harbor Software that are coming out with object-oriented tools are going to be further ahead."

SynchroWorks supports SunSoft's Solaris 1.X and Solaris 2.3 for SPARC systems. Release 2.0, due for 1994 shipment, will support the Object Management Group's Common Object Request Broker Architecture, Burke said. SynchroWorks applications can be built on top of C, C++, Objective C and Next Computer, Inc.'s NextStep object-oriented class library.

Support for other Unix software platforms, including Hewlett-Packard Co. and IBM RS/6000 workstations, is still being evaluated, Burke said.

Prices for SynchroWorks range from $895 for a single-user trial license to $29,000 for a four-user license and $89,000 for a 16-user license, Oberon said.

Next steps up

CONTINUED FROM PAGE 70

typical 486-based PC up to the sophisticated color, sound and video capabilities of the Next machine can add several hundred dollars.

There are psychological hurdles to clear as well. Analysts said the chances of Next's taking over this object-oriented development market are slim because Microsoft and Taligent are perceived as the real operating system powerhouse of the future.

"NextStep is as good as anything that's out there, but the move [to develop custom in-house applications] may not be as fast as Jobs likes," said David Card, director of systems research at International Data Corp. in Mountain View, Calif.
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Uniface develops portable Mac environment

By James Daly

Do your Macintosh enthusiasts feel cut off from enterprise data and applications? Or are your DOS users jealously eyeing the Macintosh interface? If so, Uniface Corp. wants you to lend it an ear.

The Alameda, Calif.-based company last week unveiled an industrial-strength application development environment for the Apple Computer, Inc. Macintosh that is portable across platforms. The Macintosh Uniface development environment enables developers hammering out client/server applications to build one version on the Macintosh and then port it to other platforms.

For instance, applications can be ported to Windows-based PCs or character-based terminals using DOS without rewriting code, said chief architect Mark Hersey. With Uniface on Windows and Motif, the application can be deployed using the native look and feel of the Macintosh, according to Anu Shukkla, vice president of worldwide marketing.

Uniface is a graphical client/server environment that enables complex systems to be built quickly through the use of a central Model Repository. This approach allows applications to be easily modified or scaled to greater complexity.

Uniface also provides read/write access to major commercial database management systems, including offerings from Oracle Corp., Sybase, Inc., The ASK Group, Inc., Informix Software, Inc. and Hewlett-Packard Co.

General availability of the Uniface Macintosh development environment will be in the first quarter, with a single Macintosh development license selling for $4,400.

Uniface for the Macintosh will run on any Motorola, Inc. 68030 or 64040 Macintosh computer and requires 4 M bytes of RAM, 15 M bytes of available disk space and System 7.0.1.

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TeamTest 2.5 tests PowerBuilder objects

By Melinda-Carol Ballou

SQA, Inc. in Woburn, Mass., has announced a new version of its client/server testing tool that offers specialized support for PowerSoft Corp. PowerBuilder-based application development environment and other features.

The PowerBuilder support allows users of automated test procedures written in SQA TeamTest to “see” directly into PowerBuilder objects such as DataWindows and DropDown Windows. The contents of these objects are typically invisible to other Windows products, SQA officials said. But by using an application programming interface provided by PowerSoft, SQA TeamTest determines the contents of these windows and can then run tests against user-defined criteria to determine if the contents are correct.

While PowerBuilder is a very popular tool for developing client/server applications, one of the areas that has to be supported is regression testing, said Rich Finkelstein, president of Performance Computing, a consulting firm based in Chicago. “These kinds of capabilities are well-known and understood in the mainframe world and are now only beginning to be applied to client/server.”

Regression testing lets developers test the consequences of modifications made to the programs on which they are working. This testing ensures that other portions of the application are working properly and have not been affected by changes made elsewhere. Finkelstein said the new version of SQA TeamTest will broaden the reach of developers by allowing them to perform tests on the contents of PowerBuilder objects.

These PowerBuilder DataWindows often contain data retrieved from a database server or data a user has entered to update a database. By testing the data values in a DataWindow, SQA TeamTest allows client-based testing of database servers in a client/server setup.

Since this specialized support does not use bitmap comparisons and operates directly on numeric and alphanumeric data, the data can be tested without regard to the visual display characteristics of the DataWindow. This offers independence from the graphical user interface design of the application.

Version 2.5 also has a text comparator, which allows rapid inspection and detection of differences in text-based test cases, and the ability to capture and test the contents of nested pull-down menus, list boxes, combo boxes, tabular spreadsheet-style text, and any Windows controls that support clipboard copy.

SQA TeamTest 2.5 is in beta testing now and is scheduled to be available during the first quarter of next year. It is priced at $1,495 per license.

According to the Lowell, Mass., company, the product allows developers using PowerSoft Corp.’s PowerBuilder 3.0 to integrate powerful image document management capabilities into new or existing applications built using the PowerBuilder programming environment.

Users can add to their applications imaging functions such as displaying, scanning, manipulating, printing and faxing black-and-white, gray-scale and color images.


According to the Redmond, Wash., company, the product allows multiple EasyCASE users to concurrently access a project located in a common area on a server. The Workgroup Edition features chart and data dictionary looking at the record and file levels, a read-only mode, access control with security (passwords, serial numbers, access privileges, permissions and lockout), a user list and project export and merge capabilities.

The product works with any DOS, Windows or Novell, Inc. network that is Novell-compatible.


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NAFTA’s passage means Mexico is no longer a foreign market. Get ready for the trials and tribulations — both technical and cultural — of doing business south of the border.

In the suburbs of Mexico City, you’ll find a Third World networking infrastructure: ancient, analog and unreliable. It may take three or four tries to get a connection for a business telephone call.

Less than 10 miles away, in the heart of Mexico City’s commercial district, digital traffic can ride on a new fiber-optic cable that rivals or surpasses capabilities in parts of the U.S.

That is the technological paradox of modern Mexico, where restaurant tables have cellular phones so business executives can bypass the poor telephone system. Experts say U.S. companies that don’t do their homework before opening facilities or negotiating joint ventures in Mexico will be in for some big surprises.

Because of high business (nonwage) costs in Mexico, McIlhenny Co. (the Louisiana-based maker of Tabasco hot sauce) has shifted all of its production from Mexico back to the U.S., while General Motors Corp. recently shifted production of the 1995 Chevrolet Cavalier from a plant in northern Mexico to Lansing, Mich.

They discovered that the country’s much-hyped low wages were offset by factors such as crumbling highways, decrepit railroads, bureaucratic hassles and high employee-training costs.

Nevertheless, U.S. companies will continue to open facilities in Mexico in hopes of scoring big profits from Mexico’s market of 81 million people, including 24 million active consumers eager to buy U.S. products. Bobby L. Martin, former chief information officer at Wal-Mart Stores, Inc., for example, was recently promoted to head that company’s new international division with the mission of tapping into the Mexican market [CW, Oct. 11].

Passage of the North American Free Trade Agreement (NAFTA) will mean even more U.S. business activity south of the border, prompted by the elimination of trade tariffs and a more favorable investment climate. Retail, medical, fast food, industrial and consumer product...
NAFTA CONTINUED FROM PAGE 91

companies are all gearing up for the Mexican gold rush.

Allergan, Inc., the Irvine, Calif.-based eye-care firm, expects its Mexican sales to double in five years, so it has struggled to set up an IBM AS/400 at its small Mexican plant, despite the lack of on-site technical help or computer expertise. The demographic trend in Mexico toward an older population means a growing market for Allergan’s products and services for glaucoma and cataracts, says Mel Engle, senior vice president for Latin America and Canada.

In contrast to the newcomers, Woolworth Corp. was doing business in Mexico long before anyone dreamed of NAFTA. The retailer’s Woolworth Mexican unit has 30 department stores, plus a dozen Foot Locker stores and more specialty stores on the way, according to Philip W. Richards, vice president of corporate MIS in New York.

“Business [in Mexico] is absolutely booming. It’s the most exciting market we have,” he says.

Richards says the biggest headache is the antiquated state of the telephone network, which he bypasses using satellite and cellular networks.

Richards also bypasses many of the management challenges of dealing with Mexico by handling all data processing — with the obvious exception of point-of-sale terminals — remotely in the U.S. Given the economies of scale and the fading of national borders, companies such as Woolworth and Reader’s Digest Association, Inc. are consolidating their North American data centers in the U.S.

Experts say NAFTA, combined with Mexico’s privatization of state-run utilities, will lead to faster upgrades of Mexico’s infrastructure.

The good news is that Mexico’s version of Ma Bell, Telefonos de Mexico (TelMex), is modernizing with a special emphasis on the digital services that large businesses crave.

The telephone network was sorely neglected in the 1980s, making it difficult to get state-of-the-art modern connections, according to Stephen Dalla Betta, Latin America analyst at Pyramid Research, Inc. in Cambridge, Mass. As a result, multinational corporations bypassed TelMex by installing private satellite networks.

Answering the call

The ongoing transformation of the lumbering TelMex bureaucracy into a user-focused competitor began in 1990, when the Mexican government sold a 30% stake to private investors including Southwestern Bell Corp. and France Telecom. The new owners have been investing $2.5 billion a year to install digital switches and fiber-optic cables. TelMex knows it must get its act together soon because its protected monopoly position in long-distance voice and data traffic will end in 1996.

By then, TelMex expects to have achieved 88% digitalization of the network — well on its way to the goal of 100% by the year 2000. But TelMex must focus on the large urban areas and business districts first, which explains why network quality is spotty.

That also explains why General Electric Co.’s GE Information Services unit is moving its network node from the suburbs to the commercial center of Mexico City to take advantage of the new fiber-optic cable there.

In terms of network quality, says Travis Good, manager of Mexican business development at GEIS in Rockville, Md., the suburbs and downtown are like two different worlds.

Which means that life is not easy for information systems managers given the task of connecting Point A to Point B.

“I’ve ordered circuits [from TelMex] from Mexico City to Guadalajara and Monterrey, but they’ve been very late in delivery — I mean months late — and they’re still incredibly expensive,” reports Reuben Lantto, director of telecommunications at Minneapolis-based Cargill, Inc., which has been processing and grain operations in Mexico.

Although the technical challenges of doing business in Mexico are considerable, Lantto and other IS managers say that bridging the cultural gap is even tougher. Frankly, it takes a while for hard-charging Americans to get used to the slow pace of business dealings in Mexico, also known as the “mañana syndrome.”

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Continued from page 92

be the availability of support and maintainance services. Lantto advises: Check out references, and if you need technical support, make sure the service organization has nationwide coverage.

Of course, the most obvious cultural barrier is language. It certainly helps for U.S. companies either to have a Spanish-speaking IS staffer to deal with Mexico or to depend on outsourcing vendors that do, IS executives say.

Training on-site

One of the best project management techniques is for a Spanish-speaking IS project leader to go to Mexico for a year or two and train Mexicans in the operation, then turn it over to them, says Edward M. Roche, an expert on international IS issues at New York University. However, it is also true that many Mexican programmers and systems analysts — those who have graduated from college or technical schools — know enough English computer jargon to get the job done. After all, Mexicans often use English versions of PC software, and most computer terminology comes from the U.S.

Consumer products maker Tambrands, Inc. requires its top managers in Mexico to speak English, but the company must ensure that the software the workers on the plant floor use is multilingual, says Diane Forrest, vice president of IS in White Plains, N.Y.

The need for multilingual software and local vendor support makes buying software for use in Mexico a bit more complex, Forrest says, especially when the company wants standard applications in both the U.S. and Mexico.

Most of the software used in Mexico is brought in from the U.S., although domestic software houses have emerged. Passage of NAFTA should bring product prices down slightly because of the elimination of import tariffs.

Business barriers

Even after overcoming the language barrier, IS managers will find that Mexicans simply have a different way of doing business, which greatly affects business processes and the information systems tied to them.

The postal system in Mexico is terrible, for example, so invoices are hand-delivered by salespeople, who also collect payment, says Laurence Nochlan, vice president of Resource Evaluation, Inc.’s consulting practice in Mexico City. Furthermore, Mexican billing systems are hampered by manual processes, data-entry errors and fragmented accounting databases.

“By U.S. standards,” Nochlan says, “administrative operations in Mexico are prone to error and full of inefficiencies that can be a significant drain on operating profit.”

For example, Nochlan says, it is an accepted Mexican business practice for salespeople to negotiate discounts for particular customers orally — unknowingly to the billing department at the company’s headquarters.

As a result, the accounting system will mislead executives about forthcoming revenue, and customers are unhappy when the discount does not show up on their bill.

IS managers report no problems finding qualified IS professionals or hardware and software products in Mexico’s big cities. The Mexican government opened the computer market to foreign suppliers in March 1990, so the options for buyers who have grown considerably and competition has intensified.

Frederick W. Schroth, an expert on international business at Kent State University in Ohio, advises IS executives about to take the Mexico plunge to focus more on the future — the modern services that will be available in six or 12 months — than on current problems.

“This is a country that is changing very rapidly,” he says. “Looking around today is deceptive; you’ve got to ask people about what tomorrow will bring.”

The North American Free Trade Agreement provides a “bill of rights” ensuring reasonable access to the public network by business telecommunications users.

- There can be no regulatory restrictions on transborder data flows or access to databases anywhere in North America.
- Users can connect private lines with other private lines or with public networks (such as for intracorporate communications).
- Pricing for private lines must be cost-based and available at a flat rate — an important point for large users that try to avoid volume- or time-sensitive rates.
- Companies can use the protocols and terminal equipment of their choice.

Source: Deloitte & Touche, Washington, D.C.

Outsourcing to the max

Since late 1989, BP Exploration, Inc., the oil and gas exploration unit of British Petroleum, has cut its information systems staff from 1,400 workers (including 600 consultants) to 150.

The IS budget has gone from $380 million to $110 million. Most IS functions have been outsourced, including operation of BP Exploration’s information technology infrastructure and application development.

Who are the survivors? Only IS professionals who fulfill one of three roles: business consultants who work with user departments and function within BP Exploration; “partner resource managers” who manage relationships with outsourcing firms; or technicians who specialize in technologies that have yet to be outsourced.

The outsourcing move follows BP’s philosophy of concentrating human and capital investments on core activities and competencies, while divesting and outsourcing noncore activities.

Outsourcing noncore activities

The Market Science Institute in Cambridge, Mass., and A.C. Nielsen in Northbrook, Ill., have formed a partnership to provide a state-of-the-art database for academic researchers.

The database, which the institute described as “unprecedented in its scope and level of detail,” allows researchers to obtain realistic broad-based and long-term data. Its purpose will be to “simulate real-world processes on assessing brand performance and to help advance the effective management of brands,” according to Rudolph Sturze, Nielsen Marketing Research senior vice president, who made the announcement.

Access to the database, which will become available early next year, will be overseen by the institute. Researchers wanting more information should contact Katherine Jocz, director of research at the Marketing Science Institute, (617) 491-2000.


Data processing pays off for professionals

Seasoned data processing professionals can expect to reap higher financial rewards next year, according to a recent survey released by Edward Perlin Associates, a management consulting firm in New York.

The survey looked at the rates of increase in salary budgets, bonus amounts and staff turnover at 51 companies nationwide.

It included a broad spectrum of industries and found that merit budgets showed small growth in 1993 (2.8% to 6%), but salaries were augmented by large bonuses based on a percentage of base pay.

For senior managers, the average bonus in 1993 was 29% of base salary, with a range of 0% to 92% reported by respondents. Middle managers received an average bonus of 14.4%, with a range of 5% to 39% reported.

The survey also projected that starting salaries for entry-level computer programmer positions will increase by just under 2% in the coming year, bringing the average base salary from $31,500 to $32,100.

Staff turnover was also studied, with the companies reporting an average of 10.2% staff turnover in 1993 (actual rates ranged from 0% to 32%).

Source: Edward Perlin Associates, New York
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—PC Magazine, December 1993

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—PC Computing, October 1993

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Then you'll see how a few relentless, determined, committed, focused, and driven people can make a difference.
Ronald S. Bolin was recently appointed director of information services at Polygram Manufacturing and Distribution Centers in King's Mountain, N.C. He will report to chief financial officer Larry Brigden. Bolin will be responsible for evaluating and using The ASK Group, Inc.'s ManMan MRP? system for the company. Prior to joining Polygram, Bolin was manager of information systems at Krauss Maffei Corp.'s U.S. headquarters in Cincinnati.

Paul J. Hoedeman, 38, has been named vice president and chief information officer of aerospace operations for the AlliedSignal Aerospace unit of AlliedSignal, Inc. in Morristown, N.J. Hoedeman was formerly vice president and CFO at AlliedSignal. J. Thomas Zusi, 50, replaces Hoedeman in that capacity.

Yannick Le Coudic, 46, has been named vice president of MIS at Lubrizol Corp., a Cleveland-based chemical concern. Le Coudic was formerly a division head, responsible for research and development administration services.

Thomas Lewis has been named senior vice president and CIO at USF&G Corp., a Baltimore-based property and casualty insurer. Lewis, 41, was most recently vice president and general manager responsible for Europe, the Middle East and Africa for object-oriented software developer Seer Technologies, Inc. in Cary, N.C. He replaces John Roblin, who left the insurer in March.

Irene O'Donnell has joined Keyfile Corp. in Nashua, N.H., as vice president of administration. She will be responsible for MIS, manufacturing, purchasing, facilities and human resources. Prior to joining Keyfile, O'Donnell was co-founder and vice president of operations and treasurer of Newton Technology, Inc., a software publishing company in Newton, Mass.

Dr. Edward E. Heller Jr. has been named president of the Computerized Patient Record Institute. He has served for the past seven years as vice president of information resources at Massachusetts General Hospital in Boston, where he had strategic and operational system responsibilities for the hospital and coordinating responsibilities for other corporate entities.

Thomas R. Burch has been appointed vice president and CIO at St. Vincent Hospitals in Indianapolis. He was formerly vice president of operations for the hospitals.

Ex-CIO jokes: Several popped up at the Retooling '93 conference held recently in Atlanta. Richard W. Swanborg Jr., principal at Ernst & Young, jokingly asked about a laid-off CIO standing on a street corner with palm outstretched, asking passersby, "Brother, can you paradigm?" Chuck Gibson, vice chairman of CSC Index, recalled a conversation with another ex-CIO: "I left the same way I came in: fired with enthusiasm."

Linguistic advice: Getting management to increase training budgets is a perennial problem. One solution: Don't refer to "training fees" — talk about "tuition investments." It's a much more positive way to look at money spent on training, says Mary E. Texer, manager of technical training at the Federal Reserve Bank of Minneapolis.

Mission-critical mainframe systems: Most companies still keep the lion's share of their mission-critical systems on mainframes, judging by a show of hands at a technical session on reskilling information systems personnel. More than 75% of the audience raised their hands when Informix vice president Joseph J. Durzo asked how many kept 90% of their mission-critical systems on the mainframe.

— Compiled by Allan E. Alter
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FOR SOME, IT'S SIMPLY A GOOD WAY TO GET A CONFERENCE ROOM.
FOR OTHERS, IT'S AN ENTREE TO STREAMLINING THE BUSINESS.

BY ALAN RADDING

Groupware is big, no arguing with that. But it's hard to tell how much of its popularity is due to the fact that just about anything can fall under this category.

The term is being applied to everything from project management software to multiuser databases to remote access tools to document imaging software.

Current definitions of groupware don't give information systems managers much guidance. One early definition called it "a co-evolving human tool system"—whatever that means.

The Groupware Users and Vendors Association in San Francisco identifies approximately 200 vendors that provide groupware products and services ranging from basic electronic-mail packages to integrated applications such as Notes from Lotus Development Corp.

Even if vendors and analysts can't agree on a precise definition, an outline of the functionality required for group collaboration is emerging. It includes:
- Messaging with intelligent filtering and routing capabilities (page 103).
- Scheduling (page 105).
- Conferencing (page 103).

Collaborative software that combines a number of groupware functions (page 106).

A forms capability is also emerging as a hot new feature. Sophisticated E-mail-based forms can replace traditional forms, such as expense reimbursement and purchase order paperwork; they can also take over the task of routing the forms to the appropriate people.

More importantly, today's forms incorporate an underlying logic that allows them to process the form or serve as the input device to a database. For instance, when salespeople fill out a form, they're also entering data into a database because of the SQL logic underlying the form.

The future of groupware will likely see the blending of the above categories. Despite the emergence in the past 18 months of numerous groupware- and work-flow-oriented packages, few organizations are actually using them in production mode, says Michael Bragen, a software industry analyst in Lexington, Mass. As a result, the known needs of the market at this point are limited.

Radding is a free-lance writer in Newton, Mass.
Your Job Just Got Easier.

By Joanie M. Wexler

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HOW MUCH
GROUPWARE IS
ENOUGH?

It started innocently enough with senior execu-
tives checking messages and mail from the road, including scanned copies of paper
mail. Before long, any document for any
project pursued at Harmon Contract, Inc.
was stored in a Notes database, be it a permit, a waiver, a materials list or a subcontractor schedule.

But Harmon, a large construction firm in Minneapolis, really got serious about Lotus Development Corp.'s Notes groupware product when it acquired five small companies and tied them together with $460,000
worth of PC LANs, Notes and Lotus' SmartSuite group
of personal productivity products.

The clincher was when the newly enlarged Harmon won its first bid, a $6 million project,
in large part because the customer could
send messages and check on documents by accessing Harmon's Notes databases.

For companies such as Harmon, a single groupware
application can blossom into a way of streamlining busi-
ness processes cheaply or at least without paying a
Big 6 firm tens of thousands of dollars.

"Notes applies itself well to what people see as the
problems holding back the business," says Robert Lar-
on-Hughes, formerly information systems director at
Harmon, now a principal at Notes consulting firm Lar-
on-Hughes & Associates.

In fewer cases, groupware is single-purpose. "We had
a crying need to schedule facilities," reports Bill Sims,
director of operations for the Miami Project
cure Paralyzies at the University of Miami
School of Medicine. The group adopted
Network Scheduler from PowerCore Inc.,
but users have resisted other groupware.

"People see it as more bells and whistles that we don't
need," Sims says.

For those of you trying to stay ahead of the groupware
curve, the lesson is: First get a feel for how far people
want to take this phenomenon and then buy products
that match a specific need.

That's not easy to do because groupware tends to take
on a life of its own once implemented. Users who first
want conferencing or scheduling tend to eventually out-
grow those systems. So if you start with "just a little,"
you might be sorry before long.

Success lies in not getting "stuck" with a product that
can't expand. That means considering whether any sin-
gle-function product you purchase will be able to merge
with other groupware or whether it has additional mod-
ules.

With multifunctional products, be sure they're open
equal to integrate with the enterprise or other existing
personal productivity applications.

THE CW GUIDE TO GROUPWARE

E-MAIL
THE ORIGINAL GROUPWARE

Electronic mail is a given in any group-
work system — but not just E-mail in the
message-sending sense.

Today's E-mail has to have smarts. Not only does it have to deliver mes-
sages, but it should also distribute and
route them based on subject matter. An
urgent late-night message to the help
desk from a high-level executive can
automatically trigger a beeper call to a
support technician. Or a sales order
form for a new customer can trigger a
request to an outside service for a credit report.

When New England Medical Center in Boston first experi-
enced Beyond, Inc.'s BeyondMail almost two years ago, "we
got all kinds of ideas for intelligent messaging like typing
beepers and faxes," says Sarah McGillowey, support man-
ager. For example, the system might page a doctor based on
lab test results that arrive at the doctor's E-mail mailbox.

But even intelligence in E-mail is becoming less of a
differentiating factor since most mainstream products now
have rules and filtering capabilities. Companies such as Fu-
turas Corp. in Atlanta, which makes Futuras Team, are
scrabbling to stay ahead by layering other functions on top
of E-mail, such as scheduling and conferencing. Microsoft
Corp., Lotus Development Corp. and WordPerfect Corp. are
adding forms capabilities to their basic E-mail packages.

In fact, by the end of the decade, "E-mail and scheduling
products will actually be part of the workgroup infrastruc-
ture," says Bob Flanagan, a senior analyst at WorkGroup
Technologies, Inc. in Hampton, N.H. "They'll become utili-
ties and services that are required by end users."

CONFERENCING
STILL IN DEVELOPMENT

Confereencing software won't be fully re-
alized until desktop videoconferencing
becomes practical — sometime around
1997, says Matt Cain, program director
at Meta Group, Inc. in Westport, Conn.

Today, real-time, full-motion video-
conferencing takes up too much band-
width and requires too much high-end
hardware, making it very expensive.

Until then, users are making do with
other forms of electronic conferencing
software: electronic meeting support,
shared screens, "whiteboards" (a shared common screen),
on-line chat services and electronic bulletin boards.

Shared-screen products allow geographically dispersed
users to view the same on-screen information in real time.
Participants use on-screen pointers and pen tools to point to
screen items. The meeting organizer controls what appears
on the screen and can also structure the meetings by
allowing, for example, participants to rank various options
and then display the results.

Whiteboard products, on the other hand, typically are
used for brainstorming sessions. Meeting participants
are usually present, although videoconferencing is being added to
some products. Each user has a PC from which he can
project his ideas onto a screen. Some systems provide a
structured format that allows users to prioritize ideas or
vote, rank or otherwise quantify group preferences.

When choosing a conferencing product, consider who
controls the screen, the interaction rate, whether interaction
is in real-time, platform support and wide-area network
support, says David Coleman, chairman of GroupWare '94
and the Groupware Users and Vendors Association.
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SCHEDULING
BIGGEST BANG FOR THE BUCK

Organizations that want an immediate return on investment turn to scheduling products first. Scheduling and calendaring systems do such things as:

- Keep track of users' individual calendars.
- Overlay those calendars to find free time for meetings.
- Notify users of meetings.
- Provide for automatic RSVP.
- Send reminders as meetings draw near.

"When the network goes down, the thing people scream for most in the scheduler," says Chuck Brown, technical services administrator for the city of Savannah, Ga. The city uses Campbell Services, Inc.'s On Time, a network-based scheduler that runs on its Banyan Systems, Inc. Vines network.

Initially, On Time was considered only for top managers, "but it quickly expanded to everybody," Brown says.


The company tried to solve the problem using its electronic-mail system, but that only reduced the effort required to inform people about a meeting. It did nothing to automate the coordination of schedules and allocation of resources such as conference rooms.

The firm selected Meeting Maker because it supports both Macintosh and PC users. Management was initially skeptical, Schnegg concede, but today 100 users faithfully coordinate their schedules through Meeting Maker.

The current crop of schedulers, however, often come up short in areas such as support for central directories, resource scheduling (as opposed to people scheduling), automatic reconciliation for remote users and adjusting for time zones.

"We would really like an on-line address book and automatic reconciliation," Brown says. While scheduling resources, such as conference rooms or video equipment, seems a natural, not all systems provide it.

The current crop of schedulers, however, often come up short in areas such as support for central directories, resource scheduling (as opposed to people scheduling), automatic reconciliation, and adjusting for time zones.

"We would really like an on-line address book and automatic reconciliation," Brown says. While scheduling resources, such as conference rooms or video equipment, seems a natural, not all systems provide it.

The key to routing efficiently over the network or through the mail system is having an intelligent means of shipping data. For example, systems that ship around large image files or require substantial, frequent replication of large databases drag down overall network performance. While this might work with a network of 100 users, it is likely to keel over under its own (messaging) weight with 1,000 users.

Profiling. Mail-enabled applications tend to be priced below high-end groupware solutions such as Notes from Lotus Development Corp. High-end systems are in the $250-per-seat range, while single-function products cost less than $100 per seat. Recent pricing strategy changes among vendors (notably Lotus with Notes) and competitiveness among software makers has contributed to lower price points across the board.

Scalability. No product calling itself groupware can be limited to a small number of users and still be considered scalable. But this is more a function of compatibility with the operating system than the software itself.

The key to routing efficiently over the network or through the mail system is having an intelligent means of shipping data. For example, systems that ship around large image files or require substantial, frequent replication of large databases drag down overall network performance. While this might work with a network of 100 users, it is likely to keel over under its own (messaging) weight with 1,000 users.

Modularity. Lotus has done well in marketing the concept of "modular functionality" with Notes. Other products are not as advanced in this department. Since there is no common "groupware application programming interface" or work-flow standard in the industry, the lowest common denominator is the DBMS, which has been historically difficult to integrate.

Written by Michael A. Bragen, a software industry analyst in Lexington, Mass.

RATING THE SCHEDULERS

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The following ratings were provided by Bob Rustici, an independent consultant doing research for an upcoming publication for the Patricia Seybold Group in Boston. The study concentrates on implementing calendaring on an enterprise-wide basis.

- Setup of the user environment
- Group productivity tools
- Scheduling resources
- Interoperability into the enterprise
- Maintaining the product
- Computing platform coverage

Campbell Services' On Time differentiates itself by using real-time message delivery rather than a store-and-forward approach

PowerCore, Inc.'s Network Scheduler offers Windows, Macintosh and Notes add-on versions of its scheduling system.
THE CW Guide to Groupware

THE FOUR MUSKETEERS

Lotus Development Corp.

Notes was developed from a store-and-forward document database perspective. Its "notebook page" or "document" metaphor works exceptionally well for storing, viewing, manipulating and collaborating on documents.

- **Data types handled**: Lotus, like Oracle Corp., has recognized that "documents" can include graphics, audio and video.
- **SQL access**: Lotus' DataLens product enables access to SQL databases. Vendors such as Gupta Technologies, Inc. and Powersoft Corp. provide Notes interfaces.
- **Third-party relationships**: Many firms, such as Digital, have established technical relationships with Lotus, and many products are integrated with Notes or can pull data from Notes.

- **Training**: Of the products examined here, Notes is probably the most complex.
- **Application development**: Notes offers the most comprehensive application development environment of the four products.
- **Work flow**: An application programming interface (API) brings in third-party tools such as Action Technology, Inc.'s work-flow tools and Reach Corp.'s Workman for more complex, process-oriented applications.

Digital Equipment Corp.

inkWorks was developed from an object-oriented perspective. It is the only product of the four that is not an application; it is a framework that supports transparent group-enabling of personal and shared applications. It does not require you to change the way you work or the applications you use. Instead, it group-enables applications through encapsulation and by separating data and programs.

- **Available functions**: Electronic routing (serial, parallel and conditional), electronic signatures, versioning.
- **Data types handled**: LinkWorks easily integrates structured and unstructured data, which can be managed from a central point.
- **SQL access**: Can access Oracle, The ASK Group, Inc.'s Ingres, Digital's own Rdb and Informix Corp. relational databases.
- **Security**: LinkWorks provides a highly specific security system that lets an administrator isolate databases and desktops. It has more of a top-down central management focus, whereas Notes has a more bottom-up and client-centric approach.
- **Routing capabilities**: Routing is less formalized than Notes. Users can develop their own work flows and routing processes by using a graphical user interface. Users point to the person and order in which the document will flow by identifying recipients on an on-screen organizational chart.

WordPerfect Corp.

WordPerfect Office's roots are in messaging. The product competes more directly with Oracle Office and is complementary to Notes. WordPerfect is working on a Notes gateway to WP Office.

- **Available functions**: Office supports electronic mail, scheduling/calendaring, simple work-flow forms and document routing with full-status tracking. WordPerfect's purchase of SoftSolutions, Inc. will allow WordPerfect to integrate SoftSolutions' document management software into Office. Office will then store long-term messages to be available for full-text search and retrieval.
- **Security**: As a client-oriented messaging system, Office implements security at the mailbox level through encryption of stored and transported messages.
- **Work-flow capabilities**: Simple forms routing provided via E-mail.
- **Application development**: WP Office does not store documents or have direct database access, nor is it a development environment like Notes. Developers can access WP Office functions through APIs.

Oracle Corp.

Oracle Office was developed from a transaction-based relational database perspective. Being database-oriented, Oracle Corp. tends to favor the server side of client/server, as opposed to Notes, which favors power on the client.

- **Available functions**: Office includes electronic mail/messaging, calendaring/scheduling, advanced directory services and integrated proofreading. Oracle is adding intelligent document manipulation and collaboration functionality. Document management capabilities will appear in 1994. This new layer will offer subject- and concept-oriented search and retrieval, version control and other functionality needed to collaborate around documents.

Oracle is built on the Oracle database, a robust development environment.

- **SQL access**: Office accesses Oracle data as well as all other relational databases via gateways.

Written by David Coleman, conference chairman of GroupWare '94. His Internet address is davided121@aol.com.

Some products defy categorization altogether. The following vendors all offer e-mail and the ability to collaborate on applications. From there, they diverge drastically on their approaches to groupware.
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( Check all that apply)
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3. Netware (f) 4. Windows NT (h)
5. Unix (d) 6. DOS/Windows (g)
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Everybody's on the groupware bandwagon now. Time was, Lotus Development Corp.'s Notes had the whole wagon to itself. Its timing had a lot to do with the vision of one Ray Ozzie, who started thinking about groupware when he was a computer science major at the University of Illinois.

Ozzie was struck by the school's host-based educational system, Plato, which included both a central bulletin board-style repository and an electronic-mail system. Students and faculty used the system to communicate and work with people all over the country. Ozzie became determined to recreate that type of environment on the PC platform.

Through a mutual friend, Ozzie met Mitch Kapor, founder of Lotus. He struck a deal that allowed him to spin off a company in 1984 to begin work on Notes. Ozzie is now president of that spin-off, Iris Associates in Westford, Mass. The 45-employee company handles the development of Notes, while Lotus handles marketing and sales.

"Groupware" is a fuzzy term. How do you define it?

"I use it to mean any kind of software that lets people share things or track things with other people. Calendaring software and E-mail are groupware by my definition. A mail-enabled spreadsheet is not, because that's not the core purpose of the application."

How do you translate that broad idea of "working together" into a product design?

"There are two basic models of collaboration: sending things to other people and sharing things among people. SENDING is like the mail model: sharing is more like the central data model where people go to look for things in a central place.

"In order to build collaborative applications, you need both. Many of the interesting applications people want can't be built on a mail base. Similarly, you can't build it all on a sharing model. In work flow, you want to route something from person to person instead of having to go get it from somewhere."

Your competitors don't necessarily agree with that vision. Borland International, Inc. is working to create groupware versions of their applications that will communicate by mail, instead of releasing a separate groupware product.

"In Borland's case, they've chosen to build groupware functionality on a mail substrate, not on a database. While there are many useful things you can do sharing things with mail, it simply doesn't scale to real-world applications once the group gets above the two-to-three-person size."

What about Microsoft Corp.'s approach to groupware?

"Microsoft has a multi-tiered strategy. On the operating systems side, I'm sure that Microsoft's Cairo will have a nice object store. But in terms of user acceptance and savings in development costs, Weber says the Notes environment "exceeded our expectations." About half of the target users spend most all of their computer time in the Notes environment.

What's on Weber's wish list? A run-time Notes module would be a real boon. "I don't want to have to spend 400 bucks for a full package to be used by a technician in a lab who will never develop a Notes application," he says.

Braving the new world of Unix but uncomfortable with strange editors and weird languages? Let Downsizing Duck smooth that rough terrain with uni-SPF, uni-REXX and uni-XEDIT.

The CW Guide to Groupware

BEHIND THE SCENES WITH RAY OZZIE

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Braving the new world of Unix but uncomfortable with strange editors and weird languages? Let Downsizing Duck smooth that rough terrain with uni-SPF, uni-REXX and uni-XEDIT.
Integration garners high ratings for Microsoft Project for Windows

By Kevin Burden

Before the hype surrounding groupware packages focused the spotlight on the habits of workgroups, groups of workers were communicating and coordinating projects through project management software.

Project management packages typically have been powerful applications with equally high-powered prices. They were notoriously complex and extremely difficult to learn. In the case of some high-end packages, this still holds true.

But low-end Windows-based packages are broadening accessibility to project applications. The graphical user interface has brought a level of intuitive ease of use and substantially reduced the learning curve.

In the Buyers' Satisfaction Scorecard, users of the two leading Windows-based packages, Microsoft Corp.'s Project for Windows and Symantec Corp.'s Time Line, rated their satisfaction with the software's key abilities. Although the market-leading Microsoft Project scored the highest in 13 of the 20 categories, Time Line's scores were very close, which explains why Symantec calls Time Line "No. 2 with a bullet."

Split decision

Microsoft Project scored very high in overall reliability and its ability to interface with other applications. But it scored low in price and ability to transfer information to multiple platforms.

Time Line also excelled in reliability, and users said they were very satisfied with the package's ease of use. Time Line received low marks for its database functions and its ability to perform what-if scenarios.

Microsoft Project incorporates both Dynamic Data Exchange and Object Linking and Embedding, which helped it with its high integration rating. These features allow users of Project to effectively interface to external applications and create custom solutions.

Time Line's spreadsheet-like interface and outline structure give the screen a familiar look and, hence, a high ease-of-use rating. Time Line also incorporates a technology called Co-Pilot that monitors a user's actions and makes suggestions along the way.

The most popular high-end project managers are Primavera Systems, Inc.'s Project Planner,伟来Software Technology's Open Plan, Lucas Management Systems' Artemis Prestige and Project Software & Development, Inc.'s Project/2 Series X.

Levels of difficulty

These packages were designed to handle many levels of complexity, which is why there are different levels of project management software. High-level, mission-critical projects require an equally involved, function-packed application to manage many resources.

The prices of these packages are all in the $1,500-and-up range per single user, compared with less than $700 for a low-end application. Obviously, high-end packages are intended for the skilled project stakeholder, not the novice computer user.

Buyers' Satisfaction Scorecard is a user survey of market-leading products conducted and tabulated by First Market Research Corp. in Austin, Texas. For a complete methodology, contact Kevin Burden at (800) 343-6474, Ext. 717.

### Microsoft Corp. Project for Windows

<table>
<thead>
<tr>
<th>Area</th>
<th>Response Base: 50 Users</th>
<th>Total Score</th>
<th>Rating</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Reliability</td>
<td>8.1</td>
<td>71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphical User Interface</td>
<td>8.1</td>
<td>71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of Vendor's Support</td>
<td>7.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiproject Scheduling Capabilities</td>
<td>7.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease of Use</td>
<td>6.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsiveness of Vendor's Service</td>
<td>6.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Symantec Corp. Time Line for Windows

<table>
<thead>
<tr>
<th>Area</th>
<th>Response Base: 21 Users</th>
<th>Total Score</th>
<th>Rating</th>
<th>Don't Know</th>
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<td></td>
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<tr>
<td>Graphical User Interface</td>
<td>7.4</td>
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<td></td>
<td></td>
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<tr>
<td>Quality of Vendor's Support</td>
<td>7.1</td>
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<tr>
<td>Multiproject Scheduling Capabilities</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsiveness of Vendor's Service</td>
<td>6.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Would you buy this product again?  
Likely Reason: Easy to use  
UNLIKELY Reason: Lacks flexibility

Would you buy this product again?  
UNLIKELY Reason: Difficult to learn

### Rating in Order of Importance

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedules Projects Effectively</td>
<td>8.7</td>
<td></td>
</tr>
<tr>
<td>Overall Reliability</td>
<td>8.7</td>
<td></td>
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<tr>
<td>Ease of Use</td>
<td>8.3</td>
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<tr>
<td>Graphical User Interface</td>
<td>7.9</td>
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<td>Quality of Vendor's Support</td>
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<td>Multiproject Scheduling Capabilities</td>
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<td>7.5</td>
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<tr>
<td>Ease of Installation</td>
<td>7.4</td>
<td></td>
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<tr>
<td>Ability to Customize Reports</td>
<td>7.3</td>
<td></td>
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<tr>
<td>Networking Capabilities</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td>Customizing Capabilities</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td>Graphing Capabilities</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td>Optimally Schedules Resources</td>
<td>7.3</td>
<td></td>
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<tr>
<td>Interactions to Other Applications</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>7.0</td>
<td></td>
</tr>
</tbody>
</table>

Ratings are based on a 1-to-10 scale, where 10 is best.

(Scorecard conducted and tabulated by First Market Research Corp.)
Why is Compuware the company so many turn to for programming productivity tools?

When development projects pile up, IS professionals insist on Compuware.

For many IS organizations, it is both impractical and impossible to increase staff to accommodate workload increases in development and maintenance. You’re caught in a squeeze. The only way out is to improve productivity—fast. At Compuware, we specialize in maximizing the productivity of your most valuable resource—your programming staff. That’s why over 5,700 companies have turned to Compuware.

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It’s what you’d expect from the programming productivity experts.
Future Team Combo: No frill, low-cost groupware basics

Computerworld's Firing Line is an evaluation based on interviews with major users at corporate and educational installations. The product under evaluation is being used in live application environments.

Evaluators said Futurus Corp.'s 3-year-old Future Team Combo provided basic electronic mail, scheduling and databases at a very low price.

They expressed concerns that new versions of the software were being released prematurely and without adequate technical support.

The meat and potatoes requirements of groupware traditionally meet the simple purposes of electronic mail, scheduling and some database functionality.

Enter Future Team Combo, a straightforward implementation of the groupware concept that has been available in several versions since 1987.

A sparse yet easy-to-use groupware package, Future Team, from Atlanta-based Futurus, includes all of the essential components of groupware. Version 3.0 of Future Team, announced in August, includes a few maintenance and printing enhancements but does not significantly add to the basic functionality of embedded E-mail, scheduling and databases.

The evaluators participating in this survey included technical and management personnel from regional and global food distributors, manufacturers, and a metal products company. Average use of Future Team was approximately three years.

All evaluators worked with Windows and DOS versions of the client software, as well as recent upgrades to Future Team Version 3.0.

The evaluators collectively oversaw more than 1,000 client installations of the groupware. The electronic and manufacturing firms had regional and global links to off-site Future Team servers.

The format for this evaluation was created with the help of Howard Rubin Associates and Technology Investment Strategies Corp.

Future Team Combo 3.0

Ratings are based on user expectations on a 1-to-5 scale, where 1 is below expectations and 5 is above expectations. Ratings are presented in order of importance to users.

<table>
<thead>
<tr>
<th>Overall rating</th>
<th>Installation</th>
<th>Reliability</th>
<th>Performance</th>
<th>Security</th>
<th>Technical support</th>
<th>Ease of use</th>
<th>Maintenance</th>
<th>Third-party support</th>
<th>Price</th>
<th>Value</th>
<th>Support costs</th>
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</thead>
<tbody>
<tr>
<td>3.5</td>
<td>3.3</td>
<td>3.5</td>
<td>2.6</td>
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<td>4.1</td>
<td>3.5</td>
<td>3.3</td>
<td>2.7</td>
<td>4.0</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Client for security purposes.

Food distributor: "Some executives are hesitant to use [Future Team] because the mail is not encrypted."

Electronics: A technically aware person could break the security, which is based on Novell NetWare.

Technical support

Evaluators said support from Future Team was not generally required. However, they rated the company slightly less than average because of bugs in the newer Windows software.

Manufacturer: "They have been good with support calls, but they are never proactive about informing customers of bugs."

Ease of use

Training new users on Future Team was a snap, the evaluators said. Training ranged from a simple instructional handout to one hour of hands-on coaching.

Manufacturer: "We provide a one-hour training class on an ongoing basis."

Electronics: "If you know Windows, it's self-evident."

Maintenance

Future Team required little maintenance. The evaluators reported maintenance times of about one hour to two days per week. They did say they wanted an easier method to rid the system of old and archived mail.

Metal products: "They haven't provided good utilities to remove built-up data."

Price

The evaluators were in agreement that Future Team was one of the less expensive E-mail and scheduling packages available on a per-seat basis. They reported initial expenses of $35 to $65 per user and upgrade costs averaging $10 per seat.

Value

Even the harshest critics of bugs in the new Future Team software said the program was an excellent value.

Manufacturer: "Considering what it cost, the value is astronomical."

Written by Computerworld senior editor Gary Rup.

Futurus responds

- **Technical problems:** Upgrades will be less frequent, as Team is now a more stable Windows product. This will result in fewer client disruptions and expense.

- **User base:** Future Team reads the Novell NetWare bindery at installation time, but the product does not yet provide for synchronization thereafter.

- **Third-party support:** Future Team awaits agreement among several groupware vendors on suggested data interchange issues before making the Future Team programming interface and file format information available. Our Team Combo phone message center already uses a DBF database structure.
Why it makes sense to buy your next UNIX RDBMS from the leading PC tools company

With Borland's InterBase, you get all the features of a powerful SQL database server, plus the reliability and ease of use normally found only in PC tools. This means you can deliver applications with the autonomy and reliability that end users demand, while maintaining the security and interoperability that MIS requires.

InterBase is the most advanced database server
InterBase gives you all the features you'd expect from a powerful RDBMS. Features like multi-database joins, automatic two-phase commit, and triggers. But the real secret to InterBase's performance is its unique versioning engine. It significantly reduces database locking by creating new versions of records as they are changed. So you get the fastest response times in mixed read/write situations.

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Philippe Kahn has called InterBase "the linchpin to Borland client/server strategy." That's because InterBase is specially designed to help you harness the vast amount of information on your PCs and PC networks into a single manageable corporate resource. With InterBase as your server, you build on your existing infrastructure of applications and training. So it should come as no surprise that customers have already purchased more than 60,000 licenses for InterBase this year.

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Time and Place/2 can search for a time everyone is free for a meeting—then schedule it automatically. It can even remind you as the time nears.

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Inferior software doesn't spontaneously generate. Creeping user requirements, excessive schedule pressure and management malpractice are among the factors that put software at risk.

The year 1993 marks the 50th anniversary of the software and computing professions (the contract to build the ENIAC computer is dated June 5, 1943). At 50 years of age, neither the industry nor the people within it are young. The 50-year mark is often a time of midlife crisis for people. It is also a time of midlife crisis for industries, and software is now in the midst of one.

To date, the computing and software industries have been great economic and intellectual triumphs for the U.S. About 40% of all the software that is operating in the world originated in the U.S.

If the U.S. intends to be the world's most successful software provider in the 21st century, as it has been in the 20th, then we must avoid complacency and approach software engineering with energy, rigor and effective methods and tools.

Software has long been regarded as one of the most risk-prone of all engineering activities. Risks such as schedule slips and cost overruns tend to occur on more than 50% of all large systems. It is not uncommon to see even more severe risks, such as cancellation of a project prior to completion or serious quality deficiencies.

Some risk factors are so serious that unless we handle them, projects and enterprises may be in jeopardy. After studying thousands of software projects at hundreds of enterprises, we've come up with 50 major problems that affect software. What follows are five of the risk factors that have the greatest potential for doing serious damage.

By Capers Jones

This is an excerpt from Capers Jones' forthcoming book, Assessment and Control of Software Risks, to be published by PTR Prentice Hall this month. (Copyright 1994 PTR Prentice Hall.)
Sick software
CONTINUED FROM PAGE 115

Inadequate measurement
Tracking and cost-collection systems for software projects tend to leak and omit major portions of software expense. Unpaid overtime, managerial effort, administrative effort, and many specialist group costs are usually hard to assign to projects or allocate in an accurate manner.

The major leak from cost-tracking systems is the work performed by users. For large civil and military applications, user work on tasks such as requirements gathering, developing and reviewing, testing, and evaluation is probably larger than 5% of total development cost. User time is charged to over 90% of all projects and is a significant portion of the overall software project cost.

Inadequate measurement is present in more than 75% of U.S. companies, government agencies and military services. Even basic cost and resource tracking in the U.S. tends to omit unpaid overtime and managerial costs and is often in error by 30% to 70%.

Cost impact
The direct costs of inadequate measurement are normally considered to be zero. Note that there is a catch-22 associated with the direct costs of measurement: Only companies that measure know what it costs and what its value is.

Almost two-thirds of the total revenue spent by the software industry are spent on things that have no positive benefit to the enterprise (based on a study carried out within IT). The 66% wastage is the effort spent on non-productive, non-creative activities: buying productivity tools that do not work; delayed projects; unnecessary projects; reworking carelessly developed projects; canceled projects; and bug and defect repairs for problems that might have been prevented or removed early.

Thus, for a large Fortune 500 enterprise with an annual software budget of $500 million, about $332.5 million will be dissipated because of "friction" associated with current software problems.

The most effective preventive methods of inadequate measurement are cultural. Those enterprises in which the corporate culture is oriented toward excellence and "management by fact" have the best situation for prevention.

Excessive schedule pressure
Irrational schedules and excessive schedule pressure have occurred on more than 60% of all large projects we've assessed to date. Excessive schedule pressure is a key contributor to poor quality, canceled projects, low morale, fatigue, burnout and high attrition rates among software personnel.

Frequency
Excessive schedule pressure is the most common of all serious software engineering problems. It has been observed in about 75% of all MIS software projects larger than 1,000 function points in size. For projects larger than 5,000 function points, the frequency approaches 90%.

Cost impact
The direct costs of excessive schedule pressure are difficult to measure because one of its by-products is a massive amount of unpaid overtime, sometimes exceeding 30 hours per week.

An indirect cost of excessive schedule pressure is that of low quality. The number in 1993 is about $1,000 per function point. For many of the projects where the costs exceeded $1,250 per function point, we've found management malpractice to be among the contributing factors.

Management malpractice may also be associated with more than half of all canceled projects in the U.S.

Methods of prevention include the following: establishing criteria for management selection, appraisals and promotion; establishing annual opinion surveys and using them as a way of gaining visibility of management malpractice; creating a human resource function; establishing a management training curriculum that includes both personnel and technical subjects; setting aside days per year for management training; improving the training in the domains in which management malpractice is most common (i.e., planning, estimating, quality control); and establishing a management compensation plan that is not significantly below competitive averages.

Creeping user requirements
The rate of growth of creeping user requirements is directly proportional to the size of the application. The average creep for a sample of 60 projects was 35%. The largest observed creep in unanticipated requirements was 200%.

Frequency
Creeping requirements are endemic to the software industry and seem to occur on more than 70% of all applications over 1,000 function points. The severity of requirement creep is directly proportional to the size of the application. The average creep for 69 projects was 35%. The largest observed creep in unanticipated requirements was 200%.

Cost impact
The cost impact of creeping requirements can be quantified with very high precision by means of function point metrics. Assume that the average cost to build a project is $1,000 per function point, and the project starts with requirements that total to 1,000 function points. Using these numbers, the project has an initial cost estimate of $1 million.

Now assume that new requirements are added that total to 25%, or some 250 new function points. The project will now cost $1.25 million because the creeping requirements portion cost $250,000.

In real life, the situation is somewhat more complex because the costs of creeping requirements may be higher than the costs of the original functionality if the requirements occur too late in the development cycle.

The use of prototypes is beneficial in minimizing this problem. Creeping requirements are usually less than 10% for projects that use this technology. Joint application design (JAD) technology is also effective, and it, too, can reduce creeping requirements to below 10%.

Canceled projects
The cancellation rate for software projects is directly proportional to the overall size of the system and is acute above 10,000 function points or 1 million source statements.

For large systems in excess of 10,000 function points, such as operating systems, telecom systems and others, the cancellation rate approaches 50%. Obviously, an "average" canceled project is about a year late and approaches or exceeds twice its planned budget at the time of cancellation.

Frequency
Canceled software projects correlate with the size of the project. For projects larger than 10,000 function points, the probability of cancellation is greater than 60%. For projects larger than 5,000 function points, the probability of cancellation is around 50%. For projects between 1,000 and 5,000 function points, the probability of cancellation is around 20%. Below 1,000 function points, cancellation rates drop rapidly.

Cost impact
For 1993, the approximate dimensions of canceled projects in the U.S. are these: 12 million dollars worth of canceled projects, with a total dollar waste of $14.3 billion and a loss of productive staff time of over 292,000 person-years. The total software effort. The frequency of canceled projects in Japan appears to be only about half that of the U.S.

The risks cited here are only the tip of the iceberg. The encouraging aspect of software risk management is that new methods such as process assessments and the use of function metrics are proving to be remarkably effective in identifying risks that were long hidden. A combination of vigorous process assessments, accurate measures and metrics and multithread process improvement programs can minimize or eliminate many risk factors and begin to make the phrase "software engineering" take on serious meaning.

Jones is an international consultant, speaker and author. He is chairman and co-founder of Software Productivity Research, Inc. in Burlington, Mass.
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Support veterans are not replacing their mainframe skills in the face of distributed computing; they are expanding them.

While programmers and systems analysts generally choose between moving into the PC world and continuing to work on the mainframe, service and support personnel have had to assume new responsibilities for their companies' growing infrastructure.

"The support aspect of my job more than doubled," says Johnny Bauer, a technical support analyst at the Goodyear Beaumont Chemical Plant in Beaumont, Texas. "I started spending more time outside the data center and on the phone taking users' calls. Their biggest problem was a lack of training in Windows."

For Bauer, who has nine years of data center experience under his belt, picking up support for his site's new client/server environment was expected and immediately essential. "It was rough to keep one step ahead of the users," Bauer says. "But I just picked it up as I went along through manuals and trial and error."

Bauer purchased a home PC and began teaching himself the Windows applications that his users were learning. Since Goodyear Chemical put in its first PC four years ago, Bauer has learned about client/server, Token Ring, fiber optics, and Microsoft LAN Manager.

"The protocols being used to access [corporate] data vary from LAN to LAN. While we're standardizing this as much as we can, there will always be advanced users developing their own applications," Jurmann says.

"They aren't afraid to try things that a few years ago they wouldn't attempt," says Sam Campbell, a technical support analyst at John Deere Des Moines Works in Des Moines, Iowa. "We have to go in and be the cleanup guys."

For instance, John Deere Des Moines Works uses a number of plotters for engineering designs. Campbell says he would initially share plotter sharing on the network and configure them himself. As users became more literate, however, they started changing the configurations and "did not always reconfigure them the way they needed to operate in a shared environment," he says.

Yet despite the extra challenges, moving out of the data center into the user community has its advantages. For the self-motivated support staff, distributed computing can mean the opportunity for increased visibility among business unit management, says Jim Shay, divisional systems support manager at Eaton Corporation, Milwaukee.

"If you're willing to roll up your sleeves, you'll have more opportunity," says Shay. "People who can deliver that kind of service will really do well, but you need to wrap up a package of soft skills, adaptability, hard work and problem-solving."

Goff is a free-lance writer in New York.
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We are a Midwest based international company seeking an experienced Data/Data Based Analyzer. This position will facilitate the management of a sharable high quality Data/Database. To succeed in utilizing Software AG's ADABAS, and its tool set, methodologies, presentation and education. You will also provide for and participate in the development of data models, be sensitive to the security needs of the company and responsible for the inventory of the company's data through repositories and dictionaries, and the development of the definitions related to standard data positions. This position requires a 4-year Computer Science or Business degree with knowledge of the above and seven years of previous experience is also required. Send resume to: The ERTL Company, Inc., 10169 W. Fullerton Ave., Chicago, IL 60006. All applications will be treated confidentially. Do Not submit resumes to: ALI Certification Office.

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Successful candidates will be responsible for problem resolution, customer education, training, and development of industry standard databases. These individuals will be responsible for excellent customer service skills and presentable, professional appearance. These positions require 50% travel and a reasonable telephone support load. R&O offers great benefits and competitive salaries. Please submit a copy of your resume, with a cover letter detailing your salary objectives and why we should consider you for employment. To: The Repository Company, 1133 South State Street, Chicago, Illinois, 60605, Attn: Dana. resumes will be accepted until the position is filled. Salary: $36,000. All positions offer health and insurance benefits. R&O is an equal opportunity employer.

Chair, Department of Computer Technology
Indiana University Purdue University Indianapolis

Applications and nominations are invited for the position of Chair of the Department of Computer Technology at Indiana University-Indianapolis (IUPUI). The position will be available July 1, 1994. The department, which is located in the School of Engineering and Technology at IUPUI, is a comprehensive urban urban/urban instruction and research unit. The department is comprised of 38 full-time faculty members, 180 full-time students, and over 1,200 part-time students. The department is one of the largest of 18 academic units at IUPUI. IUPUI is a comprehensive urban academic institution that enrolls more than 23,000 students. The Department of Computer Technology at IUPUI provides access to local and remote platforms, including the University's IBM 3090 mainframe, the University's IBM MVS, VM, VMS, UNIX, OS/2, and DOS operating environments. To meet our market demand and to continue our successful growth, we are now actively recruiting for the following key software support positions.

Software Consultant-540/340/360, 3090, and Operating System Implementation/Programming Support. Responsibilities include: ongoing software applications support on IBM 3090, VAX, AIX, SPARC, HP, UNIX, and DEC VAX/VMS. Development of software applications that extend and complement existing software packages. Expertise in FORTRAN, C, BASIC, FORTRAN, Graphical user interface, and advanced languages in the development of software systems. Consultant with 4+ years of related experience in a programming and training position. Require at least 3+ years experience in systems programming, 5+ years experience in software development, 2+ years of experience with DEC VAX/VMS operating systems, and a BS in Computer Science as well as one year experience in a Program manage- ment role. Previous experience must include systems engineering, 45L, design of telephone software and report generation programming, and experience with the development of large software systems. 80/hr. (317) 278-0632.

Asst. Systems Analyst/Programmer. Experience must include: TELON; Minimal 2 yr. degree in Computer Science or equivalent in computer science or related discipline. Experience must include: IBM 3090, CICS, COBOL, REXX, and JCL. 3 yrs. experience. 50/hr. (317) 278-0632.

Senior Systems Analyst/Programmer. Experience must include: Minimal 2 yr. degree in Computer Science or equivalent in computer science or related discipline. Experience must include: IBM 3090, CICS, COBOL, REXX, and JCL. 3 yrs. experience. 50/hr. (317) 278-0632.

For confidential consideration, please send your resume to: ILLINOIS INSTITUTE OF TECHNOLOGY, 1000 South State Street, Chicago, IL 60616. All applications will be treated confidentially. R&O is an equal opportunity employer.

Programmer/Analyst. 40 hrs./wk., $36,000/year. Responsibilities include: ongoing software applications support on IBM 3090, VAX, AIX, SPARC, HP, UNIX, and DEC VAX/VMS. Development of software applications that extend and complement existing software packages. Expertise in FORTRAN, C, BASIC, FORTRAN, Graphical user interface, and advanced languages in the development of software systems. Consultant with 4+ years of related experience in a programming and training position. Require at least 3+ years experience in systems programming, 5+ years experience in software development, 2+ years of experience with DEC VAX/VMS operating systems, and a BS in Computer Science as well as one year experience in a Program manage- ment role. Previous experience must include systems engineering, 45L, design of telephone software and report generation programming, and experience with the development of large software systems. 80/hr. (317) 278-0632.
In some companies, knowledge of a fourth-generation language (4GL) may be the only thing standing between you and the back door. Many organizations are adopting 4GL technology as a way of reducing head counts, and the "survivors are often those with 4GL skills," says Victor Janulaitis, president of Positive Support Review, a recruiting firm in Santa Monica, Calif.

Numerous products fall under the 4GL label, from end-user query languages and forms-oriented report generators to complete application development environments. Unfortunately, if your skills stop at third-generation languages, the shift to 4GL is not an easy one to make.

One of the main reasons for that is a lack of standards, says Keith Therrien, president of TAD Consulting in Reading, Mass. Most 4GLs are structured around the products they support, such as a database or report writer. Syntax varies widely from one 4GL to the next, and they adhere to no common, external standards other than a few screen standards.

Most of the new graphical user interface-based 4GL products are also event-driven, points out Dave Smith, an application development manager at Sapiens USA in Goleta, Calif. "In a traditional 3GL program, the user responds to predefined prompts, and the structure of the program is prompt, read, input," Smith says. "The program is in control and the user responds."

In an event-driven program, however, the program must respond to events initiated by the user: "You can't think in terms of putting up a prompt, waiting for a response and then moving down a particular path in the program," Smith says. "Instead of one procedural, monolithic block of code that follows a linear progression, the program is a series of small pieces of processing attached to many discrete events," he says.

The main challenge to learning a 4GL is understanding its particular model and event sets, Smith adds. Possible events associated with a particular field, for example, might include initially inputting data into the field and updating the data, as well as the actions that occur as the user moves the pointer in and out of the field. "These are all little places where you can attack your processing," Smith explains.

Smith and Therrien also agree that a good understanding of SQL is important. "You may not have to actually program in SQL, because many of the 4GLs take care of that for you," Therrien says. "But you still need to understand the concepts and how the 4GL is going to do behind the scenes to implement them."

Adds Smith: "You are still mapping the world of your application into a relational model. You need to know all the basic relational concepts—what constitutes a transaction, what a join is, what an outer join is."

Ken Fleming, director of technology at Encompass in Cary, N.C., stresses the importance of actually training with a 4GL, particularly for 3GL programmers: "3GL coders will bring a procedural mind-set to the 4GL environment and fail to use the new environment to its full potential."

By David Baum

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(September 1993)
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DATA PROCESSING

Support Specialists

The City of Bowling Green, KY is preparing to implement an enterprise-wide system using two data centers. An experienced IS professional is required to help implement a new system. Duties include managing and supporting databases, overseeing interface development, assisting in the hiring and training of personnel, and directing the implementation of various system upgrades. This is a full-time position, 39 hours per week.

Responsibilities: Assist in the planning and implementation of the new system; manage database development, maintenance and support; assist in the design, development, implementation, and support of applications; direct and coordinate the department's work activities; act as liaison between the department and other areas of the City; develop and implement policies, procedures, and standards consistent with the City's goals and objectives; provide technical assistance to departmental staff.

Qualifications: Bachelor's degree in computer science or related field required; five years of experience in a data processing or information systems environment; two years of experience in a senior level data processing position; knowledge of database management systems; knowledge of database modeling and design; knowledge of database administration; knowledge of database programming and application development; ability to work effectively with others in a team environment; strong communication and interpersonal skills; ability to manage a team of professionals.

The City of Bowling Green, KY offers a competitive salary and benefits package. Applications may be obtained by contacting the Human Resources Department, City of Bowling Green, PO Box 602, Bowling Green, KY 42102-0602, or by visiting the City's website at www.bowlinggreenky.gov. Application deadline is January 15, 2014.
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These high-profile positions require 5+ years programming experience in an IBM mainframe environment. Strong COBOL, DBCS and JCL skills are essential. BIS and Micro Focus COBOL experience is preferred.

**DEVELOPMENT MANAGER**

Qualifying candidates will have progressively responsible experience in software development, with at least 12 years as a lead analyst or manager. Ability to manage large and diverse development groups under tight time constraints is a prerequisite.

**SENIOR SYSTEMS PROGRAMMER**

A minimum of 4 years experience in programming, systems analysis, system software and computer hardware usage is required. Proficiency in IBM S/390 assembler language is desirable.

**SENIOR LANPC SUPPORT SPECIALIST**

To qualify, you must have 3+ years LAN administration experience in a Novell network environment. Strong understanding of Frame hardware and application software is essential. Ideal candidates will have experience with UNIX and AIX, TCP/IP and Token Ring.

**PC ANALYST/PROGRAMMER/SENIOR SYSTEMS ANALYSTS**

These positions require 2+ years programming experience in C, C++, Clipper or Visual Basic. Effective communication skills are required. Proficiency in structured methodology. Tools required - COBOL, DBCS, JCL, BIS, Micro Focus COBOL and TCP/IP are preferred.

**SYSTEMS ANALYST/Developer and Tester**

Develop and test software, using main frame, mid frame and personal computer systems. Design and develop interfaces using Visual Basic, Clipper, COBOL or FORTRAN. Experience with Novell network and IBM AS/400/PC systems is preferred.

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These positions require 2+ years programming experience in C, C++, Clipper or Visual Basic. Effective communication skills are required. Proficiency in structured methodology. Tools required - COBOL, DBCS, JCL, BIS, Micro Focus COBOL and TCP/IP are preferred.

**SYSTEMS ANALYST/Developer and Tester**

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These positions are located in Michigan and California.
Electronic mail has become a necessity. Yet purchasing a package on the fly can lead to problems as networks grow.

Experts who have recently gone through the evaluation process recommend the following criteria-setting tips:

Evaluate needs
Most information systems managers make the mistake of looking at off-the-shelf packages before fully evaluating current and future needs, says Joe Tuminaro, vice president of technology at J. Frank & Associates, a Palo Alto, Calif., consulting firm. "Once you've made the commitment, changing your mind is much more difficult than it is with software."

Before you even begin looking at packages, most experts recommend getting detailed answers to questions:

* What hardware and operating system platforms must the mail system support?
* How many users must it support now?
  In two years? Five years?
* Will remote users at multiple sites need to use the system?
* What kinds of gateways do you need?
* Must users access external services, such as CompuServe?

Check under the hood
The most common E-mail problems occur in the following areas. If you cannot test for them, ask the vendor for reference sites to show you how they fared.

* Interoperability: For companies with heterogeneous computing environments, interoperability across platforms is an overriding problem. "As Macintoshes, PCs and Unix systems are added to a network, there can be lots of fallout," Tuminaro says. For this reason, it's important to make sure that a message can be sent from a Unix system to a Macintosh or from a LAN to a wide-area network. Try sending a large embedded file across the network. Attachments and embedded files should be sent across intact and the message's format and content preserved.

* Scalability: As a network grows, adding updates or integrating directories can become increasingly difficult. "Make sure the package can support from two to 20,000 users without having to do massive administration," says Nina Burns, president of Creative Networks, Inc. in Palo Alto, Calif. "If you have more than one directory, check to see whether a built-in gateway will allow you to automatically propagate new local and remote users to other directories on other E-mail systems."

* Architecture: Look at not only the package's underlying architecture but also the vendor's plans for improving it, says David Ferris, president of Ferris Networks in San Francisco. "Ask yourself how good a job the vendor is doing in designing the software and make sure it has a clear plan for supporting X.400 or SMTP backbones, client/server systems, network management and the like."

You can't tell an E-mail package by its cover
On Mechsner, a technology analyst at Mercedes-Benz of North America, Inc. in Montvale, N.J., learned the hard way that there is more to E-mail than a pretty face. In September 1982, he sought an E-mail package that would let 1,200 Windows users in the U.S. access the company's mainframe in Stuttgart, Germany.

Mechsner and his staff opted for a LAN version that touted a graphical user interface as well as a gateway to the mainframe. Instead of conducting a full evaluation of their requirements however, they were smitten with the vendor's promise that it would meet their immediate needs. "It sounded perfect," Mechsner says. "It seemed to have everything we were after."

With a three-month deadline, the company installed the package on a pilot network. It soon discovered the package was a Version 1.0 product the vendor had bought from someone else. "It was like a Hollywood set," Mechsner says. "We opened the door of what looked like a real product and found out it was a piece of cardboard held up by two-by-fours."

After wrangling with the vendor for months and missing its deadline, the staff decided to abandon the project and start from scratch. This time they were careful to perform a full evaluation of their needs beforehand. The vendor's support, Mechsner says, was key to the final decision.

You want a single vendor to support all the possible interconnects all the way through."

* Service/support: Before signing on the dotted line, make sure to secure the vendor's full cooperation in answering questions and solving problems. That way, you can find out what kind of support you can expect afterward. Also make sure the vendor will assume responsibility for sorting out complex interconnects between systems, Tuminaro says.

"You want a single vendor to support all the possible interconnects all the way through."

* References: Ask to speak to sites that most closely resemble your own. Find out what other mail systems they use, as well as what they plan to add within two to five years including X.400 backbones, gateways and so forth. Find out how users are on the system and what desktop applications are used. Ask what kind of interoperability and capacity testing the company has done.

Mechsner is a free-lance writer in Menlo Park, Calif.

Remote communication: Outside personnel should be able to send and receive mail transparently. The package should support a number of protocols and use open communications protocols, Tuminaro says. At the same time, check to see how the system connects to outside communications services.

* User interface: The system should be as simple as possible to use and administer. "Administration tasks, such as updates, should be straightforward and occur without requiring taking the server off-line," Burns says. "The administrator should also be able to perform routine tasks from one central site."

Test the vendor
* Third-party solutions: No E-mail package is perfect; therefore, third-party support is important, Ferris says. "These products have real holes, and the vendors can't do everything. Third parties fill the gaps. The more third parties, the merrier."

* Service/support: Before signing on the dotted line, make sure to secure the vendor's full cooperation in answering questions and solving problems. That way, you can find out what kind of support you can expect afterward. Also make sure the vendor will assume responsibility for sorting out complex interconnects between systems, Tuminaro says.

You want a single vendor to support all the possible interconnects all the way through."

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## Computerworld Editorial (January-June, 1994)

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On Broadway and Seymour

It has been a rough year for Broadway & Seymour, Inc. (BBSI). The question for investors is whether the company has turned the corner.

BBSI provides data processing services, imaging products and systems integration for banks and other financial institutions. The company has experienced consistent growth (see chart) until this year, when acquisition charges and slipping margins contributed to a third-quarter loss of $3.5 million, or 76 cents per share. The operating loss was 10 cents per share.

The analysts expressed concern over the company's balance sheet: Broadway & Seymour's cash position has fallen to a half-million dollars, 95% below last January's levels. NYS $127.50 72.00

Richard Edwards and Eric Upin, analysts at Robertson, Stephens & Co. in San Francisco, issued a neutral report Dec. 2, saying they "expect investors to remain on the sidelines" until concrete evidence surfaces that Broadway & Seymour's business has stabilized.

The analysts expressed concern over the company's balance sheet; Broadway & Seymour's cash position has fallen to a half-million dollars, 95% below last January's levels. The process of acquiring Gateway Conversion Technology is still ongoing, and Broadway & Seymour will also acquire Elie Data Processing's firmware management software in February.

Edwards and Upin said they believe Broadway & Seymour will have to reduce its current cost structure to return to prior profitability levels.

On the other hand, Paul Bloom, an analyst at Volpe, Wolfe & Co. in San Francisco, rated the company's shares a Buy in the Nov. 22 report. Though Bloom said he expects the fourth quarter to be slow, he noted that BBSI shares currently trade at a low multiple of estimated earnings for the next fiscal year. The company has a strong pipeline of prospective deals, Bloom said.

—Derek Stater

Friday Stock Ticker

Gainers

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Earnings decline
Reeling from increased costs associated with recent acquisitions, Novell, Inc. last week reported fiscal fourth-quarter earnings of $89.9 million, off slightly from the $90.5 million profit posted in the same period last year. A $262 million third-quarter write-off for the Provo, Utah, firm’s acquisition of Unix Systems Laboratories, Inc. caused a fiscal 1993 loss of $33.1 million. Excluding the write-off, Novell earned $382 million for the year, a 13% increase from last year. Fourth-quarter sales rose 19% to $309 million, boosting fiscal 1993 revenue to $1.12 billion, a 29% increase from last year.

Xerox restructuring
Xerox Corp. plans to lay off roughly 10% of its 97,500-member work force next year as part of a renewed effort to increase productivity and lower operating costs. In addition, the Stamford, Conn., company plans to close and/or consolidate a number of facilities and streamline and simplify business processes. The company said it is still evaluating outsourcing some of its operations. Xerox plans to take a $700 million charge to cover restructuring costs.

SHORT TAKES
Stratus Computer, Inc. in Marlboro, Mass., plans to acquire IRIX Distributed Systems, Inc., a message-oriented middleware developer in Bellmacs, N.Y., in a deal valued at $24 million. . . . Proteon, Inc. in Westboro, Mass., has named Bruce Bergman president and chief executive officer. He succeeds Elliot Honan, who remains vice president of finance. Bergman at one time ran Xylogics, Inc. . . . Iomega Corp. in Roy, Utah, has named Kim Edwards CEO. She succeeds Fred Wenninger, who resigned in October. . . . CS Acquisition Corp. has divested its cash tender offer to purchase all shares of Corporate Software, Inc. in Canton, Mass.

Computer Industry

Microsoft brings it home

Renews push in home finance and enters children’s software market

By Thomas Hoffman

Just as Microsoft Corp.‘s stellar growth in business software has transformed its descent to the earth, the Redmond, Wash., juggernaut developer is setting its sights on a new course: the burgeoning home market.

Last week, the world’s largest independent software vendor laid out its plans to capture a sizable share of the fast-growing $2.8 billion home software market. Microsoft said it plans to quickly ramp up production of consumer software titles and will go on an all-out marketing blitz to gain mind-share.

Microsoft, which currently offers 35 entertainment and personal productivity packages—including Microsoft Works, Flight Simulator and Microsoft Money—is planning to boost the number of titles it sells to 100 by the end of next year, according to Microsoft chairman and chief executive officer Bill Gates.

In addition, the company plans to increase consumer awareness of its Home Product line by airing more than 600 cable television commercials on its offerings during the next two months, according to Patty Sonesifer, vice president of Microsoft’s consumer division. Financial analysts put the 63-day advertising campaign at a cost of $1 million.

Last week, the company bolstered its presence in the children’s educational market when it introduced Fine Artist and Creative Writer. Creative Writer, a word processing/publishing program targeted at and developed by the 8- to 14-year-old crowd, is an imaginative interactive package designed to make essay writing and education fun, combining simulated animal sounds, graphics and pictures with myriad educational avenues to explore.

Neither Fine Artist nor Creative Writer are equipped with stodgy user manuals. Instead, users are guided through their educational odyssey with the help of McCazeera, a big-nosed, bespectacled g...
Overview

Wysiwyg

What CRIME would YOU want to be arrested for?

"I would want to release all the dogs from all the pounds all over the world! I love dogs and hate the idea of them being caged up. I would want to be known as the man who liberated the dogs."

—RICHARD RABINS, CO-CHAIRMAN, ALPHA SOFTWARE CORP.

"Hacking into the CIA's JFK files."

—RON ZAMBONINI, PRESIDENT AND COO, COGNOS CORP.

George Klaus, president and CEO, Frame Technology Corp.

The 5th Wave by Rich Tennant

Here we go again
Microsoft is telling developers it may position Chicago as both a desktop and server product. Given its 32-bit, multitasking capabilities, there is no reason why the product can't function as a server. This contradicts the message Microsoft has been spouting for the past year that Chicago would be a client to Windows NT and Cairo's server.

Nontoxic bug spray
IBM quietly slipped into limited beta testing last week a fix for OS/2 2.1 that, according to one tester, takes care of "lots and lots and lots of minor little bugs." One bug the fix eliminates causes conflicting messages to appear on screen during system shutdown. The messages do not make it clear whether the system has shut down so users can safely turn their machines off. The Service Pack is expected to be available sometime in the first quarter of next year.

Too hot to handle (for now)
Intel has a small problem with its top-of-the-line 66-MHz Pentium chip: It doesn't run at 66 MHz. So this month Intel will announce a higher-voltage (hence, faster) version of the chip, according to sources at hardware makers. The current chip runs (slowly) at 5V, but the new chip, initially specified at 5.6V, will run at 5.4V, the sources said. This will delay 66-MHz Pentium systems from many vendors for at least two months, as they have to redesign processor boards to include a new voltage regulation circuit.

Can we help?
Novell's schedule for shipping Processor Independent NetWare has slipped from the first half of next year to the second half, with target dates of September or October now being mentioned, according to executives at Digital, which plans to support the software on its Alpha AXP systems. William Demmer, vice president at Digital's Computer Systems Group, said Digital is "trying to work with Novell to see if we can bring that back in a little bit."

Relief at last
The biggest plus of Microsoft's beta version of the NT NetWare redirector, according to the scuttlebutt on CompuServe, is that it lets one NT Advanced Server act as a NetWare gateway for its clients. Windows desktops thus get access to NetWare and NT services via one redirector — NT's — instead of needing two. Novell's beta version of the NT NetWare redirector lacks the gateway function, which Novell feels limits performance.

Tempest in a teapot
A minor brouhaha erupted in the financial community last week over an analyst report that predicted Lotus would garner another $60 million in revenue for the next quarter as a result of restructuring a revenue-sharing program with IBM for OS/2 products. Lotus executives last week confirmed that there is a revenue sharing program with IBM and that it was recently restructured. However, the restructuring will not lead to any substantial additional revenue for Lotus, and the company is not alerting analysts to raise their quarterly estimates.

Microsoft found itself in the slightly embarrassing position of having to technically "uninvite" 15 to 20 technical types from IBM, Apple, Taligent and Sun to this week's Professional Developers Conference in Anaheim, Calif. It seems that a couple dozen operating systems programmers from those companies — at least one of whom claimed to sign a nondisclosure agreement — were hoping to get a 13- to 18-month head start on Microsoft's plans for Windows NT, Chicago and Cairo. Microsoft sat down with officials from each company and decided one by one who was appropriate and who wasn't, allowing those who were working on complementary technologies to attend. Phone, fax or CompuServe news editor Alan Alper with news tips at (800) 343-6474, (508) 875-8931 or 76537,2413, respectively. Or try Computerworld's 24-hour voice-mail tip line at (508) 820-8555.
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