EDS/Signet contract shows signs of strain

Software delays, data center costs are cited

BY MARK HALPER
CW STAFF

RICHMOND, Va. — Electronic Data Systems Corp.'s 10-year outsourcing and consolidation pact with Signet Banking Corp. is off to such a choppy start that the two partners are already contemplating reversing some aspects of the deal and, in the case of at least one project, falling behind schedule.

A little over a year after entering a contract estimated at between $100 million and $300 million, EDS and Signet are evaluating whether to move Signet's data processing facilities from their current location to EDS' Herndon, Va., processing center, according to Signet's Executive Vice President William Dieter.

Such a move could threaten scores of information systems jobs at Signet. It would also represent an about-face for EDS, which, one source said, won the contract over IBM and Systematics, Inc., in part on a pledge to retain IS jobs.

At the same time, EDS and Signet are struggling to complete a software conversion program that has fallen months behind schedule.

Decision coming

The two companies will reach a decision on the data center by late third quarter or early fourth quarter, Dieter said. Neither Dieter nor an EDS spokesman would say which party initiated the idea. "I cannot comment on anything we might or might not have proposed to a customer," the EDS spokesman said.

Continued on page 16

Borland stalks IS dollars

Integrators, key execs team to woo top users with multipronged assault

BY MARK HALPER
CW STAFF

SCOTTS VALLEY, Calif. — Borland International, Inc. plans to launch several sales and marketing initiatives in August, including partnerships with systems integrators. The vendor hopes to gain momentum in the growing struggle among microcomputer software developers to win information systems managers' mind share.

Borland's need to raise its profile among top IS executives comes as the company gets serious about client/server data bases. Borland is also trying to compete more effectively with Microsoft Corp. and Lotus Development Corp., both of which benefit from broader name recognition, internal consulting services and application salees.

While Borland has made significant inroads in the corporate market through its personal computer database products, spreadsheet and development tools, its point of entry has been one or two levels below the top rung in the average corporate IS shop, said Neil Snyder, Borland's vice president of marketing.

Continued on page 15

Compq to take radical tack

Will recast as integrator, software provider

BY MICHAEL FITZGERALD
CW STAFF

HOUSTON — Compaq Computer Corp. is undergoing a quiet metamorphosis from a hardware maker into a single point of contact for integrating systems and providing software to high-end users. Compaq said pieces of the plan will be announced during the course of the year.

A stumbling Compaq intends to become a go-between for SystemsPro users in multivendor shops by working to integrate local-area networks into multipro- form environments. The plan for Compaqwide technical support and service for other vendors' products and to sell or bundle software. However, pricing is not yet available.

Last week, Compaq made good on a 4-week-old promise to bundle Novell, Inc.'s NetWare and offer software that could provide mainframe server-like capabilities. This week, it is expected to unveil its lowest priced line of personal computers yet.

The various pieces of its overall strategy appear to be part of an ambitious, if not radical, effort by Compaq to separate itself from the PC pack. It also may represent the first bid by a desktop hardware maker to muscle in on the kind of integration services traditionally provided by firms such as IBM, Digital Equipment Corp. and Hewlett-Packard Co.

Ronde Ward, Compaq's director of product development, told Computerworld recently, "In the new paradigm of the '90s, users should consider Novell almost a division of Compaq, or Intel and Microsoft a division of Compaq. If [users] need changes, we'll work with the

DEC flip-flops on Unix workstation strategy

BY MARYFRAN JOHNSON
CW STAFF

MAYNARD, Mass. — A freight train of customer outcry pushed Digital Equipment Corp.'s Unix strategy back on track last week, forcing the vendor to reverse its recent decision to put Ultrix instead of the DEC/OSF/1 operating system on future versions of the DECstation/DECsystem line.

DEC officials now say their entire Unix-based workstation and server line will get a production-quality version of DEC/OSF/1 to follow the advanced developer's kit, which is available only on a limited number of DECstation models.

The catch is that delivery of an end-user release of DEC/OSF/1 for the DECstation line will be delayed until some time next year. Many customers said they were originally told it would be available this summer or by early fall.

The latest rendition of DEC's strategy calls for implementing the Open Software Foundation's OSF/1 on Mips Computer Systems, Inc.'s R2000-, R3000- and R4000-based DECstations and DECsystems and to make that implementation compatible with OSF/1 on future Alpha-based systems. The company will also support its own Ultrix Unix operating system on the R4000-based DECstations and DECsystems.

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- The Computerworld Smithsonian award winners prove that there's much more to computers than crunching numbers — they can improve our lives. This year's honorees applied technology to fight disease, save the wilderness, make surgery easier, teach kids math and science and more. Pages 91 and 118.

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- The outbreak of repetitive motion injuries among computer users has produced independent storage management software. Page 47.

- Storage shapes up as the commodity, while software is the key to the future at Epoch Systems, a vendor that is shifting its focus from independent storage management software to platform-independent storage management software. Page 47.

- E-mail industry heavyweights prepare for battle over who controls LAN messaging backbones. Page 55.

- On site this week: Miller Mason & Dickenson had to persuade corporate management to let the consulting firm go with a network of Compaq SystemPros rather than a mainframe. The result is greater use of computing resources for relatively little extra cost. Page 51. The John Hancock insurance company is dealing with diverse user needs on a piece-by-piece basis. Page 55. The next step in Baxter Healthcare's EDI plan is to eliminate thousands of pages of telephone bills by establishing EDI links with Illinois Bell. Page 56.

**THE 5TH WAVE**

"You mean to tell me you knew this was sacred Indian burial ground and you built the computer room here anyway?!? You roll! You roll!"

The 5th Wave

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Notes productivity claims eyed

Survey says workgroup software could offer ROI of more than 100%

BY ROSEMARY HAMILTON
CW STAFF

BOSTON — Lotus Development Corp. last week took its first stab at defining productivity gains from its Notes workgroup software, releasing a report that claims returns on investment of 100% or more are possible. Some customers said that

Noteworthy

Lotus' Notes increased its user base 3.5 times in one year
Worldwide installed base 115,000
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Notes later this year, said the Lotus study results include such high percentages that "they could generate disbelief in the executive suites."

"It's the ability to change and become more of what your business requires that is the real value in products like Notes," he said.

Analysts contacted last week said they were not impressed with the report's conclusions on benefits to products such as Notes. "It's interesting that Lotus is trying to tackle this, but how do you really prove the productivity side of this issue?" said Mary McCaffrey, an analyst at Gartner Group in Stamford, Conn.

"You've looked at a lot of applications, and they have lots of capabilities, but [often] aren't well-integrated with the environment," said Greg Buchanan, director of technical planning at Calera Recognition Systems, Inc. in Newton, Mass.

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IBM sues yet another memory vendor

Computer leasing group says IBM is 'stonewalling' efforts to remedy memory card problem

BY JOHANNA AMBROSIO CW STAFF

WHITE PLAINS, N.Y. — In an action that raises more red flags about the use of leased 3090s, IBM last week filed a lawsuit — its third round — accusing a computer leasing company of selling counterfeit IBM memory.

Meanwhile, Ken Bouldin, president of the Computer Dealers and Lessors Association (CDLA), a group that represents many of the independent vendors, said IBM has “stonewalled” his association’s attempts to help determine which memory boards IBM considers to be counterfeit.

The most recent lawsuit alleges that Phoenix Computer Associates, Inc. in Westport, Conn., has knowingly sold counterfeit memory cards to customers. Phoenix Computer President Lawrence Erdmann was also named as a defendant.

An IBM spokesman said IBM found out about the counterfeit cards from Phoenix Computer after the cards failed at some user sites. He declined to say which user firms are involved or how many there are. A “substantial” number of cards are involved, he added.

A counterfeit memory card is generally soldered together from authentic IBM parts: two 32M-bit cards joined to make one 64M-bit card, for example. Sometimes the counterfeiters affix what looks like an IBM label with a parts number.

But if the card itself is not authentic — manufactured and tested by IBM — it is not entitled to IBM service, according to the company.

Other suits pending

This action is the third round of counterfeit memory-related lawsuits IBM has filed in the last eight months. In October 1991, IBM sued Comdisco, Inc., based in1 Rosemont, Ill., alleging that it, too, traded in counterfeit boards. That suit is still pending.

In May, IBM sued three other companies — known in leasing parlance as “refurb houses” — that perform technical work to reconfigure computers that lessors then trade. Those companies are Da-tonac, Inc. in Carol Stream, Ill.; Allen-Midan, Inc. in Broomall, Pa.; and BSM Corp. in Roselle, Ill.

All of IBM’s legal activity may begin to have an adverse impact on the 3090 leasing industry, one industry watcher said. “To the extent that users get leery and may have counterfeit boards in them, they might avoid them altogether,” said Thomas Donovan, an independent analyst at the Gartner Group, Inc. in Stamford, Conn.

But Darreil Balmer, a vice president at Gartner Group, Inc. in Stamford, Conn., disagreed. “I don’t think this suit will have that much of an impact. The memory problem is pretty well-known out there,” he said.

The “real problem,” he added, is “finding out which memory components are bona fide and which are not. It’s rather difficult to do that.”

That issue — how to determine which cards are IBM-approved — is at the heart of the argument between the CDLA and IBM.

According to Bouldin, one of the association’s committees, which is in the process of drafting a policy statement over what constitutes a counterfeit board, “went to IBM and asked them to tell us the limits — what we can do, and what we can’t. They would not cooperate,” Bouldin said.

An IBM spokesman said “no one is aware” of any formal CDLA request, although individual CDLA members have asked for guidelines about how to detect counterfeit cards.

However, it is “impossible” to allow third parties to perform the tests because they involve matching the parts numbers on the cards with “confidential” manufacturing records, according to the spokesman.

IBM will not do the tests for the les-
sors, the spokesman added, because “IBM does not elect to be in that business, except for end users.”

IBM Europe has taken a different approach because of widespread problems with suspicious memory boards in 3090s and midrange machines. Earlier this month, it unveiled a trade-in service that allows customers to have IBM technicians test their machines for fake memory cards. If any are found, new cards are swapped in.

However, no such program is available here, an IBM spokesman said.

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INNOVATION DATA PROCESSING CORP.

EUROPEAN HEADQUARTERS: 275 Paterson Avenue, Little Falls, New Jersey 07424, (201) 390-7200
DEC covers client/server bases

VAX/VMS link to NetWare to interoperate with LAN Manager

By ELISABETH HORWITT
CW STAFF

MAYNARD, Mass. — Digital Equipment Corp. may be betting its long-term client/server strategy on Windows New Technology (NT), but it is hedging that wager with a soon-to-be-announced software platform designed to integrate VAX/VMS with Novell, Inc.'s NetWare.

"DEC is betting on NT as a viable long-term marketplace but is taking a strategy of betting on all major platforms," said Jim Bucher, superintendent of computer services at the University of Colorado at Inco Ltd., a Canadian manufacturer.

Pathworks for NetWare will provide this, but with a catch: Users will have to install a CCITT X.400 gateway between the two types of systems, sources said. Novell's NetWare Global Messaging will support an X.400 access module by the fall, a Novell spokesman said.

Not all users will want to install X.400 on their client/server systems, however. "The X.400 is an awfully expensive way to go," said Bucher. "We'd like to see a product to translate" NetWare and VAX E-mail protocols directly, he added.

High ambition

DEC's upcoming Pathworks for Novell's NetWare promises to provide a much-needed link into Microsoft's Windows NT environment than does the original Pathworks, which is based on Microsoft's LAN Manager. DEC has long-term cooperative efforts by DEC and Microsoft will eventually leapfrog the DEC/Novell effort to provide a still higher level of integration between Microsoft's Windows environments and DEC's enterprise services, said Mark Sharidon, strategy development manager at DEC's software products group. "The basic strategic issue here is that Microsoft would love to provide a much higher level of enterprise computing, and we'd love synergy with Microsoft's vast success on desktops and LANs," he said.

In the short term, Microsoft and DEC are working to close the interoperability gaps between LAN Manager and Pathworks/VMS, Sharidon said. For example, the two companies are working to achieve consistency between Microsoft Mail and DEC's Mail software. "We're working to "align our architectures" through a common set of application programming interfaces (API) now being developed," he said. In contrast, Pathworks for NetWare will need to perform translations between NetWare and VMS networking protocols, he explained.

Microsoft intends to implement the new APIs in Windows Open Services Architecture, while DEC does so in its Network Application Support (NAS) architecture, Sharidon said. This will allow Microsoft's Windows NT and DOS client systems to access NAS services such as global naming and directory, E-mail, file-sharing and compound document architecture.

The basic engine for linking clients to multiple servers and services will be based on the remote procedure calls and APIs defined by DEC's software Foundation's Distributed Computing Environment.

More news shorts on page 16
WHAT HAVE BILL GATES, SCOTT MCNEALY, JOHN SCULLEY, JOHN YOUNG AND LARRY ELLISON AGREED TO COOPERATE ON?
Zenith Data reworks line in bid to recapture lost momentum

BY MICHAEL FITZGERALD
CW 28/397

PARIS — Striving to recharge its stagnant market presence and regain profitability after a red-ink stained two years, a hopeful Zenith Data this week unveiled a completely revamped product line.

"They were hemmed in with an outdated product line; now they have a full [up-to-date] product line that does not have just a single focus," said John Dunkle, president of WorkGroup Technologies, Inc., in Hampton, N.H. Zenith Data, acquired by Groupe Bull in late 1989, has long been known primarily for portables.

As of last week, Zenith Data’s product line ranges from low-end Intel Corp. 80386SX-based notebooks to monitors to high-powered tower-type servers. Together, the products represent a four-pronged focus for Zenith Data.

Future product generations will stress investment protection (through upgradability).

The write stuff

Zenith Data will demonstrate its first pen-capable system next week at PC Expo in New York, the company confirmed last week.

Tentatively called the Z-Notepad, the "technology" demonstration will show a pen option for its Z-Note line of notebooks, according to Katie Klosterman, director of pen-based systems at Zenith Data.

She said the Z-Notepad will feature an in-house designed screen that can be pulled out and used separately from the keyboard, which will be compatible with products from Momenta Corp., or the NEC Technologies, Inc. Ultralite SL/20P, but similar to an expected product from Tusk, Inc. The digitized screen accepts pen input, Klosterman said, and the screen and the pen will be connected to the body of the notebook, giving it power while it is detached.

"Because the entire notebook screen has to be replaced, Zenith Data will provide upgrades, which are expected to cost between $500 and $1,000 when they are released in the September-October time frame," Klosterman said. She added that the pen option will not work with the active-matrix color version of the Z-Note.

Z-Notepad will ship with Microsoft Corp.’s Windows for Pen Computing and Slate Corp.’s Day-time software. Klosterman said Zenith Data will likely support Go Corp.’s Pen Point operating system with future, pen-only products that it will build as the market develops.

"The concept is stellar, and if the companies to do it." Pe- satori said. At the same time, he also confirmed that Zenith Data will build 150,000 notebooks annually on an OEM basis for IBM, which gives it an important source of volume.

Range of chips

The eight models of the Z-Serve line use Intel’s 25-MHz 80386SX and 33-MHz and 50-MHz 486DX chips. A pop-out motherboard will allow users to install Intel’s P5 chip when it appears later this year.

The Z-Station includes 19 models using a range of chips, from Intel’s 25-MHz 8863SX to the 50/50-MHz 486DX2 processor. The modular, upgradable systems come equipped with Super VGA, an Ethernet NE2000-compatible module and built-in network shells for Novell, Inc.’s NetWare, Microsoft Corp.’s LAN Manager and Banana Systems, Inc.’s Vines pre-installed.

A complete makeover

Zenith Data’s 40+ new systems — ranging from servers and desktop PCs to notebooks — represent a total overhaul of the company’s product line. Here’s a sampling:

Z-Station 3255S
Model 80
(expected)

30-MHz 486DX2 408-byte

500-byte [supports 24]

$1,199

Z-Station 4332DH
Model 200

50-MHz 486DX4 500-byte

80-byte [supports 128]

$3,299

Z-Server 4500E
Model 200

50-MHz 486DX4 500-byte

80-byte [supports 128]

$5,899

Z-Sport 3255
Model 60 (notebook)

25-MHz 486SX 408-byte

80-byte [expects 24]

$2,199

"It is difficult to see it [being] stiffer than what it is today," Pe- satori said. At the same time, he also confirmed that Zenith Data will build 150,000 notebooks annually on an OEM basis for IBM, which gives it an important source of volume.

The Z-Sport, a line of low-cost 386SX and 486SX notebooks, and two new monitors, in- cluding a new 17-in. flat-screen one, were also announced.

The new lines add to the Z-Note series of high-end notebooks for [April 6].

A design firm was hired to create a distinctive look with improved ergonomics. Among oth- er things, the new design yielded a cabinet for desktops that can be removed via a single screw and simple, icon-based directions for easy upgrades.

The new four-part focus will guide Zenith Data through some other “things in the works,” Pe- satori said, indicating that these would include other new prod- ucts and more distribution agreements that would help the approximately $1.1 billion vendor become profitable by next year. He pointed to a cut in em- ployees, from 4,200 to 2,900, and upcoming products and dis- tribution agreements that will help to achieve this.

Compaq to take radical track

CONTINUED FROM PAGE 1

companies to do it.”

Analysts said Compaq has a shot at successfully executing its ambitious plan. "They can pull it off, they’ve got the money, and they’ve got Wall Street it will take them a while to re- coup," said Andrew M. Seybold, editor-in-chief of "The Outlook on Professional Computing" in Boulder Creek, Calif.

Added John Dunkle, president of Hampton, N.H.-based market research firm Work- Group Technologies, Inc., "When you look at the trend in downsizing. Compaq has the poten- tial to become a force here."

Some information systems managers contacted last week expressed interest in the plan; others, however, were skepti- cal.

"The concept is stellar, and if an organization can pull it off, I would expect someone like Compaq could," said Douglas Mur- phy, director of IS at Comcast Corp. "The single point of contact is nice, but IBM tried it and there are enough horror stories about that.

"We haven’t found anybody to date that can be on top of every- thing, especially with the rapidly changing industry," agreed Pat O’Hara, manager of LAN systems planning at American President Lines in Oakland, Calif.

"You get to a certain point in dealing with multiple vendors where you end up with a lot of fingerpointing, and sometimes it is more than difficult to get around the integration issues," she said.

At Texas Commerce Bank- shares, Inc., however, Compaq is more than difficult to get around the integration issues," she said.

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"You get to a certain point in dealing with multiple vendors where you end up with a lot of fingerpointing, and sometimes it is more than difficult to get around the integration issues," she said.

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The world's largest database company introduces a revolutionary new technology called a cooperative-server database. A cooperative-server database hides the complexity of computer networks by enabling applications to access data located on multiple computers just as if all the data were stored on a single computer. In this way, a cooperative-server database simplifies application building and improves decision making by making access to information easier...much easier.

"Oracle's always been the leader in building database technology. One of the great things about Oracle's approach is that they're hiding the differences between all the machines out on the network running on various platforms."

Bill Gates
Chairman and CEO
Microsoft Corporation

"Oracle7's breakthrough in hiding technological complexity is analogous to the ease-of-use breakthroughs accomplished by the introduction of the Mac in 1984."

John Sculley
Chairman and CEO
Apple Computer, Inc.

"The fundamental problem with early client-server database management systems is that applications cannot access data on more than one server without a lot of extra programming. This programmatic approach to accessing data on multiple servers is in stark contrast to the totally automatic approach provided by ORACLE7."

Larry Ellison
President and CEO
Oracle Corporation

"With HP systems and ORACLE7, our customers will have the desktop to high-end performance they need for a fraction of the cost of mainframe computing solutions."

John Young
President and CEO
Hewlett-Packard Company

"ORACLE7 is really solving the complexities of the distributed computing environment cost-effectively. Plus, it supplies the reliability and security that are required in a distributed computing environment. In fact, because ORACLE7 matches Sun's client-server model so well, we have chosen ORACLE7 as one of our key databases."

Scott G. McNealy
President, CEO and Chairman
Sun Microsystems, Inc.

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Supreme Court paves way for antibundling lawsuits

BY MITCH BETTS
CW STAFF

WASHINGTON, D.C. — A major antitrust ruling by the U.S. Supreme Court last week is expected to unleash a slew of lawsuits against bundling practices by computer manufacturers that have shut out third-party maintenance firms.

The court, in a 6-3 vote, ruled that Eastman Kodak Co. can be brought to trial on evidence that it tied the sale of spare parts to the sale of Kodak service contracts, thus preventing independent service organizations from getting spare parts.

In the computer field, experts said, the antitrust ruling will make it easier for independent service firms to challenge computer manufacturers' practice of denying access to diagnostic software, spare parts or software upgrades unless the customer gets hardware maintenance from the manufacturer.

That will be good news for customers, who can expect to benefit from the price competition between independent service providers and hardware manufacturers, said Esther Roditti Schachter, an attorney and editor of the "Computer Law & Tax Report" newsletter based in New York.

"To say that we're elated would be an understatement," said Young, an attorney representing Virtual Maintenance, Inc. in Rochester Hills, Mich. The independent computer maintenance firm's $25.4 million award from an antitrust judgment against Prime Computer, Inc. was reversed on appeal in March, but the Supreme Court ruling makes it likely that the independent firm will ultimately win it back.

"This opens up the so-called aftermarket to the scrutiny of the antitrust laws...and will stimulate price competition for maintenance and repair," Young said.

Rebecca Segal, an analyst at International Data Corp. in Framingham, Mass., said third-party service firms usually charge 15% less than the hardware manufacturers, although the hardwarevendor sometimes offers lower prices in order to hang onto key customers.

More options for users

Segal said the court ruling will in fact give users more choices, but she warned against an overstatement price war that could reduce service quality. The U.S. computer service market amounted to $18.5 billion last year, she said.

In its ruling, the high court rejected Kodak's economic theory that it is impossible to monopolize the service aftermarket when the original equipment market is fiercely competitive. The justices did not rule on the merits of the Kodak case but said there is sufficient evidence of monopolistic practices to warrant a full trial.

Computer manufacturers such as Digital Equipment Corp., Hewlett-Packard Co., Unisys Corp. and Wang Laboratories, Inc. have sided with Kodak, so the ruling is seen as a tactical defeat for them as well, observers said.

On the winning side of the case, Ronald S. Katz, a San Francisco attorney representing a coalition of independent computer service firms, predicted that as a result of the ruling, the current batch of antitrust suits will be resolved in out-of-court settlements.

Then there will be a new wave of lawsuits filed by independent service firms that had stayed on the sidelines until now, Katz said, predicting that many of those suits will be settled, too.

The computer industry acknowledged that it will now have to defend its bundling practices in a new round of lawsuits. "After it all shakes out, hopefully these practices will be quite secure, but there may be some litigation around the edges," said Simon Lazarus III, a Washington, D.C., attorney representing the Computer and Business Equipment Manufacturers Association.

CORRECTION

BSG Consulting, Inc., the 150-person consulting and systems integration company based in Houston, was incorrectly identified in the May 11 Integration Strategies.
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Oracle client/server RDBMSs to debut

Adding competitive features delayed Version 7.0, but next-generation tool slated to ship in fall

BY JANE S. BOZMAN

NEW YORK — After a three-year parade, Oracle Corp. will unveil today its next-generation relational database management system, pitching it to information systems shops that are moving from monolithic to distributed client/server architectures. Oracle will trumpet Version 7.0's new features at a press conference today, although its automatic two-phase commit, declarative referential integrity, stored procedures and triggers were added to counter a new wave of competitors' products.

"When you have the dominant market share in an industry, you don't have to leapfrog the competition. Just being status quo can be very powerful," said Terence Quinn, a vice president of research at Kidder, Peabody & Co. in New York.

"Oracle is giving you the tools," said James Daly, a systems consultant at ITT Hartford Life Cos.' Employee Benefits Division in Hartford, Conn. The Hartford is one of Oracle's 14 Alliance Partners that have tested Version 7.0 code since August 1991. "You have to know when to use them," Bosco said.

The Alliance Partner users report, which is a multi-faceted process improving speed improvements over Oracle 5.6 and 6.0,曼蒂 said. They were pleased to see that the Version 7.0 code was virtually bug-free, unlike the beta-test and production copies of Version 6.0 released in 1989.

Up to 500 trans./sec.

InSyde 4.8

Yes

Yes

Yes (with triggers)

Yes

Sybase 4.8

Yes

Yes

Yes

Yes

Ingres 6.4

Yes

Yes

Business rules to

Yes

Oracle 7.0

Yes

Yes

Yes (+)

Yes

* To be offered as modular options

7.0's new features at a press conference will extend its automatic two-phase commit, declarative referential integrity, stored procedures and triggers. Although the product is not expected to ship until fall, those features should bring the $1 billion Redwood City, Calif.-based developer in line with competitive offerings, analysts said.

"The database software was delayed by more than a year for both technical and marketing reasons, industry analysts said last week.

Francois Groleau, a systems architect at Mobil Oil, said that the Version 7.0 code was virtually bug-free, unlike the beta-test and production copies of Version 6.0 released in 1989.

The FBI closed bulletin board, seeking piracy evidence

BY JAMES DALY

MILLBURY, Mass. — Federal Bureau of Investigation agents last week began a long, hot summer of strikes against software pirates when they raided the headquarters of an international computer bulletin board that was allegedly distributing more than 250,000 illegally copied software programs.

The move against the Davy Jones Locker bulletin board, based here, marked the first time federal agents have closed a bulletin board for distributing copyrighted programs — and signaled a new crackdown on software piracy.

We expect the pace of these raids to accelerate as the FBI discovers that the prosecution of copyright infringement crimes is easier than they thought," said Ken Wasch, executive director of the Software Publishers Association (SPA), a Washington, D.C.-based trade group that tipped the FBI on the case.

Several similar raids on other bulletin boards are already in the advanced planning stages, Wasch said.

The Alliance Partners users report, which is a multi-faceted process improving speed improvements over Oracle 5.6 and 6.0, Manhattan said. They were pleased to see that the Version 7.0 code was virtually bug-free, unlike the beta-test and production copies of Version 6.0 released in 1989.

The FBI made no arrests, the seized material will be examined to determine whether to go after the people who downloaded it. "But now we're going to confront them," Manieri said.

The team then queried the interrupted database to see what data survived and whether broken transactions had disappeared. "Everything got rolled back and taken away," Manieri said, "just as it should have."

Many Oracle 6.0 users are expected to migrate to Version 7.0 next year. Some will get free upgrades for options providing procedural programming and parallel server functions (CW, March 23).

RDBMS vendors claim they have shadowboxed with Version 7.0 in user bids since 1990. "They've talked to customers about it, and we've had to address it competitively even though it hasn't been in the market openly," said Stewart Schuster, senior vice president of marketing at Sybase, Inc.

The Ask Cos. Ingres Products Division wrote a white paper that compared Ingres with Oracle Version 7.0 features, many of which Ingres claimed to have had since the late 1980s. Informix Software, Inc. said its product answers most Version 7.0 features and is ready for a multi-threaded server expected to ship this year (see chart).

The following are a few tips from users who have tried distributing database technology:

• Plan carefully. Trying to update too many database servers simultaneously may slow down your database network. You may decide that some servers can be updated overnight or later in the same day.

• Review security procedures. You do not want your users to have to log on to each database server they access. You may decide to assign those access rights to database administrators.

• Pick a reference point for your global network. Many users have picked Greenwich Mean Time for time/date stamps throughout the network.

• Do not try to do too much, too soon. Establish a pilot program with a small number of distributed databases, learn how to work with them and then build up your inventory of distributed database servers.

JEAN S. BOZMAN

FBI closes bulletin board, seeking piracy evidence
When World Vision, a non-profit international Christian relief and development agency, needed to manage $225 million annually in fundraising and distribution, they turned to us, Informix, the experts in UNIX relational database management systems.

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DECA flip-flops workstation strategy

CONTINUED FROM PAGE 1

Whether these assurances from DEC will restore its credibility with customers is an open question, however. "DEC has changed stories so many times, changed products so many times and changed dates and promises so many times that I simply do not trust DEC any longer," said Robert Granvin, the computing administrator at the University of Minnesota's School of Statistics, which has about two dozen DECalumns.

A change of heart

DEC's decision to extend its OSF/1 offering will be good news for many user sites.

Source: Computer Intelligence/Industry

DECstations.

Granvin offered some advice for DEC stations now, although I will probably upgrade my existing box," said Ken Kranzmann, MIS director at Carleton Technologics, Inc. in Orchard Park, N.Y. "It scares me that they haven't got the tools to marching in the same direction."

Some users also expressed concern about the delay until 1993 for delivery of a production-quality DEC OSF/1. That is likely to hurt software developers who are planning to use DECstations to develop applications for Alpha systems, they said.

DEC's overall strategy remains based on migrating all of its VAX/VMS and Ultrix customers to the upcoming Alpha systems, which will run VMS, OSF/1 or Microsoft Corp.'s Windows NT (NT).

Matt Kochan, a DEC marketing executive, tried last week to portray the controversy as a "misunderstanding" by the press and industry analysts, whom he said mistook personal opinion for official DEC executive views for official company positions. Industry observers rejected that notion as absurd.

"This has been a disaster for DEC," said Thomas Rachary, president of Summit Strategies, Inc. in Boston. "I think they finally made the right choice, but they're sort of shaken my confidence a little bit," said Jim Reiss, a software engineer at Accellr Technology Corp. in Denver. "I would say the damage is minor, but it will affect people's buying decisions for at least a year or two. Nobody likes a vendor waffling like that."

"As long as they give me a reasonable release of Ultrix, I can live with that," said Mohamed El-Lozy, director of scientific computing at the Dana Farber Cancer Institute in Boston. "What I cannot live with is being opaqued: having Ultrix development frozen, and never being able to get to OSF/1."

Struggling for power

Sources close to DEC said its Unix group has been caught up in power struggles between a handful of top executives and David Stone, DEC's vice president of software engineering. In the most recent reorganization, Stone gained control over the Unix workstation group, and his decision to halt OSF/1 development on future DECstations reportedly caused as much of an internal uproar as it did an external one.

Kochan said DEC heard from hundreds of alarmed customers, in comments and reports to sales representatives, during the last two weeks. Many had counted on being able to get DEC Alpha workstation applications to OSF/1 on the Mips-based DECstations.

"I think they wanted to save more money by dropping OSF/1 development on the Mips line, so they wouldn't have to maintain the (operating system) kernel on two architectures," said Michael Santangelo, Unix and VMS systems manager at the University of Maryland University College in College Park. "It was very good to hear they've changed their minds. At least it'll be a lot easier on your nerves before losing a great deal of market share."

Set and default utilities.

IBM in fact, is in the process of porting VMS Starter Kit to Alpha VMS later this year for release at that time.

DECA user society to educate users on migrating to Alpha

BY MELINDA-CAROL BALLOU CM STAFF

MAYNARD, Mass. — The Digital Equipment Computer Users Society (DECUS) will offer DEC users advice and the tools needed to migrate to the next-generation Alpha systems this fall in Anaheim, Calif.

DECUS officials said they will focus on migration at the symposium, which is attended by many of whom are concerned over this issue. Digital Equipment Corp. users can expect data about tools that can ease the transition to Alpha and to supplement those offerings with the users of DECUS' own VMS Starter Kit to Alpha VMS for release at that time.

"There will be seminars preceding the week-long symposium, and we'll be offering the whole shebang — everything you need to do conversion and porting," said Rich Dejordy, a technical specialist at The Faxon Co. in Westbrook, Mass., and chairman of DECUS VMS Special Interest Group. "By then we hope to have a good body of users who will have done it, and you'll be able to talk to them directly."

The DECUS Starter Kit will offer the most popular applications and tools available with the current VMS Kit, including Kermit; Command Files, which lets users tweak attributes of files on the system; The Verb, which analyzes Digital Command Language command language commands; Watcher, which shuts down idle terminal processes; and Modify, a language application for our applications — we have 1,600 programs which we developed ourselves. I expect it to take months."

But according to some DECUS officials, the process may not be as painful as people think.

All in the planning

Careful planning and code that follows the rules, migration ought not to be significantly different from moving from Version 4.0 of VMS to Version 5.0, according to Dejordy.

"There is a lot of code out there which is similar in small quirks in the operating system or on the [VAX hardware]," said Connie Beckman, director of DECUS' VMS and VMS/Unix's new migration centers for users.

Key to the strategy is DEC's Cross gem compiler, which allows application migration for programs written in high-level languages such as Fortran, C and Cobol. The GEM compiler level offers performance differences between languages as a result of its back-end optimisation, according to Nieland, minimizing the need to write for Fortran when seeking high performance.

For programs that are written in lower level Macro assembler code, DEC is offering a Macro compiler, which acts as a code generator. A set computing-to-reduced instruction set computing translator, turning the Macro code into a higher-level language.

DEC is also offering a series of translation tools for those who want a close look at the assembly code, or for languages for which DEC is not providing compilers.
Borland stalks IS dollars

CONTINUED FROM PAGE 1

land's director of sales marketing.

"At this point, we're a day late and a dollar short," conceded Snyder, who said the August programs were designed to remedy the situation.

Among the moves to be disclosed are the following:

- Strategic sales and marketing agreements with half a dozen large systems integrators.
- Borland's top nonsales executive will call on some large corporate accounts.
- A volume licensing agreement that would allow IS shops to qualify for discounts on products purchased through resellers.
- A series of seminars designed to educate IS executives on Borland's product line.

The PC software company is negotiating agreements that call for joint sales calls with half a dozen integrators. The firm expects to finalize terms during the next several weeks, Snyder said.

He declined to reveal the names of the integrators, but one source inside Borland

BORLAND WILL appoint each of its vice presidents as the lead point of contact for specific corporate accounts.

said the company is talking to Electronic Data Systems Corp., Andersen Consulting, Computer Sciences Corp. and Deloitte & Touche, among others.

In an interview last summer, Borland Chairman Philippe Kahn insisted that the internal consulting efforts then recently launched by rivals Microsoft and Lotus constituted the wrong approach. It was better, he said, to partner with third-party consultants than to compete with them.

Analysts said partnering with integrators or other companies better known to IS management should help Borland's corporate sales effort. Borland now has a small direct sales team of about 50 and generates most of its overall sales through mail order and resellers.

"I don't think any desktop company can go to the next level by themselves," observed Michael Heylin, a senior associate at market research firm Creative Strategies Research International, Inc. in Santa Clara, Calif.

"MIS is the next gatekeeper they have to go through," added Neal Hill, a senior analyst at Forrester Research, Inc. in Cambridge, Mass. "I think the systems integrators are key to making those high-level IS contacts because a lot of the MIS people really don't know Borland."

VP contacts

Under a program that Borland will call Executive Adopt an Account, Borland will appoint each of its vice presidents — including those in charge of such nonsales areas as finance, operations and IS — as the lead point of contact for specific corporate accounts.

"Their job will be to build a personal relationship with the senior IS manager or CIO," Snyder explained. According to Snyder, Kahn has been very active in making personal calls on IS chiefs and will continue to do so. "We want to broaden that activity among all the executives," Snyder said.

Analysts such as Hill said the program sounds like "a step in the right direction," but he expressed some skepticism.

"It's one of those things that sounds like a good idea that others have tried, but does it work? I mean, the [vice president] of finance has a job to do," he said.

The educational seminars should be useful in explaining the intricacies of Borland's forthcoming PC version of its Interbase client/server database. The new version will tie the Paradox and dBase front ends into the Interbase engine.

Unlike Borland, which is moving up to the client/server model from a single-user orientation, many of the other client/server vendors have moved down from a larger system environment and therefore are more entrenched in IS shops. "Borland wasn't the first on the block, so they'll have to work harder and work smarter," said Greg Salcedo, a systems analyst at Boeing Computer Services in Seattle.

Other programs slated for an August launch include what Snyder called a "Sales Agent" plan in which Borland will authorize its resellers to offer volume license agreements. Snyder said Borland now offers an informal volume program only on a direct basis.

He also said the Sales Agent initiative will provide a more structured, accessible volume plan, but he did not elaborate. Also in August, Borland will begin offering a maintenance contract to all IS users — not just volume license customers — that provides discounted upgrades, Snyder said.

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NEWS SHORTS

Amdahl pumps up 5995M systems

Amdahl Corp. will ship a performance booster for its new Amdahl 5995M machines this month. The Enhanced Performance Feature (EPF) combines faster main-memory chips and firmware to reduce cycle time to 6.5 nsec. It reportedly improves system performance by 10% for the three-way 355OMM machine and up to 15% for the eight-way 865OMM machine. Amdahl said it will begin to ship the six-way and eight-way machines this fall. EFP prices range from $1.4 million to $4.5 million.

Bell Canada rebuffs SHL alliance

Negotiations to forge a strategic alliance between SHL Systems, Inc. and Bell Canada, whose parent owns 25% of the Onta,.Out.-based systems integrators, have fallen through. Under a proposed deal, SHL would have managed Bell Cana- da's extensive data center operations and BCE, Bell Canada's parent, would have increased its stake in SHL. The collapse of the deal is a major blow to SHL, which is under new manage- ment and has embarked on a broad expansion strategy.

Bills aim to reform Fed procurement

Two computer industry groups are backing two U.S. Senate efforts to reform the federal acquisition process. The Computer Systems and Software Manufacturers Association (CSSMA) and the Information Technology Association of America, formerly Adapso, endorsed the Federal Property and Administrative Services Authorization Act of 1991, which would require agencies to say more about evaluated critier and provide more detailed postaward debriefings. Also backed was the Multiple Award Schedule Program Reform Act of 1992, which CSSMA said would result in lower prices.

Cops seek computer reseller

The former president of Treva Communications, a San Jose, Calif.-based firm that sells voice response systems, is being sought on a $1 million warrant for the alleged theft of trade se- crets and conspiracy. The suspect, Joseph Van Dunn, 41, is now head of Fremont, Calif.-based Azonic Systems, which sells automated information management systems. Treva officials said they were tipped at a trade show when they discovered their software was being sold without their knowledge.

Unix purveyors adopt WizDom

The Open Software Foundation, Sun Microsystems, Inc. sub- sidiary SunSoft and Unix Systems Laboratories, Inc. (USL) were among the organizations that agreed last week to adopt Tiva's WizDom object-oriented technology as the basis for managing multivendor distributed Unix systems. WizDom will also be integrated into USL's Unix System V.4 and Sun's Solaris.

Short takes

Univel is shipping an early version of its Unixware operating system to 50 vendors. ... SunPro, a Sun Microsystems subsidiary, will unwrap improved C, Fortran and Pascal compilers today in a new version of its SPARCworks suite of development tools that runs under both Solaris 1.0 and the upcoming Solaris 2.0. ... Unisys Corp. settled a shareholder suit, agreeing to pay a minimum of $15 million to shareholders of re- tained last week for personal reasons. Tommy Steele, director of the IBM Personal Systems Programming Laboratory, resigned last week for per- sonal reasons. According to a compa- ny spokesman, Steele's departure is "absolutely not" the result of any problems within the exec- utive ranks of OS/2.

Steady rings up grocery outsourcing contract

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IBM rings up grocery outsourcing contract

BY JOHANNA AMBROSIO

TARRYTOWN, N.Y. — IBM's outsourcing unit last week served a soup-to-nuts deal to a supermarket chain. Harvest Foods in Little Rock, Ark., has contracted with IBM's Integrated Systems Solutions Corp. (ISSC) for data center op- erations, data network and appli- cations development. The value of the 10-year deal was not dis- closed.

"They'll be running all our data processing services maintenance, operations, develop- ment, you name it," said Rob- ert Rough, chief financial officer at Harvest. The company operates 54 stores in four South- ern states.

A major part of the deal is new applications that ISSC will devel- op and implement, including in- store systems for checkout and customer service and electronic funds transfer, as well as other functions that Rough would not specify.

For now, ISSC will run Har- vest Foods' existing data center, which houses an Enterprise Sys- tem 9000 mainframe. In the fu- ture, Rough said, ISSC may move the company's operations into one of its own data centers.

All of Harvest Foods' 26 infor- mation systems employees will work for ISSC when the contract begins July 1.

Among the factors that were considered before outsourcing, Rough said, were "financial as- pects" that included both "hard dollars and soft dollars in terms of developing new applications more quickly than we could have otherwise."

Another reason for signing up was "we felt we could give our employees better opportunities. Being a data processing person for a grocery chain, there's only so far you can go," he said.

Strain in EDS/Signet pact

CONTINUED FROM PAGE 1

One Signet source said EDS proposed the shift in order to save money through payroll reduc- tions, and to be able to move processing to its larger machines in Herndon where it benefits from greater economies of scale.

Signet's interest is in freeing up space now occupied by IBM, Amdahl and Unisys, mainframes for other purposes, according to Dieter.

An EDS spokesman declined to comment on the Dallas-based systems integrator's interest in

T

HAT CONVERSION, which was to have been completed by May 1 — 12 months after the contract signing — has fallen almost five months behind schedule.

Dieter said the revised terms would be worked out during the course of the evaluation.

The current EDS/Signet con- tract calls for EDS to consolidate Signet's Unisys, Amdahl and IBM mainframes onto Amdahl and IBM-only platforms at the bank's Shore Point data center located outside of Richmond.

EDS took over ownership of Signet's mainframes early in the contract and would either sell or move the IBM and Amdahl iron in the event of a data center shift.

Signet, which had grown into a $12 billion bank through a se- ries of acquisitions in Maryland and Washington, D.C., had acum- ulated an unwieldy combination of various hardware and software brands. This in turn led to an outsourcing pact with EDS.

Slow band

The contract also called for EDS to convert Signet's slew of third- party systems into a 150 program- grams to a single integrated banking package provided by Software Alliance Corp. in Berkeley, Calif.

That conversion, which was to have been completed by May 1 — 12 months after the contract signing — has fallen almost five months behind schedule. The two companies are now target- ing Sept. 17, Dieter said.

"The project was a lot larger and bigger than we originally es- timated," Dieter said, referring to the software conversion.

In a separate data processing matter in Signet's hand, the company is considering convert- ing its Unisys check sorting op- eration in Richmond into a Unisys image-based system.

Dieter also said that a sepa- rate outsourcing deal called for St. Louis-based CSI Technol- ogies, Inc. to take over the bank's Mastercard operations is on schedule and that CSI should take over operations by August.

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Information Builders, Inc.
Imaging growth slowed by recession, study says

BY ELLIS BOOKER

WASHINGTON, D.C. — Like other sectors of the economy dampened by the recession, the electronic document imaging market saw only marginal growth in 1991, according to the latest survey of the Association for Information and Image Management (AIIM).

AIIM’s fourth annual survey, which was based on input from 113 member vendors and 745 end users, was prepared by Deloitte & Touche Management Consulting. It will be officially released at next week’s 1992 AIIM Show and Conference in Anaheim, Calif.

The survey found that domestic information and image management revenue increased just 3% to $3.7 billion. This was considerably less than the 28% growth rate for the years 1991 to 1995 that was forecast by AIIM members in last year’s study.

On the positive side, however, the study found international revenue for U.S. imaging vendors grew significantly last year, up 58% to $7.1 billion. In addition, imaging industry analysts noted a distinct uptick in activity during the first quarter of this year.

“We’ve seen a ton of activity among users,” said Roger Sullivan, vice president of systems at BIS Strategic Decisions in Norwell, Mass. Sullivan speculated that while users may have suspended funding of their imaging pilots last year, interest in the technology and a belief in its benefits never waned.

No shakeout seen

Furthermore, Sullivan disputed the idea that the imaging industry is headed for a shakeout anytime soon.

“I don’t see people dropping off,” he said. “And that says there is enough business out there to keep these [vendors] rolling for a while.”

On the other hand, he said, start-up companies may not have the resources to enter this bullish market. “The level of investment needed to make a solid product is very high,” Sullivan noted.

Burnished image

Electronic imaging revenue outstripped micrographics sales for the first time last year, according to AIIM’s survey.

Leading Edge jumps the gun

Leading Edge Products, Inc. caught Intel Corp. off guard last week when it announced the D4/DX2-66, a desktop system based on Intel’s unannounced 33-MHz/66-MHz DX2 clock-doubling system, which will top out the Intel 486 line in terms of performance. A surprised Intel declined to comment.

Leading Edge said it expects to ship the system next month, but sources close to Intel said it may be the clone maker’s turn to be surprised because Intel will not ship the 33/66 DX2 until after July.

The diskless D4/DX6-66 will be priced at $2,399 and will ship with eight expansion slots, 512K bytes of video memory, Advanced Video Graphics Array and 4M bytes of random-access memory.

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McGowan credited with breakup of AT&T monopoly

BY ELLIS BOOKER

"I have to believe it would have happened anyway." That was MCI Communications Corp. Chairman William G. McGowan’s response earlier this year when asked if the Bell System monopoly would have crumbled on its own, without someone behind the battering ram.

McGowan died last Monday of a heart attack at the age of 64. McGowan had suffered his first heart attack in 1986 and underwent a heart transplant in April 1987. In counterpoint to McGowan’s modest self-assessment, industry observers last week described his role as “historic” and said he was “a vital catalyst.” Some argued that without McGowan’s persistent, 16-year pursuit of AT&T, the 1984 breakup of “Ma Bell” might not have occurred for decades—if at all.

That 16-year fight was McGowan’s belief that “it was immoral and undemocratic that one company should have sole access to that market,” said Daniel Reingold, a telecommunications analyst at Morgan Stanley & Co. in New York who worked at MCI for six years.

“It’s not clear to me that without Bill McGowan there would have been a divestiture,” said Glenn Pafumi, now an independent options trader who had covered MCI extensively as a Merrill Lynch & Co. analyst.

The most obvious result of McGowan’s push for divestiture was competition in the long-distance marketplace and better rates for customers. MCI certainly profited, growing from $100,000 in revenue in 1978 to $9.5 billion last year.

The breakup of the Bell System still affects the so-called “Baby Bells,” which are the 22 local exchange telephone companies represented by the seven regional Bell holding companies. Virtually all are scrambling to provide enhanced and high-speed digital transmission and information services in order to keep pace with the growing number of “alternative access” carriers in the local loop.

Particularly in the early years, when MCI fought AT&T in the courts and at the Federal Communications Commission, McGowan often seemed like a man on a mission. A legendary workaholic, he resumed a busy schedule at MCI just six months after his 1987 heart transplant. But for all the hard work, McGowan is best remembered by friends and co-workers for his wit, charm and humor. At a meeting for investment analysts following his heart transplant, McGowan unexpectedly entered the room. “I’d like to say I’m glad to be here,” he said. “But the truth is, I’m glad to be anywhere.”

Respected by the opposition

McGowan’s personal appeal even extended to Bell company executives—the same ones who fought him tooth and nail in public. “After he’d recovered from his transplant, he was invited to speak at a USTA (United States Telephone Association) convention,” recalled Larry Lannon, publisher of Telephony, a weekly news magazine for the telephone industry. “As he stood in the hallway, the idea just amazing how many people—people who were professionally his enemies—came over to say how happy they were to see him.”

McGowan joined what was then called Microwave Communications Inc. in 1968, bought half of the company for $500,000, and reincorporated it as MCI Communications Corp. with himself as chairman.

Microwave Communications founder Jack Goekeen said the two owners made a good team: “I was the unsophisticated farmer, and he was the seasoned guy. Bill had graduated No. 3 from Harvard [business school]. So we [made] a very good combination.”

With the death of its leader last week, MCI said it expected an orderly transition of power. Bert C. Roberts Jr., who took over the title of chief executive officer from McGowan in December, is expected to be named chairman at the company’s regularly scheduled board meeting on June 23.

McGowan is survived by his wife, Sue Ling Gin, three brothers and a sister.

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Northern Telecom offers micro teleconferencing

BY JAMES DALY CW STAFF

NEW YORK — The merging of the personal computer and video revolutions continued in earnest last week when Northern Telecon, Inc. announced a PC-based videoconferencing system that allows co-workers who are thousands of miles apart to mark up the same drawing or look into each other's eyes as if they were sitting across the table from each other.

Northern Telecom's Visit Video and Visit Voice multimedia applications will be available for both Apple Computer, Inc.'s Macintosh and DOS-based PCs in the fourth quarter. Prices start at $2,900, in addition to the cost of the PC. The two systems will also be sold side-by-side. Support for IBM's OS/2 is planned for late next year.

The Northern Telecom package will come with similar recently introduced offerings from Compression Labs, Inc. in San Jose, Calif., and PictureTel Corp. in Peabody, Mass. However, Northern Telecom's product will initially lack capabilities offered by Compression Labs and PictureTel.

For example, Northern Telecom's system will be black and white and will not allow videoconferencing among more than two computers. However, the package does not require the purchase of a special videoconferencing telephone and works over public telephone networks. Analysts said the trick will be to persuade users to spend another $3,000 for the video capabilities. "The added visual ability is not something users are clamoring for, and it's certainly not something people will want to spend that much more money to have," said Steven Levy, a senior technology analyst at Hamrecht & Quist, Inc. in San Francisco.

Other analysts were more up-beat. "Looking at your co-worker's face on your PC screen is not what's interesting about Visit, but the fact that it can do file transfer and screen sharing in virtually real time is pretty hot," said Nick Arnett, editor of "Multimedia Computing & Presentations," a newsletter in Santa Clara, Calif.

Visit Video will deliver real-time screen sharing and high-speed file-transfer capabilities via dial-up, digital telephone line services operating at 56K or 64K bit/sec. These services are generally known as Switched 56 or Integrated Services Digital Network and require a high-speed (56K-bit) digital modem to link a computer to the telephone network, a Northern Telecom representative said.

The Visit system includes a small video camera, video board, software and communications hardware to access public and private telephone services. It will work with any Macintosh with at least 5M bytes of random access memory (RAM), and any IBM-compatible Intel Corp., 80386 and 486-based machine equipped with an AT bus, 5M bytes of RAM and Microsoft Corp.'s Windows.

Northern Telecom offers micro teleconferencing...

Northern Telecom offers micro teleconferencing...

The lawsuits target, among others, keyboard manufacturers and computer users. Already, some 800 product liability cases are pending in courts across the country, and more than 120 have been filed in New York alone. Analysts said widespread support for legitimate problems such as repetitive strain injury, an East Coast newspaper has taken the unusual move of forming a research committee that includes IBM, Apple, NCR, and Xerox. "That's ludicrous," said Jeff Tarter, publisher of "SoftLetter," a computer-industry newsletter.

By MITCH BETTS CW STAFF

The epidemic of repetitive motion injuries among computer industry workers is producing a plethora of product liability lawsuits aimed at thinning computer industry pocketbooks.

Earlier this month, 44 lawsuits filed in New York were consolidated for fact-finding purposes into a single case, which dramatically raised the public profile of the otherwise scattered suits, legal experts said.

The lawsuits target, among others, such industry heavyweights as IBM, Apple Computer, Inc., Northern Telecom, NCR Corp., Wang Laboratories, Inc. and Eastman Kodak Co.'s Aton, Inc. subsidiary.

At the start of this year, there were at least 18 product liability lawsuits nationwide involving nearly 90 plaintiffs blaming their injuries on keyboards. But a flurry of new lawsuits have been filed in the last few months and more are expected, according to Robert Dieterich, managing editor of "VDT News," a newsletter in New York City.

"The law firms pursuing these cases have been all over the country to get in on the bandwagon," said Dieterich, who has written extensively about the subject. "What's interesting about the lawsuits in these cases is that the fact-finding process will run more efficiently, expert testimony will be gathered once and for all, and there will be a single judge who will become familiar with the issues and make consistent rulings."

FDR Courlas, a New York attorney for Aetna Life & Casualty Co., said he was not trying to find scapegoats in the cases. "There are more than light" on the subject. What is needed is more scientific research to resolve the many uncertainties regarding the causes and proper remedies for keyboarding-related injuries. Courlas noted.

"That's what's interesting," said Jim NASH CW STAFF

MEVILDE, N.Y. — In a novel, if unpopular, reaction to increased complaints of repetitive stress injury, an East Coast newspaper has taken the unusual step of banning electronic messaging devices for staff and support staff.

For Newsday, the issue is simple: Less typing means less physical strain.

The policy, which eliminated reporters' ability to send electronic mail, is about 18 months old, according to Bob Keene, assistant managing editor at Newsday and a member of a labor management committee that recommended the ban. He said the company has "a small SWAT team" of ergonomics experts who have brought in adjustable chairs and keyboards, employee training and mandatory half-hour lunch breaks.

A Newsday editor who requested anonymity said the decision "has created total havoc" in the communications between editors and reporters, both at the paper's headquarters and at remote sites. Many reporters put in E-mail rights under the policy.

Some industry observers have branded the policy a "cascading" of symptoms, saying, "That's ludicrous," said Jeff Tarter, publisher of "SoftLetter," a computer-industry newsletter.

The scary thing is that these ideas are crazy, but they get taken seriously by lawyers, union organizers and ultimately corporate managers." He and other analysts said widespread support for legitimate problems such as repetitive stress injuries, said Pat Adkisson, systems manager at the Los Angeles Times. "We are educating our users, not trying to find scapegoats," he said. "These problems are justifiably painful; they require attention."
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**ADVANCED TECHNOLOGY**

**Checking on checks**
- Neural network technology took another step into the real world recently when VeriFone, Inc. in Redwood City, Calif., announced a product that uses neural network chips to help verify checks. The Gemstone Onyx check reader is aimed at the retail and bank sectors and, VeriFone said, is the first point-of-sale device that can read virtually any check, even if it is wrinkled or over-written with pen marks. The system reads the magnetic ink character recognition codes along the bottom of checks and was designed to have a high tolerance for flaws in printing. The firm claims the system can replace the current generation of motorized check readers.

**Evolving**
- Neural network and fuzzy logic technologies are ready to emerge, according to a recent study by Market Intelligence Research Corp. (MIRC) in Mountain View, Calif. The two technologies, which involve efforts to simulate human reasoning, have been in the infancy stage. However, the worldwide market is ready to soar, going from an estimated $580.4 million this year to a projected $2.5 billion in 1994 and $9.9 billion in 1996. Most of the neural network and fuzzy logic markets today are made up of development tools and customer applications. MIRC said much of the market growth will come in the use of neural networks for financial and industrial applications.

**Officeless office**
- Touting the end of the traditional office, Olivetti Research Laboratory in Cambridge, England, has developed what it calls the Active Badge, a clip-on badge about the size of a standard security pass, which emits infrared pulses to wall-mounted sensors throughout a company. In this way, a computer system can route phone calls and messages to the person or workstation nearest the badge wearer.

**Systems for oil spills no longer crude**

**Communications ships and computers may help speed cleanups of future oil spills**

BY KIM S. NASH

Joseph Hazelwood, who captained the Exxon Valdez tanker when it hemorrhaged 11 million gallons of oil off the coast of Alaska in March 1989, last month began teaching student skippers at New York’s Maritime College how to stand watch aboard ship.

Meanwhile, crude from the worst oil spill in U.S. history continues to slide around the Pacific and Arctic oceans, and dead, oil-soaked animals still wash up on Alaskan shores three years later. Part of what made the incident so damaging to the environment was the delayed response by Exxon Corp., the U.S. Coast Guard and the state of Alaska.

The measures these groups had in place — some computerized, some not — were inadequate to deal with such a large spill, state officials said. Those involved now hope that technology implemented since the tragedy can keep it from recurring elsewhere.

Groups involved quickly realized where their automation fell short: communications. The state of Alaska has rewired computer systems to make detailed maps and chemical information available to field workers more quickly. Alaska also eased interdepartmental communication via new or improved radio and computer networks.

Computer technology also helped the Valdez recovery efforts. However, two days after the spill, little effective action had been taken because “we didn’t have as complete a picture as we needed in order to do anything,” said Russell Kunibe, an environmental specialist at the Spill Prevention and Response Center, a state agency in Juneau.

State and federal units have since built a more automated response system based on local-area networks, geographic information systems (GIS) and satellite and radio technology.

Immediately following the Valdez spill, all anyone knew was that it was bad and getting worse, said Ward Lane, an analyst programmer at the Oil Spill Response Center in Anchorage. Winds of 70 miles per hour pushed crude farther afield and prevented cleanup vessels from safely casting out, he said.

Now, a GIS based on Autocad from Autodesk, Inc. and GEO/SQL from Generation 5 Technology will give cleanup crews data they didn’t have in 1989: more than 2.2G bytes of maps, chemistry databases and records.

During the Valdez incident, field engineers in airplanes hand-drew maps depicting where oil slicks were. The drawings were then scanned into the Autocad program, and a rough map was hand-digitized. The U.S. Forest Service later sent more detailed coastline maps. All this took several days, and in some cases, weeks, to set up.

“The system has come a long way,” said Lane. “This on-line information will be sent out via laptops with crews taking care of future spills,” Lane explained.

Users can click on other icons to dial into Novell, Inc. NetWare LANs or radio networks at other cleanup sites.

Non-government parties are getting into the act also. Marine Spill Response Corp. (MSRC), a Washington, D.C.-based nonprofit coalition of 41 U.S. and Canadian oil companies, plans to deploy one of 16 communication vessels next month that will form the backbone of a national network for quick response to major oil disasters.

The $188 million ships were designed to provide a reliable single point of data and voice communication at the spill site, said Barry Berkowitz, MSRC’s director of IS.

The coalition contracted with Electronic Data Systems Corp.’s energy and chemical business unit two years to develop this mobile communications project. Oil companies formed MSRC as a result of the federal Oil Pollution Act of 1990, which mandates better responsiveness to potential catastrophes.

Berkowitz said the new ships will be able to bring teams to the spill site in 12 to 18 hours with full voice and data communication via T1 lines. “With the Valdez, it was literally weeks before they had the level of communications that we’ll have within hours,” he said.

**Graphic information systems (GIS) and satellite and radio technology.**

The software is more advanced, but so is what we’re doing with it,” Lane said.

Combining Autocad with GEO/SQL, a relational database geared for geographic work, allows programmers to build multilayered, object-oriented shoreline maps. For example, a picture showing the relative size and density of a slick can be tacked onto a precise loc-
What, Exactly, Is Acceptable Risk?

Last night you powered down a cholesterol-rich pasta with cream sauce. This morning you jaywalked across a busy four-lane street, and next weekend you're going to trust some nineteen-year-old who tells you there's no way the bungee cord can break.

Next to that, choosing new computer equipment is merely career threatening.

We don't think it should be quite so risky. Which explains the existence of NetWare, Novell's networking software that unites such strange bedfellows as IBM and Sun; Oracle and Microsoft.

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Which means you really only have to ask one question to make your next risk an acceptable one. "Does it run with NetWare?"

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Congress created patents for a reason

I read Richard Stallman's views on why he was not ached for advanced software patents [Viewpoint, CW, June 1]. Although I believe I understand his frustration with the patent system, simply doing away with software patents is not the answer.

Many of those opposed to patents fail to acknowledge their constitutional basis. The framers specifically provided that "Congress shall have power... to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries." Indeed, one of the first acts ever of Congress was the creation of a patent system.

Stallman is correct that, in the U.S. legal system, patents are intended as a bargain between society and individual. In return for disclosing to the public an invention previously unknown, the inventor receives an exclusive right to exclude others from practicing the invention, without his authority, for 17 years.

Stallman is incorrect in his assumption that "society is supposed to gain through the disclosure of techniques that would otherwise never be available." The underlying policy supporting patents (unlike the maintenance of trade secrets) includes the encouragement of early development and public disclosure of new technology. Although, doubtlessly, some inventions may never have occurred in the absence of such a system, that is not its only goal.

Furthermore, by striving to avoid the unauthorized use of other people's technology, software designers are urged to be creative and develop new inventions, which is another goal of the patent system.

Steven D. Glazer Partner/Patent attorney Weil, Gotshal & Manges New York

Industry should fight FBI proposal

Thank you for printing the Viewpoint column by FBI Chief William S. Sessions ["Wiretap proposal isn't radical," CW, May 25]. Law enforcement's contemptuous disregard for the privacy rights of Americans is a serious threat to our freedoms. The chief of the FBI, in a truly Orwellian paradigm, has publicly declared the ludicrous notion that private business should make it easy for the government to spy on its citizens.

Sessions supports his argument with the antiquated 1968 "Wiretap Law," carefully avoiding any reference to privacy. Instead, he asserts that "industry is in the best position to ensure reliability and maximize security." Industry is in the best position to maximize security — but for its customers and users, not the government.

The electronic exchange of information is as private a conversation in one's own home. Consequently, the obligation of the communications industry is to use every technological means necessary to ensure that privacy is never compromised. To do less is treason.

Steve Trunk San Diego

Setting Motorola's record straight

Your sidebar article on major Unix vendors, "The lineup" [CW, May 4], aptly noted that one of Data General's strengths is the multiprocessing capability of its products, which is provided by Motorola's 88000 family of RISC microprocessors.

However, the sidebar erroneously stated that the Motorola microprocessors DG users are "slated for advanced development." This is simply not true. Motorola's 88000 products continue to set price/performance benchmarks for RISC microprocessors. In addition, the soon-to-be introduced 88110 will be the most advanced single-chip microprocessor on the market. It features high-end multiprocessing capabilities, and advanced 3-D graphics are provided by dual graphics execution units on-chip.

We are confident future 88000 products will continue to set industry standards.

Gary Montgomery Motorola, Inc. Austin, Texas

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Lofty ideas don't build systems

FRANCIS K. WALNUT

A college education is supposed to make you more knowledgeable, not less, but that doesn't seem to be the way things have worked in software development. The way this subject is taught at most colleges and universities is actually eroding the quality of systems produced.

Despite my faith in advances in hardware efficiency, software systems development is less efficient now than it was 30 years ago. Reliable software systems can be produced more efficiently by a programmer with a computer in his basement than by a professionally managed IS organization.

Most software experts come from three educational disciplines: engineering, information science and computer science.

The engineering discipline dictates that software engineers spend most of their time preparing detailed plans that define every aspect of the development process. Students are taught that when these specifications are completed, their job is over and they should let someone else do the implementation.

Implicit in software engineering education is the idea that specifications are the only legitimate creative part of software development and no one should be involved personally, let alone emotionally, with a software project from conception through maintenance.

The fact is, however, that software system implementation is the most critical part of any software development project. The way it is handled and the quality of the people who handle it almost always mean the difference between system acceptance and system disaster.

Even more than the software engineers, management information systems can make or break the place of the software implementor. Information management studies concentrate on "big picture" analysis and treat implementation as an unfortunate necessity.

The computer science curriculum approaches software development as if it were a natural science, using the scientific method to seek basic principles and fundamental truths. In the eyes of this group, no one who implements software without employment of that same rigorous scientific methods can possibly be doing an efficient job.

All talk, no delivery

Because it is considered good corporate policy to get the leaders of tomorrow from the academic world, the software community is becoming increasingly populated with neophytes who can merely write specifications, talk about "the big picture" and deliver impressive speeches.

At best, the graduates of these courses of study patronize the efforts of the people who code, test and maintain software systems. At worst, these newly minted graduates actively malign the programmers' approach to software development and express the opinion that anyone who writes innovative and creative code should be totally incapable of making it work.

On second thought, maybe we're at that point already.

Walnut is a software documentation consultant and a programmer with a computer in his basement.

The mail-order CPU upgrade from hell

ALAN RADDING

The direct-mail PC discounters have taken a lot of heat in the press in recent months for poor quality and poor service. Unfortunately, I now understand what everyone has been talking about.

I've purchased mail-order systems for years without difficulty. The last time, however, was different — very different. The problems had little to do with the products being cheap or shoddy. What was standard was the service and support.

The situation arose when I wanted to upgrade my 386SX because a new database application needed more horsepower. I called the vendor and ordered a 386 motherboard with a faster CPU, more memory and a larger hard drive.

Operators standing by

The installation process, which should have taken me two or four hours, turned into a 10-day nightmare involving a dozen or more calls to the company and what seemed like hours on inﬁnite hold (routinely only by occasional disconnects). The vendor I was dealing with isn't the only offender. I've heard similar tales from lots of PC users about companies selling both high- and low-priced machines, through retail as well as mail order. I have a few suggestions that — if followed — could earn this, or any, systems supplier a lot of points with future customers:

- Know what you sold the customer. My system was an unadulterated system shipped in August 1990, yet the upgrade department didn't know exactly what kind of memory chips were installed. Despite repeated assurances that the memory was compatible, it wasn't. Two extra calls were required just to straighten out that straight.

- Send all the pieces necessary to do the job. The hard drive required different cables, but this was not mentioned and they were not included. Add another call to tech support.

- Send the documentation. Those boring, ugly little booklets that accompany things like drive controllers and motherboard actually contain some helpful information. Because the documentation wasn't included, add three more calls to tech support for setting switches on the motherboard and plugging jumpers on the drive controller and internal modem card.

- Send better documentation. When it arrived, the documentation was poor. The settings for the motherboard switches were scattered over several pages, and there was no complete mapping of the old front-panel wiring to the new motherboard. Chalk up two more calls just to straighten out the wiring.

- Alert the user to signiﬁcant changes. The comm port arrangement on the new motherboard was different, but nothing in the special "how to upgrade" manual mentioned that. Another call.

The computer science curric-ulum approaches software development as if it were a natural science, using the scientific method to seek basic principles and fundamental truths. In the eyes of this group, no one who implements software without employment of that same rigorous scientific methods can possibly be doing an efficient job.
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Lotus targets Windows spreadsheet market with SmartPak enhancement

BY ROSEMARY HAMILTON
CTC Staff

BOSTON — Lotus Development Corp. hopes to shift into high gear in the Microsoft Corp. Windows spreadsheet market, and the introduction last week of its SmartPak program enhancement for Release 1.1 is an example of how the company plans to pull that off.

The Windows spreadsheet market is critical for Lotus, particularly after its entry with the first 1-2-3 version for Windows last year. Lotus was criticized for being a late arrival to Windows, and the initial product was buggy. Currently, the company claims about 30% of the market, according to Jim Manzi, Lotus' chief executive officer.

With SmartPak, the company is showing its ability to quickly build from its existing SmartIcon technology and turn around software in a matter of weeks, company officials said last week at a press briefing to kick off the LotusWorld conference.

The code, which is now shipping and will be offered to users at no charge, is essentially an extension of the SmartIcon concept, which allows users to click on one icon to invoke a process that once took several commands.

“We leveraged the SmartIcon technology,” said Robert Weiler, a senior vice president in charge of North American operations at Lotus. “This was very quick and easy.”

SmartPak includes a number of new functions that Lotus users have been asking for and hearing about in Excel 4.0, the newest Windows spreadsheet from rival Microsoft. Functions include Smart Format, which can also print an entire work sheet or “print to fit,” which places a full spreadsheet on one page.

“It’s a quick and aggressive response to our customers,” said Jeffrey Beir, vice president in charge of the spreadsheet division.

Beir added that the company is also on target with its other Windows spreadsheet announcements, which are scheduled for release later this year. Lotus plans to release 1-2-3 for Windows Release 2.0 as well as a Lotus/Windows version of Improv, a financial modeling and analysis package.

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Making it easier
Pilot's LightShip 3.01: Powerful, complex

Technology Analysis — A roundup of expert opinions about new products. Summaries written by new product writer Derek Slater.

LightShip 3.01, the latest version of Pilot Executive Software's personal computer-based executive information system, lets users develop powerful applications that access data from many sources, reviewers said.

EASE OF USE: LightShip has a steep learning curve from the programmer's perspective, but end users will find that it provides an easy and flexible way to examine data.

POWER OF APPLICATIONS: The program has impressive, flexible drill-down capabilities for examining data at high or low levels.

DATA FORMAT SUPPORT: LightShip relies on Dynamic Data Exchange links to access data. Users who wish to scour information in ASCII format or PC or SQL databases will need the LightShip Lens add-in package.

DOCUMENTATION: Reviewers said the documentation leaves room for improvement. Users may frequently find themselves switching back and forth between manuals.

VALUE: LightShip costs $795; the Lens package is an extra $195. Reviewers said it is not for the casual user, but those who learn it will have a powerful data access tool.

Vendor background information

Pilot Executive Software is a privately held company with approximately 264 employees. It is based in Boston and has six offices in the U.S. The company does not release revenue figures.

Pilot responds

Michael Dowding, director of marketing communications:

EASE OF USE: We designed the product for power users to build applications that can grow. The upfront investment in the learning curve will pay for itself many times over. But we will also continue to enhance the ease of use in upcoming releases.

Forest and Trees 2.0: Flexible, easy to use

Channel Computing's Forest and Trees 2.0 for Windows

Vendor background information

Channel Computing, Inc. is a private, venture-backed company based in Newmarket, N.H. The 40-employee company has approximate yearly revenue of $5 million. It was founded in 1988.

Channel responds

Marc Friend, product manager:

EASE OF USE: No matter what product you use, there are certain things you have to understand about SQL or where your data is located. In the next revision, we're moving cautiously away from that but without losing functionality. We'll have something out before the end of the year.

Data format support: Forest and Trees is fairly easy to use without extensive preparation. The interface is an electronic dashboard that gives a summary view of data. However, in order to get the most out of the product, users will need to know some details about SQL and where information is stored.

POWER OF APPLICATIONS: Forest and Trees is flexible, allowing users to write and execute ad hoc SQL queries. Byte warned that a poorly constructed query can degrade the network's performance.

Data format support: The base package supports access to a wide variety of personal computer spreadsheet and databases. Optional support is available for mainframe databases from several vendors.

DOCUMENTATION: Manuals, tutorials and sample programs are included.

VALUE: At $495, Forest and Trees is an excellent value, reviewers said. It is less expensive than many executive information systems packages.
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HEWLETT PACKARD
For GUIs, check what's up front

Sometimes it's what's up front that counts. If you are searching for GUI solutions to your corporate computing problems, I urge you to take a look at a burgeoning software category that I call "frontware." You may be familiar with this technology under names such as "terminal emulation software," "connectivity software" or "PC-to-host software." But I'm going to stick with the frontware label because I think it does a better job of explaining potential.

"Terminal emulation" implies that all these programs can do is help a PC pretend it's a dumb terminal. Today's products, however, go far beyond this basic function. They help you put a graphical face onto your aging mainframe applications. In many cases, a frontware solution is the best way to leverage legacy systems. If you can make your host applications easier to use and more accessible — and with frontware you usually can — then you may be able to satisfy your users' requests without starting from scratch. And that means you may be able to do in weeks what would otherwise take months.

A GUI front end can greatly simplify the use of multiple host screens. What's more, you can create a common look for different host applications, thereby reducing training and support.

But the real noise has come from two Pacific Northwest companies, Attachmate in Bellevue, Wash., and Wall Data in Redmond, Wash. Attachmate's Extra product has shown up on the best-seller lists. Wall Data's Rumba product line has been ranked as the market share leader by revenue.

Although Attachmate makes an excellent product, my personal favorite right now is Rumba. Unlike many connectivity products, Rumba was not retrofitted to Windows. Wall Data built in Windows support from the ground up. That's more, the company used a modular architecture that makes it easy to slide in updates and new options.

Rumba works with an impressive array of direct connections, networks, gateways and communications servers. But Rumba's most noteworthy achievement is the way it helps you create seamless graphical front ends for host programs.

Rumba makes this job easier with special tools that work together with products such as Asymetrix's ToolBook, Easel and Microsoft's Visual Basic. For instance, Rumba is now shipping a special set of controls that let you use Visual Basic to paint the screens and add functionality. Then you can merge these screens effortlessly with Rumba's connectivity capabilities to connect to the host.

Wall Data has made things even easier with a special Quick Builder utility that automatically translates a host screen into a Visual Basic form. OK, it's not a very good-looking form, but it's easy enough to change the look of the buttons and arrange things artfully.

Although Rumba doesn't pretty up the screen for you, it does all the boring grunt work. It parses each field and sets up the controls so that pushing the button on the Visual Basic form translates into the correct action in the host application. It's impressive stuff.

So if you're still thinking of the frontware category in terms of "terminal emulation," I counsel you to take another look. Some of these products are now set up to help you give host apps a new lease on life with a GUI front end.

Berst is the publisher of Redmond, Wash.-based "Windows Watcher" newsletter, a monthly briefing service for software executives and corporate technology managers.
Little folks wield new clout in PC market

Survey shows a growing percentage of PCs are being sold for home and small business use

BY CAROL HILDEBRAND  CW STAFF

Increasing competition for large corporate accounts, in concert with an upswing in employees' bringing work home, has highlighted the growing importance of small business and work-at-home markets, a recent study found.

Raymond Boggs, director of small business and home office research at BIS Strategic Decisions in Norwell, Mass., said that although the corporate customer will remain the paramount sell for personal computer vendors, increased competitiveness will force them to pay more attention to secondary markets as well.

The survey points to a sharp uptick in computer sales among small businesses and home offices. Annual growth in these markets is 16% and 27%, respectively, compared with a 3.8% overall annual growth rate.

Boggs also estimated that with nearly 30% of machines being bought for the purpose of doing office work at home, information systems managers would do well to step up efforts to make sure that the hardware and software employees install at home fits in with what is being used at work.

He suggested partial subsidy plans or cheap sell-offs of machines headed out to pasture as ways to maintain control on the hardware side. As for software, "an awful lot of stuff migrates out of the office without being formally purchased," he said.

"It seems like the small business/home office markets are kind of hand-me-downs," Boggs said. "But a lot of vendors are starting to pay attention now." He pointed to vendors such as Compaq Computer Corp. and IBM, which are diversifying their distribution channels and product lines to accommodate these lesser known markets.

In addition to selling units through channels such as superstores, vendors are integrating units targeted to the small business market more, offering packages of business applications preinstalled on the machines — something corporate IS may be less than enthusiastic about.

Why the frenzy?

Boggs delineated three main factors behind the increased activity.

First, PC literacy is on the upswing as schools churn out graduates already familiar with the PC and businesses hire employees who have previous computer experience from earlier jobs.

Second, Microsoft Corp.'s Windows and IBM's OS/2, with their friendlier interfaces, as well as Apple Computer, Inc.'s System 7.0 for the Macintosh, are more appealing to buyers who are relatively new to PCs.

And third, the current PC price wars can net a customer a machine capable of running advanced software for $1,500 to $2,000.

However, Boggs emphasized that these activities are in addition to wooing the corporate customer. "That market is still vitally important, and they are not going to give it up just because another segment is moving up," he said.

Wise consumers

The added emphasis on different markets reflects a corporate market that is maturing, with computer-literate customers who are frequently upgrading their existing machines rather than buying a PC.

"Vendors recognize that if they want a sale there, they will have to steal it from someone else," he said.

Boggs added that although the home and small office arena is growing at a faster overall clip than the corporate market, it still lags in lapping up the cutting-edge technology. "We'll continue to see corporate trends echoed among smaller companies," he said.

For example, he pointed out that the laptop market, which has been attracting corporate attention for some time, is now beginning to trickle down to the home and small business corner. Current purchases of desktop vs. laptop units are 8-to-1, but in a survey on future purchases, the ratio slips to almost 3-to-1, Boggs said.
Kittyhawk Personal Packard Co. last week wrote the SAN FRANCISCO — Hewlett-vice to be made by troducing a 1.3-in. de- use in subnotebook smallest drive intro- ducing units for $450. NCR Corp., the computer arm of orders. HP's Corvallis, Idaho, di- vision, which makes the Model 95 palmtop computer, is expect- ed to be an early customer. The company is currently selling evaluation units for $450. NCR Corp., the computer arm of Rather, he said, HP hopes to sell the product on an OEM basis to vendors of palmtop and other subnotebook systems as well as to makers of devices such as fax machines and printers. Spenser said HP hopes to supplant vendors of more costly solid-state credit card-style mem- ory devices. Industry analysts noted that with personal computers emerging in various shapes and sizes, there is potential for niche markets for different types of storage de- vices. "The products are coming faster than the markets are developing," noted Todd Bak- er, an analyst at Hambrecht & Quist, Inc. in San Francisco. "However, with all the different varieties of ports, ranging from subnotebooks to palmtops to pen-based systems, and with each one having vertical mar- kets, there will be requirement for a variety of storage devices." Mass production of HP's miniature hard drive is not expected until September AT&T, is also expected to be an early customer. Bruce Spener, general man-ager of HP's disk drive division, said HP is not focusing Kitty- hawk marketing efforts on the notebook market, where larger capacity drives that cost less per megabyte are already the norm. IN BRIEF LotusWorks adds QuickStart apps ■ Lotus Development Corp. has started shipping an updated release of its entry-level in-tegrated package, LotusWorks. The package, which includes spreadsheet, word processing and database applications, will offer features such as a set of application templates called QuickStart. ■ Lotus Agenda users can make a switch to a personal information manager software pro-gram from Micro Logic Corp. for $69.95. The company has launched a competitive up-grade program for Agenda users and is appeal- ing to those concerned about the future of Agenda. Lotus recently announced it will sell a new personal information manager for the Mi-crosoft Corp. Windows platform and will not develop a Windows version of Agenda. Micro Logic has named its marketing campaign the "Lotus Agenda Abandonment Upgrade" program. ■ Symmetry Software Corp. said it has li- censed HyperEngine, its stack-access technol- ogy, to Lotus, Claris Corp. and WordStar International, Inc. The technology will be used to create on-line Help. It allows develop- ers to build access to stacks in the familiar form of the Apple Computer, Inc. Macintosh Hy- perCard Stacks. Data Center Design/Build Services BRUNS-PAK, INC. 1-800-732-8709 One source, one responsibility — whether you are planning a new Data Center, enlarging your existing space or simply looking to evaluate your present center. The comprehensive Data Center/Support Office services encompass: * Computer/Telecom Hw/Planning/Cabling * Fire Protection Systems * Uninterruptible Power Supplies * Raised Floor Applications * Computer Grade Air Conditioning * Support Office Systems * Emergency Generators * Card Access Systems A recognized Business Partner with Computer Manufacturers 300B Corporate Court ¦ South Plainfield, NJ 07080 ¦ Fax: 908-756-1522 DESKTOP COMPUTING Oracle takes on Borland in client/server Paradux IBM takes on Borland in client/server Paradux 

**IN BRIEF**

**LotusWorks adds QuickStart apps**

- Lotus Development Corp. has started shipping an updated release of its entry-level integrated package, LotusWorks. The package, which includes spreadsheet, word processing and database applications, will offer features such as a set of application templates called QuickStart.
- Lotus Agenda users can make a switch to a personal information manager software program from Micro Logic Corp. for $69.95. The company has launched a competitive upgrade program for Agenda users and is appealing to those concerned about the future of Agenda. Lotus recently announced it will sell a new personal information manager for the Microsoft Corp. Windows platform and will not develop a Windows version of Agenda. Micro Logic has named its marketing campaign the "Lotus Agenda Abandonment Upgrade" program.
- Symmetry Software Corp. said it has licensed HyperEngine, its stack-access technology, to Lotus, Claris Corp. and WordStar International, Inc. The technology will be used to create on-line Help. It allows developers to build access to stacks in the familiar form of the Apple Computer, Inc. Macintosh HyperCard Stacks.

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**ORACLE**

**Oracle takes on Borland in client/server Paradux**

REDWOOD CITY, Calif. — Oracle Systems Corp. hopes to get a leg up on Borland International, Inc. in the race to provide seamless client/server database comput- ing for Borland's Paradux personal computer database.

Oracle is teaming up with a New York-based vendor of a Paradux knockoff to offer a Para- dx-like product that includes embedded SQL commands for linking with Oracle's back-end database server.

That vendor, TSR Systems Ltd. in Port Jefferson, N.Y., makes a compiled version of Parad- dx 3.5. That version, called Oracle and TSR said runs faster than Bor- land's 3.5. Paradux 3.5 is based on interpreted rather than com- piled code, a trait providing slower per- formance and greater ease of use for end users, developers said.

TSR markets its compiled version, called Palcon, to applica- tions developers. The com- bined Oracle/TSR product, code-named Rampal, will allow developers to design applica- tions that do not require add-on software to access Oracle's data- base server, according to the vendor. The two companies said they are finalizing pricing and market- ing plans. They canceled an announacement that had been planned for Borland's database developers conference in Palm Springs, Calif., two weeks ago.

Kim Rowden, director of strategy and planning at Oracle's desktop products division, and Norman Fuchs, TSR's managing director, declined to say when the product will be available.

**Oracle to do marketing**

The pending agreement be- tween the two companies calls for Oracle to market Rampal. Both Rowden and Fuchs said they will work together to develop a version of their joint product based on Paradux 4.0, a faster and richer version of 3.5 that is planned for release this summer [CW, June 1].

A Microsoft Corp. Windows- based application is also expected to be released. Borland said it plans to introduce a Windows version of Paradux by the end of the sum- mer.

The Rampal development comes as Borland readies client/ server products and as the In- terbase database server it ac- quired in its Ashton-Tate Corp. acquisition. The company has not stated a planned availability date.

Currently, users tying Bor- land's databases into database servers must add Borland SQL Link software and use Query By Example procedures.

**TrueType and HP's DeskJet**

Part of a series of Windows 3.1 user tips pro- vided by Microsoft Corp. and based on ques- tions commonly asked of Microsoft custom- er support personnel.

**Q** Can I use TrueType fonts with my Hewlett-Packard Co. DeskJet printer?

**A** The printer drivers supplied by HP do not support TrueType fonts. The DeskJet printer driver that comes with Windows 3.1 does support TrueType, but it does not support HP scalable fonts.

**Q** What should I do when I receive the "Inadequate DPMI server" error message?

**A** This message appears when the files KRNL386.EXE and WIN386.EXE are from different versions of Windows (when one is from 3.0 and the other from 3.1). To see if this is a problem, check the dates on these files. They are located in the SYSTEM subdirectory of your WINDOWS directory. It is possible that an older version of these files may be in the path or the WINDOWS directory; search the entire path for these files.

If necessary, use the MS-DOS "expand" command to reinstall the files from the Windows Setup program. The "expansion" command is in- stalled in the WINDOWS directory of your hard drive during Windows setup.

This error message can also appear when your system memory-config...
UPS offers net backup

BY ELISABETH HOBERT
CW STAFF

LIBERTYVILLE, Ill. — An uninterruptible power supply (UPS) recently introduced by Oneac Corp. is said to provide data-center-quality power protection to critical LAN devices and applications — for a price.

Oneac’s On Series of UPSs is said to isolate local-area network devices from power disturbances — anything from minor data loss to wear and tear on the printer drive to total burnout of a LAN card or workstation, sources reported.

Grounding a power surge, as some protection devices do, leaves open the possibility that the surge will choose to ground itself over the LAN cable rather than the local ground, according to Oneac spokesman David Fencl. In contrast, On Series reflects the power surge back, so it has no chance of going over the LAN, he added.

More affordable

Oneac has been providing a similar UPS for data centers for the past few years, but not at a price suitable for LANs, Fencl said. The vendor recommended that users install an On Series UPS at each workstation, hub and server on the LAN for complete protection. Prices vary from approximately $100 to protect a small hub to $1,799 for a 1.8kVA UPS that can protect each workstation, hub and server on the network data — multi-gigabytes of it — on specialized storage servers that combine cache memory and magnetic and optical disks in a high-capacity, on-line storage system.

Its software offerings span the range of data management products from hierarchical storage management and automatic migration and backup to on-line archiving, disaster recovery and library management.

"Our view, in the end, is the MIS view," said Epoch President Chris Robert. "Someone has to be responsible for the data and be able to centrally manage it." Although this latest move toward selling software on other platforms will eventually erase the need to buy hardware from Epoch, Godfrey stressed that the company will continue to sell and support the data servers for as long as customers want them. The company does not manufacture the Epoch Data Servers but acts as a systems integrator for parts from Exabyte Corp., Hewlett-Packard Co. and Sun Microsystems.

The first step along Epoch’s new path was taken in April with the signing of an OEM alliance with Storage Technology Corp., which will integrate Epoch’s data management software with StorageTek’s ACS 4400 tape systems.

In DEC’s case, the reseller deal will provide the Epoch-2 Data Server to Ultrix customers buying customized applications from DEC. While the Epoch product could end up competing with DEC’s new StorageServer 100, company officials said the machines will be pitched at different markets.

If Epoch is successful in this strategic shift, its current competitors in the server market will become customers and licensees.

Managing network data

Epoch’s software products are moving beyond the company’s own turnkey systems to run on multivendor hardware platforms

**Epoch products**

- EpochMigration (Option)
- EpochBackup (Now on DEC, IBM, HP and SGI)
- EpochBackup Manager
- EpochBackup Manager/DR (Option)

**Data management products**

- EpochMigration Manager
- EpochMigration Manager/MLS (Option)

**Storage management products**

- EpochBackup Manager
- EpochBackup Manager/DR (Option)

**End-user software applications**

- EpochMigration Manager
- EpochBackup Manager

**Hardware platform**

- SPARC platform
- SPARC server
- Storage Server

**CW Chart: Michael Siggins**

By the end of this week Computerworld readers will have spent over $37.3 Billion on Information Technology this year — representing nearly half of all IT spending to date in 1992.

**COMPUTERWORLD**

The Newspaper of IS

Source: IDG Research Services, Fall 1991

JUNE 15, 1992
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For more information on NCR’s open enterprise system, phone 1-800-CALL NCR.
Tools unite customer services

BY CAROL HILDEBRAND
CW STAFF

SANTA CLARA, Calif. — Aurum Software, Inc. is taking a shot at pulling the customer service market into one integrated system with the introduction of its Customer Resource Planning (CRP) system.

The CRP system is made up of four applications that can be run either alone or together to assist with telemarketing, field sales, customer support and quality management as it relates to customers.

According to Lisa Ganson, director of marketing at Aurum, the strategy is to give the area of customer support the same capability to share information as the more traditional areas of finance and operations already have. "What the CRP strategy promotes is having different departments having access to the same information and immediately being able to update the same database," she said.

The applications reside on the following companies' Unix-based relational databases: Oracle Corp., Sybase Corp., Unify Corp. and Informix Corp. Written in a fourth-generation language, CRP can run across multiple hardware platforms in a client/server environment. Running from a Unix server, the applications support all major graphical user interfaces, such as Microsoft Corp.'s Windows.

Judith Harwitz, editor of Newton, Mass.-based "Tool Watch," said she was quite impressed with the Aurum approach: "This is going to be the way database applications are done," she said. "Users want front-end applications for the PC, but the back end is moving increasingly toward Unix servers. This is going to be the norm for cross-platform operating system and database issues."

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**Switch to LAN the right plan**

By desegregating centralized computing, MM&D more responsive to clients

BY MICHAEL FITZGERALD

CHICAGO — Information systems directors are not usually cast as rebels with a cause, but one such group of visionaries drove Miller Mason & Dickenson (MM&D) to abandon centralized computing in favor of a mission-critical local-area network.

MM&D’s spread of technology, moving from a cluster of three Digital Equipment Corp. System 20s to a LAN environment with Compaq Computer Corp. SystemPro as servers, has yielded benefits both concrete and intangible, said Glenn W. Sandusky, chief information officer at the benefits consultancy.

“The No. 1 thing for us is we’re more responsive to our clients. We’re more responsive to our client service with the distributed system. ‘We’ve reduced costs and benefits tremendously. Our consultants have the tools that they need to do their jobs.’

Not spread too thin

This is a soft benefit of spreading technology: Where four years ago only 36% of MM&D’s employees were hooked into the VAXs, today some 90% of them use personal computers connected to the LAN.

Despite the expansion in computer use, systems costs have fallen from 13% relative to revenue down to 8.5%. “That means we’re leveraging the technology better, and now [the users] can do more because they have more tools,” Sandusky said.

MM&D became a test case for its parent, Chicago-based insurer Aon Corp., which operates a highly centralized, mainframe-oriented environment. Dan Cox, MM&D’s president at the time, decided the company could be decentralized.

“There was sensitivity to pulling away from the fold while still interacting with Aon on a daily basis,” Sandusky said. “We were a group that was there to assess the potential for a decentralized environment, and in the time frame around 1989, that was a big risk.”

Sandusky said the pilot and all subsequent efforts were approved by Aon, which purchased the hardware needed to run the initial pilot and has continued its support through MM&D’s expansion.

He also said MM&D continued to tie into Aon’s mainframes for certain accounting information.

Aon has used its closely watched experience with MM&D to influence centralized LAN environments in other subsidiaries.

After six months of development, Compaq brought out the SystemPro, which became the server of choice for MM&D because of its non-intolerant features. Over time, the company has upgraded to NetWare 386/3.11.

“The LAN is richer in terms of functionality, and it’s gotten more and more stable over time,” Sandusky said.

Two offices use Oracle Corp. OS/2 databases to generate client mailings, and one proprietary enhancement remains in place: the Wang VS 6064, which is used to handle time and billing.

**VisionQuest on agenda at business meetings**

BY JIM NASH

Software — often the topic of inane business meetings — is actually helping to bring results from the gatherings. One example, VisionQuest from Collaborative Technologies Corp., has won praise from agenda-weary information systems managers.

Collaborative Technologies said it will ship Release 2.1 of VisionQuest this month. The new edition brings relatively minor enhancements, but those who have used previous versions said the Austin, Texas-based company has a winner on its hands.

VisionQuest provides a series of exercises that help define and prioritize topics before meetings, brainstorm ideas during meetings and follow up with consensus-derived solutions.

The groupware can be run from IBM Personal Computers and compatibles in a single meeting room or in a distributed fashion over networks.

**Make meetings easier**

For example, brainstorming exercises enable everyone in a meeting to anonymously post suggestions on a real-time electronic chalkboard. Other exercises help employees rate each item’s importance.

“We looked at IBM’s TeamFocus, a direct competitor of (VisionQuest),” said Robert Main, manager of projects and implementation at the National Academy of Sciences in Washington, D.C. The academy ran TeamFocus and VisionQuest side by side for two weeks.

“Our key insight is that the software had to be easy to use so as not to interfere with the meeting,” Main said. “VisionQuest proved easier to navigate than TeamFocus. ‘Having a PC on the desk is bad enough,’ he said, but having to think how to use the application is asking too much of meeting participants.”

**UPS offers net backup**

SOFTWARE — New York-based Union Pacific, the traditional UPS job of providing a battery backup to take over when a LAN device loses its own power, Oneac said. On Series starts at $32,900 for one server and 20 users. One server with 500 users costs $79,900.

VisionQuest can also be purchased by the server, at $9,900 for each file server.
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Bob Kantor
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John Hancock meets connectivity challenge

BY ELISABETH HORWITT
CW STAFF

BOSTON — John Hancock Mutual Life Insurance Co., like many other large, decentralized companies, aspires to a "nirvana where one workstation and one network link gives you access to any and all corporation information to which you legally have right of access," said Mark Roy, a network consultant at the firm.

Unlike some corporations, however, John Hancock is not trying to reach this nirvana by imposing a common set of software, personal computer and local-area network protocols corporate-wide, Roy said.

A major reason why John Hancock is not taking this step is a deliberate approach to its multi-vendor connectivity challenges is that the firm's business units are only just beginning to come up with applications that demand cross-systems, cross-departmental information sharing, Roy said.

"We're trying to be proactive because we anticipate the need for more cross-systems communications in the next few years," Roy said.

The internal task force is meeting regularly to examine in detail all the protocols now used and all that could potentially be used, to identify where they are useful, as well as foresee potential conflicts before "we come up against them," Roy said.

Informally, the group has concluded that the company's best course is to deal with users' multivendor systems access needs piece by piece, as user needs evolve and technologies emerge.

John Hancock's Roy: Taking an active stance

The Boston-based financial services firm recently moved ahead with a plan to provide more effective, manageable connections for LAN users, through deals with Bitport and Wellfleet Communications Inc.

More than 1,500 of the company's internal associates are local-area network users, according to Roy.

"The module offers some equipment consolidation and price advantages over SoftSwitch's Enterprise Mail Exchange (EMX)."

However, SoftSwitch's Unix-based system, which runs on Data General Corp.'s Avion hardware platform, handles a much richer set of mail Protocols and has the horsepower to handle larger concentrations of messages, analysts said.

Third-party WANs to fit Novell routers

BY JOANNE M. WEXLER
CW STAFF

SAN JOSE, Calif. — Novell, Inc. is keeping its nose to the wide-area grindstone.

The networking company said recently it has delivered under nondisclosure its neophyte WAN Interface Specification to 30 third-party vendors looking to render their wide-area network equipment compatible with Novell routers.

Novell declined to name the vendors.

Equipment sporting wide-area interfaces compliant with the specification — such as multiplexers — can connect to NetWare servers running Novell's multiprotocol routing software alongside other software modules. The equipment can also connect to NetWare servers dedicated to the routing function.

That compatibility is key to Novell's push to drive NetWare beyond departmental bound

JUNE 15, 1992

FIGHT OVER E-MAIL NET OPENS

Message is: Users will have to compare more than price of distributed systems

Digital Equipment Corp., at the Electronic Mail Association show in Paris last week, announced Mailbox 400, a distributed mail router that runs on Ultrix-based DECstations and is similar in concept to the EMX.

 Hewlett-Packard Co. is expected to follow suit with a distributed mail announcement this summer, said Walter Ulrich, a director at Arthur D. Little, Inc. in Los Angeles.

Novell's director of messaging products marketing, Carey Heckman, said NetWare Global Messaging is positioned "as the distributed messaging backbone for both NetWare and non-NetWare customers." A role that SoftSwitch, DEC and, presumably, HP are also vying for.

The lowdown

However, some differences in vendor strategies and offerings include the following:

• Price. SoftSwitch's EMX is a five-product family ranging in price from $30,000 to $300,000, while the DECstation solution starts at $10,000 plus "nominal per-user costs," said Mary Murphy, DEC's enterprise communications marketing manager in Nashville. Novell and HP have not yet announced pricing.

"I can't even imagine a configuration of NetWare Global Messaging that could total $30,000," Heckman said.

• Functionality. Analysts and even Heckman agree that SoftSwitch handles a much richer suite of messaging protocols than the other vendors, possibly justifying the added cost for users integrating extremely heterogeneous subnetworks.

In addition, while both SoftSwitch and Novell are addressing the prime administrative issues of directory synchronization across disparate mail systems, Novell has not yet addressed the global naming issue within its own NetWare environment, noted Scott Stein, director of desktop computing at Technology Investment Strategies Corp., a research firm in Framingham, Mass.

• Architecture. In its current form, the SoftSwitch EMX requires a separate gateway device for each LAN, using the local mail format to the 1988 Open Systems Interconnect X.400 protocol.

This device — $5,000 from SoftSwitch but also available from third parties — is another device to be managed alongside the mail server and EMX box on each LAN. Similarly, DEC sells Beixis gateways for $5,000 each.

Conversely, in the Novell scenario, all forward conversion and store-and-forward functions are bundled into one NetWare server — a possible management plan.

Survey base: 2,000 companies with revenue greater than $500M

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Source: Electronic Mail Association

CW Chart: Tom Monahan

The specification parallels the concept of Novell's Open Data Link Interface for designing NetWare-compliant local-area network gear, said Navindra Jain, vice president and general manager at Novell's Inter-networking Products Division.

The goal is "to provide more choice of products that operate and are managed in a uniform manner," he said.

Interfaces in the works

Jain said Novell is working on X.25, the Point-to-Point Protocol serial line, Integrated Services Digital Network, Switched Multimegabit Data Services and frame-relay WAN interfaces. All of the interfaces will be available this year except frame relay, he said. T1 and 64Kbit/sec. interfaces are available now.

Source-route bridging for Token Ring to Token Ring communications, transparent bridging and routing support for Digital Equipment Corp. DECN protocols will be available late this year or early in 1993, Jain said. Currently, Novell routes its own IPX, Transmission Control Protocol/Internet Protocol and Apple Computer, Inc. AppleTalk protocols. In addition, efforts are under way to support the standard protocols for allowing routers to exchange routing table updates.

Novell software is also finished streamlining the Novell IPX protocol with the recent completion of the BurstMode Protocol, Service Advertising Protocol Resolver [CW, June 1] and Big Packet Network loaded modules. Big Packet aims to decrease the time needed for routers to process IPX packets by sidestepping NetWare's previous requirement of chopping fixed 512K-byte IPX packets into half-kilobyte chunks.

Third-party vendors are also looking to Novell's Inter-networking Products Division for help in providing the benefits of a distributed messaging solution to their users.
**Prodigy adds software downloading**

Prodigy is available immediately for users with MS-DOS-based computers. Analysts noted that the service carries a monthly fee of $29.95 per month, which is lower than the $45 per month charged by the other major online service providers.

**Bills: Going, going, gone electronic**

**BY ELLIS BOOKER CW STAFF**

Prodigy Services Co. recently gave its on-line subscribers something they have been craving for years: the ability to download software.

The new option gives users access into ZiffNet, a database of communications programs and protocol stacks that must be loaded onto a user station, Roy said.

Because of its modular architecture, HyperNet will support services such as DS1 (1.544 Mbit/sec), DS3 (45 Mbit/sec.), as well as future packet data schemes such as frame relay and Asynchronous Transfer Mode under a Synchronous Optical Network (SONET) infrastructure.

Because of its modular architecture, HyperNet will support services such as DS1 (1.544 Mbit/sec), DS3 (45 Mbit/sec.), as well as future packet data schemes such as frame relay and Asynchronous Transfer Mode under a Synchronous Optical Network (SONET) infrastructure.

**Hancock meets challenge**

Hancock has already rejected the idea of migrating all users to Transmission Control Protocol/Internet Protocol (TCP/IP), which companies with similar problems have adopted as the nearest thing to a commercially viable networking standard.

**Not all positives**

The problem with wholesale migration to TCP/IP — or any common networking protocol — is that it often means settling for less functionality and lower performance, Roy said.

**Local loop to get new fiber offering**

**BY ELLIS BOOKER CW STAFF**

According to Lazay, this is essential for telephone companies if they are to "spread the cost" of high-speed connections when upgrading the local loop portion of their networks.

About 60% of Telco Systems' 1991 revenue came from fiber transmission systems; the remainder, from its Network Access Division, came from multiplexers and network management systems.

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To get the facts on Windows and OS/2, give us a call at (800) 541-1261, Department HG8. We'll be happy to help you get up to speed.

Microsoft
Making it easier
DataBeam Corp. has introduced FarSite, conversation software that provides Sun Microsystems, Inc. SPARCstations with the ability to make visual images an active part of telephone conversations. Users at different locations can interactively view, mark up and exchange images via a shared screen that the conversation software creates on a workstation. A variety of images can appear, including charts, spreadsheets and memos.

FarSite can be licensed for $995 per copy. DataBeam Corp. 3191 Nicholasville Road, Suite 600 Lexington, Ky. 40503 (606) 245-3500

Brightwork Development, Inc. has started shipping NETnote+ for Windows. Designed to run under a Microsoft Corp.'s Windows environment, NETnote+ for Windows is network support and a diagnostics tool for Novell, Inc. NetWare clients. The product is a Windows-based application that provides personal computer-to-PC connections of applications across a local-area network.

The product costs $495. Brightwork Development 766 Shrewsbury Ave. Jerral Center West Tinton Falls, N.J. 07724 (908) 530 0440

Network management
Hughes LAN Systems has introduced network management software.

Monet 5.0 incorporates the standard-based Motif user interface and X Window System protocol. This release offers a dynamic icon capability that customizes icons responding graphically to traps and alarms. Monet 5.0 also uses the company's Enterprise Hub icons, which display specific information about each module, allowing users to monitor status and troubleshoot faults. Monet 5.0 costs $14,950. Hughes LAN Systems 1225 Charleston Road Mountain View, Calif. 94043 (415) 966-7300

KnowledgeNet, Inc. has announced Net/Wrk400, a networking tool for IBM's Application System/400. Users of IBM midrange systems can share data and execute commands across an assortment of networked computer systems. Net/Wrk400 features include target node remote program or command execution, remote job execution and the ability to multiply concurrent target conversations.

Net/Wrk400 costs $2,495 per node for AS/400 Models EO2 through E90.

KnowledgeNet Suite 501 1250 W. Northwest Highway Palatine, Ill. 60067 (708) 541-8695

Stratacom, Inc. has introduced network management tools that offer ease of use and faster analysis, the firm reported. Public carriers using the Stratacom IPX networking switch can offer their frame-relay users increased visibility over the user's virtual private frame-relay network. Enhancements to the StratView Plus platform include user-configurable graphic and text reports, real-time updating of information in a structured database format and multiple concurrent access via X terminals.

The network management features cost $10,000 for networks of up to eight nodes and $20,000 for larger networks.

Stratacom 1400 Parkmoor Ave. San Jose, Calif. 95126 (408) 294-7600

Systems Network Architecture
Systems Strategies, Inc. has announced that Systems Strategies Express allows Microsoft Corp. Windows, DOS, Apple Computer, Inc. Macintosh and Unix desktop environments to access IBM host applications through a gateway. This capability is available with Express Networking Services. The service provides client/server capabilities on Transmission Control Protocol/Internet Protocol local-area networks. Users on a networked desktop environment can achieve the look of an IBM 3270 terminal and access one or more IBM hosts.

Client software costs from $295 to $1,000; server software costs between $2,000 and $5,000, depending on the class of system.

Systems Strategies 1 Penn Plaza New York, N.Y. 10119 (212) 279-8400

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- Portability to virtually every popular open system platform.
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VMark Software Corporation. 30 Spen Street, Framingham, MA 01701. Tel. (508) 879-3311. FAX (508) 879-2232. uniVerse is a trademark of VMark Software. UNIX is a trademark of UNIX System Laboratories.
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Life just got a whole lot easier!
Alpha-ready VAX line expected in July

DEC aims to move users to next-generation systems with plans for software and interim platforms

BY MELINDA-CAROL BALLOU NW@CW

Digital Equipment Corp. is scheduled to announce next month a series of Alpha-ready VAX systems that correspond to the company's current range of low- to high-end VMS systems at DEC. The new systems will offer software and hardware alternatives for DEC's current VAXstation, MicroVAX, VAX 4000, 6000 and 9000 series systems, the sources said.

All of these systems are said to be a re-engineering DEC's next-generation NVAX processors, which are currently found in the VAX 6000 Model 600. The high-end Alpha-ready 6000 and 9000 systems, code-named 7000 and 10000, will require a board upgrade to the Alpha processor. The low-end Alpha-ready VAXstation, MicroVAX and 4000 systems will require less, the sources said.

These machines will offer advantages over other VAX systems by easing the transition to Alpha in terms of support for software and peripheral devices, said company announced earlier this spring lets users purchase future Alpha VMS or Alpha OSF/1 systems now and receive comparable VMS Alpha, Fortran, DECwindows Motif and Rdb for Open VMS Alpha. These scheduled to be released in the first quarter of calendar year 1993, probably in January, according to DEC sources.

Alpha Open VMS software phases

<table>
<thead>
<tr>
<th>1993</th>
<th>1994</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial software development and runtime environment</strong></td>
<td><strong>Full networking environment</strong></td>
</tr>
<tr>
<td>• Open VMS</td>
<td>• OSI networking facilities</td>
</tr>
<tr>
<td>• DECnet for Open VMS Alpha (Phase IV; real node)</td>
<td>• DECnet for Open VMS Alpha</td>
</tr>
<tr>
<td>• Fortran</td>
<td>• DECwindows Motif</td>
</tr>
<tr>
<td>• DECwindows Motif</td>
<td>• Rdb for Open VMS Alpha</td>
</tr>
<tr>
<td>• VMScluster Alpha (Full functionality)</td>
<td>• VMScluster Alpha</td>
</tr>
<tr>
<td>• AccessWorks</td>
<td>• NAS integrated runtime environment</td>
</tr>
<tr>
<td>• SAS 300 integrated runtime</td>
<td>• CASE development and runtime environment</td>
</tr>
</tbody>
</table>

Run-time environments, including Open VMS Alpha and VMS systems, DECnet for Open VMS Alpha, Fortran, DEC C, DECwindows Motif and Rdb for Open VMS Alpha are scheduled to be released in the first quarter of calendar year 1993, probably in January, according to DEC sources.

Observers were upbeat about the migration options that DEC is offering, although some were skeptical as to whether customers would buy VAXes now, while waiting for Alpha.

"This means that users will have a two-step transition, which allows them to make the migration to Alpha while still preserving part of their investment," said Chris Christiansen, research director of commercial systems at International Data Corp., a market research firm based in Framingham, Mass.

General user sites, including Minneapolis-based Group Health, Inc., are in the process of deciding whether to opt for a low-end transition system to Alpha VMS and have definitely plan to wait to purchase a VAX 10000 next year. Another site, an Atlanta-based manufacturer of health care decision support systems, is also making the transition.

"We're definitely planning on and have started a project to migrate to Alpha VMS systems, and we're working with DEC to get all of our code running on the Alpha machines," said Karen Kivi, a Cap Gemini America, Inc. site. "We think that the specific data should be seen," said Mike McCann, site manager for Ardis' operations center in Lexington.

Candle's interface sparks user interest

BY JEAN S. BOZMAN CW@MW

Early users of Candle Corp.'s interface center console software and IBM's NetView said it will save on personnel costs and support future automation.

The product is the first offshoot of Candle's deal with IBM to provide SystemView-compatible products.

The interface, announced recently, has been installed for several months at key sites, including Phar Mor, Inc., a drugstore chain in Youngstown, Ohio, and Ardis, an IBM/Motorola, Inc. joint venture in Lexington, Ky., that supports nationwide radio dispatch networks.

The first benefit was ease of use, said Alan Wade, manager of technical support at Phar Mor. "You can see exactly what's going on all over the network," he said. "You walk in, you sit down and you page through the various consoles."

Candle's interface is on the leading edge of a wave of efforts by Candle competitors Govol Systems International, Inc. and Legent Corp., according to Meta Group, Inc. in Westport, Conn.

At Ardis, the NetView-compatible console software is seen as a key to greater efficiency in operations. "We're really seeing a full integration between the IBM software and the Candle software," said Kivi. "We are not possible before," said Robert Kivi, a Cap Gemini Americ, consultant who worked with the Ardis site. If the interface had not been available, Kivi said, he would have developed a VTAM application script in IBM's REXX fourth-generation language.

NetView alerts now appear as changing lights on a consolidated OmegaCenter screen, managers said. "The operators are going to be able to do more," Wade said. "This technology will allow us to not add people, rather than to cut people."

Candle's integration of console products is on the leading edge of a wave of efforts by Candle competitors Govol Systems International, Inc. and Legent Corp., according to Meta Group, Inc. in Westport, Conn.

On the road to recovery

In the future, the combined consoles will lend themselves to further automation through the use of expert systems software. McCann said. That would make the Ardis network self-healing. "Now that we have the level of integration, I can apply automated intelligence to perform the task of recovery," McCann said. "I can connect these two environments [OmegaCenter and NetView] and without writing special code to link them," said Arnold Farber, a principal at Farber/LeChance, Inc., a Richmond, Va., consulting firm specializing in operations automation. Before this, he said, some users would not see the same thing by writing custom REXX scripts for Candle's AF Operator product.
Alpha-ready VAX line expected in July

CONTINUED FROM PAGE 65

Herzog, director of products and operations at HBO & Co. in Atlanta, which sells decision support systems to hospitals.

"The only way to keep customers buying VAXs is to offer some sort of an upgrade program. My biggest worry, however, is that my customers aren't going to still be buying VAXs by the end of this year," Herzog said.

"The Alpha machines won't be available till the first or second quarter of next year. So I'll be selling my products on VAXs until then," she said.

"I think that Alpha is the way to go, but I don't think it's going to be as seamless as DEC says," noted Connie Beckman, director of computing services at Alfred University in Alfred, N.Y. "But if we can marry the VMS and Unix worlds, it will help us in the long run."

To ease the transition, DEC is offering a number of Alpha migration tools, including those that let users discover VAX-dependent code, an image translator/analyzer and cross-development tools.

Industry analysts were skeptical about DEC's ability to succeed with the company's Alpha marketing strategy.

"They've basically taken their customizers into the DECworld candy shop and said, 'Here's all the Alpha goodies, but you can't have them for one to two years,' which makes it exceedingly difficult to justify why you should go out and purchase a MicroVAX today, which is what DEC desperately needs," said Peter Kastner, vice president at Aberdeen Group, a market research firm based in Boston.

An Alpha-ready VAX 4000 model 600 is available now under an early ship program. It is rated at 33.9 million instructions per second and costs $170,000.

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large systems

DEC, Visage unveil pact

- Digital Equipment Corp. and Visage, Inc. in Framingham, Mass., recently announced an agreement allowing DEC to market an OEM version of TouchMate, Visage's new touch input system. DEC's version is called DECtouch, and incorporates Visage's touch input technology, which adds touch capability to any monitor or terminal, Visage officials said.

- Applied Information Sciences, Inc. in Landover, Md., is now shipping its UniAccess Product Suite for Sybase, Inc., which integrates Unisys Corp. 1100/2200-based applications and databases with Sybase running on personal computer and Unix platforms.

- Aeon Systems, an Albuquerque, N.M.-based board and process control manufacturer, will design and manufacture the first VMEbus product that incorporates DEC's new Alpha chip, according to Aeon officials. Its VMEAlpha64 will combine DEC's Alpha reduced instruction set computing processor with the industry-standard VMEbus for use in a range of data collection and control applications.

- Rochester Software Connection, Inc. in Rochester, Minn., recently teamed with Burlington, Mass.-based Pilot Executive Software, Inc. to create an executive information system (EIS) for IBM's Application System/400 minicomputers. Rochester, a large third-party software provider for the AS/400 line, said ShowCase Vista combines a Microsoft Corp. Windows-based front end with Pilot's Lightsip EIS to provide access to data stored on AS/400s. To ease the transition, Rochester plans to begin shipping Vista in late summer, the company said.

- Sterling Software OrderNet Services, located in Dublin, Ohio, recently said it integrated EDI software with applications from Cincom Systems, Inc. in Cincinnati and McCormick & Associates, Inc. in Indianapolis. Cincom's Control: Manufacturing package for DEC VAX, ranges from $7,500 to $47,500. McCormick's product for the transportation industry is available on the IBM AS/400 for $7,500 to $47,500. All packages are now shipping.

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IN BRIEF

Computerworld June 15, 1992
DG sticks with parallel office plans

BY KIM S. NASH C/o STAFF

WESTBORO, Mass. — Data General Corp.'s two-pronged approach to hardware — one side Unix, one side Windows-based — has led the company's office automation strategy down divergent paths.

Although CEO is more robust than current Avion offerings — AV Office or AV Object Office — a CEO spokesperson added, "We close an open platform," Zastrow said. The tweaking involved to get CEO running on Unix would not be advantageous to users, he said. Instead, DG signed a joint development pact with UK-based Unisys to create a Unix-based office automation package, code-named Medley, that will provide features not available on AV Office or AV Object Office.

The systems vendors will continue to court customers bidding on government contracts. On a test network, the defense agency posts requests for bids, and analyzes the information. Gartner Group, Inc. in Stamford, Conn., said Keyops — priced at $20,000 for a single user — will appeal to organizations that cannot afford multimillion dollar, enterprise-wide CALS systems such as those developed for the Pentagon by PRC, Inc. and Computer Sciences Corp. "Keyops is currently a client/server software package running IBM's AIX, 486-based PCs and running The Santa Cruz Operation's Open Desktop and Sun SparCPlotations.

Software sales on rise

By 1996, the worldwide market for business and personal productivity software will grow to $110.5 billion, up from $45.1 billion in 1991, according to a recent study by Forrester Research, Inc. The study included product types such as databases, operating systems and utilities and desktop productivity applications. The software analyzed was for any of four platforms: personal computers, workstations, client/server and mainframes.

Cincom floods user meeting with releases

Cincom Systems, Inc. in Cincinnati announced a slew of product directions at its user group meeting, held in Nashville earlier this month.

The highlights include the following:

• Version 3.0 of the Supra database management system, which Cincom executives described as full distributed and able to support tasks such as multisite update and distributed referential integrity. It is in beta testing at one customer site and is slated to be formally announced in October.

• A new query writer to run under VAX/VMS, Unix and on PC platforms that is being developed with another vendor, IQ Software Corp.

• Version 2.4 of Minis for VAX, which includes a language-sensitivity enhancement. The releases of this package will support DEC's Ultrix operating system as well as the Hewlett-Packard Software Foundation's OS/2.

• A knowledge-based tool to generate Minis applications, being developed with a vendor in the UK.

JUNE 15, 1992

LARGE SYSTEMS

Wang ships first of CALS line

BY GARY H. ANTHEIS C/W STAFF

Wang Laboratories, Inc., which two years ago announced its plans for the Computer-aided Acquisition and Logistics Support (CALS) business, has rolled out its first major product to support that strategy.

The system is an information gateway that will convert, test, graphic and image data into CALS standards and from a variety of environments to output including announcements to CALS standards.

CALS is a program conceived by the U.S. Department of Defense for image processing and paperless documentation. It is associated with the design, manufacture, acquisition, deployment and maintenance of weapons systems. The program is implementing current standards and fostering the development of new ones for the electronic transfer and integration of technical data.

Quite a bundle Wang's CALS product, called Keyops, is an integrated package of the following software tools:

• A graphical user interface and revision tracking feature developed with Boston Software Works, Inc. allows users to manage the internal and external data, processes and participants involved in the CALS generation, approval and use of data.

• PowerTag, from Avalanche Development Co. in Boulder, Colo., converts data from popular and proprietary file formats to and from a variety of environments to output including announcements to CALS standards.

By FORRESTER RESEARCH, INC.

Software release chart as of December 1991

<table>
<thead>
<tr>
<th>Client/server</th>
<th>File sharing</th>
<th>Time-sharing</th>
<th>Stand-alone</th>
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<tr>
<td>$110.5 billion</td>
<td>$45.1 billion</td>
<td>$101.5 billion</td>
<td>$45.1 billion</td>
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JOHANNA AMBROSIO

FORRESTER RESEARCH, INC.
Rdb 4.1 Performance Release: 208.8 tpsA
Plus VAX 6000, Model 640
Equals Best Price/Performance In Its Class.

Rdb 4.1: Price/Performance Leadership $9,435 per tpsA.
(Audited by KPMG Peat Marwick and reported to the Transaction Processing Performance Council—March 20, 1992).

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   - 1-5 months
   - 6-10 months
   - 11-25 months
   - 26-50 months
   - 50+

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   - 26-50
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Data storage

Micro Technology, Inc. has announced FailSafe, a redundant arrays of inexpensive disks (RAID) 5/6 product for the Digital Equipment Corp. systems. FailSafe incorporates RAID technology with parallel systems architecture and multiple reduced instruction set computing processors. The product has extensive buffers and caches to provide enhanced levels of I/O performance and fault tolerance.

FailSafe manages the storage and retrieval process and continually monitors itself with intelligent storage manager software, the company reported.

The FailSafe series has prices ranging from $450,000 to $910,000.

Micro Technology
5065 E. Hunter Ave.
Anaheim, Calif. 92807
(714) 970-0300

Applications packages

Wavetracer, Inc. has created an Image Processing Library designed to address large two- and three-dimensional image processing problems.

The library works with the company's parallel Data Transport Computer line and is used for satellite data processing, seismic interpretation and other applications.

Users familiar with the industry standard C language can produce 2-D and 3-D applications with Wavetracer's MultiC programming language. The library eases software development required for processing and visualizing large and complex images, with the help of its proprietary 3-D convolution filters and 3-D Fast Fourier Transform algorithms, the company reported.

Wavetracer's Image Processing Library costs $10,000.

Wavetracer has also introduced the Zephyr deskside massively parallel computing system, which the company said provides the first production-oriented application of that technology to image processing.

Wavetracer
289 Great Road
Acton, Mass. 01720
(508) 635-9000

Database management systems

Charles River Data Systems has announced RA/Internet, a Transmission Control Protocol/Internet Protocol software option for the Relational Accelerator (RA) line of database server products.

The RA/Internet is designed to improve overall performance of Oracle Corp.'s relational database management systems applications running on Digital Equipment Corp.'s VAX/VMS systems, the company reported.

The RA acts as an Oracle database engine by processing SQL requests issued by Oracle applications running on the VAX. RA/Internet is an option to RA/System Model 30 and RA/System Model 40.

The Model 30 option costs $3,000, and the Model 40 option costs $5,500.

Charles River Data Systems
983 Concord St.
Framingham, Mass. 01701
(508) 626-1000

BGS Systems, Inc. has released Version 1.1 of the Crystal/DB2 extractor.

Crystal/DB2 automatically builds models that the Crystal Performance Evaluator uses to predict the performance and resource requirements of DB2 applications. The product reads object definitions found in the DB2 catalog and plan table and analyzes DB2 applications in various stages of development.

Crystal/DB2 includes an automatic determination of file allocation characteristics for DB2 tables and indexes and has a new cursor statement index report, which provides cross-references between cursor names and the SQL statements that use them.

Crystal/DB2 Extractor costs $14,000 per CPU.

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EMC's Symmetrix storage systems beat IBM's conventional DASD in key areas except cost and ease of customizing

- They're faster: EMC's Symmetrix models give users 50% faster response time than IBM's 3380 and 5% to 10% more speed than IBM's 3390.
- They're smaller: 40G bytes of disk capacity fits in one-fifth the floor space of conventional IBM drives.
- They cost about the same: Users paid $8 to $10 per megabyte for EMC's products, equal to or slightly more than IBM's offerings.
- They come with less tools: More vendor support is required to customize the drives compared with IBM, which offers stronger customer storage management.

If you want faster storage in a dramatically smaller package, but don't plan on making too many changes, then EMC's Symmetrix disk drives are worth a look. But if tuning and intense storage management are your forte, EMC lacks the software tools you'd find in IBM's conventional drive configurations. And you'll pay just about the same price for either alternative. These are the findings of early users of EMC's Symmetrix 4416, 4424 and 4832 disk drives — the first mainframe-scale storage devices to use redundant arrays of inexpensive disks (RAID) technology.

Four users, drawn from Computerworld's Product Evaluation Council (see company profiles and list below), teamed up with analysts Frank Gens and Bob Callery at Technology Investment Strategies Corp. to evaluate the latest Symmetrix systems.

Like Storage Technology Corp.'s much-discussed Iceberg products, EMC replaced IBM's traditional disk design with arrays of small disks packaged with an integrated controller and large amounts of cache. While Iceberg has been delayed until later this year, EMC has already installed a few hundred of its Symmetrix drives. However, this is still a very small dent in a world of more than 50,000 IBM 3390 installations.

Nevertheless, the performance and space-saving benefits make RAID technology more attractive than conventional direct-access storage devices (DASD). However, can users achieve the same level of reliability and storage capacity with smaller disks?

RELIABILITY

On the reliability question, the evaluators reported that the Symmetrix drives equalled or exceeded their expectations. One company never had a failure, while the other three reported failures that were contained within test environments or were immediately identified and repaired.

MIRRORING

To guarantee reliability, two of the four companies use disk mirroring — where duplicate data is stored on another set of disk drives (also known as RAID Level 1). Mirroring involves twice the investment because duplicate equipment is required. "We can't be down during 9 to 5, and we want to guarantee 100% availability," Company 2 said.

By contrast, Company 1 doesn't use mirroring because the company isn't dependent on immediate access to the data stored on the Symmetrix drive.

Company 3, formerly a beta-test site, mirrors because channel adapters have failed in the past. It reported that the mirroring has effectively prevented any failures from impacting operations.

Company 4 uses a technique similar to mirroring called dynamic sparing, which is less expensive but still provides quick backup should there be a problem.

PERFORMANCE

The Symmetrix drives were much faster than the 3380 and only slightly faster than the 3390 drives at all sites. These results were on par or slightly better than what users expected.

The EMC drive design, which includes much more cache and many more controller channels than conventional drives, is the main reason for the performance boost, according to Gens.

Company 1 found faster performance using DASD Fast Write, except when there was a cache miss, and then the IBM drive was a little faster.

Company 2: "Performance exceeded the IBM and Hitachi platforms we tested. The EMC also worked better with mirroring than IBM's drives running dual copy. The dual copy was slowing us down. We didn't notice any degradation with the EMC mirroring. It was faster mirrored than nonmirrored because it does the reads from either device."

Company 3: "We are now using the drive in production because it's mirrored. Performance is better in the DB2 area because the Symmetrix drive doesn't observe the cache-inhibited mode the way the 3390 does."

Company 4: "We were looking to improve on 0.7 seconds per average transaction, and with Symmetrix, we drove it down to 0.3, which exceeded our expectations. The whole environment freed up a lot by using the Symmetrix box."

SUPPORT

EMC's technical support is as good as IBM's, the users said. The vendor regul-
EMC RESPONDS

Here is EMC's response to the issues raised in the product evaluation:

**Reliability:** Mirroring is primarily for mission-critical data, where 100% availability is required. Five percent to 8% of our customers use mirroring.

**Performance:** Symmetrix I/O response times average 4 msec to 8 msec. Symmetrix is capable of throughput of 1,500 to 2,000 I/Os per second.

**Cost:** Although pricing trends have been to be on a par with IBM, when total cost of ownership, including price, performance, and the environmental impact of footprint, power and air-conditioning are considered, EMC is the winner.

**Integrated controller:** Symmetrix has a minimum of 22 drives in a single cabinet with four storage directors. Future products could include additional drives per controller but would require a slightly larger footprint.

**Operations:** EMC realized early on that it was difficult to test some of the reliability enhancement features of Symmetrix and set about developing a test process to assure customers that each and every function works as advertised. That process is now complete and available to customers, allowing them to test dynamic sparing and automatic call home.

Due to performance gains with mirroring over dual copy, it is slightly more complex to establish a mirrored pair. EMC is working to make this an "easy" option.

Work is underway to provide the customer with the capability of extracting cache statistics via Resource Measurement Facility. Microcode changes for Symmetrix are easier than with other products. Microcode may be downloaded via communication links and loaded to the system under user control via the remote support facility. The vast amounts of cache and superior caching of the Symmetrix product make such tuning unnecessary.

**MAINTENANCE COST**

EMC offers 24 months of free maintenance compared with a year free from IBM. The evaluators said this advantage added to the cost benefits they saw in acquiring the Symmetrix drives.

**OPERATION**

There were mixed reviews on operations from the four evaluators. While Company 1 was pleased to add 100G bytes of storage without having to add personnel, the other companies complained about the inability to test and reconfigure the drives on their own.

Company 2: "They make certain claims but don't have the ability to test them. For example, testing dynamic sparing requires live information. You're taking it on their assumption that it does work. This is new technology; you do want to test it."

Company 2 also reported that mirroring was not as simple to set up as dual copy. "With IBM you can deactivate a dual copy in about 15 seconds. With EMC, you do it through the PC on the box for mirroring or nonmirroring.

The preparation takes longer. You have to determine what you want to mirror, etc."

Company 3 reported that installation was easy, but "with EMC you're never really too sure if it's going to work. They don't have the depth of IBM to gain experience from other users. Their process was hard to disable once it was in. IBM's drives have the capability of putting out microcode while the box is up. I'd like to see a feature in Symmetrix that would back out the microcode and move it to a new level without any type of fallback. Their weak point is operational."

Company 4 added: "With dynamic sparing, we waited for it to trigger in a real-life situation to test it, and we still carry the procedures that assume it's not going to work."

"If you want to exercise something or change something, you're basically locked in to having an EMC technician come out."

Michael Sullivan—Trainer/Consultant's research manager.
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IN BRIEF

Progress plans port to Alpha

- Progress Software Corp. plans to port several products to Digital Equipment Corp.'s OSF/1, including its flagship fourth-generation language, relational database, and certain productivity and end-user query tools. The first Alpha-based products are due out by the first half of 1993, according to Progress. Pricing has not been set.

- IBM Canada Ltd. has agreed to market the Lansa, a tool for building Application System/400 structured programs, to midsize and large-based Insight Business Consultants. Previously, products from Synon Consultants were recommended in Canada. Lansa's tiered pricing ranges from $25,000 to $100,000, according to a spokesperson.

- Siemens/Nixdorf Informationssysteme AG plans to build elements of Hewlett-Packard Co.'s Softbench CASE framework into the next release of Domino, the German company's application development workbench.

- The Ask Cos. announced the Manman Customization Toolkit, which comprises three tools that allow users to incorporate their own modifications into new versions of the software. Pricing ranges from $4,000 to $15,000, depending on hardware configuration.

- Salem, Mass.-based GFA Software Technologies, Inc. has upgraded its GFA Basic for Windows to use new features provided in Microsoft Corp.'s Windows 3.1, including TrueType fonts and Object Linking and Embedding.

Object orientation catching corporate eye

Users still approach technology with caution; enterprise-wide applications still 2-3 years away

BY GARRY RAY

Object-oriented technology is moving beyond the testing stage and appearing on corporate development plans. But it will be two to three years before object-based systems graduate from today's plans for departmental systems to tomorrow's enterprise-wide applications, according to users interviewed recently.

Although adherents have touted object-oriented languages and methodologies for nearly a decade, corporate users have generally proceeded cautiously in adopting the technology. Sour memories of the misplaced enthusiasm for artificial intelligence, computer-aided software engineering and other technologies that were once promoted as being on the cutting edge have dictated a more organized and thoughtful approach toward object orientation.

"We're proceeding judiciously and cautiously rather than letting people do what they want," said Bart Hackemack, an information technologies unit manager at Rosemead, Calif.-based Southern California Edison Co. The utility has begun an intensive, six-month training program to school its personnel systems in object-oriented technology. Hackemack said the training includes "developing corporate-strength software in the classroom."

A sense of wide-scale corporate interest was apparent at Object Expo, a trade show held in New York this month (see story at right).

Ready to bite?

Corporations are "past the nibbling stage," although they "haven't swallowed the whole pig yet," according to David Taylor, president of San Mateo, Calif.-based Object Technology. The show, which was first held in 1987, used to attract an almost exclusive "long hair and jeans" techie audience, according to a show spokesperson. This year, however, suits and ties became more visible, and session topics such as "Applying Objects to Business Re-engineering" brought in corporate information systems types looking for a glimpse of where objects are headed and how, or if, they will be an influence on their companies.

Object-oriented products are beginning to make their way into the mainstream — not with a shout but with a murmur. "You end up doing it without realizing what you're doing," said Larry Waibel, systems support manager at Cubic Automated Revenue Collection Group in San Diego. Waibel, interviewed independently from the show, noted that initiatives such as Microsoft Corp.'s Windows and IBM's OS/2 bring object orientation into firms without a flight.

Knowledge Systems Corp., a Cary, N.C.-based consulting and training firm, "There is no turning back at this stage."

Some companies have edged into object-oriented technology with a four- to five-year plan, according to some industry observers, others described projects that have been cut by about one-half. However, those observers said they expect better results to emerge as object-oriented design and development techniques become more widely known.

NEW YORK — Interest in object orientation is expanding beyond the ranks of technology-driven managers, if the recent Object Expo is any indication.

The show, which was held in 1987, used to attract an almost exclusive "long hair and jeans" techie audience, according to a show spokesperson. This year, however, suits and ties made a more visible appearance, and session topics such as "Applying Objects to Business Re-engineering" brought in corporate information systems types looking for a glimpse of where objects are headed and how, or if, they will be an influence on their companies.

Object-oriented technology goes mainstream

New York Times • 11/15/92

It's not so much religious anymore, but it's part and parcel of what [environment] you live in," he said.

Of prime concern to some Object Expo attendees, however, was the absence of big-name databases in the object-oriented arena. "Should we adapt object-oriented programming and business modes and then build them into a relational database because object-oriented databases aren't ready yet?" one attendee asked.

A Citicorp employee echoed the same feeling, stating that her company does not "feel very comfortable with the object-oriented database systems out there."

But while users may be waiting for the databases, other tools are beginning to appear. General Electric Co.'s Advanced Concepts Center unveiled an object-oriented analysis and design tool, Object Modeling Tool, as well as a series of consulting and training courses. OMTool is reportedly the first in a suite of object-oriented applications that were developed in-house at GE and will now be made available commercially.

Different mind-set

Many developers have noted that the shortfall of skilled object-oriented practitioners presents them with their biggest challenge.

"It has nothing to do with the technology," explained Carolyn Ross, a software engineer at computer graphics manufacturer Evans & Sutherland in Salt Lake City. Rather, object-oriented methods require that programmers "think about things differently."

Tom Marr, senior staff scientist at New York's Cold Spring Harbor Laboratory, agreed that "thinking in terms of objects is different. However, once learned by an individual, it is really quite natural, and conventional methods then seem unnatural," he said.

That, perhaps, is one reason why many organizations are approaching the object-oriented paradigm cautiously and methodically.

Because objects so thoroughly incorporate both business processes and business data, Hackemack said, "the [object-oriented] design you develop is a living design."
The question is how do you satisfy the multiple computing needs of your company and all its units, divisions, and personalities?

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Sunrise package promises end-user prototyping

BY MELINDA-CAROL BALLOU
COMPUTERWORLD

NEWPORT, R.I. — Sunrise Software International, Inc. this week is scheduled to release a new version of its Motif user interface development tool with support for interpreted languages, a database browser and a resource editor.

EzX 3.2 lets users develop applications with links to databases. They can also add any interpreted language to EzX, such as Basic, Lisp or Tcl.

"Now you can do complete and rapid prototyping without becoming a down-and-dirty programmer," said Fred Sells, president of Sunrise Software. Sells said his company has met customers who want to prototype a complete system and then turn it over to the programmer to implement.

"They want to model the entire user interface so that every button that's clicked on performs the appropriate actions. Before, you could statically create each window, but now you can create dynamic widgets to change the action of the interface or cause a window to change," he said.

EzX 3.2 also offers the ability to create changes to the user interface without having to recompile.

EzX users spoke positively about the time saved in application development with the product and the advantages of interpreted language support.

"We're using EzX to develop a reusable software library system," said Eric Beser, senior engineer and reseed program manager at Westinghouse Electric Corp. in Glen Burnie, Md.

The interpreted language support lets EzX generate a user interface that behaves the way we want it to. And you don't have to write any code. It only took us a day and a half to do one project, for instance," Beser added.

"We're using EzX to do a developmental reuse software library system," Sells said. EzX has provided his company and noted financial system development company.

Telesoft has announced TeleAda-Exec, an Ada-oriented real-time executive for Mips Computer Systems, Inc. R3000 target systems.

TeleAda-Exec works in conjunction with the TeleGen2 Ada VAX-host/R3000-target Cross Development System. Tailored for Ada language, TeleAda-Exec features a kernel that provides real-time performance for executing real-time applications on embedded target machines and conforms to standard Ada runtime requirements.

TeleAda-Exec provides programmable interfaces to traditional executive-based communications primitives such as semaphores and mailboxes, and extensive and highly optimized mechanisms are provided. Users have more control over applications with explicit task scheduling and priority control, the company reported.

TeleAda-Exec is priced at $5,000 for the development system.

Telesoft
5959 Cornerstone Court West
San Diego, Calif. 92121
(619) 457-2700

JUNE 15, 1992
COMPUTERWORLD

APPLICATION DEVELOPMENT

ParcPlace boosts development line

ParcPlace Systems, Inc. in Mountain View, Calif., has announced a variety of enhancements to its Objectworks/SmallTalk development environment.

Objectworks/SmallTalk Release 4.1 now supports Apple Computer, Inc.'s Macintosh System 7.0 and Microsoft Corp.'s Windows 3.1.

Improvements include direct access to platform-specific facilities such as Windows dynamic link libraries, Unix remote procedure calls and sockets as well as

NEW PRODUCTS

Development tools

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COMPUTERWORLD

APPLICATION DEVELOPMENT

Computer-aided software engineering

Excel Software has introduced MacDesigner 3.3, computer-aided software engineering technology that runs on Apple Computer, Inc. Macintosh systems.

MacDesigner 3.3 allows software designers to apply object-oriented design methods to development projects, reducing development time and improving software quality.

The object diagram allows users to draw object instances within the object model. Verification reports, integration with the data dictionary and an index window to navigate between diagrams are included in MacDesigner 3.3. They are supported for object-oriented design, according to the company.

MacDesigner 3.3 runs on all Macintosh computers with 4M bytes of memory running System 6.0, 7.0, AU/X 2.0 or later versions.

MacDesigner 3.3 is priced at $995.

Excel Software
212 Waconda Road
Marshalltown, Iowa 50158
(515) 752-5359

Intersolv, Inc. in Rockville, Md., has begun shipping a Microsoft Corp. Windows-based version of its Execerator computer-aided software engineering (CASE) tool.

Called Execerator Windows, or XL/Windows, the $9,500 per-user tool includes a local-area network repository for storage and management of Execerator CASE models.

With a range of security and authorization controls, multiple users of the tool can concurrently access and update these models, according to a spokeswoman.

New to XL/Windows are enhanced real-time modeling for use with SQL databases, custom methodologies and a variety of enhancements provided through the Windows environment, including national language support and a wider selection of printer drivers.

Intersolv officials said models developed using XL/Windows can be ported to the Execerator LAN Repository and enhanced using Execerator II for OS/2.

Both products are now shipping. Subsequent versions of Execerator Windows will make use of the Execerator LAN Repository, the officials said.

GARRY RAY

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The IS of champions

They have high profits, low debt — and are growing like mad in some tough markets. What’s the role of IS at these pace-setting winners?

BY ARIELLE EMMETT

Can a company be too profitable? The state of California’s insurance commissioner thinks so. He’s ordered 20th Century Industries, a Woodland Hills, Calif.-based property and casualty insurer, to pay $101 million in refunds to policyholders on premiums paid between November 1988 and November 1989. The reason: A state initiative that limits insurers’ return on equity to 10% for the period. 20th Century averaged 30%.

“We haven’t had the hard economic times other companies have had,” says William M. Dailey, vice president of information services. That’s an understatement: 20th Century is debt-free, boasts $1.4 billion in assets and has been growing about 10% annually for the last several years. In fact, if there’s a ray of sun in the California economy, it’s 20th Century. Smart technology, good luck and strong market position have helped make the 34-year-old firm one of the nation’s fastest growing, most profitable auto and home insurers.

Dailey credits careful policy pricing, an accent on customer service and aggressive processor upgrades and new applications for the insurer’s success. Company officials are battling the state-ordered refund in court, saying it is “unfair, unreasonable” and penalizes the firm’s low-price, high-efficiency operations.

‘Dealing with positive growth’

Coping with prosperity has also become a major technology concern. “Our challenge has not been using IS to contain costs or downsize,” Dailey says, “so much as dealing with positive growth.”

Because 20th Century is a direct insurance writer (policies are sold directly to consumers by telephone), technology plays a vital role. “Their systems have to be top-notch because they don’t have agents,” says Gerald Lewinson, a first vice president at Merrill Lynch Global Securities. "They distribute their product directly to the public, and they handle all inquiries and all the claims."

Five years ago, the company averaged 200,000 on-line transactions per day. Today, the number has almost quadrupled to 750,000. During that time, the number of employees swelled from 1,300 to 2,100, and information systems staff grew from 35 to 120. Handling the traffic is a complex network of voice/data connections with a 43 million instructions per second (MIPS) IBM Enterprise System/9000 500 at the hub.

Despite its reliance on technology, 20th Century keeps IS spending below industry averages. Unlike many other carriers, the company maintains a low IS-expenses-to-premium ratio: 1.4%, compared to 2.5% to 3%. Even so, the IS budget ($14 million in 1992) has grown about 20% annually over the last five years.

Senior management keeps a tight rein on IS outlays, partly because of what Lewinson calls the company’s “phenomenal” expense control. A steering committee made up of senior officers and chaired by Dailey gets involved in major hardware buys or big development efforts. Management, according to Dailey, “reacts fairly quickly to events and situations.”

But tight control doesn’t mean no growth. On the contrary, 20th Century has pursued systems projects with laser focus. Among the major IS projects are four hardware upgrades since 1987 that boosted host horsepower from 8 MIPS to 43.

Continued on page 84
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The IS of champions
CONTINUED FROM PAGE 81

MIPS, a network of dumb terminals and some personal computers. "We've concentrated on creating efficiencies in our operations," Dailey says.

The company is especially proud of a brand new on-line claims application system that automates initial loss reports. The system uses a dumb terminal connection to the IBM mainframe and replaces paper with on-line, real-time recording of data. Dailey says he's confident it will pay off.

Dailey doesn't shun big projects, either. For example, he committed 15 IS staffers for 18 months to develop a real-time, transaction-based insurance application system known as Computerized Automobile Rating System (CARS), which runs on an IBM ES/9000 with CICS and VSAM.

Installed in November 1990, CARS re-engineers how the firm handles customers. 'In the past, marketing reps had to fill out paper forms, which were then batch processed on the mainframe and mailed to potential clients. With CARS, reps can enter application data while talking with potential customers on the telephone.

"A quote application that used to take a week," Dailey says, "can now be produced within 24 hours 95% of the time."

Another key focus is improving network efficiency. Ten remote company locations are linked to the network via a voice private branch exchange system tied to T1 networks. To get more networking bang, the company eliminated separate leased lines for data. Channels are "peeled off" the T1 line and used to transport data over the 56K-bit lines. "From the network standpoint, this is the cheapest approach for us," Dailey explains. Communications with dumb terminals are enhanced by intelligent workstations and PCs, as well as network boards.

Nothing but the best
Even the firm's back-office systems are top-notch. "When they end [financial quarters], they have information available in tremendous detail almost instantaneously," Lewinsohn says.

Dailey credits much of the firm's technology successes to the fact that key systems are jointly developed by users and IS. Interestingly, 20th Century still writes 95% of its own software. In-house people, he says, "get to know user work flow" and thus become more knowledgeable about insurance matters. The company does, however, occasionally employ software consultants to fill a staffing gap or provide a specific skill.

Dailey says he believes 20th Century's success hinges on IS and an open environment. The suit notwithstanding, the firm's future looks bright, Dailey says. "We have no new directions," he declares, "save for maintaining the momentum." ●

Bandag: No more slipping projects through the door

To Charles Vesey, controller and information systems director at Bandag, Inc., there is no such thing as an IS wish list anymore. "Why put something on a list?" he asks. "It's just a clever way of telling people you aren't going to do their project."

Vesey's down-home candor works well at Bandag, which he describes as a "smart but not sophisticated" tire manufacturer with about 2,500 employees and sales of $900 million worldwide.

But don't be fooled. This is no bumpkin company. The Muscatine, Iowa-based firm is the largest tire retreader in the world, commanding a 50% market share over much larger rivals such as The Goodyear Tire & Rubber Co.

Willard Brown, a senior vice president at Dean Witter Reynolds, gives an example that illustrates the company's clout.

"I saw a list of hundred most creative companies in America," he says. "It was a high-speed (56K-bit), wide-area network connects all Bandag's North American facilities and manufacturing sites. Field offices can also dial into company networks and access product or customer information. Purchase orders can be downloaded automatically from mainframe files to IBM Personal System 2-based fax boards. They are then sent automatically to vendors — all without paper.

Growing use of personal computers has also helped keep IS staffing frozen. Systems that are not economical on mainframe platforms, such as imaging and graphics, are being sought out and switched over to faster, cheaper PC platforms, Vesey says. For instance, a Bandag IS team recently installed an OS/2-based bar-coding system at all company manufacturing facilities.

User groups are also encouraged to hire outside vendors. "It's become easier for functional areas of the business to bypass the MIS department if it isn't responding," Vesey says. IS staffers are trained to work competitively within the company.

And that means the old days of isolated IS are gone, hopefully forever, Vesey says. "We're getting away from a style where projects were slipped under the door. We're getting out and becoming part of the business." ●

ARIELLE EMMETT
JWP: Lean, mean business machine

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a leaner mixture than JWP, says

Charles E. Ferguson, corporate

vice president and chief informa-
tion officer of the Purchase, N.Y.,

firm. Indeed, the annual IS budget at JWP, the

nation’s largest specialty

contractor and a fast ris-

er in environmental ser-
vices, totals only $10

million this year.

Five corporate and 15

regional IS officers over-

see its facilities and envi-

ronmental businesses. Another 50 IS

workers staff the information ser-
vices and personal com-

puters division, advising the

recently acquired Busi-

nessland, Inc. computer

store chain.

How can a firm that

made its name by swallow-
ing companies whole —

don’t do it anymore.

1986 and 1989 — keep

so lean! Simple, Fer-

guson says: By focusing

on the business, not IS.

Back to basics

Ferguson says JWP’s

two big lines of business —

installing large, com-
nplex electrical and ser-

vices, such as air-condition-
ing, plumbing and heating, as well as

supplying PCs to government and For-
tune 1,000 companies — succeed be-

cause management and users focus on

critical business factors.

Good systems dynamics such as esti-
mating projects accurately, scheduling

and meeting deadlines for ongoing,
multibillion-dollar projects and effi-
ciently handling tracking, control and

change orders, Ferguson says, guaran-
tees that IS is nearly wanted.

Things weren’t always this smooth.

When Ferguson signed on two years

ago, JWP was a profitable spread of 23

separate service companies with 117

offices throughout North America

(there are 75 today). The PC services

and supply unit, now known as JWP IS,

was completely separate.

“The companies had no CIO or focal

point for activities,” Ferguson says.

“They were highly decentralized.”

Each unit operated on a small IS budget.

In those days, Ferguson says, IS

would suggest and build many systems.

Some furthered company goals; others
did not. For example, although many

computerized financial systems were in-
stalled, they had no impact on JWP’s

ability to deliver major projects on time.

Now, however, decisions about technol-
geroy is not something

ogy is not something

other than the

work, you’ll be distinct in

the marketplace,” Ferguson says.

As a result, each JWP company crafts

its own technology game plan. "We do

not believe they should be directed from

corporate,” Ferguson declares. In-

stead, corporate IS concentrates on set-
ing overall strategy, including plat-

form, architecture and critical success

factors. “We can provide the technology
to tie networks together, but the vast

majority of work is putting users to

work,” he says.

For example, users and IS

staffers worked side by side to de


Ferguson has strong ideas about the

proper role of IS. “Computer people

should not go to management and say,

‘Here’s what we should do.’ You work

with the major user, who is always the

presenter or lead conversationalist in
dealing with top management.”

Ongoing integration

Our strategy is "to take advantage of

our size,” Ferguson explains. “We’re

very large and growing. But the key to

success is not to be just a

company with a lot of

pieces but an integrated,
technical services company.”

To turn this goal into

systems, JWP has

worked hard to integrate

diverse platforms, includ-
ing Hewlett-Packard

Co.’s HP 9000, Digital

Application Systems

System/400s from

IBM and Application

System/400s from

approximately 70 corpo-

rate entities. Also linked

are IBM and Compaq

Computer Corp. 386-

and 486-based client

servers and PCs.

Systems from scores of local companies are

consolidated into five

regional entities. Software

is standardized, including

Management Computer

Controls, Inc.’s MC5 for

estimating, Philadelphia-

based Primavera Sys-
tems, Inc.’s Primavera Project Planner

for scheduling and Denver-based J. D.

Edwards & Co.’s Project Management

Modules for project management.

The IS group does virtually no modi-

fication or maintenance of commercial

cartridges. “Software and systems are

maintained by vendors,” a tactic that

Ferguson says saves huge amounts of

precious IS time.

In the PC and information services

business, 50 IS staff handles data-in-
tensive, “high response” jobs such as

order entry, tracking and distribution.

To ensure smooth processing, Business-

land recently integrated its backbone

AS/400 systems with an existing back-

bone of DEC VAX 6000 clusters.

Business-wide system of

AT&T leased lines has been eliminated

and network functions folded into JWP’s

virtual private network from U.S.

Telecommunications Co. “It was a

very intense activity,” Ferguson says.

Work continues. The company’s ma-

jor thrust these days is moving toward a

client/server-based architecture.

The vision is to build a dual-platform

system that equips users with the PCs linked to

AS/400s on the manufacturing and en-

gineering side, and DEC VAXs on the

computing side.

Other key parts of the plan to link

systems include rapidly deploying Eth-

ernet and Token Ring local-area net-

works from Novell, Inc., gateways,

DECnet and varied communications sys-
routines — from Transmission Control

Protocol/Internet Protocol to confer-

cencing, videoconferencing, electronic
dmail and SprintFax.

Unflinching vision

Despite the heavy technical work to be

done, Ferguson’s focus remains un-

flinching. Business growth has really

convinced of the benefits. “If you have

a large project that takes two years and

millions of dollars, the ability to track

that information, highlight it, find out if

anything is deviating from original plan

and then feed back all that information

within the company for the next job . . .
is essential.”

Ferguson says he’s confident that

JWP has really boosted company productivity. “Because of the

commonality of systems, we’re able to

make judgments across the U.S. So if we

did a paper mill project on the West

Coast, we could apply the knowledge,

numbers, people and experience to a pa-

per mill on the East Coast. This makes

us unique within our business,” he says.

The main goal, Ferguson adds, is to

help make users comfortable enough to

make good technology decisions. “The

ew era has arrived with client/

servers and PCs,” he declares. “Infor-

mation technology is not something

owned by the MIS department.”

ARELLE EMMETT

JUNE 15, 1992

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**Thinking Ahead.**
Great Debate
Monday, June 22, 1992

Should the U.S. have a technology policy?
Can it rekindle America’s economy?

On June 22, Computerworld marks its 25th anniversary by bringing this important issue into the spotlight.
The Great Debate will be one of the most important forums for discussion of an issue that affects your job future, your company’s future and the future of this country. You’ll want to be a part of this event, as a well rounded group of panelists from industry, government and academia tackle the question.

A record of the proceedings will become part of the Smithsonian National Collection of Information Technology.

Computerworld’s 25th Anniversary Leadership Challenge

Monday, June 22, 1992
Alice Tully Hall
Lincoln Center
New York City

Cocktail Reception: 7 pm
The Great Debate: 8 pm

RSVP to: Mary Doyle
Telephone: (508) 879-8700 ext. 164
Facsimile: (508) 879-0446

Moderators:
Marvin Kalb
Director, Joan Shorenstein Barone Center for the Press, Politics and Public Policy at Harvard’s John F. Kennedy School

Bill Lubarus
Editor in Chief, Computerworld

Stewart Alsop
Editor in Chief, InfoWorld

David Tory
President, Open Software Foundation

Hosts:
Gary Beach
Publisher, Computerworld

Patrick J. McGovern
Chairman, International Data Group

Charles Wang
Chairman, International Data Group

Debaters:
Gordon Bell
Author of “Computer Structures” and “High-Tech Ventures”

Senator Jeff Bingaman
Chairman of Senate Defense Industry and Technology Subcommitteee

Lewis Branscomb
Albert Pratt Public Service Professor at Harvard’s John F. Kennedy School

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In its 12-year history as a specialty steel and metals manufacturer, Allegheny Ludlum Corp. has reaped the benefits of both outsourcing and insourcing.

Lately, recession has slowed things down. But a solid commitment to technology has kept the $1 billion Pittsburgh firm shining, especially abroad. "Technology-driven," explains Donald McMahon, Allegheny's director of information technology systems, "has been independent of good times or bad times." Since going public in 1987, Allegheny claims to have invested an average of 3.3% of annual sales into technology — considerably more than its rivals.

The firm saw its fortunes improve steadily after breaking away in 1980 from a $100 million leveraged buy-out from its parent company, Allegheny International. Today, it is among the largest domestic producers of stainless steel and other specialty materials.

While earnings per share were down 69% in 1991, Allegheny has managed to reduce debt (about 10% of capital) while mustering a $41 million profit in 1991. Today, despite a sharp drop in the U.S. steel market and production that is slightly off 1989's peak, the 5,400-employee company continues to boost its investment in IS and enterprise networking 25% during the last two years.

"We've grown about 10% to 11% per year," McMahon says, "with the current budget going from $700,000 (two years ago) to $800,000 per month." He credits the boost to a $36 million capital program, judicious use of outside contractors and a new cold-rolling mill that will save an estimated $11 million a year.

Good Lines

Allegheny comes by its interest in technology honestly: Its old parent was a computing pioneer in its industry.

In the mid-1970s, the company was the first steel maker to install a computerized costing system, which officials say has saved $4 million to $5 million a year since it was installed. Chief Executive Officer Robert Buzzone has said he considers the company "technology-driven."

Indeed, in recent years Allegheny has invested heavily in computers, especially projects aimed at improving network operations and better uniting personnel, manufacturing and other sectors of the company.

"Allegheny Ludlum has one of the most sophisticated computer cost systems in the industry," declares R. Wayne Atwell, an analyst at Morgan Stanley & Co.

In particular, the company's ability to calculate production costs per unit time has helped it keep a productive edge over competitors, according to Atwell. "Ten years ago, there were 12 competitors," he notes. "Today there are four."

Smart technology use will also help the company grow about 1% faster than the industry growth average of 2% to 3% per year, he predicts.

Part of Allegheny's success stems from judicious use of resources. In recent years, IS has invested heavily in packaged software for personnel from Taserect Corp. in San Francisco and accounts payable and parts inventory software from Walker Interactive System in San Francisco. Another focus is to acquire Tandem Computers, Inc. minicomputers to handle on-line transaction processing and collection of coil-tracking data.

This spending has been balanced by a continued program of outsourcing. Allegheny uses The Genix Group, a Pittsburgh host-processing outsourcer, and Corporate Information Systems, Inc. (Ciscorp), a contract programming house also in Pittsburgh.

McMahon says his staff of 100 programs, analyze transactions and data operations people focuses mostly on existing networks. Service providers are seen as a non-strategic tool.

"We have used outside contractors to accelerate the implementation of information technologies at the company," McMahon says, "but not as a consulting group."

An executive information resource council, chaired by Chief Operating Officer Arthur H. Aronson and including the top officers, sets technology direction.

A key part of IS today is an enterprise network linking Allegheny plants in six states. The network is composed of a 400-mile-wide area network, plus adjacent local-area networks. "We use state-of-the-art WAN/LAN technologies with T1," McMahon explains.

These networks move shop floor data to the outsourced mainframe, which handles all business functions, including costing, technical services, quality systems, order entry and warehouse management systems, among others.

Grounding the real-time data collection is a front-end, bar-coding system linked in the Tandem minicomputers. These, in turn, are connected to an outsourced Andahl Corp. mainframe. The system is used to gather shop floor data that later feeds business systems.

Thirteen LANs on the shop floor and business offices funnel additional information to host business systems.

Bar-code data is also swapped across the company, including technical service, operations and marketing, where it is used to manage internal costs and market products more effectively.

Paying close attention to limiting internal IS costs has let Allegheny manage and grow its business, regardless of the economic climate, McMahon says. Although domestic sales are down, Allegheny says exports grew 53% last year to $112 million.

The company now exports stainless and electrical steel and other products to 34 nations.

But it's a juggling act. For example, internal staff manages the Tandem network and several factory-based Novell, Inc. LANs. But a steady supply of outsourced programming talent from Ciscorp and other local programming companies handles intermittent needs.

What has the experience taught? "Outsourcing should always be considered as an alternative" to in-house operations, McMahon says. "Whether it's a network, hardware or software, outsourcing can be the best strategy for some companies. Recession can actually favor outsourcing, he says. "The recession . . . has made more people available," he says. "They get hired at lower rates because of supply and demand." Outsourcing contracts can often be negotiated downwards.

Unlike other companies swamped in expensive infrastructures, Allegheny saves its best efforts for networking. To that end, the company is spending toward open systems. Pilot programs are under way, and an Oracle Corp. database and Unix are being evaluated.

"Like most IBM-based companies, we have IMS, CICS/VSAM. But our strategy is to move all critical applications to a relational database, Tandem and NonStop SQL," McMahon says. "Other ventures into new technology will depend on capital availability."

But the mix will undoubtedly include outsourcing, especially of mainframes, McMahon says. "We don't need to own the power plants even if we use the electricity."

Source: Allegheny Ludlum Corp. and Forbes

**Allegeny's new Sendzimia Mill, which finishes 50,000-pound stainless steel coils, features the most advanced computerized controls available.**
Conseco users, execs 'joined at hip'

I’ll be easy to envy Thomas Kilian. He is the top technology officer of a $1.2 billion life and annuities insurance company: Last year, Conseco, a subsidiary of the large, 1992 IS budget: $11 million

TECHNOLOGY

1992 IS budget: $11 million
Earnings per share: $1.2 billion

Major platforms: IBM 3084 mainframes, enterprise-wide Novell networks,

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High-tech heroes

Most of us take computers for granted — they enable us to run our businesses better, they get us information faster, they help us balance our checkbooks. What is often overlooked is the powerful impact these machines are having on our quality of life. The Computersmithsonian Awards honor those applications that improve the world in which we live. The following are seven of this year's award-winning organizations whose technological innovations have that human touch.

Wilderness Society

One of today's hottest debates over the fate of North America's endangered forest ecosystems and species is being fueled by data from a Wilderness Society computer-based ecology mapping system.

Initiated three years ago, the society's Endangered Species and Ecosystems Mapping Project has come up with what scientists and ecologists consider to be the "best evidence available" of how humans have affected forest ecosystems, including endangered species such as the Northern Spotted Owl, says Peter Morrison, an ecologist who directed the project.

So far, the project has mapped more than 25 million acres of forest land in California, Oregon, Washington and British Columbia. While other agencies have produced maps of one forest growth stage, "Wilderness Society work is unique in that it covers all age classes of forest," says Marty Rafael, a research project leader at the Pacific Northwest Research Station of the U.S. Forest Service.

Indeed, the society's mapping system is able to gather and analyze comprehensive, detailed pictures of highly complex, geographically dispersed ecosystems. The system gives a sense of how forest growth has changed — for example, how much "old growth" has given way to "new growth," or bare ground, as a result of logging, road construction and other human encroachments. It does so by comparing old photographs with new images generated by satellite imaging and aerial photographs.

Forest growth data is "layered" with data on a range of subjects, including water tables, hydrology, geology, soil, transportation systems and land ownership.

Then expert system-based software is used to integrate the various layers to come up with a picture of how human activity has affected not only trees but also water systems and endangered species whose habitat is in the area.

Owls v. loggers

The technology has contributed to some landmark ecological decisions. For example, its reports and maps were used by lawyers and by scientists acting as witnesses in Seattle Audubon Society v. John L. Evans, a district court case in which conservationists sued the U.S. Forest Service for alleged violations of laws requiring it to protect wildlife. The case resulted in an injunction being issued in May 1991, halting timber cutting and sales in the spotted owl habitat in 17 national forests in the Northwest.

"They say a picture is worth a thousand words, and you could see very graphically from [the society's] maps just how much the ecosystem had been reduced over the last 30 to 40 years," says Tod True, a staff attorney for the Sierra Club Legal Defense Club, which participated in the case.

"As far as I know, there is no other source that can give you that time sequence" of how forest ecosystems change over decades, True adds.

Seeing trees in the forest

One of the system's innovations is a technique for analyzing forest growth in terms of textural variations. Traditional spectral reflectance techniques, which judge forest age and makeup by analyzing brightness levels and wavelengths in satellite images, do not provide sufficient detail, Morrison says. This is particularly true for coniferous forests, which tend to have a lot of shadowing, he adds.

"With spectral analysis, you're looking at groups of trees; with textural, you can get into individual trees — age, average diameter, spacing and distribution," Morrison says.

Another key element of the project is expert-system-based software that is used in the analysis of satellite imagery — both textural and spectral — and particularly in merging the multiple layers of information into a final, comprehensive map, Morrison says. The expert system also eliminates the need for the time-consuming and subjective process of having human experts poring over hundreds of aerial photographs to interpret the images in terms of spectral and textural variations, Morrison says.

Data collected by the system is displayed on two Sun Microsystems, Inc. workstations and four personal computers linked over an Ethernet local-area network. The system uses both raster and vector graphics technology and requires 4.6G bytes of on-line disk storage. Some 30 people have participated in the project.

— Elizabeth Horwitt

MIT Media Laboratory

MIT's Vercoe: Exploring how music works and how humans process information

Mitch Miller could play along with a computer if his show ran today, thanks to work in progress at MIT's Media Laboratory.

Barry L. Vercoe, professor of Media, Arts and Sciences at the Media Lab, has spent the last 16 years working on his Synthetic Performer, a hardware and software system that can accompany an instrumental soloist or singer.

"I wanted to create something that could actually process audio in real time," Vercoe says.

But his vision for the Synthesic Performer is not solely one of a practice partner for musicians. Vercoe, who does some composing ("This has to be done from the musician's perspective," he says. "Amateurs don't know what they are doing."), is interested in revealing new knowledge about how music works and how humans process information.

"When my two children were learning how to play, I asked myself, 'What went on between them?' We now know something about that," Vercoe says.

Finding his pitch

Vercoe's system consists of Unix-based software that can track pitch and timing and match notes as they compare to a score that has been keyed in or played in through a digital keyboard interface. The system then gathers data on pacing by comparing...
Motorola Codex introduces the first V.fast dial modem.

An announcement like this is sure to excite anyone who subscribes to the theory that time is money. And in the dial modem world, that's not theory. It's fact.

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Anyone can move a ton of information. The question is how fast.

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Fax# 508-261-1204.
Continued from page 91
its musical score with how a live
musician plays that score.

The primary hardware consists of
Digital Equipment Corp. or Silicon
Graphics, Inc. workstations
attached to solid-state piano
piano for accompanying the perform-
performer.

However, "the published score is
only" a guide to what the performer
might really do," Vercoe says. In live
performance, there might be quite a
difference between the score and the
actual playing or singing, as is the case
with a "romantic" piece with a lot of
tempo rubato," he adds.

To ensure that the Synthetic Per-
former can keep up, "listening" soft-
ware keeps statistics on the specific
note timing displacements. After
five to four rehearsals, the system
"remembers" the human perform-
er's style and tempo and adapts to
changes in real time.

Respect from peers
Vercoe's accomplishment is highly
regarded by colleagues.

"At first I thought it was impossi-
ble," says John R. Pierce, a retired
Jet Propulsion Laboratories tech-
nologist and professor who is cur-
rently working on projects with the
Center for Computer Research in
Music and Acoustics at Stanford Uni-
versity. "I'm amazed at what he's ac-
complished."

Vercoe's Synthetic Performer
may well be headed for commercial
use in the next several years; Japa-
nese companies are eying his work
with a close watch.

In addition, the world's top
narrator, William J. Christopher, of
Consumer Product, Inc., has agreed to
read the score for the "live" perform-
ance. Christopher has narrated over
100 films and video productions for
many of the world's top directors.

"Christopher, the man who puts all
the rest of us to shame," says an
interested producer. "He'll be the
voice of the Synthetic Perform-
er's performance."
Ohio's Center of Science & Industry
Education and Academic

I

imagine: You are a scientist on Mars. Suddenly, the oxygen in your space station fails. The other nine crew members are dead, and you are alone. There's only one thing to do: Don a space suit and head outside onto the planet's dark, cold surface to see what's wrong.

Sounds more like the space shuttle Endeavor than your average school classroom, right? Yet a new traveling multimedia exhibit is sending students into "space" in hopes of teaching down-to-earth skills in science and mathematics.

Mission To Mars is a computer-driven, interactive simulation that transforms 10 museum goers into a research crew working on the first outpost on the Martian surface. Now on a four-year tour of 12 U.S. cities, the exhibit is expected to draw 5 million visitors.

During the one-hour journey, "astronauts" ranging from four elementary school seniors to senior citizens control soil-sampling robots, repair equipment, operate communications lasers and track the station's progress from the control center. Charles O'Connor, executive vice president of exhibits and planning at Ohio's Center of Science & Industry (COSI), where the 5,000-sq-ft simulation project was developed, Mission to Mars is the first traveling exhibit that uses space to excite the next generation of scientists and technologists.

The idea began four years ago, O'Connor explains, after a computerized poll of COSI visitors revealed a huge interest in space travel. Armed with a $500,000 National Science Foundation grant and $250,000 worth of computers and networks donated by Apple Computer, Inc., COSI set about the complex task of developing a realistic simulation from scratch.

"We wanted to make learning about science as fun as possible," O'Connor explains.

After COSI conceived the initial scenario and assembled a panel of scientists and educators, the painstaking work of creating the core software, custom graphics, animations and interfaces began. A team consisting of 10 COSI staffers tackled the huge task, and one year later the software was ready to test.

The trickiest part of software development, O'Connor says, was creating the complex interfaces to electrical and mechanical devices, such as spacecraft controls, robotic arms, lasers and medical analysis equipment used by crew members.

After more than two years of planning and construction, including a summer of testing a plywood model, Mission to Mars premiered five months at COSI in early 1991 before hitting the road last summer.

The experience goes like this: During a 15-min. briefing, crew members get station assignments and computer orientation. Then it's off to a planetary spacecraft called Mars Base 1, which descends to the Martian surface via computerized animation on a large-format viewing screen and custom videodisc.

The focus is decidedly hands-on. Each of 10 research stations inside the craft contains custom software and hardware for handling research in engineering, biology, meteorology, communications, medicine, environmental control and more. Digitalized voice, sound effects and video enhance the realism.

The exhibit is controlled by 28 Apple Macintosh II computers linked by an AppleTalk local-area network. Custom software prompts two-person teams through a series of problems in their activity area.

A "commander" Macintosh II oversees the entire mission, tracking each student at each step of each task. If a crew member lags in his work, the computer quickly helps solve the problem. If a crew member is working too quickly, the computer will introduce new activities to slow him down.

"Ultimately the experience is interesting, enjoyable and successful for all visitors," O'Connor explains.

Sandra Quinn recently participated in a mission as the crew geologist, a role that required her to communicate with her partner from outside the simulator by two-way radio.

"It was the most exciting thing that ever happened to me," says Quinn, who is executive director of the Orlando Science Center, which hosted Mission to Mars last fall.

Initial success

So far, the project appears to be a soaring success. During a recent run at Philadelphia's Franklin Institute, for example, visitors paying $2 each kept the exhibit humming until midnight seven days a week. A total of 1,100 missions — up to 15 a day — were conducted in three months in 1991.

As a result of the exhibit, the computer center in the city, says William K. Booth, vice president of exhibits at the institute.

"All told, Mission to Mars will cost $3 million to build and transport from city to city. But to O'Connor and others, that's small change compared to the payoffs for science and the U.S.

"Science is not in a black box," observes Quinn, who is a former teacher. "Kids need to know that you need to learn math and science to get a job at Disney or anywhere else.

Joseph Maglietta

Integrated Surgical Systems, Inc.

Medical

Hip implants are just about the most brutal surgical operation performed today. With the hammering, drilling and sawing involved in installing an artificial ball in a hip socket, the procedure — 230,000 of which were performed in 1990 — recalls an ancient time when holes were cut into skulls to release the demons.

Replacing worn and defective ball tips of human femurs is done today with "caveman technology," says Hap Paul, chief executive officer of Integrated Surgical Systems, Inc. in Sacramento, Calif.

The company has proposed to the Food and Drug Administration (FDA) a method of implantation that incorporates imaging and robotic technologies. Called Robodoc, the system uses a computerized tomographic (CAT) scanning, simulated three-dimensional computer images and sophisticated computerized robotics to make hip implants last longer before replacements or corrective surgery are necessary. Furthermore, computerizing parts of the operation may take some of the "brutality" out of the procedure.

With Robodoc, Paul explains, doctors will plan bone cutting and drilling by using simulated 3-D drawings of the femur and implants, manipulating them with mouse-driven interfaces. Today, doctors prepare for human implants by studying 2-D X-ray photographs of a patient's femur. They use acetate overlays of several implant outlines to see which artificial hip ball will be best placed on top of the hip bone.

Having planned the exact size of the hole needed to accommodate an implant with Robodoc, the surgeon will store the information on a tape drive for use by the doctor and robotics system during the operation.

In the operating room, the surgeon will cut away the top of the flawed bone. Then, while the surgeon holds a small control device that can override basic commands of the computer (such as pausing or ending the procedure), Robodoc will carry out the programmed drilling of the hole. The machine can then guide the surgeon in screwing the hip ball into the femur and hammering the implant.

The Robodoc-assisted procedure is in contrast to current operations in which surgeons pull the hip free from its socket, saw off the top of the bone and cut a cavity into the femur by hand. The surgeon must estimate how big to make the hole to hold the implant. Too small, and the surgeon might crack the femur when hammering in the implant; too big, and the doctor must fill the gap with bone cement, which deteriorates with time and activity.

A veterinarian at the Sacramento Animal Medical Group in Carmichael, Calif., since 1983, Paul has often discussed hip transplant difficulties with his friend Bill Bargar, an orthopedic surgeon at Sutter General Hospital in Sacramento.

"We had nothing — a crazy idea, that was all," 43-year-old Paul says.

Paul and Barger approached many robotics companies to no avail. In 1985, the two doctors completed a feasibility study and were awarded a grant from IBM to start the project.

Backed by Jim McGroddy, director of research at IBM, the team performed its first implant in 1990 on a dog with a degenerating hip. IBM has since become a partner in Paul's private venture firm. Paul says he expects FDA approval for the procedure on a human this summer, at which point Bargar will inaugurate clinical trials at Sutter General.

— Jim Nash
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You can also see us at AIIM in Anaheim, CA, June 23-25, in the Sun Microsystems, Digital Equipment Corporation and Apple Computer booths.
The GenBank database was established in 1983 and, until recently, was loaded with information laboriously copied from scientific journals, annotated and keyed by hand. But as the volume of discovered sequences began to rise exponentially, the data capture effort fell further and further behind. By 1987, data in GenBank was two years behind the literature and of dwindling value to a field that was moving to a user-maintained database.

In 1987, IntelliGenetics won a $5 million per year contract to reorient GenBank from a contractor-maintained database to a user-maintained one. "We wrote software...and we got the software out to the molecular biologists so they could annotate and enter the sequences themselves," says Douglas L. Brutlag, a co-founder of IntelliGenetics and an associate professor of biochemistry at Stanford University's School of Medicine.

IntelliGenetics has sent the free software for both DOS-based personal computers and Apple Computer, Inc. Macintoshes on floppy disk to some 7,000 scientists. Called Authorin, the software presents electronic forms to fill out, mostly by selecting items from menus, and a sequence editor capable of flagging invalid combinations of biological components. After a sequence has been defined and annotated locally using Authorin, the sequences are dumped into IntelliGenetics' Authorin database. A user can then tap into the database interactively or via E-mail, and IntelliGenetics posts database changes daily to a public bulletin board on the Internet.

GenBank data in a Sybase, Inc. database and custom software reside on a four-processor Solbourne Computer, Inc. supermini-computer at IntelliGenetics. The sequence-matching software was recently moved to a 4,096-processor computer at Maspar Computer Corp. that has sped sequence matching from an average of 25 minutes to 15 seconds, Brutlag says. — Gary H. Anthes

JUNE 15, 1992

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COMPUTERWORLD

97
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### Tough times call for Ms. Fixit

Sheri Anderson’s talent for troubleshooting has been the not-so-secret of her success

**BY ELISABETH HORMIT\* STAFF**

Times of corporate upheaval, like times of war, provide unique opportunities for rapid advancement. Sheri Anderson can attest to that.

During the past seven years she has risen from design analyst to senior vice president in charge of technology at discount brokerage Charles Schwab & Co. in San Francisco, primarily by acting as Ms. Fixit for problems ranging from overburdened mainframes to disorganized data centers to massive power outages caused by the 1989 earthquake.

Anderson’s career as a troubleshooter began in 1984 when, as a new comer to Schwab, she was assigned to “what was called the Anxiety Project,” she says. “A group of very senior business executives met to discuss the fears that kept them awake at night,” she recalls. “My job was to figure out how we could reduce those fears through systems automation efforts.”

**Analytical talents**

A former systems analyst and team leader at Wells Fargo Bank NA, Anderson was hired by Schwab for her ability “to define problems, evaluate alternatives and interface between the business and systems side,” she says.

“I think it’s helped that I really am an analyst. Whatever job I go into, I ask what the problem is, what are the trade-offs, so I can apply logic to any problem,” she says.

Schwab Chief Information Officer Mark Barmann, to whom Anderson reports, agrees with her self-assessment. “She is instinctively adept at getting to the root of problems — and not place blame on troubles — in the service of a heavily technology-driven brokerage house.”

Barmann says. Anderson says that the pressure and volatility that characterize her job are not exceptional at Schwab; rather, "Trial marriage can bridge CEO/CIO gap"

**BY MITCH BETTS CTW STAFF**

The chief information officer expects top management to be patient while he builds the technology architecture of the next decade. The chief executive officer wants some “instant gratification” with a blockbuster application to meet today’s competitive pressures.

The kinds of unrealistic expectations, on the part of both CIOs and CEOs, are lurking behind today’s high turnover rate for CIOs, according to consultant Donald B. Broun, president of Quality Technology Decisions, Inc. in New York.

“Companies often have unrealistic expectations of their CIOs, and CIOs court disaster by taking the job without clearly understanding what their companies expect of them,” Broun said.

For example, the CEO may be expecting the CIO to find at least one killer application that provides the company with a huge competitive advantage. But those ideas are very rare, they are not exclusively the CIO’s responsibility and they can be easily copied by competitors, Broun said.

And CEOs, he added, have no monopoly on unrealistic expectations. The CIO may expect a CEO in the 1990s to be computer savvy, but many executives hire CIOs so they will not have to worry about information systems at all, he said.

In essence, the CEO/CIO relationship is a lot like a marriage, Broun said, and it may take some time to see if the two executives have a shared vision and the right chemistry. One way to reduce the risks — and avoid the commitment of an employment contract — is for companies to “rent” CIOs by hiring them as consultants, he said.

Indeed, several companies in the past five years have filled their CIO position with an IS consultant who had done considerable work with the firm in the past. For example, in 1990, PHH Corp. in Hunt Valley, Md., got its top IS executive, Richard A. Bolanda, from the Index Group, Inc. consultancy; this year, Denver-based Rocky Mountain Bank Note Co. hired Karl N. Bruce from Andersen Consulting.

Another rental-type approach is to hire an “interim executive” from temporary placement firms such as Dahl-Morrow International in Reston, Va. A third approach: Simply hire one of the many out-of-work CIOs as a consultant, Broun added.

In any case, the company will get fresh and independent insights from the outside consultant while both sides figure out if the marriage is a good idea, Broun said.

The possible disadvantages are that some employees will naturally resist the advice of outside consultants, and the rented CIO’s attention may be split among several clients.
WASHINGTON, D.C. — The chairman of the Senate Agriculture Committee earlier this month blasted a plan by the U.S. Department of Agriculture (USDA) to spend $2 billion on new computer systems at a time when the department is supposed to be restructuring and downsizing.

At a hearing on the USDA's computer upgrade plans, Sen. Patrick Leahy (D-Vt.) said he was "amazed" that the USDA would embark on a massive systems modernization program for its four farm service agencies before it had decided how it would restructure those agencies, which account for $10 billion, or roughly 19% of the USDA's $54 billion budget.

The agencies at issue, which Agriculture Secretary Edward R. Madigan recently said he would streamline and integrate, are the Agricultural Stabilization and Conservation Service, the Farmers Home Administration, the Soil Conservation Service (see chart) and the Farm Service Agency.

Under attack

Citing system snafus stretching back some years at the USDA, Leahy decried the proposed investment as presumptuous and wasteful. "The department has little idea knowing what the changed structure will be . . . it could cost millions to replace or redesign the technology," he noted.

According to Assistant Secretary of Agriculture for Administration Charles Hilty, Madigan has reviewed criticisms of the USDA programs and recognized "the validity of some." Hilty said the USDA has recently begun developing a strategic plan for information systems and has undertaken a number of steps to improve oversight of its 36 agencies. He also cited pilot programs that he said were improving the systems that support farmers.

The meat of the budget

Four farm agencies* account for a sizable chunk of the USDA's IS expenditures.

* The USDA spent $460 million on IS in 1991.
* Of the $460 million, 43% was spent on IS for just the four farm agencies.
* Over the next five years, the four agencies will account for 50% of the USDA's total $4 billion IS budget.
* The four agencies have 32,000 employees in 8,000 field offices.

Source: United States Department of Agriculture

Senator Leahy's assessment of the USDA's IS modernization strategy

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Tough times call for Ms. Fixit
CONTINUED FROM PAGE 99
they are the rule. A highly entre-
preneurial company that has
more than doubled in size since
1984, Schwab is accustomed to
shaking up its workers to deal
with trouble spots and new
projects. According to one em-
ployee, everyone at was branded
"corporate headquarters moves
every seven to eight months, on average.

Quick study
Anderson's introduction to the
Schwab quickstep came less
than a month into her job as a de-
technical secretary. "For my expertise," Anderson
says, "I was picked because morale was cata-
drophically low and they felt they needed a 'people person.'"

"We were completely over-
whelmed," Anderson recalls. "In just a few months, on average.
"We were getting so many more phone calls than we had lines, we
couldn't get current quotes, and the system was crashing all the
time."

Anderson set up daily "war
councils" to map out the next
24-hour systems action plan. "It
was the classic situation where
you have a five-pound sack but a
lot more than five pounds to put
to in," she says. Indeed, Anderson's ability to
"push the limits of system de-
sign, and the establishment of a
high level of availability for our
mainframes," is one of her chief
management contributions to Schwab, CIO
Barmann says.

Nevertheless, she stayed in
charge of the data center for only
11 months. In mid-1988, then-
CIO Hobbs resigned, and the re-
mainning management appointed
Anderson head of the informa-
tion center and development
center.

Barmann's arrival months lat-
er keyed off yet another reorga-
nization. Anderson was shunted
into a newly minted post as vice
president in charge of all IS con-
trol functions: change manage-
ment, security administration and
IS finance.

In early 1989 market volume
jumped, and so did Schwab's

Rocky road to smooth end

N ot all of Sheri Anderson's trouble
shoots have gone smoothly — partic-
ularly when she has had to bring
swaps to the picture of an
entrenched staff in an area about which she knew
little or nothing.

Take telecommunications. When Anderson
came in, telecom was just facing up
to the fact that it had come to
the end of the era. "Bob Taylor, director of commu-
nications projects at Schwab. "We
had traditionally been engineer-
type people, not concerned
with back-office documentation," he recalls. The staff
was used to "instructions to put your head down and get the work

Schwab's Anderson
Not all smooth sailing

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In early 1989 market volume
jumped, and so did Schwab's

system availability problems, Anderson
"We did a lot of analysis, pro-
posals were made for more ma-
achines, bigger processors." An-
derson says she "made the
mistake" of suggesting to her
boss that systems programming
be reorganized with a "make-it-happen attitude."

Four days later she gave her the job.

Once again, Anderson says,
she found herself at the helm of an area "about which I knew
zero, with a lot of problems. We
had multiples of tens of crashes.
It was my favorite job."

All the right moves
In the summer of 1989, An-
derson's immediate superior left,
and she became senior vice pres-
ident in charge of data centers,
system programming and cus-
tomer recovery.

Several months later the San Francisco earth-
quake of 1989 hit, and Schwab's
phone network overloads and
crashed.

Anderson's people worked through
the quake, changing protocols
in the system. A group of people
traveled by Jeep to the Hayward,
Calif., airport to fly cartons of
backup tapes to Schwab's disas-
ter recovery service, Condisco,
Inc. "We had the system up be-ore the San Francisco earthquake,
which was truly miraculous," An-
derson recalls.

At the end of 1990, another
"small reorganization" gave
Anderson responsibility for tele-
communications, "the last thing
I knew anything about. Now I
know everything," she says.

In her current job of senior
vice president in charge of tech-
ology, Anderson is in charge of tele-
communications, capacity planning and system recovery.

Her 18-month tenure
would make her the new kid on
some blocks; however, she says,
"That's pretty long for me."

Experts advise the following
tactics for dealing with the younger boss:

- Take every opportunity to refresh
one's technical skills.
- Enthusiasm for using
input devices.
- Provide a framework and tell
the results of where she was going. Personal-
personal or otherwise, she's given me guidance." (Source: "Ross Perot's Grass-Roots
Emergency Plan," "Pen System Cramp," InfoWorld,

PEM computerworld

Elisabeth Horwitt

ELISABETH HORWITT

items of interest from publications,
speeches, surveys and research projects

Intelligence Files

Bernie Campbell, vice presi-
dent of information systems at
Sonoco Products Co., recently
oversaw a major IS restruct-
uring. The most important part of
the restructuring process was
having managers develop
group charters based on detailed
items of interest from customers
and supplier relationships. This pro-
cess produced higher perfor-
mance by forcing IS teams to
"think out loud.""No group could sell a prod-
cut unless the customer agreed to
the item. After writing and refining
charters encouraged our
people to think more like entre-
preneurs, to take responsibility
for their piece of the business
and to understand the need for
teamwork," Campbell explains.

The charters have encour-
gaged the IS employees to collab-
orate and work better in teams: They identify current
products, provide a framework and tell
where future products will fit in.

Source: "The CIO's Role in the Corpo-
rate Turnaround: New Sonoco's CIO
Retructured It," by Bernie Campbell,
Chief Information Officer Journal.

Productivity boost
Researchers at Rensselaer
Polytechnic Institute in Troy,
N.Y., have shown for the first
time a direct, measurable link
between individual comfort
and on-the-job performance.
In studies conducted at West
Bend Mutual Insurance Co. in
West Bend, Wis., the use of
"environmentally responsive
workstations" led to a 2%-in-
crease in office productivity. The
"super desks" allow the em-
ployee to control workstation
environment: temperature, lighting, air flow
and background noise.

Source: "Intelligent Workstation
Designs" Philadelphia, April

Pen computing injuries?
Robert E. Marksson, a San
Francisco hand surgeon, says
he has some doubts about all of the
industry enthusiasm for using
the pen as an input device.
In the midst of an epidemic
of repetitive strain injuries
among computer workers, pen
computing may complicate the problem by producing a severe
case of writer's cramp. He sug-
jects emphasis on voice-
input devices.


On-line democracy
Ross Perot envisions that
with the right software —
standard public and interactive

JUNE 15, 1992

COMPUTERWORLD
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**Computerworld reaches professionals with key skills**

- a few examples from our survey-

<table>
<thead>
<tr>
<th>Skill/Product</th>
<th>Product type</th>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM PC compatible</td>
<td>hardware</td>
<td>523,973</td>
</tr>
<tr>
<td>IBM (all but PC)</td>
<td>hardware</td>
<td>488,965</td>
</tr>
<tr>
<td>Digital Equip. Corp.</td>
<td>hardware</td>
<td>214,375</td>
</tr>
<tr>
<td>MVS</td>
<td>operating system</td>
<td>257,248</td>
</tr>
<tr>
<td>Cobol</td>
<td>language/utility</td>
<td>443,166</td>
</tr>
</tbody>
</table>

Sources: *International Data Corporation  *American Council on Education
Remember English Lit 101?

Liberal arts success stories prove the importance of nontechnical skills

Many people who have forged careers in information systems say they owe their success to their computer backgrounds, not more to their nontechnical studies.

In fact, a significant minority of people in IS—30% of one recruitment firm's active database of IS professionals—had no intention of basing their career on technology when they were freshmen in college and majored in subjects such as history, English literature or marketing.

This finding only lends credence to what IS has gotten used to hearing at this point—nontechnical skills count.

For instance, Carolyn Adams, an English literature major with some programming courses under her belt, landed her first technical job because she didn't have a technical degree. In 1984, NBC was looking specifically for people with nontechnical backgrounds for a programming position. "NBC didn't want people who would just sit behind a terminal and code. They wanted people who could talk to the users," Adams says.

Bargaining chip

Adams says she feels the oral and written communication skills she learned as an English major were her strong bargaining chips. "A lot of what I have to do is communication. It comes in handy even when writing a software proposal," she says.

Soon after Adams finished the programming training, her manager gave her the opportunity to work on a new department that was evaluating and implementing computer-aided software engineering tools.

She moved to Reader's Digest Association, Inc. as a program analyst in 1989 and was soon promoted to manager. Roughly eight months ago she moved further into the business arena when she accepted a position in marketing operations to implement a capacity planning system for developing promotional materials.

Adams says her training in writing English papers has helped her as a programmer. "The concepts used to write a paper—developing an outline, structuring the ideas—are similar to writing programs," she says.

History major Michael Cisneros also sees a direct link between his liberal arts training and his current job as a network analyst. In the early 1980s, Cisneros worked at First State Bank & Trust Co. in Denton, Texas, while he finished his bachelor's degree in history. In 1985, he bought a used IBM PC Jr. to write his thesis paper. During the next few years he upgraded the computer himself to an XT, learning something about personal computers along the way.

When it became evident there was not much money or many positions available in a history teacher, Cisneros kept working at the bank and learned some basic programming skills while he pursued a master's degree in finance.

What he learned in 1989, when he completed his finance degree, were the same things he had learned in history. "The work I did was very business-oriented, and in IS I attack a problem starting with business goals and requirements and then decide how to use technology to help build the system," he says.

Cisneros says he pursued a history degree because he was naturally curious about why things are the way they are and how events develop. Similarly, "in IS I attack a problem starting at its beginning, formulate ideas, see how things logically advance and come out with a result based on what I started with—much more typical of the liberal arts," he says.

Fortuitous mix-up

A little marketing pizzazz never hurt anyone, and that's certainly the case for John Ullrick, a marketing major who is now vice president and director of MIS at Playboy Enterprises, Inc. in Chicago.

In 1967, while finishing up at the University of Illinois, he signed up at the college placement office for marketing, advertising and sales jobs interviews with several firms—one of which was U.S. Steel International, Inc. After talking to the interviewer for a few minutes, Ullrick was asked why he was applying for an accounting training program if he wanted an advertising position. It was a fortuitous mix-up.

The interviewer did offer him the position, which he took because the company offered training and a very good salary. He eventually crossed over into systems because "DP seemed to be a much more interesting, creative problem-solving-type environment than accounting," especially for someone with an interest in advertising.

In 1984, Ullrick moved to The Pepper Com. as MIS director; he subsequently joined Playboy in 1987. At Playboy, his mission is to find opportunities to use information processing to help build the company, which requires a much broader range of skills than the purely technical. It calls for political and diplomatic skills as well as having a "very broad-based understanding of the economy, of what makes people tick and how [all these elements] fit together," he says.

A similar formula worked for Charles Carlson, who started working in a salesmen at Sears, Roebuck and Co. while he attended high school. He then earned a bachelor's degree in English literature and worked his way up to his current position as vice president of Sears Technology Services, Inc.

Carlson worked at Sears during college and in 1955 was offered a job as a division manager in a large store in Minneapolis. He rose through the ranks of retail and in 1965 transferred to Sears' headquarters in Chicago as a staff assistant in the retail operations department.

It was the transfer into operations that really started Carlson on the road to IS. "That was when I began to teach information systems," he says.

In 1969, Sears asked him to join the IS department and move to Louisville, Ky., to run the retail systems research center, a move that put Carlson back on the IS track and eventually landed him his current position.

Carlson, too, points to his education in liberal arts for his success in IS. "Communication in the business world, and in IS in particular, is not a shining star. I was able to bring a level of understanding to senior management — to translate technology to nontechnical terms," he says.

Leslies is a free-lance writer based in Sarasota, Fla.
Mapping out fresh territory with GISs

BY KATHLEEN A. GOW
SPECIAL TO CW

Tired of looking at numbers all day? Would you be interested in a change of pace? If you're up for a real good of retraining, you may want to consider a career in the ever-expanding world of graphic information systems (GIS).

"It's a total graphical environment, and you are dealing with things like roads and states. It's not a black box that spits out numbers," says Geoff Zerner, director of research and development at Ottawa-based Interac Technology, Inc., a GIS developer.

GISs are mainly used to create digitized maps — of land areas, streets, sewers, systems, for example — that can be handled in a lot of different ways. For example, a downed wire, or an agricultural application, could be digitized and used for a variety of purposes.

Many roads to travel

Here's what veterans recommend for pinning your flag in the GIS field.

"People are buying GISs like crazy in Europe," says Randy Frosch, software development manager at Genasys II Corp. in Denver. "The Middle East GIS market is currently strong, says Kenneth Jack, president of GIS and geoscience sales for ISDM.

"We have urgent openings in Rio de Janeiro as a project manager in the Forest Service there is a high demand for it in the GIS field. People are buying GISs like crazy in Europe," says Randy Frosch, software development manager at Genasys II Corp. in Denver. "The Middle East GIS market is currently strong, says Kenneth Jack, president of GIS and geoscience sales for ISDM.

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Computerworld/Corptech Career Index

KEEPING WITH THE TREND — The 90s have colored a dismal employment picture for all sectors

Employment change in technology companies by type of ownership

| Change from October 1990 through September 1991 | 2.4% |
| Change from January 1991 through December 1991 | 1.87% |
| Change from April 1991 through March 1992 | 1.38% |

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Founded in 1971, National Computer Associates (NCA) is an exclusive group of private firms dedicated to importing and exporting computer personnel on a national basis. With an active membership of 30 firms throughout the United States, Great Britain, Canada, and Australia, NCA is virtually a network of "branch offices" working together to place the best qualified IS professionals in the right jobs. Today, NCA's aggressive growth and strategic market positioning make recruitment advertising more important than ever.

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"Computerworld recruitment advertising has been equally successful for Abacus Consultants. Although we've experienced many such situations, one specific instance comes to mind. After local advertising proved unsuccessful for finding a particularly hard-to-find individual in the Denver area, the client gave us the go-ahead to advertise nationally. We ran one recruitment advertisement in Computerworld - and got an instant response from just the candidate we were looking for - right here in our local area. It just goes to show that Computerworld delivers far better candidates than any other source.

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When the state of California introduced the new 510 area code, every business form listing the old code needed to be updated. Many companies enlisted printing shops to make up their new forms—a time-consuming and costly process.

Had the forms been designed in-house with an electronic forms software package, a staff member could have gone back into the program and quickly made the alterations, eliminating the middleman.

This is just one reason why companies with heavy forms processing needs are turning to electronic forms software.

Benefits package

These packages speed up the creation and filling out of forms, from invoices and expense reports to employment applications by moving the familiar paper design and fact-gathering sheets onto personal computers.

Furthermore, electronic forms take up less space because they’re stored on disks rather than in drawers.

Some organizations have gone one step further, keeping forms with enough space for a person to handprint. Having forms for companies such as insurance and legal firms, can cost up to $20,000.

The closest to a market leader in the under-$5,000 category is Delrina Technology, Inc. in Don Mills, Ontario, says Jeff Tarter, editor of "Softletter," an industry newsletter published in Watertown, Mass.

Delrina’s Perform Pro takes a button-based approach to automating forms in which the design and fill-in is accomplished with two modules.

Other vendors include Form Gen Corp. in Bolton, Ontario, Jetform Corp. in Ottawa, Ontario, Ventura Software, Inc. in San Diego, and Power Up Software Corp. in San Mateo, Calif.

Numerous design capabilities are important for larger organizations with extensive electronic forms needs—those in which at least one person creates forms for everyone.

Many packages offer built-in drawing tools, such as circles, text boxes, word wrap, tables and bar codes. Using the bar-code information is plugged into the form, which is important for employees taking inventory on portable computers who would otherwise rekey all the part numbers.

Some fill-in modules support certain database formats. Jetform, for example, allows users to read and write in Borland International, Inc.’s dBase III, and Perform Pro has added support for dBase and Paradox file formats. This enables the fill-in module to automatically pull information from those databases and plug it into the form.

Time savings

In filling out an order form, for instance, the fill-in module would automatically calculate numbers in the form, including subtotals, totals and sales tax.

To help with intensive data input in which errors may occur, some software will stop the form from moving onto the next field until all the required characters are filled in. This ensures that account or credit card numbers are complete.

Intelligent tabbing—in which the cursor skips to the next relevant question—also helps users save time.

Most electronic forms packages can also accept the input of bar codes. Using the bar-code reading wand, the bar-code information is plugged into the form, which is important for employees moving from invoices and expense reports to employment applications by moving the familiar paper design and fact-gathering sheets onto personal computers.

Furthermore, electronic forms take up less space because they’re stored on disks rather than in drawers.

Some organizations have gone one step further, keeping forms with enough space for a person to handprint. Having forms for companies such as insurance and legal firms, can cost up to $20,000.

The closest to a market leader in the under-$5,000 category is Delrina Technology, Inc. in Don Mills, Ontario, says Jeff Tarter, editor of "Softletter," an industry newsletter published in Watertown, Mass.

Delrina’s Perform Pro takes a button-based approach to automating forms in which the design and fill-in is accomplished with two modules.

Other vendors include Form Gen Corp. in Bolton, Ontario, Jetform Corp. in Ottawa, Ontario, Ventura Software, Inc. in San Diego, and Power Up Software Corp. in San Mateo, Calif.

Numerous design capabilities are important for larger organizations with extensive electronic forms needs—those in which at least one person creates forms for everyone.

Many packages offer built-in drawing tools, such as circles, text boxes, word wrap, tables and bar codes. Using the bar-code information is plugged into the form, which is important for employees taking inventory on portable computers who would otherwise rekey all the part numbers.

Some fill-in modules support certain database formats. Jetform, for example, allows users to read and write in Borland International, Inc.’s dBase III, and Perform Pro has added support for dBase and Paradox file formats. This enables the fill-in module to automatically pull information from those databases and plug it into the form.

Time savings

In filling out an order form, for instance, the fill-in module would automatically calculate numbers in the form, including subtotals, totals and sales tax.

To help with intensive data input in which errors may occur, some software will stop the form from moving onto the next field until all the required characters are filled in. This ensures that account or credit card numbers are complete.

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Most electronic forms packages can also accept the input of bar codes. Using the bar-code reading wand, the bar-code information is plugged into the form, which is important for employees taking inventory on portable computers who would otherwise rekey all the part numbers.
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Closing prices report for the week ending June 5, 1992

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CW honors technology wizards

The fourth annual Computerworld Smithsonian Awards recognized a variety of organizations for developing applications that improve the world in which we live.

Washington, D.C. — Information technology innovators were lauded for their accomplishments at last week's fourth annual Computerworld Smithsonian Awards. Awards were presented here at The National Building Museum in 10 categories grouped under the umbrellas of Workplace, Community and Arts and Sciences (see story covering applications developed by 7 of the 10 winners on page 91).

From left: Leadership award recipient Ronald K. Thornton of Tufts University, with Computerworld publisher Gary Beach (at left), master of ceremonies Dick Cavett and International Data Group Chairman Patrick McGovern (far right). Top left: Roger Kennedy, director, National Museum of American History, Smithsonian Institution. Top: IBM's chairman emeritus Thomas J. Watson Jr. and Digital Equipment Corp.'s Chairman Kenneth H. Olsen, who both received honorary awards.
Below: Federal Express Corp.'s Patricia Crow (left) receives an award from Dick Cavett for a system that coordinates the activities of more than 95 aircraft. Near right: National Building Museum's center hall. Middle left: Jennifer Rainey of Aeroquip Corp. receives an award for a system that simplifies the sales quote process. Middle of page: Computerworld Smithsonian Award. Middle right: Dick Cavett.

Far left: Members of the 94-person Chairman's Committee, pictured with Dick Cavett, nominate the innovative applications considered for Computerworld's Smithsonian Awards. Committee members represent a cross-section of the information technology field, working at firms in computer and communications as well as management consulting. Members range from Apple Computer, Inc.'s John Sculley and AT&T's Robert Allen, to Electronic Data Systems Corp.'s Lester Alberthal and Information Builders, Inc.'s Gerald Cohen. The awards aim to demystify technology, while celebrating achievements that have a positive impact on society. Left: Robert Cook of Perdue Farms, a finalist in the Manufacturing category (center) with George Reiswig of Perdue Farms and Judy Freeman of Software AG of North America.
VENTURE CAPITAL

Computer Letter

Technology Partners

Richard Saffnet, editor

June 8

Deal making was rampant in 1992’s first quarter. A reported $302 million in financing was raised by private, computer-related companies. Communications and software firms turned up most often. Among the biggest deals: Parallon Computing, Inc., a maker of networking gear for Apple Computer, Inc. Macintoshes, attracted $16 million from venture firms and other investors.

Another hot area was equipment designed to speed traffic flow over Ethernet networks, such as routers, bridges and concentrators. Router maker Advanced Computer Communications pocketed $10 million in financing, and Alantec, which makes a router/hub device, raised $4.8 million.

Companies banking on fiber-oriented networking products also raised funds during the quarter. Network Peripherals, Inc. gathered $3.5 million, and Ultra Network Technologies, Inc. received $4.5 million in investments.

Pen-based software and handheld PCs gathered momentum among venture capitalists. Go Corp. bought in $15 million; Slate Corp. raised $3.2 million.

Hardware was generally out of favor, but companies with a few small products were funded. Minister Peripherals, which makes 1.8-inch disk drives for notebook and pen-based computers, raised $7 million. SunDisk, which has targeted the same small format market with solid-state storage devices, brought in $12 million.

RECOMMENDATION CHANGE

UPGRADED FROM MARKET PERFORMER TO BUY: Pyramid Technology Corp. (Salomon Brothers, Inc.). AT&T was recently re-awarded a federal Department of the Treasury contract after IBM and Lockheed Corp. appealed AT&T’s original win in July 1991. Hired by AT&T as a sub-contractor, Pyramid is expected to raise $250 million to $300 million in revenue from this deal during the next five years. Product shipment for the Treasury deal, which is part of the Tax System Modernization plan, should begin within a few months, raising Pyramid’s financial prospects considerably.

KIM S. NASH

Industry Almanac
IBM expands OEM presence

Big Blue hawks PCs, workstations, mass storage and networking gear

By Thomas Hoffman

PURCHASE, N.Y. — Seeking ways to generate incremental business, IBM is putting a major emphasis on the OEM channel.

At a recent conference here, IBM executives laid out ambitious plans to grow what historically has been an insignificant market for the Armonk, N.Y., computer giant. Only 10 years ago, IBM was generating less than $1 billion per year in OEM sales.

A decade later, the picture has changed. A series of alliances — namely with Apple Computer, Inc., Wang Laboratories, Inc. and Groupe Bull — have helped IBM achieve OEM sales topping $700 million in 1991. IBM now says it expects OEM sales to top $1 billion this year and $3 billion in 1993.

Industry observers said they believe IBM’s enormous size and scope should help it leverage OEM sales opportunities. “They have little experience, limited expertise and limited market share,” said Peter Burris, director of commercial systems research at International Data Corp., a Framingham, Mass.-based market research firm. “But they have tremendous presence.” And while IBM is not as powerful as it once was, it “can still put the fear of God into people,” he said.

OEM sales in the computer industry had been limited to the resale of hardware, semiconductors, chips and storage subsystems. But at IBM, the OEM focus has been expanded to include packaged software sales of all IBM products. OEM sales are broken down by various divisions throughout IBM, such as Networking Systems, Personal Systems, Enterprise Systems, Programming Systems and Adstar — the Advanced Storage and Retrieval Group.

“We talk to anybody about anything [for OEM deals],” said Frank Stadulis, IBM program director of OEM products for the Enterprise Systems Division. For example, Adstar to date has signed more than 60 OEM customers throughout North America, Canada, Europe, Asia and the Pacific Rim, said Richard H. Masters Jr., vice president of worldwide OEM operations for Adstar. Adstar OEM products include its 2%-in. and 3%-in. hard disk drives, high-end storage subsystems and tape drives. Last year, Adstar contributed 50% of IBM’s $700 million in OEM revenue.

Hum Cordem, Personal Systems director of OEM products, projected that Personal Systems OEM revenue, including OEM sales of IBM’s popular RISC System/6000 workstations and servers, will reach $333 million by the end of the year.

Other IBM divisions are expecting small gains, according to Peter Souther Jr., director of Networking Systems, OEM, said he projects $50 million in 1992 OEM sales for his division. However, he said he expects that figure to increase with the availability of new products, such as the Advanced Peer-to-Peer Network Node, which IBM rolled out May 25 and has slated for delivery in the first quarter of 1993.

IBM’s much-discounted European computer clone subsidiary finally became a fait accompli, as the Individual owned IBM subsidiary will be sold to existing managers.

McData Corp., an IBM Systems Network Apple computer and Wang Laboratories manufacturer, announced last week that it is cutting its work force of 32 employees by 20%. All departments except customer support and international offices will be affected. A spokeswoman for the Broomfield, Colo., company attributed the cuts to continued decline in demand for IBM cluster controllers.

Short takes

IBM’s renewed interest in OEM sales (see story above) received a boost last week via an agreement to provide turnkey systems vendor Vereyas, Inc. in Westwood, Mass., with RISC System/6000s and related software. ... Sun Microsystems, Inc. has aligned with systems integrator General Electronic Information Services to market Unix-based document management systems.

KnowledgeWare gains GU utilities in $4.5M takeover

By Kim S. Nash

ATLANTA — KnowledgeWare, Inc. once again demonstrated its “If you were to build it, buy it” philosophy with last week’s $4.5 million acquisition of Viewpoint Systems, a 40-person developer of systems based in San Mateo, Calif.

The deal, which calls for $2.5 million in cash up front and another $2 million during the next two years, nets KnowledgeWare workstations, including graphical user interfaces (GUI) — a product line that the company promised to provide in its 1992 statement of direction.

Unlike KnowledgeWare’s recent takeovers of Language Technology, Inc., Quainsoft and UDM Technology, at least one product from the acquired company will be on the market immediately.

Flashpoint is a $10,000 desktop tool for targeting Microsoft Corp. Windows-based interfaces onto existing host-based applications. The 18-month-old product is installed at 150 firms in the U.S., according to Viewpoint, which claimed $2.5 million in sales for 1991.

More to come

In other addition to the family is Viewpoint’s Accesspoint, a query tool accessing SQL servers and IBM’s DB2 from Windows clients. The product, to be priced between $60,000 and $80,000, depending on platform, is currently in beta testing with no specified release date.

Tools for augmenting products not built with KnowledgeWare’s computer-aided software engineering environment mark a “broadening of focus” for the company, acknowledged Kim Addison, vice president of marketing.

“Large IS shops have multiple GUI needs that we should address,” Addison said.

Viewpoint’s 15 value-added resellers add a new distribution channel for KnowledgeWare products, she said.

Meanwhile, KnowledgeWare’s own GUI builder, ADW/Construction Workbench, is due out later this month. It was designed specifically to add front ends to products developed with its Application Development Workbench environment.

KnowledgeWare will keep Viewpoint’s San Mateo facility for research and development and will retain 35 of the 40 people currently employed there.

Symantec buys C tool developers

By Gary Ray

CUPERTINO, Calif. — Symantec Corp. last week broadened its lineup of application development products with the acquisition of two desktop tools suppliers.

Company officials said the purchases of The Whitewater Group, Inc. in Evanston, Ill., and AtaSoft Inc. in Mountain View, Calif., will help flesh out its line of C and C++ compilers and development tools.

“Our focus will be on corporate development with a comprehensive, cross-platform tool set and an open architecture,” said Neal Goldman, product manager for Symantec’s languages group.

Value of the deals was estimated at $12 million, including a one-time charge covering merg- er-related expenses.

With the acquisition, Symantec added to its product line Whitewater’s Resource Toolkit, which allows users to modify the look and feel of Microsoft Corp. Windows applications; Object- Graphics for C+++, a platform-independent class library for graphics applications; and Actor, an object-oriented language and development environment.

Multiscope will provide the company with the Multiscope Debagger, which runs under Windows and MS-DOS, as well as IBM’s OS/2.

Smart strategy

Analysts said the move is a good one for the $216 million software conglomerate, which has made no secret of its willingness to acquire technology to fill holes in its product line.

Remarking on Symantec’s latest purchases, Mary McCaffrey, a software analyst at New York investment banker C. J. Lawrence, Inc., said, “They’re not just walking into this market and saying ‘Here we are.’ They’re looking at something new and getting there before anyone else.”

Other sources said the move is in keeping with the company’s anticipated release of Bedrock, a platform-independent class library that could make it easier to develop applications for the Apple Computer, Inc. Macintosh, Windows, MS-DOS and OS/2 environments.

JUNE 15, 1992

COMPUTERWORLD
TRENDS

System census | A review of the top computer vendors

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Percent of total U.S. shipments</th>
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<tbody>
<tr>
<td>IBM</td>
<td>50%</td>
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<td>Amstrad Corp.</td>
<td>14%</td>
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<tr>
<td>Digital Equipment Corp.</td>
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<tr>
<td>Tandem Computers, Inc.</td>
<td>8%</td>
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<tr>
<td>Unisys Corp.</td>
<td>6%</td>
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<tr>
<td>Other</td>
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<td>Total units shipped</td>
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Medium-size systems

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<th>Vendor</th>
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<tbody>
<tr>
<td>IBM</td>
<td>25%</td>
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<tr>
<td>DEC</td>
<td>25%</td>
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<tr>
<td>Hewlett-Packard Corp.</td>
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<td>Date General Corp.</td>
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<tr>
<td>Tandem</td>
<td>4%</td>
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<tr>
<td>Other</td>
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<td>Total units shipped</td>
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Personal computers

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<thead>
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<th>Vendor</th>
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<td>IBM</td>
<td>14%</td>
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<tr>
<td>Apple Computer, Inc.</td>
<td>13%</td>
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<tr>
<td>Packard Bell Electronics, Inc.</td>
<td>5%</td>
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<tr>
<td>Compaq Computer Corp.</td>
<td>4%</td>
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<tr>
<td>Tandy Corp./Grid Systems Corp.</td>
<td>4%</td>
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<tr>
<td>Other</td>
<td>60%</td>
</tr>
<tr>
<td>Total units shipped</td>
<td>9.4 million</td>
</tr>
</tbody>
</table>


INSIDE LINES

No choir boys
  - Someone may be tempted to break into a few bars of “Amazing Grace” this week as OSF President David Tory and top executives from DEC and HP head to the Northern California Science Center in San Francisco for celebration of Unix System Laboratories’ new desktop “Unix lite” operating system: System V Release 4.2. Analysts agree that the Unix religious wars have reached new heights of peacelessness, but with Microsoft’s Windows NT showing up to do battle shortly, analysts are split on whether desktop users will even care.

Christmas in July
  - Whether Microsoft ships Windows NT before year’s end is still a question for analysts and bookies. Meanwhile, the Redmond, Wash.-based firm reportedly will have some gifts awaiting attendees of the Win32 Professional Developers Conference in San Francisco next month: a CD-ROM with the Windows NT for both Intel and MIPS Computer Systems platforms; a 32-bit version of the C/C+++ Version 7.0 compiler; and a variety of other development tools. All they’d need to develop with it is a CD-ROM drive, a 33-MHz 80386 or higher or MIPS R4000 system, the recommended 12M bytes of memory and 100M bytes of free disk space.

A love/hate relationship
  - Apple can’t seem to decide how it feels about Windows. This week, only days after its software subsidiary Claris released its first product developed for the Windows platform, Apple will launch an aggressive campaign blasting Windows as a complicated platform requiring a mishmash of components and claiming the Macintosh is still the easiest to use computer on the market.

But will registers ring?
  - NCR will support Microsoft’s next-generation NT operating system on its 3600 and 3700 symmetric multiprocessors, according to an analyst who attended a two-day briefing at the company’s headquarters in Dayton, Ohio, last week. A “clustering” capability will be added to those multiprocessors in the first quarter of next year. NCR will also unveil versions of relational databases from Oracle and Sybase for the system this year and next. In addition, NCR revealed plans for a new laptop computer, which will feature a 3V 486SL microprocessor, an active matrix color LCD screen and a docking station. The new laptop will be available next year.

Once shunned, not shy
  - Intellicorp, the application development tools maker whose planned merger late last year with KnowledgeWare collapsed under the weight of the companies’ sinking stock prices, is determined to find a partner. The Mountain View, Calif.-based company has approached KnowledgeWare’s archival, Texas Instruments, with a similar merger/joint development proposal, according to an Intellicorp insider. TI has yet to accept or nix the deal, the source said.

Dropping anchor
  - WordPerfect will not be spending its entire cruise around New York this week talking about its plans to open an office in the city. The company has some products up its sleeves as well. Tuesday’s press conference is expected to see the launch of an E-mail product for Windows. WordPerfect for OS/2 may also be on the dock.

Computerworld celebrates its 25th anniversary by profiling 25 of the luminaries who made it an exciting quarter-century — from computing pioneers J. Presper Eckert to Charles Wang, and visions of the future. If you’re looking for a notebook display that you can see at an angle with sun beating down on it, you’re in luck. Ditto for hefty hard drives. On the other hand, if you’re looking for incredible battery life or prices under $2,000, you may have to wait. For more trade-offs and tribulations in notebook computers, see Product Spotlight.
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