THE MAGAZINE FOR HEWLETT-PACKARD ENTERPRISE COMPUTING

HP Professional

AUGUST 1995

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Toying With Remote Access

INTEROPERABILITY

The Shape Of Things To Come

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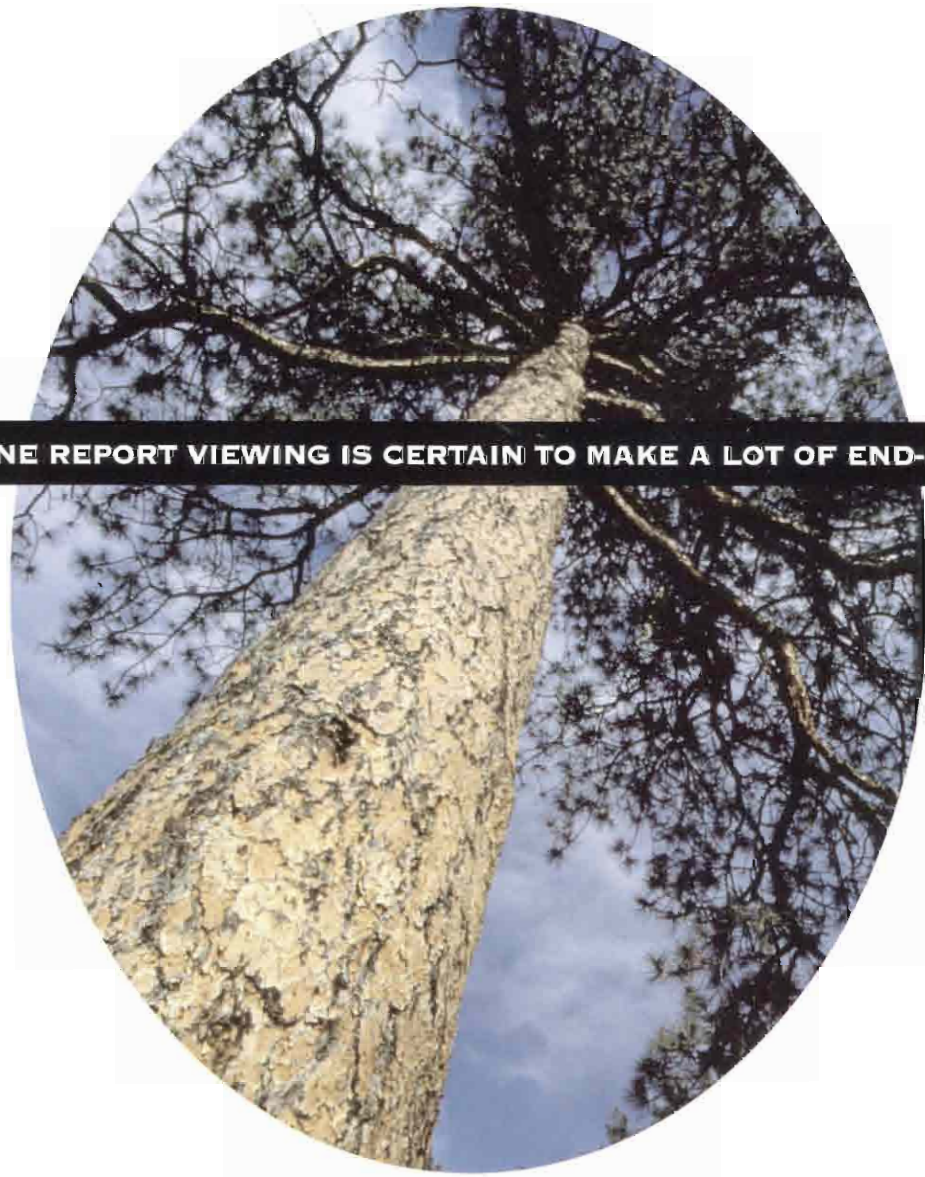
- HP-UX V 10 Release
- PC Update



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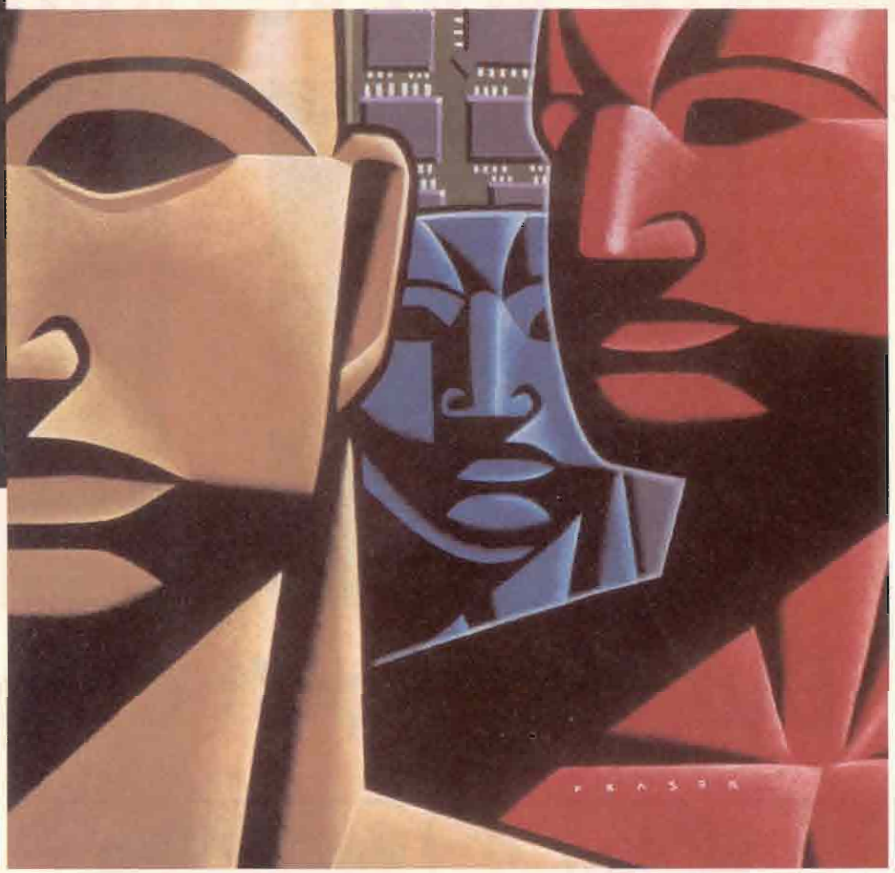

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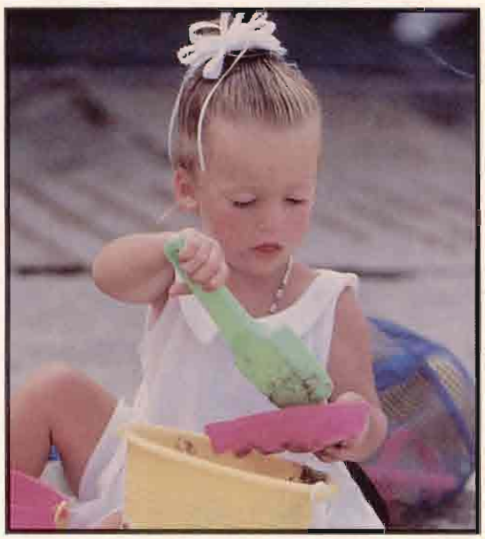

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Find out how to join the 70 million people who are part of the red hot trend — yet still unrecognized market in IT — remote access. And all you'll need is the basic equipment: a PC, a modem, a dial-up line and, of course, a remote control software application.

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HP Professional

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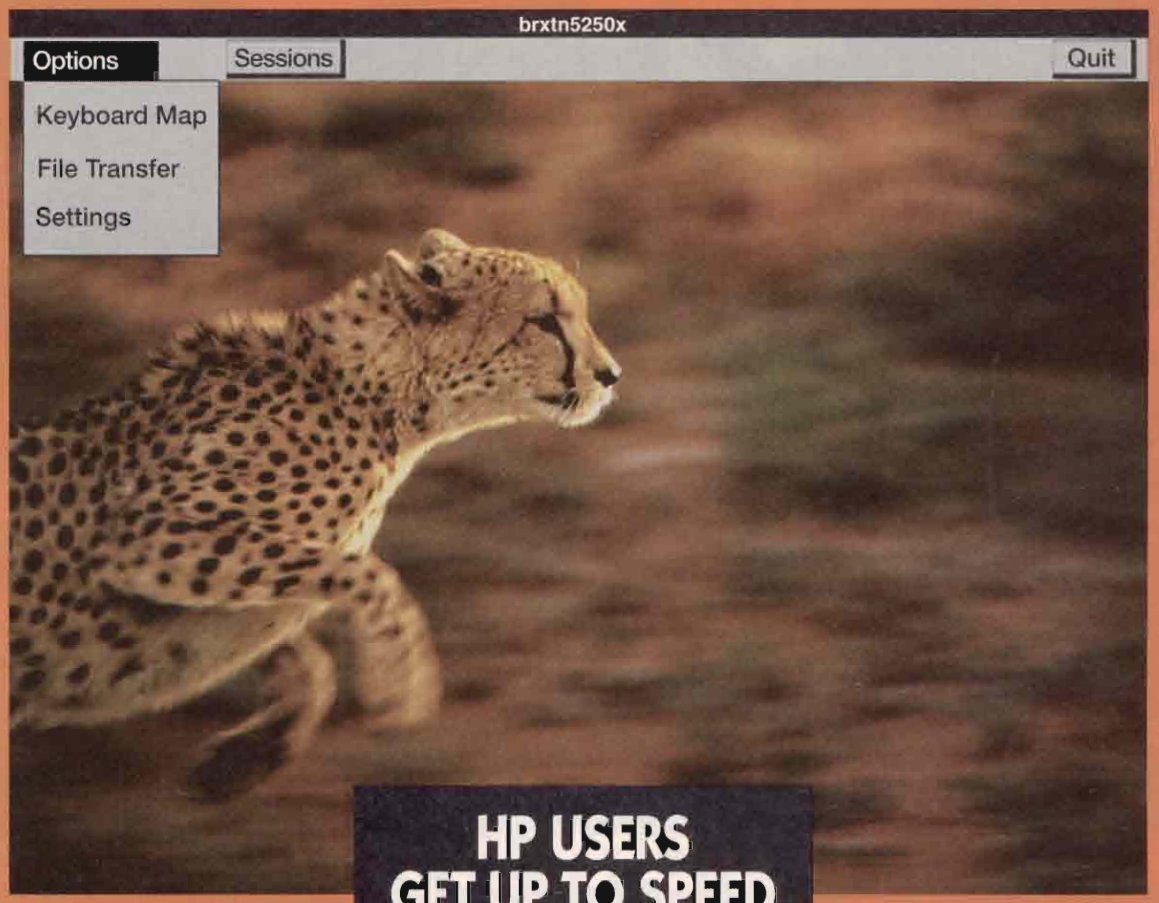

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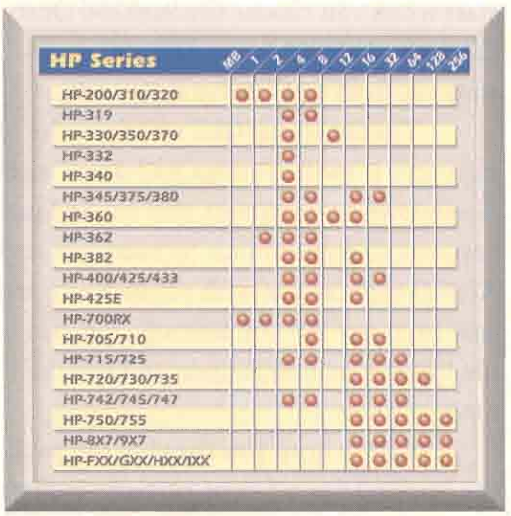

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CIRCLE 246 ON READER CARD

Freedom Of Sleaze

By Charlie Simpson

Funny how self-righteous and freedom conscious people get when you threaten to take away their daily dose of a freebie cheap thrill ... Yeah, I'm talking about pornography on the Internet. But who isn't these days?

You see it everywhere. Debated in the hallowed halls of government in the form of Sen. James Exon's bill and Sen. Patrick Leahy's amendment, exposéed in the TechTalk section of your local Sunday paper, and even probed by Ted Kopel on *ABC News' Nightline*. And why not? Sex sells, right?

Probably the one real concern is who should have access to "questionable information." The consensus among most normal people is as follows: "Questionable information" on the Internet, including such topics as pornography and how to napalm your neighbors, should be kept out of children's reach.

Unfortunately, there are not-so-normals out there that a large number of Internet users feel should have an unalienable right to indulge in and distribute their "information" without restrictions. It's then up to the rest of the world to choose not to partake.

Many of you might think that as writer, journalist and editor of a computer magazine, I'd be screaming for freedom of speech and personal rights. Sorry. Don't get me wrong. I defend freedom of speech everyday in my job; but when there is speech to defend.

And don't confuse my argument. This page isn't to debate whether porn is good or evil, or what is or isn't obscene. Laws already exist that define such issues. Some are clear and some are a bit cloudy; but the laws are there. So if the Internet community, and make no mistake you are part of a community, makes no effort to obey these rules then outside agencies really have no choice but to attempt to enforce them.

My problem is I don't see any necessity for this "questionable information." What benefit, to the average user, does obscene material on the Internet provide? Is this all the computer has become — a virtual newsstand where no one is responsible for the product that is distributed.

Is it really that much a violation of individual rights if someone can't lock themself in the basement and look at dirty pictures? It's pornography. Nothing more, nothing less. If you like it and want it fine, then say you want pornography. Don't hide behind some "freedom of speech and expression" banner.

People can't stand up in the office and scream obscenities, or threaten their neighbors over the telephone. So how is the Internet different? For one thing you *can* do it on the Internet and then run and hide. Now I know why they call it the information superhighway. People, who are normally pleasant and polite, become fearless, flaming, finger-chucking maniacs. They start cutting each each other off and then race to safety into a cyberspace oblivion.

The argument has been made that Internet laws are useless because it would be difficult to monitor, police and enforce such regulations. Hopefully that attitude won't be used when it comes to other types of crime. All right, in all likelihood, yes, it will be impossible to prosecute violators. But, maybe these laws and attempts at enforcement are what's needed to encourage users of the net to police themselves, or at least come up with a systems of ratings or warnings.

Like any issue that people feel strongly about, the opposing forces today offer extreme solutions. Now that the fight has begun, perhaps there will be a reasonable answer that everyone can live with comfortably.

But my question still remains — Just what is the Internet? Is it a highly sophisticated business tool, an impersonal means of communication, or just a toy?

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CIRCLE 294 ON READER CARD

INDUSTRY WATCH

George A. Thompson

BATTING 500 IN THE X MARKET

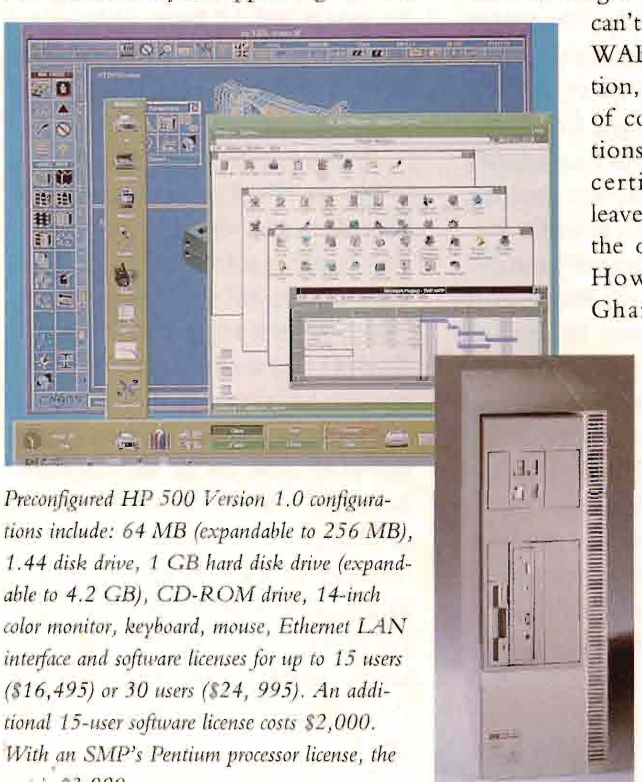
Insignia's SoftWindows. Strike one. Sun's WABI. Strike two. Tekronix' WinDD. Strike three. And your out of there in the UNIX/PC application integration game. Now stepping up to the plate: the HP 500 Windows Application Server (WAS).

Available this month, the HP 500 WAS is a turnkey solution combining an HP Vectra XU PC server (a dual Pentium CPU system) running Santa Cruz Operation Inc.'s (SCO; Santa Cruz, Calif.) OpenServer Release 5, a UNIX-for-Intel implementation. The key, however, is the "Xifier," according to Mukund Ghangurde, product marketing manager. The Xifier is actually an application called PC-Merge from Locus Computing Corp. (Inglewood, Calif.) which serves as the architectural layer supporting the PC applications and standard X Windows protocols.

And that's one of the biggest differences, according to Greg Winn, UNIX system administrator at Hitachi during the beta cycle and now UNIX WAN administrator at Dial Call (Norcross, Ga.). "The SCO server runs straight X. And it doesn't use any additional resources off the host. And it provides all the NFS capabilities. With Merge, you can run any application native to Windows." Winn used a single HP 500 WAS with a combination of HP Envizex, Entria and NCD X terminals. Performance, he says, "was similar to a 40 MHz 486 PC." That's above the 33 MHz minimum that HP claims for the HP 500. Winn also estimates that is about one-fourth the cost of DOS PCs tied to a Novell network.

SoftWindows is cost-effective solution on single-user workstations. But can't be used on networks. WABI is the multiuser solution, but is limited by a lack of compatible PC applications (about 13 have been certified to date). That leaves Tektronix WinDD as the only serious challenger. However, according to Ghangurde, although WinDD provides excellent PC application compatibility, multiuser capability and scalability, it is ultimately "a proprietary solution" he says, referring to Tekronix' Intelligent Console Architecture (ICA) protocol.

ICA is a distributed Windows protocol developed by Citrix Systems Inc.



Preconfigured HP 500 Version 1.0 configurations include: 64 MB (expandable to 256 MB), 1.44 disk drive, 1 GB hard disk drive (expandable to 4.2 GB), CD-ROM drive, 14-inch color monitor, keyboard, mouse, Ethernet LAN interface and software licenses for up to 15 users ($16,495) or 30 users ($24, 995). An additional 15-user software license costs $2,000. With an SMP's Pentium processor license, the cost is $3,000.

HP-UX 10.0 NOW SHIPPING

As promised, during the last week in July, HP announced the General Business Release of HP-UX for new and current customers (on support contract). It's the second part of a two-phase roll out — the New Business Release shipped in March of this year to qualified customers and HP Channel Partners.

Binary compatible with past versions, HP-UX 10.0 now supports the AT&T SVR4 file system layout. New HP-UX 10.0 features include NFS diskless and SMP support for workstations, and a new Journaled File System (JFS) offering faster file-system recovery during a reboot. STREAMS/UX and XTI APIs are now bundled with HP-UX 10.0.

Enhancements to SAM include improved commercial security and Software Distributor-UX (under consideration as the POSIX 1387.2 spec). Software Distributor-UX is a subset of HP's OpenView depot. HP-UX 10.0 also conforms to or is compliant with the following standards: XPG4, OISF AES, BSD 4.3; SVID3 Level 1 APIS; POSIX 1003.1, 1003.2 and 10031b; FIPS 15-1 and 151-2; and 4-byte Extended UNIX Code (EUC).

Optional products include HP OnlineJFS ($995 to $8,000), which allows applications to access the file system while resizing, backup and defragmentation is performed, and MC Service Guard ($3,900 to $24,000), an Enterprise clustering solution for high availability environments.

Two user licenses will be bundled with HP workstations and servers. For those migrating from earlier HP-UX versions, Fast Transition Links make it easier to adapt to the SVR4 file system.

(Coral Springs, Fla.) running on Windows NT servers. That makes WinDD a proprietary extension to Windows NT, according to Ghangurde. But why not NT? "We wanted to make sure our customers, who were already familiar with UNIX, could make the smallest incremental jump," Ghangurde explains.

Offering a market perspective, Jack Roberts, director and principal analyst at Dataquest (San Jose, Calif.) says, "It's a defensive move [for HP] rather than an offensive one." [HP can offer] its UNIX-oriented end-users access to Windows apps without having to install PCs," Roberts explains.

Version 1.1 (available October 1) will include a free upgrade to support Windows enhanced mode. Version 2.0 will support Windows 95. For information about hardware compatibility: http://www.hp.com. ●

PC EXPO: SHADES OF COMDEX

Outside the Jacob Javitz Convention Center (JJCC), you can't mistake New York City for Las Vegas. But inside, it was a story of fall Comdex proportions as over 120,000 attendees wandered around PC Expo gawking at the latest high tech geegaws and marketing gimmicks. According to figures supplied by the Blenheim Group USA, the producers of PC Expo, over 835 vendors came to the JJCC this past June — a 13 percent increase over last year. Highlights included:

■ HP's new OmniBook 5000 subnotebooks (introduced in May) were on display as well as several new 75, 90 and 120 MHz Vectra MM Series 3 desktops (introduced in June). Also on display were HP's NetServer LH systems (introduced in April) with 5, 100 and dual 100 MHz Pentium servers.

■ The Apple-IBM-Motorola PowerPC contingent was beating the bushes for its cause, touting the advantages of running more than one OS on a single platform.

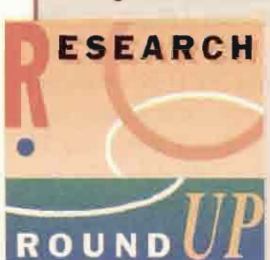
■ IBM, which seems to be in the habit of bringing the AS/400 to more and more PC shows, introduced an AS/400 with a PowerPC attitude. Its new AS/400 Advanced System and AS/400 Advanced Server models use 64-bit A10 and A30 PowerPC AS-based processor boards. The A10 is a 77 MHz three-way superscalar CPU while the A30 is a 154 MHz four-way superscalar CPU. To make matters more confusing, IBM, on another front, also has tentative plans to license the Mac OS and manufacture Macintosh clones for Radius.

■ Apple, continually (some might say desperately) trying to improve its business image, introduced the Apple Enterprise Awards recognizing innovative custom corporate applications for the Mac platform.

■ Apple, IBM and Novell executives united in support of OpenDoc, an interoperability specification challenging Microsoft's OLE technology.

■ The Panda Project, promising to "redesign the PC," introduced the Archistrat 4s Server and Archistrat 4b Workstation with great fanfare at New York City's Metropolitan Museum of Art. The perfect venue, because the pas-

THE HP WAY OR THE NT WAY?



Most analysts and industry watchers agree: HP is walking a tightrope these days trying to keep its corporate and technical balance in a blowing wind from Microsoft's Windows NT Server marketing machine. Even Lew Platt, HP's chairman, CEO and president admitted, "That it is a challenge," in a *Fortune Magazine* (June 27, 1995) interview. Yes, it's got to be more than a bit difficult for Platt as he watches HP's Computer Systems Organization (CSO), the division responsible for making HP-UX a favorite UNIX flavor, and HP's Personal Information Products Group (PPG), responsible for breathing new life into its HP's Intel-based desktop and servers, converge, sometimes head-on, into the enterprise.

HP's CSO brain trust, however, knows that no matter what happens with Windows NT, it just won't go away (although I'm sure they wish it would). In the meantime, they're hoping that the recently announced 64-bit PA-8000 CPU will keep pace (expected in systems in less than 18 months) with their competitive 64-bit Alpha/NT and PowerPC-OS/400 counterparts. And, let's not forget the 64-bit UltraSPARC. In the meantime, HP isn't taking any chances: the CSO group doesn't want anyone to forget about the combined HP/Intel CPU (still in the design phase) that will solve the problem of the two would-be enterprise OSes by running native Intel and HP-UX applications. And if all else fails, the current line of PA-RISC CPUs are bi-endian, which means that they will support a ported version of Windows NT onto PA-RISC.

But given the Intel/HP partnership (now a year old), Tom Kucharvy, president of Summit Strategies (Boston, Mass.) agrees with CSO's decision "not to offer NT on PA-RISC." For now. In the meantime, HP's PC group isn't waiting around. And why should it? If you *still* haven't noticed, PCs are no longer treated like second-hand peripherals at HP. In fact, HP's PC business grew at least 60 percent last year reaching over $1 billion in sales for the first time. Independent surveys named HP one of the fastest growing PC companies in the world in 1994. J.D Power and Associates also found that business customers ranked HP's desktop PC first in satisfaction and reliability.

The PPG is an HP division with a mission. In May, the PPG signed an agreement with Microsoft to work together on the development, marketing and support of Windows NT. Highlights of the joint effort include: optimization of HP Intel-based NetServers with Microsoft Windows Server and BackOffice products; participation by HP in Microsoft's Solution Server Program; increased NT support for HP 100VG AnyLAN; and most importantly for IS managers, expanded integration of HP OpenView for Windows, HP's network management products and Microsoft's Systems Management Server. For example, HP's newest NetServers — the LS and LH — can be evaluated by corporate customers through the Solution Server Partners Program.

But the CSO has maintained that cus-

sive backplane design of the Archistrat system will allow users "to structure the PC in their own ways." And, enclosed in "slightly larger than a piece of paper," the new systems "comes in a variety of colors" and can be "displayed as part of an office and/or home decor." The processor-independent systems promise better I/O throughput with 64-bit, 128-bit and potentially 256-bit bus architectures without the drag of ISA-compatibility. ●

HP 9000 HITS THE I-WAY

HP and NaviSoft Inc. (Vienna, Va.), an America Online (AOL) subsidiary, will optimize and jointly market solutions for the Internet's World Wide Web (WWW). NaviSoft will offer its tools on the HP 9000 platform for Website developers.

AOL and HP will optimize AOL's NaviSoft authoring and server software for HP-UX 10. Organizations and individuals will be able to use these systems as servers on the WWW for publishing disseminating information. The NaviPress application, in conjunction with NaviServer, allows Web developers to locally create and manage Websites on remote Internet servers directly from their desktops. ●

HP'S BLOOD DRIVE

What would you do if you had $1.6 billion in cash lying around? Well, if you're managing a $25 billion company selling high profile medical products you might just want to spend $61 million of it to buy a 14 percent equity stake in i-Stat Corp. (Princeton, N.J.), a provider of blood analysis products. That's what HP did this June. HP will initially market i-Stat's handheld blood analyzers across Europe, Africa and the Middle East, before eventually marketing them worldwide. HP also will acquire a seat on i-Stat's board of directors.

The i-Stat system uses a cartridge along with a hand-held battery-operated analyzer. Each cartridge contains a biosensor that needs only two drops of blood to generate accurate readings for a wide range of commonly ordered blood tests. The two companies expect to integrate the i-STAT system with HP's OmniCare patient-monitoring system.

Future applications, however, may include using the point-of-care blood analyzers in conjunction with HP's recently introduced PalmVue system, an enhanced HP 200LX palmtop capable of sending bedside patient and waveform data directly to doctors and other care givers who carry it (*see* Industry Watch, July 1995.) ●

tomer demand hasn't warranted giving up on the HP-UX/PA-RISC marriage — just yet. However, NT remains a significant other.

According to Kucharvy, large corporations are actively testing NT *now*. He says, success in the integrated NT/UNIX server market will require extensive middleware, systems and network integration and support capabilities. Kucharvy eventually sees NT Server dominating the workgroup, department and mid-sized business application server markets (and much sooner than 1998, the time frame that HP's CSO cognoscenti are planning on).

Kucharvy then, suggests HP's CSO take three steps to prepare for an NT future:

1. Work with its own PC organization — the PPG — to accommodate the need of those companies that want an integrated NT solution;
2. Develop or OEM the necessary middleware required for that integration; and
3. Use the HP's Professional Services Organization (PSO) and Systems Integration groups (SI) to do it.

To date, the CSO has been treating NT Server with what amounts to benign neglect. And correctly so, according to Kucharvy, "promoting NT Server has the potential for confusing customers, delaying purchase decisions and complicating integration and support requirements. As Kucharvy says, HP's reluctance is certainly understandable. "HP has played a greater role than any other vendor in establishing UNIX as a credible, commercial, enterprise-class OS." Not to mention that UNIX sales accounts for about 33 percent of HP's business.

In other words, don't expect to see Windows NT on PA-RISC anytime soon. So while DEC continues to align itself with Microsoft (leaving its customers confused about the role of VMS and its own recently rechristened Digital UNIX) and IBM tries to convert the AS/400 into an open PowerPC-based server, HP's CSO is free to focus on what it does best — selling HP 9000/HP-UX platforms into the enterprise.

THE $12 BILLION MAN

No matter what you think about Microsoft products or Bill Gates, Wall Street loves Microsoft. So much so, that Chairman Bill's own stake in Microsoft rose by $4.7 billion last year — nearly $400 million per month on average. And that put William H. Gates III over the top to become the world's richest man, according to *Forbes* magazine (July 17, 1995). Gates personal net worth as calculated by Forbes is $12,900,000,000. Financially speaking Bill G. is worth more than half of all of HP, which made $25 billion last year.

But don't feel sorry for the other nine in *Forbes* Top 10 list: Warren Buffet (USA) — $10.7 billion; Hans Rausing (Sweden) — $9.0 billion; Yoshiaki Tsutsumi (Japan) — $9.0 billion; Paul Sacher (Switzerland) — $8.6 billion; Tsai Wan-lin (Taiwan) — $8.5 billion; Kenneth R. Thomson (Canada) — $6.5 billion; Lee Sahu Kee (Hong Kong) — $6.5 billion; Chung Juyung (Korea) — $6.2 billion; and Li La-shing (Hong Kong) — $5.9 billion. *Forbes* also notes that for the first time in almost a decade, two U.S. citizens are among the world's richest. ■

NOTABLE QUOTABLES

"They are just going to be an integrator of Intel and Microsoft products."

— Ed Zander, (who Heads Sun's Systems business) referring to HP, in a *Fortune Magazine* article (July 10, 1995)

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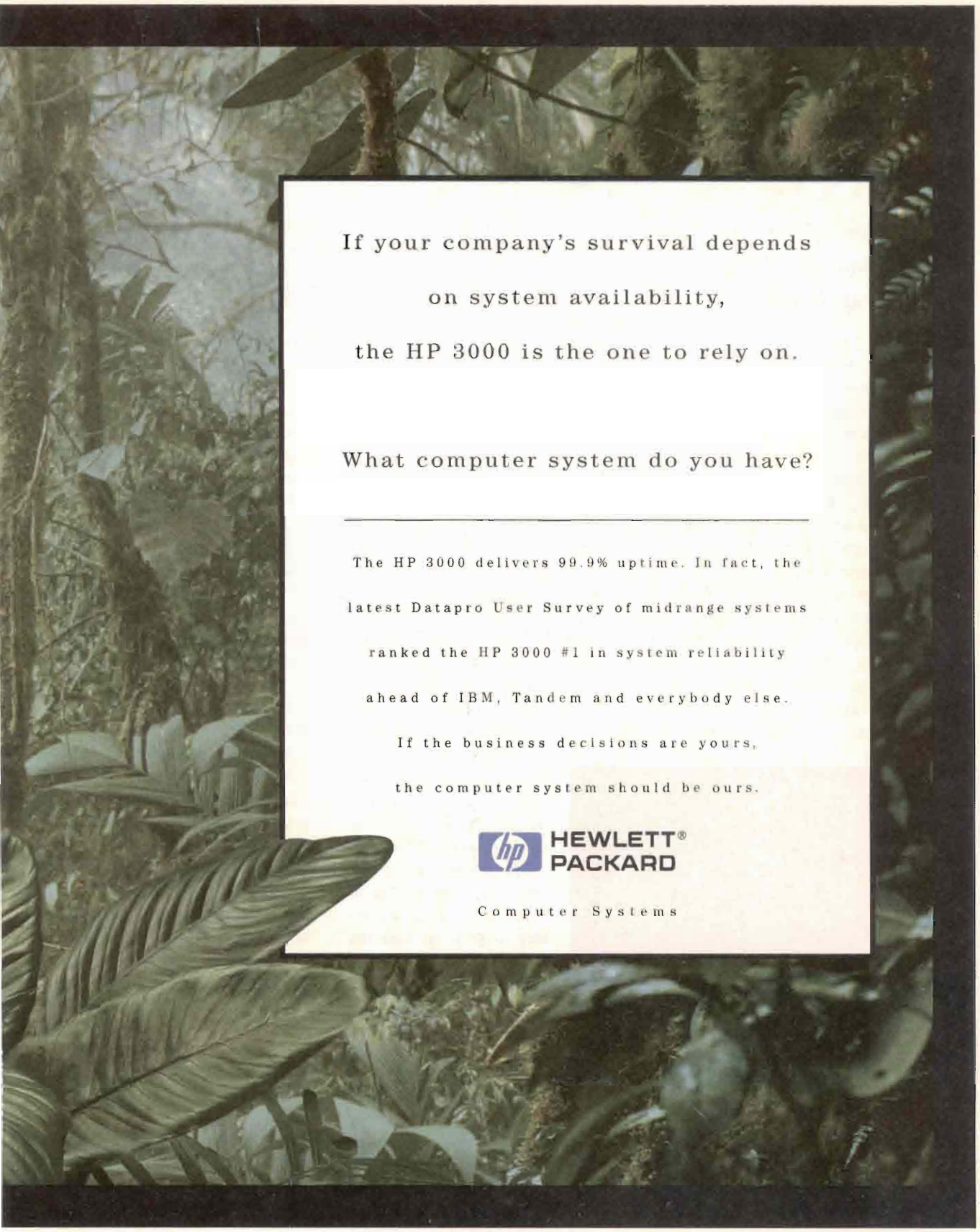

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Empi Migrates Across Platforms With DataWorks' DataFlo

In 1991, Empi Inc. (St. Paul, Minn.), a manufacturer of biomedical products for physical rehabilitation, found their information system outdated and inflexible. According to Dan McCarter, director of information services at Empi, "The proprietary system we had was no longer serving our needs." The solution came with a phone call from DataWorks Corp. (San Diego, Calif.) who contacted Empi about DataFlo, an enterprise resource planning (ERP) product, which controls all aspects of the manufacturing process from quotes and order entry to material planning and accounting.

DataFlo helps Empi track their biomedical products through the entire manufacturing process.

"DataFlo is ideal for midrange discreet manufacturing companies," says Gene Cranford, vice president of strategic marketing at DataWorks. "We approached Empi because we saw them as a good candidate [for using this product]." Empi chose DataFlo because: of the advanced technologies such as client-server, 3D relational database technology and tools, customizable GUI and API; of it's ability to customize screens, menus reports, searches, drill downs and alerts in any way Empi desired; and new people were constantly being added to handle higher volume levels as a result of the growth. Empi needed a system that could be easily taught.

Also a factor was the fact that in the medical industry, government regulations can, and often do, change at a moment's notice. Empi needed the ability to respond by modifying their information system instantly. "With the proprietary system, we were unable to make the changes necessary to keep up with the health-care industry," says McCarter. According to Jerry Morgan, senior marketing representative at DataWorks, they were able to help by tailoring DataFlo to Empi's specific needs. "It turned out that what they were trying to do was very customized," says Morgan. "They had unique billing requirements."

Empi decided to migrate off a proprietary Quantel computer running Quantel QMRP. They installed DataFlo on an NCR Tower Model 750 running Pick. "At the time, HP wasn't an option," says Morgan. "The only way to run the software was with Pick on an NCR machine." In 1992, Empi upgraded to an NCR Tower 3450.

In 1993, Empi acquired Nortech, a division of Medtronic, another biomedical manufacturing firm. With this purchase, they experienced an increase in sales of 99 percent, with an increase in earnings of 131 percent in the same period. This growth, along with the porting of DataFlo to Unidata, prompted Empi to upgrade their system again, this time to a two-processor HP 9000 Series 890.

The migration from the NCR Tower to the HP 9000/ 890 took approximately three months, culminating in a weekend-long transition. According to McCarter, the installation went well. "We shut down over the weekend, and were up by Monday," says McCarter. DataWorks' Morgan concurs, "There was a lot that had to be done to convert from Pick to Unidata. But considering the size of the project, it went smoothly." Besides Dataflo, Empi is also running Vertex, a tax calculation package. Empi currently has a three-processor HP T500, and 300 concurrent users with HP PCs and terminals.

DataWorks Corp. can be reached at 5910 Pacific Center Blvd., Ste. 300, San Diego, CA 92121; (619) 546-9600.

—Deborah Schwartz, Assistant Editor

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CIRCLE 176 ON READER CARD

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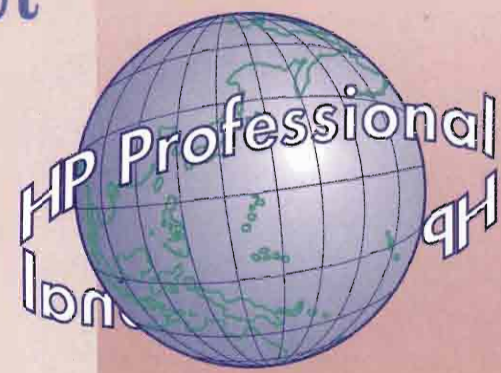

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Tuesday, August 16

11:00 a.m.–12:00 p.m.
Topic: HP 9000 & HP-UX
Dan Glessner,
HP 9000 Product Line Manager

2:00 p.m.–3:00 p.m.
Topic: The HP 3000's Interoperability with UNIX
Christophe Jacquet,
HP 3000 Product Marketing

Dave Wilde,
HP 3000 Product Manager

Wednesday, August 16

10:00 a.m.
Topic: HP 3000 Client/Server Integrators Program
Dianna DiSabatino,
HP 3000 Product Marketing
with **Paul Sita,** President,
Perfect Software Solutions,
Inc. (HP Channel Partner)

4:00 p.m.–5:00 p.m.
Topic: HP's Internet Activity
Jim Zepp,
HP Internet Solutions
Marketing Manager

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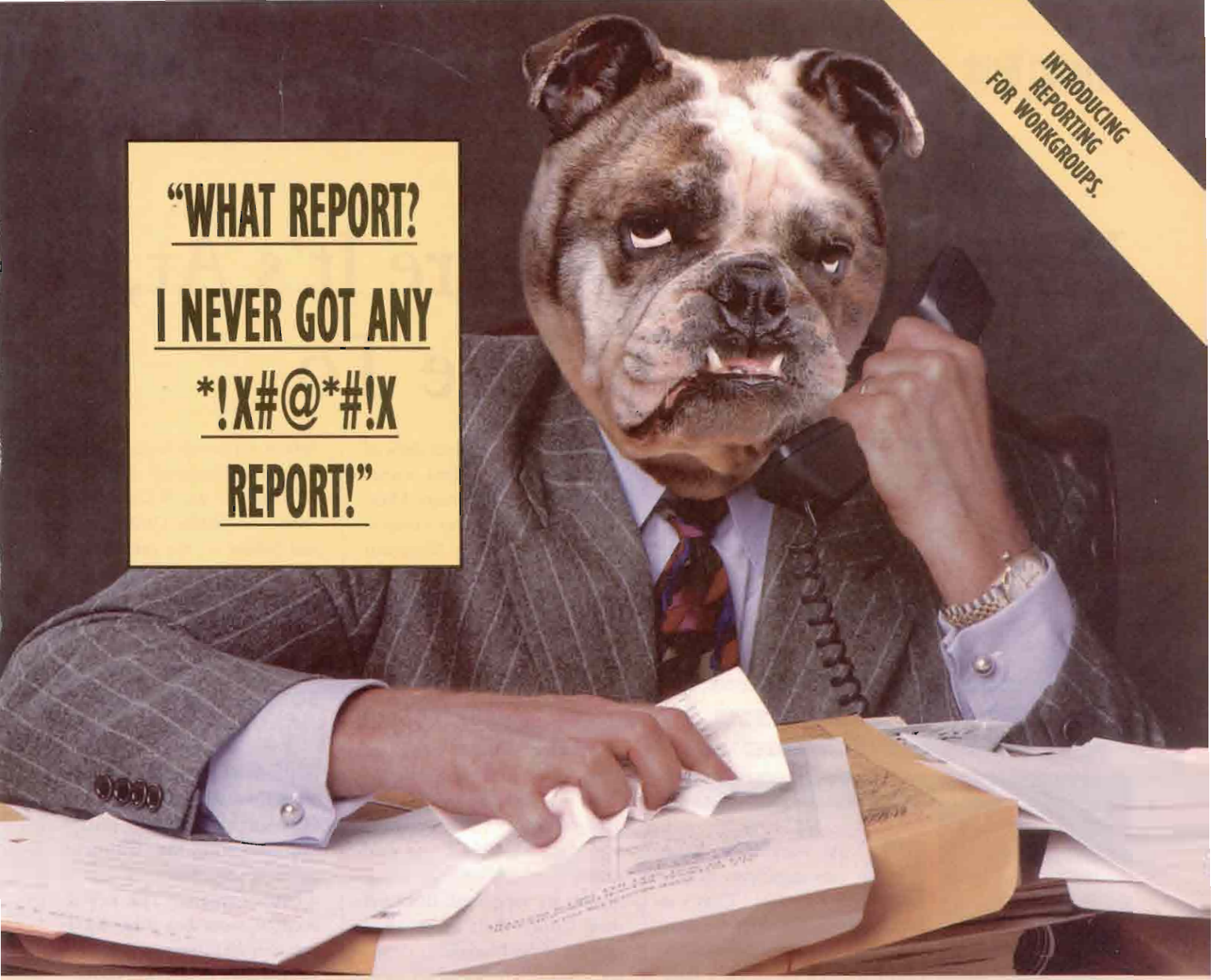

Well, maybe the boss really didn't get your report. But chances are, it's sitting on his desk under a mountain of memos, letters, and other paperwork. Why? Because you may be using the latest hardware and software tools to create your reports, but you're still distributing reports the way people did a hundred years ago... hard copy, interoffice mail. There's got to be a better way...

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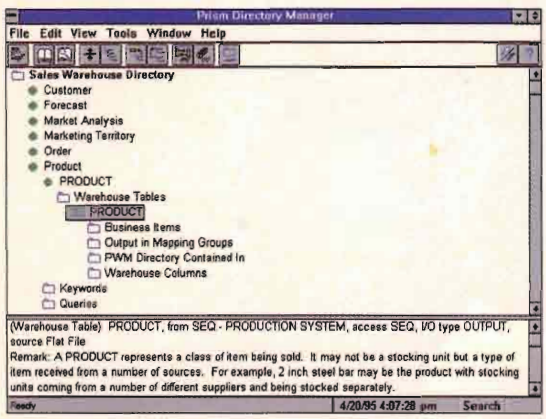
CIRCLE 247 ON READER CARD

Prism Knows Where It's At, So You Don't Have To



PRISM DIRECTORY MANAGER 1.5

- Collects, stores and manages the meta data in a data warehouse
- Imports meta data from Prism's Warehouse Manager and other CDIF-compliant CASE tools
- Supports Sybase, Oracle and DB2 RDBMs

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CIRCLE 351 ON READER CARD

Data warehouses contain gigabytes of information. That's a lot of data. But storing the data is relatively easy compared to keeping track of it. In a data warehouse, that job usually falls to the meta data. Meta data is like a card catalog that sits above the warehouse and keeps track of what is where. But who or what keeps track of the meta data? Look no further than Prism Directory Manager 1.5 from Prism Solutions (Sunnyvale, Calif.).

"In a data warehousing environment, there's an infinite number of changes that happen over time and a variety of transformations that occur," explains Cynthia Schmidt, vice president of marketing for Prism. Prism Directory Manager is a client-server application that "collects, stores and manages the meta data derived from building a data warehouse." Prism Directory Manager consists of three components: the Directory Navigator and Directory Builder, which are client-based; and the Information Directory, which is server-based.

Using an outline-style format, the Directory Navigator, a Windows-based interface, provides users with a "map" of subject areas and their relationships: textual summaries are displayed; indirect references to topics are identified; and drill down viewing and personal queries are supported. But users must launch their access tools outside of the Navigator, a two-step process instead of one. According to Schmidt, "That will be corrected in the next upgrade [2.0] in September."

The Directory Builder gathers and integrates meta data from Prism's Warehouse Manager as well as CASE tools, repositories and flat files. According to Schmidt, all CASE Data Interchange (CDIF) compliant tools are supported including Bachman's Analyst, KnowledgeWare's ADW, Oracle's OracleCASE and Texas Instruments' IEF. In addition, business descriptions, and table and attribute definitions also can be exported to DSS/EIS tools.

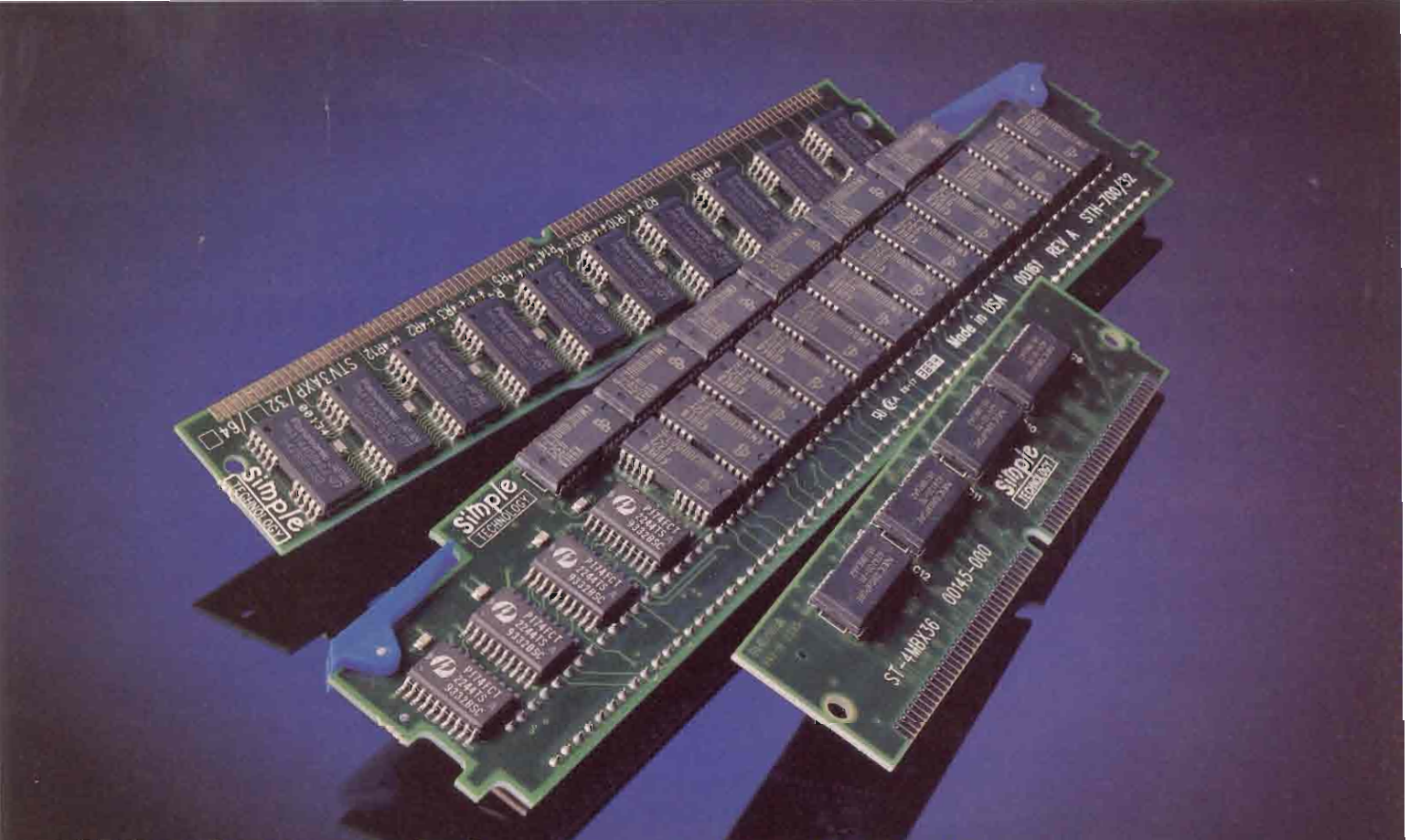
Upon a user's request, meta data is retrieved from the Information Directory. Stored as BLOBs in an RDBMS of choice — IBM's DB2, Oracle and Sybase — the Information Directory manages relationships between business definitions and technical entities using an extensive information model. Informix, Tandem NonStop SQL and Teradata RDBMS will be supported in the future.

Some of the items that users can browse include keywords, aliases, location of tables and refresh dates, mapping groups and operational files. Glossaries serve as customized source of documentation. "The key to accurate meta data is having its creation and maintenance be a natural part of the workflow," says Philip Seeger, information architect at Florida Power and Light (FPL; Guno Beach, Fla.). "Manually documented systems are not kept up."

Seeger has purchased Directory Manager for its applicability in a warehouse that stores FPL's procurement data, one of several data warehouses at FPL.

Priced at $35,000, Prism Directory Manager 1.5 includes one Directory Builder seat and five Directory Navigator seats. Additional Navigator seats can be purchased for $500 each.

—George A. Thompson, Technical Editor



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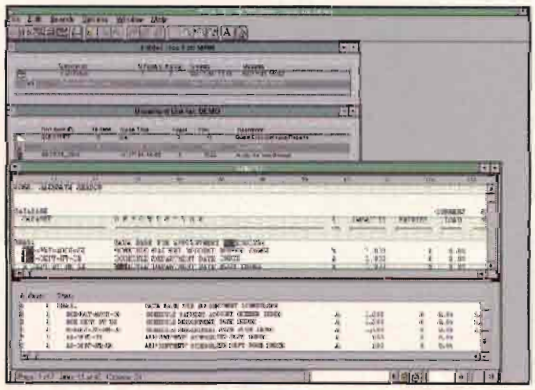
Quest Sees A New Report Management Vista



VISTA PLUS FOR WINDOWS

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CIRCLE 355 ON READER CARD

VISTA, VISTA Plus and now VISTA Plus for Windows, from Quest Software (Newport Beach, Calif.), tackle the multiple problems of computer-generated report management head on. VISTA and VISTA Plus are character mode interface Electronic Report Management (ERM) systems for the HP 9000 and HP 3000.

New to the product line is VISTA Plus for Windows, which uses the client-server model to provide a standard GUI interface. The client-server model separates the storage management, searching and retrieval of reports (server) from the report display (client). Data may be retrieved from multiple servers at the same time without having to establish a host session. Quest has protected the investment users have in VISTA Plus by designing the VISTA Plus for Windows server to access the same reports.

The VISTA products use Quest's NBSpool spooler to capture reports and store them in VISTA folder files. Quest ships a stripped down version of NBSpool with VISTA. While this minimal version of NBSpool is required, Quest has integrated VISTA into sites that use UNISPOOL, SPOOLMATE and ESPOOL.

The VISTA Plus for Windows server process runs in the background, communicating with the client PCs and controlling access to reports. It determines who can log in, which reports can be viewed, and manages information flow. Maintenance programs are used to set up user logins, folders and profiles. Control programs check the server status and stop the server when necessary.

Report files are added to the system by running a capture program. Any text file can be added to the system in this way. When captured, the file is converted and stored internally by the VISTA server, making it available for viewing by client PCs.

The basic organizational units are document definitions, each of which is assigned a unique document ID, and folders, which are linked to various documents. Each user is assigned a home folder. When a report is captured to a document definition, it is automatically added to all the appropriate folders.

Folders may contain both documents and other folders, forming a hierarchical structure. Both documents and folders may exist in more than one folder at a time. Similarly, a folder may be the home folder for multiple users.

The Microsoft Windows-based VISTA Plus client can support an unlimited number of connections defined by node name and default user name. Multiple folders may be open at the same time.

When a document is opened, a window pops up displaying the contents of the selected document. The document may be scrolled horizontally and vertically and can be traversed by logical page. The user has complete control over display fonts and colors.

VISTA Plus for Windows server software is available for HP-UX and MPE/iX 5.0 systems. Server prices start at $1,300 for the HP 9000 G30. VISTA Plus for Windows client software starts at $2,400 for a 10 pack and $9,600 for a 50 pack. Licensing is based on the number of concurrent users.

—John P. Burke,
HP 3000 Columnist

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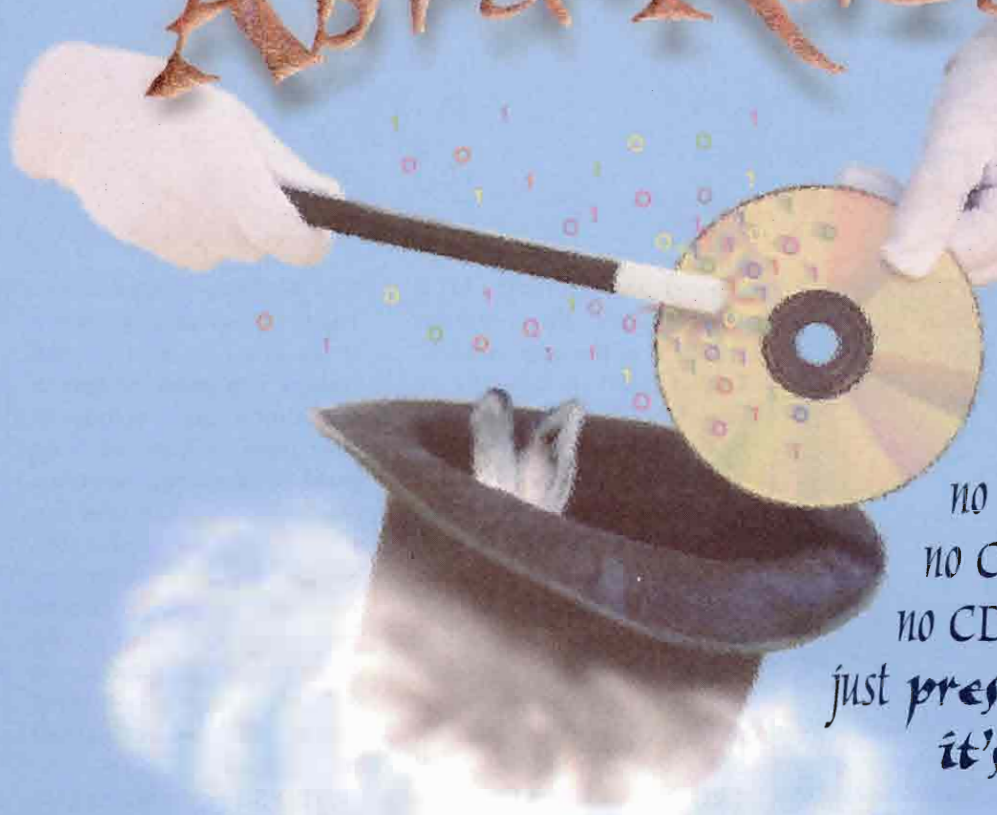

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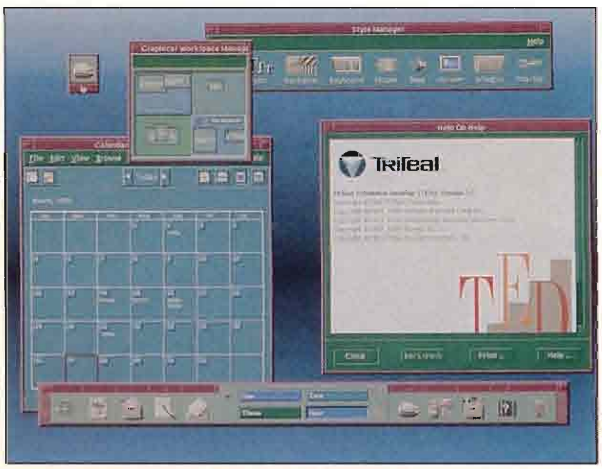
CIRCLE 105 ON READER CARD

TED's Up



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CIRCLE 354 ON READER CARD

When it comes to ease of use, UNIX has a notorious reputation. With a different interface for each of its many variants, UNIX can be as hard to decipher as the Dead Sea Scrolls. So it's no small wonder that learning UNIX requires grueling training sessions. But companies could also invest in the TriTeal Enterprise Desktop (TED) 3.5 from TriTeal Corp. (Carlsbad, Calif.) to ease the pain.

TED is TriTeal's implementation of the OSF's Common Desktop Environment (CDE) specification, which provides a consistent user interface for all UNIX desktops. Although the result of groupthink by HP, IBM, Novell and SunSoft, HP's Visual User Environment (VUE) is at the core of CDE. In fact, CDE is now the de facto UNIX interface and will be bundled with HP-UX 10.0.

Vernon Badham, senior staff scientist at Science Application International Corp. (SAIC; San Diego, Calif.) says, "With TED 3.5, it's easy to unite different platforms. We're not tied to one vendor anymore and we're certainly not forced to learn all the different details of the varying platforms. With TED 3.5, you just click the icons and it's all on one desktop."

TED's Style Manager lets a user customize the desktop with color palettes and background patterns. TED's Workspace Manager organizes data into multiple work areas, while the Graphical Workspace Manager lets a user visually monitor the applications.

With TED's File Manager, a user can move through local and remote directories and place drag-and-drop icons into other directories or onto the desktop. This feature also allows for toolbox functionality and file manipulation.

The ToolTalk feature lets users communicate between applications, while the Application Builder provides the means for constructing applications that will run under TED. The Multiple Screen/Front Panel allows users to run a front panel on each screen making it possible to launch applications from a resident front panel or from one front panel for all screens. When the session is complete and the user is ready to logout, the Session Manager saves the current desktop configurations and restarts the session exactly as the user left it, including the applications that were running and the location and sizes of the windows.

TED 3.5 supports Windows X11R5 and OSF Motif 1.2x interface specifications. TED runs on IBM AIX, UnixWare, SunOS, Solaris, HP-UX, SGI IRIX, AT&T MP-RAS, SNI SINIX and Digital Unix, as well as HP Panacom, NCD and Sun River X terminals. TED 3.5 is priced at $425.

TED 4.0 will be released this month, featuring TEDvision, an Internet browser tool. TEDvision is the integration and modification of SpyGlass Inc.'s Enhanced Mosaic into TED software. This feature lets users browse file systems locally or remotely, without interrupting their applications. TED 4.0 is also priced at $425.

—Cindy Marone, Contributing Author

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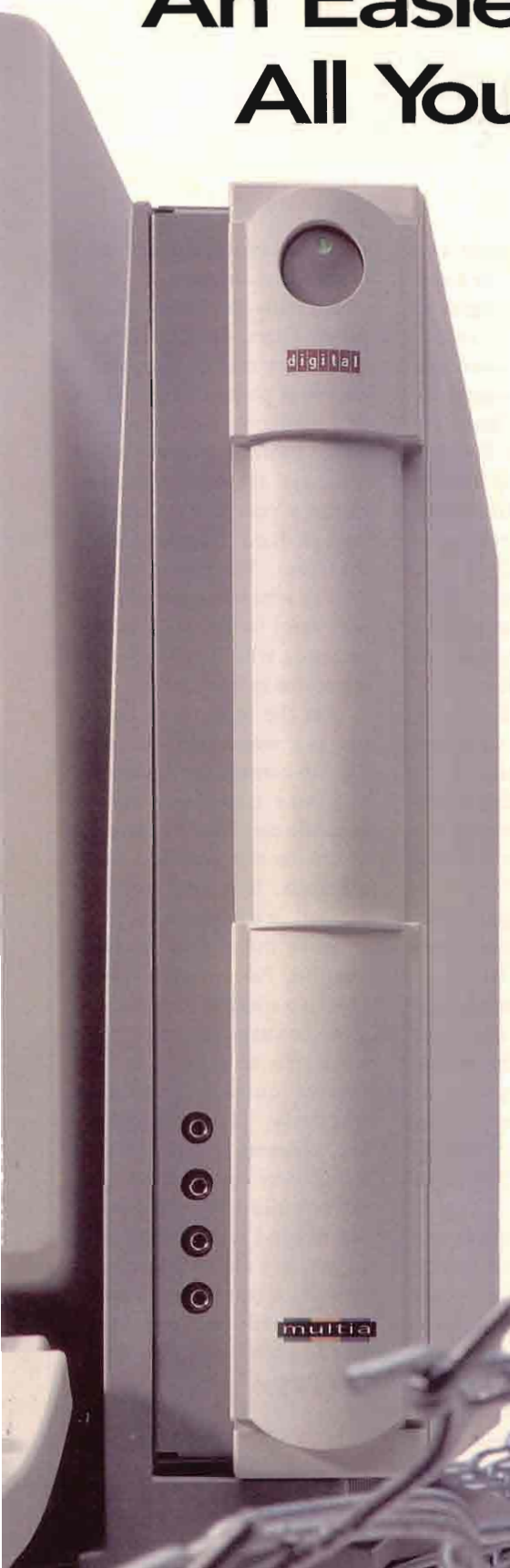

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Red Pepper Spices Up Exception Scheduling

Red Pepper's Response Agent Developed For NASA Gets Some Respect On The Ground

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"On any shop floor, if you issue a schedule one day and change it the next, you'll get some dirty looks. Change it again, and you'll hear some cursing. Change it a third time and the schedule will lose all credibility and the shop will execute whatever they think is right," says Monte Zweben, president and co-founder of Red Pepper Software (San Mateo, Calif.).

"What we needed was an approach that would resolve schedule exceptions in real time, dynamically, but do so without coming up with a completely new schedule," Zweben says. The result was ResponseAgents, Red Pepper's manufacturing planning and scheduling software. Developed for NASA by Zweben for the repair and refurbishment of the space shuttles, the software went commercial two years ago when Red Pepper was founded.

ResponseAgents integrate with manufacturing transactional systems; monitor such basic data as materials, orders, forecasts and other information; extract that information into memory; and present it to the user. ResponseAgents use the same intelligent exception-based optimization technology developed at NASA to resolve scheduling exceptions.

"From a GUI, a user can work with the ResponseAgents to change the schedule and resolve the exceptions; or a user can ask the intelligent agent to resolve the exceptions itself," says Zweben. "For example, suppose on Monday some capacity problems in a manufacturing workcenter; on Tuesday, a material shortage; and then on Wednesday, orders are scheduled to ship late because of these other problems."

ResponseAgents will examine each of these exceptions and try to repair the plan to resolve them. "For the capacity problem, it will try to offload some of the workcenter activities," explains Zweben. "For the materials shortage, it will try to move the requirement for that material later in the schedule."

Currently, Red Pepper offers the Production ResponseAgent that handles an environment within a production facility, and Distribution ResponseAgent which helps manage the distribution of materials and goods. To come is the Enterprise ResponseAgent which will help manage the resources of an entire enterprise.

Red Pepper products run on Sun and HP servers and on X Windows clients on workstations, PCs and Macintoshes. In June, PeopleSoft announced an agreement with Red Pepper to include Red Pepper's planning, scheduling and optimization technology in their Manufacturing and Distribution software.

An early customer, 3Com (Santa Clara, Calif.) produces close to a million adapters a month at plants in Santa Clara and Ireland. According to Jackie Fahrner, manufacturing business systems manager, about a year ago 3Com installed Red Pepper's Production ResponseAgent. "We're scheduling our production lines in Santa Clara and Ireland, which still operate somewhat independently."

But the long range objective is a worldwide scheduler. "It will consider both plants at the same time from master schedule and capacity planning down to the detailed daily schedule. If it can't solve [a request], it tells you why."

Since the system has been installed, Fahrner says, "we're getting a quicker response and more accurate information. So we're able to respond to customers quicker and more effectively." Before Red Pepper, planners had relied on a spreadsheet approach for production planning. "We knew we needed something much bigger. We started a search for a product that would provide us with real-time, constraint-based optimization. We found Red Pepper."

—Sam Dickey,
Contributing Author

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Global Memory Leader Targets Rapidly Growing HP Workstation Aftermarket

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—Joe Klein,
Director of R&D

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PNY Electronics, Inc. is a world leader in the design, manufacture, and distribution of memory modules for computers and printers. Although PNY has always been known for a diverse and fully-compatible product line, the company made a strategic decision during the second quarter of 1994 to turn up the heat on the workstation aftermarket. Today, PNY is a leading supplier of memory for Hewlett-Packard, Silicon Graphics, Digital, Sun Microsystems and IBM workstations.

As part of PNY's overall workstation market strategy, a particularly strong focus is being given to the HP 9000 series. "From a marketing standpoint, it makes perfect sense," says PNY's vice president of sales and marketing, Ray LeBlanc. "Our research not only indicates a tremendous amount of HP 9000s in the field, but that future purchases of this family of workstations should remain high for several years. Obviously, this creates both an immediate need and sustained demand for compatible aftermarket memory."

Why Add Memory?

"Businesses can outgrow their current memory capacity surprisingly fast," explains Joe Klein, PNY's director of research and development. "Complex applications such as CAD, data processing, desktop publishing, scientific analysis, scanning, CASE and financial programs are all memory hungry. Failure to keep up with increased memory demand will result in decreased productivity from computer systems and personnel as well. Upgrading memory on the other hand, is an affordable way to achieve maximum speed and productivity. It also ensures a greater return on a company's investment in hardware, software and in employee training," he adds.

Why Buy PNY?

Compatibility, quality and support have long been the cornerstones of PNY's success in the PC market, and that proven formula is being applied to workstations. "We have long term relationships with 9 of the top 10 computer manufacturers and are very active in their developer conferences. This gives us advance access to product design information, which allows us to get our products to market faster."

As an example, LeBlanc adds that PNY expects to begin shipping memory for the newly-launched HP 9000 K Class servers and the HP 9000 J Class workstations by early autumn. "We expect to support this advanced generation of HP 9000s with a variety of upgrade options," he says.

As an ISO 9001 registered company, PNY complies with strict international quality standards. In addition, every module is tested. "No module ships without being tested, " states Klein. "Our emphasis on quality enables us to manufacture the most reliable workstation memory products available, which we back with a lifetime warranty."

While many companies close their 800 lines as a cost-saving measure, PNY is expanding its toll-free technical support service. "We now offer tech support seven days a week and a fax-back product information service 24 hours a day," explains LeBlanc. "We consider this a smart investment. The burden of technical support is taken off our resellers and distributors, while end-users get friendly expert advice on installing memory."

LeBlanc adds that the majority of PNY's tech support calls are questions on how to install memory, or which memory module is needed to upgrade a specific computer. "In the event that an exchange or replacement must be made, our tech support reps help make the transaction go smoothly."

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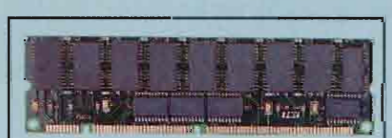

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How Remote Can You

Eight million telecommuters, 50 million mobile professionals and 10.6 million home PC users can't all be wrong. They're part of a red hot trend — and by all indications, one the fastest growing and as yet unrecognized markets in IT — remote access.

George A. Thompson

Traditionally, there have been two fundamental approaches to successfully implementing remote access solutions: remote node and remote control. Of the two, remote control is the best well-known and the most often implemented. The reason: the technique has been used for connecting mainframes to dumb terminals since the days of SNA and 3270.

Today, however, the basic equipment required for remote control (for an end-user or client) is: a desktop or portable PC (serving as a substitute not-so-dumb terminal), a modem of sufficient speed (currently 28.8 Kbps), a dial-up line (telephone or leased) and of course, a remote control software application.

Remote control technology is based on the master-slave relationship inherent in the mainframe paradigm. The remote host (or slave), usually a PC located on a LAN (or master), does most of the processing. So only keystrokes, mouse movements and screen updates are transmitted over the network. Executing the application on the host therefore minimizes the amount of information transmitted across the telephone line.

That makes remote control a good solution for data-intensive, interactive applications like database queries or order entry. The most popular remote control software packages for PCs are Microcom's (Norwood, Mass.) Carbon Copy, Symantec's (Cupertino, Calif.) pcAnywhere, Travelling Software's (Bothell, Wash.) LapLink and Triton's (Iselin, N.J.) CoSession for Windows. Another twist is provided by Triton's CoSession PC2X, which allows you to run, control and display PC applications from inside an X Window on a UNIX workstation.

Because you can take complete and absolute control of an individual system, remote control is also a very good

solution for running remote diagnostics, providing technical support and supporting IS helpdesk functions. You can run all of the remote PC programs, upload and download files, distribute new software versions and patches and chat (conduct a conversation in real time with typed messages appearing on the local and remote displays).

Now traditional solutions like Blast Professional from Blast Inc. (Pittsboro, N.C.) and Reflection 1 for Windows from WRQ (Seattle, Wash.), both long-time popular products, provide terminal emulation and more recently remote control links for DOS/Windows, UNIX and the Macintosh.

From an IT perspective, because a dedicated PC is required for each connection, remote control sessions, beyond a few users, are costly to maintain and even harder to manage, especially when PCs and modems get scattered throughout an enterprise. Those limitations can be overcome with a box or boxes of clustered CPUs like those offered by Cubix Corp. (Carson City, Nev.). Cubix' BC series of Intel 386, 486 and Pentium CPUs are modular "PCs on card" which can be combined in a single rackmount chassis for centralized management and reduced cost.

But from an end-user or client perspective, remote control hasn't fared well in a computing world where GUIs are now the norm — graphical performance is frustratingly slow — and point-and-click transparency is taken for granted — users still need to understand where the data is located. And increasingly the most important of all, you don't get full LAN access. What if an application you need to run or the database you need to update, isn't on the remote system your connected to? You can hang up and re-dial, but what if you don't have or can't get access to that PC.

Advice For The LAN Lorn

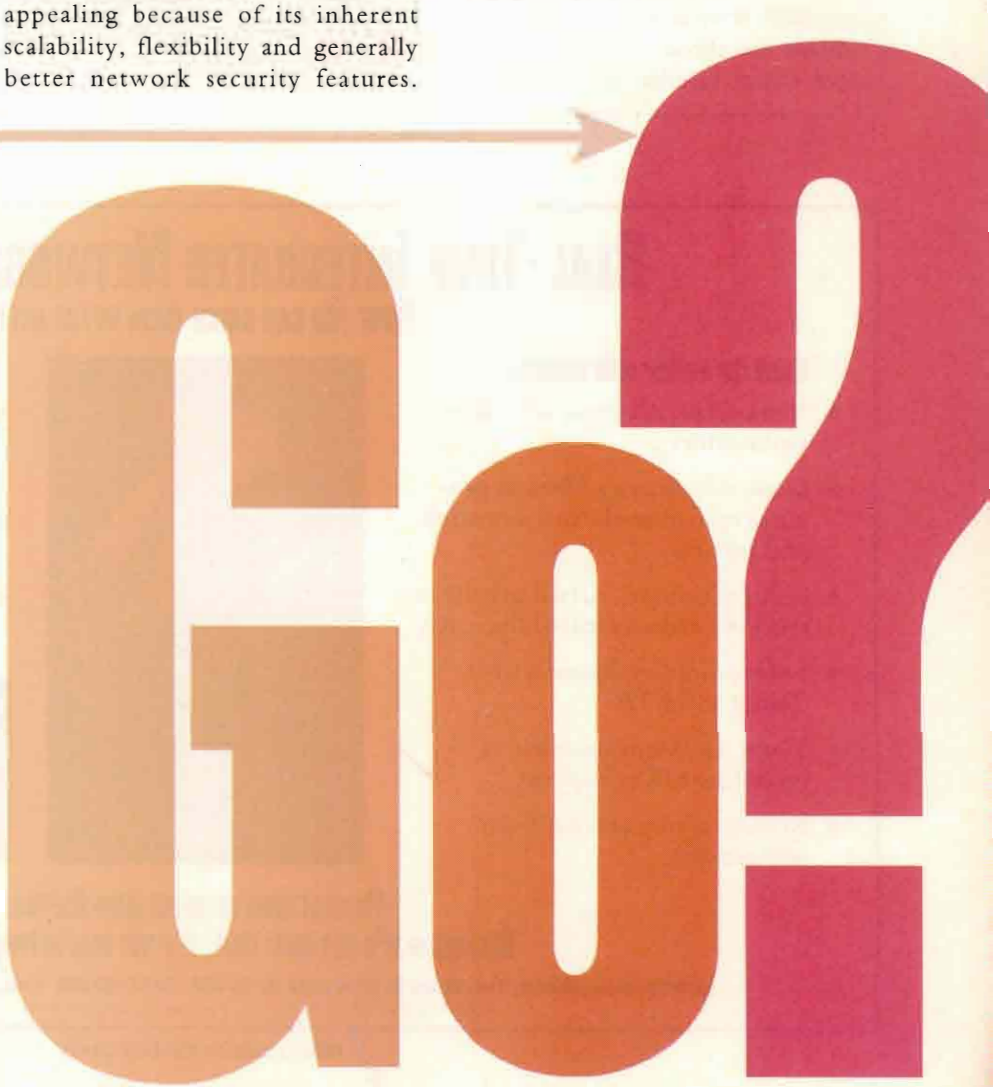
HOWEVER, IF YOUR idea of being there is participating as an interactive peer on a LAN, then remote node is the ticket to ride.

Because the idea driving the remote node model — ultimately moving the application and the data closer together — is a decidedly client-server notion, remote node connections allow users to simultaneously dial-up through dedicated "remote node (or access) servers." The software application processing takes place on the remote client PC, while the access server functions like a bridge or router transferring network data packets between the two systems.

Unlike remote control connections, where installing modem hardware and dial-up lines for each dedicated PC for each user are necessary, remote node allows more users to dial in per server. Users have access to LAN file systems, applications and data.

For IS managers, remote node is appealing because of its inherent scalability, flexibility and generally better network security features. Because of its inherent client-sever orientation, remote node configurations work particularly well with distributed computing applications like E-mail and groupware. Consequently, remote node is actually preferred by many IS managers and is expected to grow in popularity.

One of the best known remote node solutions has been LANRover 3.5 from Shiva Corp. (Burlington, Mass.) for Windows/DOS and the Macintosh platform. HP's Roseville Networks Division offers Dial-A-LAN 2/A Plus and 4/A modules that plug into the expansion slots of their AdvanceStack 10Base-T stackable hubs. In addition to providing LAN-to-LAN connections, workgroups can share dial-out connections to online services and the Internet. The 2/A Plus (two-port) version includes integrated 28.8 Kbps (V.34/V.42bis) modems,



whereas the 4/A module (four-port) connects to four external modems or ISDN terminal adapters. Jointly developed with Shiva, the AdvanceStack Dial-A-LAN modules are compatible with LANRover 3.5.

Peer Review

DON'T MAKE THE mistake of thinking that remote node and remote control technologies are mutually exclusive. In large enterprises with many diverse and dispersed remote users out in the field and in branch offices, most often, a combination of the two methods usually works best. Remote node generally extends the LAN protocols (typically IPX/SPX or TCP/IP) out to the client so more processing must be done on the client and more data transferred over the low bandwidth telephone line. That's a problem for those seeking to link branch offices together in a LAN-to-

CLOSE ENCOUNTERS OF THE REMOTE KIND

Factors driving the remote access market include:

Mobile Workers — 55 percent of the approximately 50 million mobile workers in the United States use a portable to communicate with corporate networks. By the year 2000, 35 percent of all PCs sold will be portables; one in five PCs in use will be a portable.

Branch Office Automation — 67 percent of the existing 300,000 remote offices in the United States are equipped for remote access. By 1998, 96 percent will be.

Telecommuters — The U.S. Department of Transportation is predicting that by the year 1997 2.3 to 4.6 percent of the labor force will be telecommuting 2 to 3 days per week. By the year 2000, 5.2 to 10.4 percent of the labor force will be telecommuting 3 to 4 days per week.

The Growth of the Internet — In 1994, there were approximately 2,217,000 computers on the Internet. Half of the Internet's growth occurred in the last 12 to 14 months. By early, 1994, a new computer was added to the Internet every 30 seconds.

Maturing Wireless Technologies — 80 percent of the U.S. adult population is interested in wireless communications. Wireless data usage will grow from 2 percent to 13 percent of those who require the capability to communicate with corporate computers and networks in the next two years.

Competitive Business Advantages — The primary business uses of remote offices are to improve sales, customer support and marketing.

Compiled from data supplied by BIS Strategic Decisions (Norwell, Mass.), BRG Research (Newton, Mass.) Forrester Research (Cambridge, Mass.), Infonetics Research (San Jose, Calif.) and The Internet Book (Prentice-Hall, 1995).

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CIRCLE 239 ON READER CARD

LAN or LAN-to-WAN enterprise architecture.

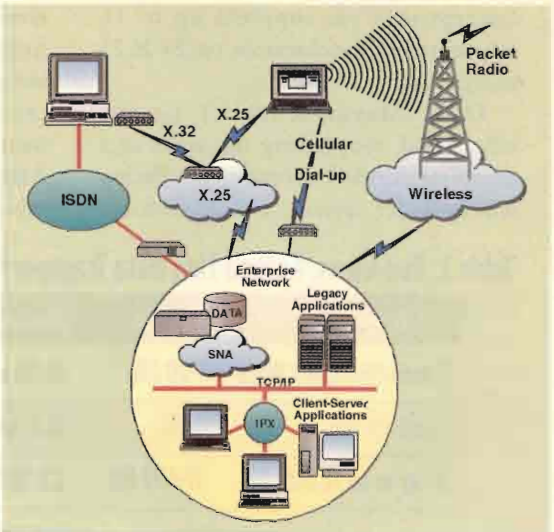
Consequently, a few vendors — Citrix Corp. (Coral Springs, Fla.), SimmWare Inc. (Ottawa, Ontario) and TechSmith Corp. (East Lansing, Mich.) — are introducing all-in-one, so-called "application server" products combining the best of both remote control and remote node methods. All three companies are touting their solutions as enterprisewide solutions.

Citrix' WinFrame for Networks (available this month) is an enterprise architecture optimized to run as a Windows NT server (supporting SMP). Citrix' Intelligent Console Architecture (ICA) 3.0, a Windows presentation services protocol, provides a remote control-like connection with a Windows-based client PC. The ICA runs Windows applications on WinView Windows NT-based application servers, sending only the interface objects and events to the client. A software-only solution, WinFrame is compatible with remote node servers including Attachmate RLN, Microsoft RAS, Novell NetWare Connect and Shiva LANRover.

SimmWare's A2B Enterprise is a suite of Windows-based products providing "to the LAN and through the LAN connectivity" with links to remote 3270, VTxx and TCP/IP, and dial-up NetWare LAN applications.

TechSmith's Enterprise Wide, operating at the highest possible protocol layer, "moves up the stack," capturing messages and transmitting them. Therefore, network overhead is kept on the LAN and off the remote link. Enterprise Wide also takes advantage of an intelligent agent called Protocol Assist to "optimize the transport process" (i.e., reduce the connect time) between remote workstation and LAN gateway providing dial-up telephone, switched cellular and X.25 networks connections. Enterprise Wide also includes intelligent communications adapter cards for a LAN gateway.

REMOTE ACCESS TOPOLOGY



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LAN Magazine 1994
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Enterprise Wide supports up to 16 simultaneous asynchronous or 24 X.25 connections.

DEC (Maynard, Mass.), on the other hand, recognizing the value of a complete turnkey solution, is offering its NetRider system, a multiprotocol access server that can be used in a standalone mode — NetRider 90 (eight ports) — or as a module — NetRider 900 (32 ports) — in DEC's DEChub backplane which support up to seven access servers. The NetRider Remote Office software, licensed from Stampede Technologies, provides remote users with several methods of network access, including fully-integrated remote control/remote node capabilities from DOS and Windows over IPX and TCP/IP concurrently. Apple's AppleTalk protocol also is supported.

Table 1: Dial-Up vs. Leased Line Data Transport Times

File Type	File Size	Dial-up at 28.8K	Leased Line at 56K
E-mail/Microsoft Word	1-90 KB	15-40 seconds	.14-12.8 seconds
Graphics file	3 MB	14.1 minutes	7.14 minutes
X-ray or large bulk file	37-400 MB	2.8-30.8 hours	1.47-15.9 hours

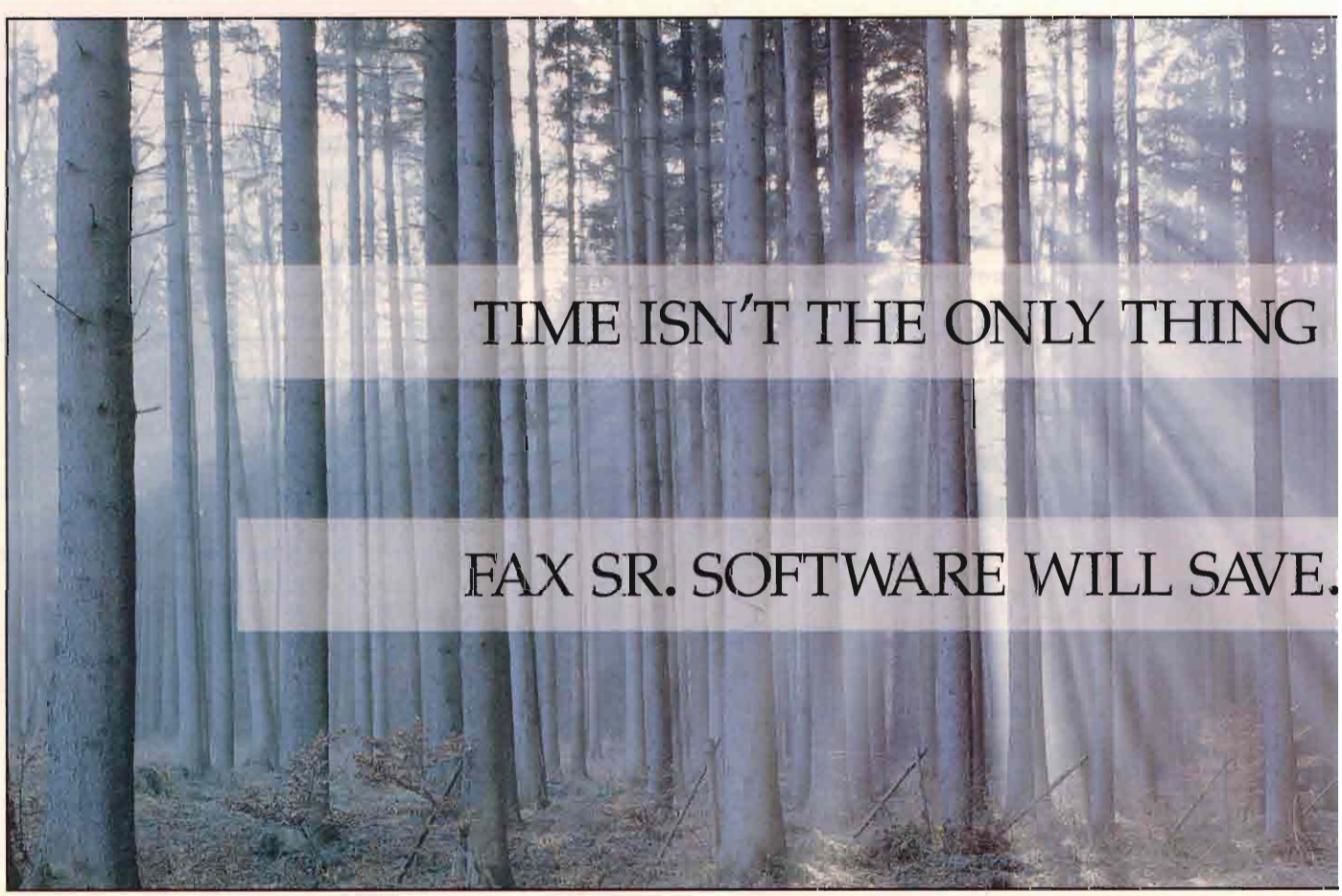
Courtesy of Symplex Communications (Ann Arbor, Mich.)

Other kinds of solutions include Microcom's WANmiser bridge/router MBR/6000 and MBR/6003 designed for packet switched services such as X.25 and Frame Relay. And, Rockwell Network Systems (Santa Barbara, Calif.) offers NetHopper, a five-port dial-up router with five integrated modems. Optional is Rockwell's RoadHopper, remote node software for telecommuters and mobile users. NetHopper uses spoofing and filtering to connect remote clients to TCP/IP and IPX LAN backbones. U.S Robotics' (Skokie, Ill.) NETServer products include remote node access, terminal service and LAN-to-LAN routing capabilities for IP, IPX, PPP, SLIP and CSLIP protocols.

Traveling Bandwidths

IN YOUR SEARCH for better remote access, don't overlook router switching technologies. \Symplex Communications (Ann Arbor, Mich.) provides its DirectRoute products (DR1, DR-2, DR-5) for faster data transfer between LANs.

Based on Connection-Oriented Route Establishment (CORE), similar to ATM technology, and Symplex's "silent routing" technology, Direct-



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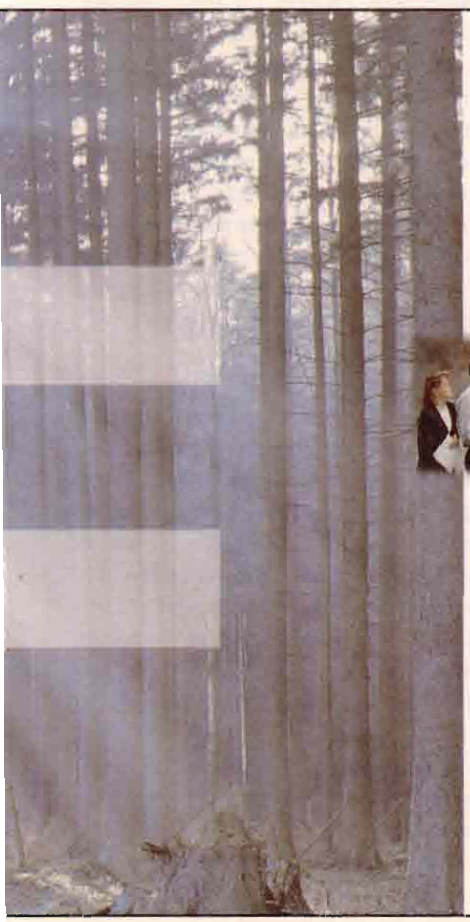

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HOW REMOTE

as the strategic backbone device to central office networks," according to a report from the Aberdeen Group (Boston, Mass.).

Another alternative to WAN internetworking is NetRunner Integration Routers (I-Routers) — 75E (node/branch router), 500ET, 1000E (node router) and 2000E (node router) — from Micom Communications (Simi Valley, Calif.).

Integration routing pays for itself in less than a years.

Micom's MicroBand ATM cell relay technology integrates synchronous data (SNA, X.25, DDCMP) and asynchronus data (DEC, HP, UNIX) along with remote LAN traffic. By also allowing toll-free voice and fax data to tag along with the legacy and IP/IPX LAN traffic over the same 9.6 to 128 Kbps connection, charges for long distance phone, fax and Ethernet LAN connections are eliminated. Because MicroBand ATM dynamically allocates bandwidth only to momentarily active users, and in the direction of use, periods of voice and fax consume no bandwidth (a silent suppression technique similar to Symplex's silent routing). According to Micom's figures, integration routing pays for itself in less than a year.

Whether it's done from headquarters, in a branch office, from the home or on the road, remote access is about seeking and simply making the right connections. You'll find yourself among multiple gateways, routers, bridges, modems, clients, network operating systems, servers and phone lines, as well as a myriad of platforms and protocols. In addition, there are subtle differences to be aware of in various wired and new wireless configurations. The solutions, however, are, well, anything but remote.

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It's Good To BE KING

But What Will HP's Network And Systems Management Subjects Pay For Their Allegiance?

Jill Huntington-Lee

It's not the fastest, cheapest or slickest way for managing TCP/IP-based networks. And according to some market share figures, it may not even have the largest installed base. Yet, HP OpenView is absolutely the most influential network management package around since IBM's mainframe-based NetView for MVS hit the glass house back in 1987.

What Makes OpenView So Darn Important

BECAUSE HP OpenView represents HP's philosophy about network and systems management, it is important for you to thoroughly understand HP's product direction before investing in OpenView for the first time or expanding your current investment.

In a distributed, heterogeneous computing environment, network management means making sure that TCP/IP routers, bridges and hubs stay up and running at optimal configurations. Systems management, on the other hand, has less to do with the connections between computers, and more to do with the computers themselves. Systems managers then, are concerned with answering these kind of questions: "Are the servers running out of disk space or memory?" "When should backups be run and how?" and "Is there a way to automate the time-consuming process of installing a new application on 1,000 PCs at once?"

Traditionally, network and systems management have been viewed as separate and distinct disciplines. And in many organizations today, there is still a clear line of demarcation between network and systems management responsibilities. (see *Table 1*).

So keep this in mind: OpenView isn't one product. It's a suite of several products — all with their own architectures, functions and target markets — collectively capable of network *and* systems management.

Table 2 lists the six "platforms" in the OpenView product suite, as well as a number of supporting management applications. "Platform" is an important term, indicating that the product was designed to be extended via external applications, written either by customers or third-party vendors.

Network Node Manager Is The Key

AS THE MOST well-known member of the OpenView product line, Network Node Manager (NNM) is the key to understanding HP's success. Out of the box, NNM cannot open a trouble ticket when a network problem occurs, nor can it detect that a router has been misconfigured or that a server is about to run out of disk space.

In fact, there are many critical network management operations that NNM does not support — until the customer writes scripts or code, or integrates a third-party applications.

In truth, NNM is a framework upon which a comprehensive management solution can be built — but in itself, it is not a total solution. NNM's primary duty is to collect data from nodes on internet protocol (IP) networks residing in a Simple

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Ask any customer why they purchased NNM, and you'll undoubtedly hear these two reasons: flexibility and widespread third-party support. Integrating a user-written or third-party application into NNM is fairly simple.

Network Management Protocol (SNMP) management information base (MIB) stored on each node. Specifically, NNM discovers all the IP nodes on the network and creates a map showing all IP addresses; detects up/down status of critical IP nodes (e.g., routers, bridges, hubs and large servers); and collects management data from critical nodes.

Therefore, administrators can optimize network traffic patterns by detecting problems before they impact network response time, throughput or availability and reconfigure routers to avoid trouble and optimize network traffic patterns. So how does NNM support these important proactive strategies?

Like any successful solution, NNM breaks down a big problem into smaller tasks or "processes" that are easily handled. In fact, NNM is composed of dozens of processes (actually separate C routines), each one responsible for a different task.

Taken separately, each process is rather simple and straightforward. Because many processes have options and user-modifiable parameters, NNM's processes can and do interact with each other in complex and seemingly mysterious ways. Fiddling with options and parameters can easily get administrators into trouble.

Yet, fiddling is what gives administrators a large measure of flexibility. So, it shouldn't come as a surprise that flexibility is the key to OpenView's popularity among end-users and third-party independent software vendors (ISVs).

Ask any customer why they purchased NNM, and you'll undoubtedly hear these two reasons: flexibility and widespread third-party support. Integrating a user-written or third-party application into NNM is fairly simple — at least when the integration is superficial (for example, confined to the user-interface level). In fact, most applications listed in HP's OpenView Solutions Catalog are integrated with NNM at the user-interface level (OSF/Motif support and menu bar) or by SNMP event-passing. The vehicle for integrating applications at the GUI level is the Application Registration File (ARF).

ARFs define many aspects of the application's interaction with NNM — such as how the application will fit into NNM's menu structure, how the application is invoked from selected menu items (for loose integration), or map symbols (for tighter integration), and where to locate application-specific help. The ARF also defines which fields to display in the GUI's dialog boxes, and how the application itself

OPENVIEW OVERVIEW

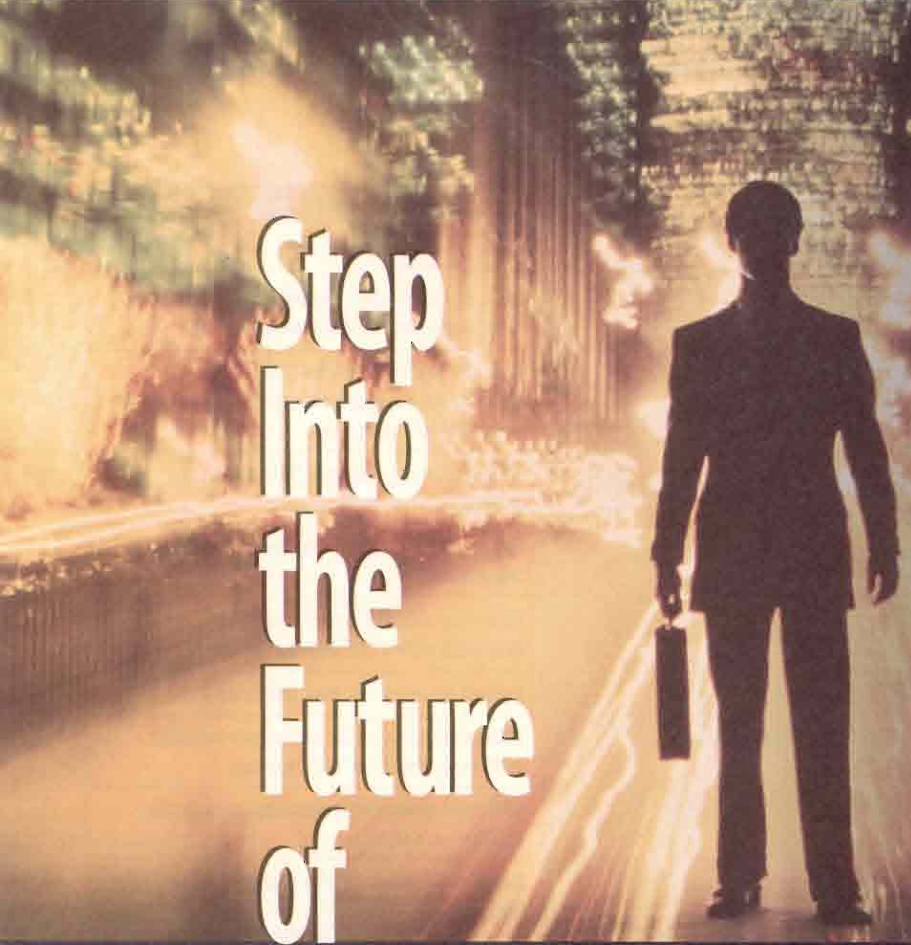
HP's Network Node Manager (NNM) is a UNIX-based software package for managing TCP/IP internetworks (with an embedded Ingres database for storing management data). In addtion to running on HP-UX, NNM also runs on Sun Microsystems' Solaris OS. And this past June, HP released NNM 4.0 which included optional support for Oracle as well.

NNM is for customers with medium-sized networks (from 1,000 to 5,000 nodes). Due to performance limitations, a single copy of NNM is rarely used to manage more than 1,000 nodes. As such, it occupies the middle-tier of HP's three-tiered network management product suite. (*see How Much Can OpenView Handle?*)

At the low-end, HP offers HP OpenView for Windows, also called HP OpenView Workgroup Node Manager (WNM). WNM is DOS/Windows-based, and is typically used for managing single-segment LANs of 50 to several hundred nodes. Like NNM, WNM also can support applications developed by third-parties or customers. However, WNM applications are usually written in Visual Basic. NNM extensions are generally written as UNIX shell scripts or in C. Perhaps, the biggest difference between WNM and NNM is in their respective packaging and distribution. Until recently, WNM was sold primarily on an OEM basis. Cabletron's Remote LANView for Windows is one popular example of a repackaged WNM. Now, HP sells the end-user version of WNM through VARs. NNM, on the other hand, is usually sold directly in conjunction with sales of HP-UX servers and workstations or with HP's bridges and routers.

At the high-end, the HP OpenView Distributed Management (DM) software includes much of NNM's features. It also includes additional application program interfaces (APIs) supporting more extensive customization — making it suitable for telecommunication companies and systems integrators seeking to manage large, complex WANs.

While DM is certainly more scalable, it is less of a turnkey solution. Leveraging DM's power requires knowledge of the Common Management Information Protocol (CMIP), a protocol that is not well understood by most users outside of the United States telecom industry. Consequently, DM's current installed base is limited to only a handful of large customers within the United States and perhaps a dozen or so international Postal, Telegraph and Telephone companies. —JHL



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will be managed by NNM.

HP provides a MIB Application Builder GUI to help make it easier to create ARFs. For example, using point-and-click techniques, the developer can choose whether the application should display data in the form of a graph, table or form. The GUI also lets the developer key in the appropriate help text that should be linked with that application.

But NNM's MIB Application Builder isn't just for ISVs. Many network administrators, who are accustomed to writing scripts for tackling their own specific management tasks, find the MIB Application Builder a great time saver. It's also a handy place to catalog and store scripts, which can easily get buried or forgotten.

Better Than The Rest

IF YOU WANT to manage less than a few thousand nodes, you're good at writing scripts and third-party support is important to you, NNM is good. If you like HP's approach to systems management, NNM is excellent.

But if you have a very large network or you've got a lot of SNA or DECnet nodes to manage *and you don't want to integrate third-party products to do it*, then another product may be the answer.

Table 3 compares NNM to similar products available today. It's helpful to note that some products fall into one of two camps: those that were derived from HP OpenView NNM and those that do not (written in an entirely different code base).

The current lineup of competing HP OpenView NNM derivatives include the following:

■ IBM NetView for AIX

NNM code ported to the RS/6000 running AIX, with modifications for enhanced performance, event filtering and ease of use, and optional applications for SNA and IBM device management.

■ DEC Polycenter NetView

NetView for AIX code ported to DEC's Alpha running Digital Unix, with even more performance and ease

Table 1: HP OpenView Product Family

Network Management Platform/Application	
Product Name	**Area of Focus**
HP OpenView for Windows — Workgroup Node Manager	Single-segment IP LANs, several interconnected LANs on a single campus. Runs on DOS/Windows-based PCs.
HP OpenView Network Node Manager	Large sites with interconnected LANs (TCP/IP internetworks) on one or more campuses. Runs on HP-UX or SunOS/Solaris workstations.
HP OpenView Distributed Management Platform (DM)	Global, multiprotocol networks (TCP/IP, OSI, legacy). Runs on HP-UX.
HP NetMetrix	Software-based performance monitor for internetworks. Supports RMON.
HP OpenView History Analyzer/UX	Network capacity planning tool for analyzing historical data. Based on HP's EASE sampling technology.
HP OpenView Interconnect Manager/UX	Monitors and controls HP hubs, bridges and routers.
HP OpenView NNM for NetWare Servers (Peregrine ServerView)	NNM-based applications for monitor and configuring NetWare servers. Supports IPX discovery.
HP OpenView NNM for NetWare Stations (Peregrine StationView)	NNM-based application for monitoring and configuring NetWare-based clients.
HP OpenView Probe Manager	Probe-based traffic monitor for monitoring and configuring NetWare-based PC clients.
HP OpenView Resource Manager	Real-time traffic monitoring application using HP's EASE sampling technology embedded in HP hubs, bridges and routers.
HP OpenView SNA Node Manager (Peregrine OpenSNA)	NNM-based application for displaying topology and status of IBM SNA networks.
System Management Platform/Application	
Product Name	**Area of Focus**
HP OpenView Traffic Expert/UX	Network tuning and capacity planning tools utilizing EASE sampling technology embedded in HP hubs, bridges and routers .
HP OperationsCenter	Distributed UNIX servers and critical workstations — message translation, consolidation and automated response.
HP PerfView/PCS/GlancePlus	Distributed UNIX servers — in-depth performance analysis.
HP AdminDesk	Distributed UNIX servers and workstations — user administration and change control.
HP OpenView OmniBack II	Enterprisewide backup and restore application.
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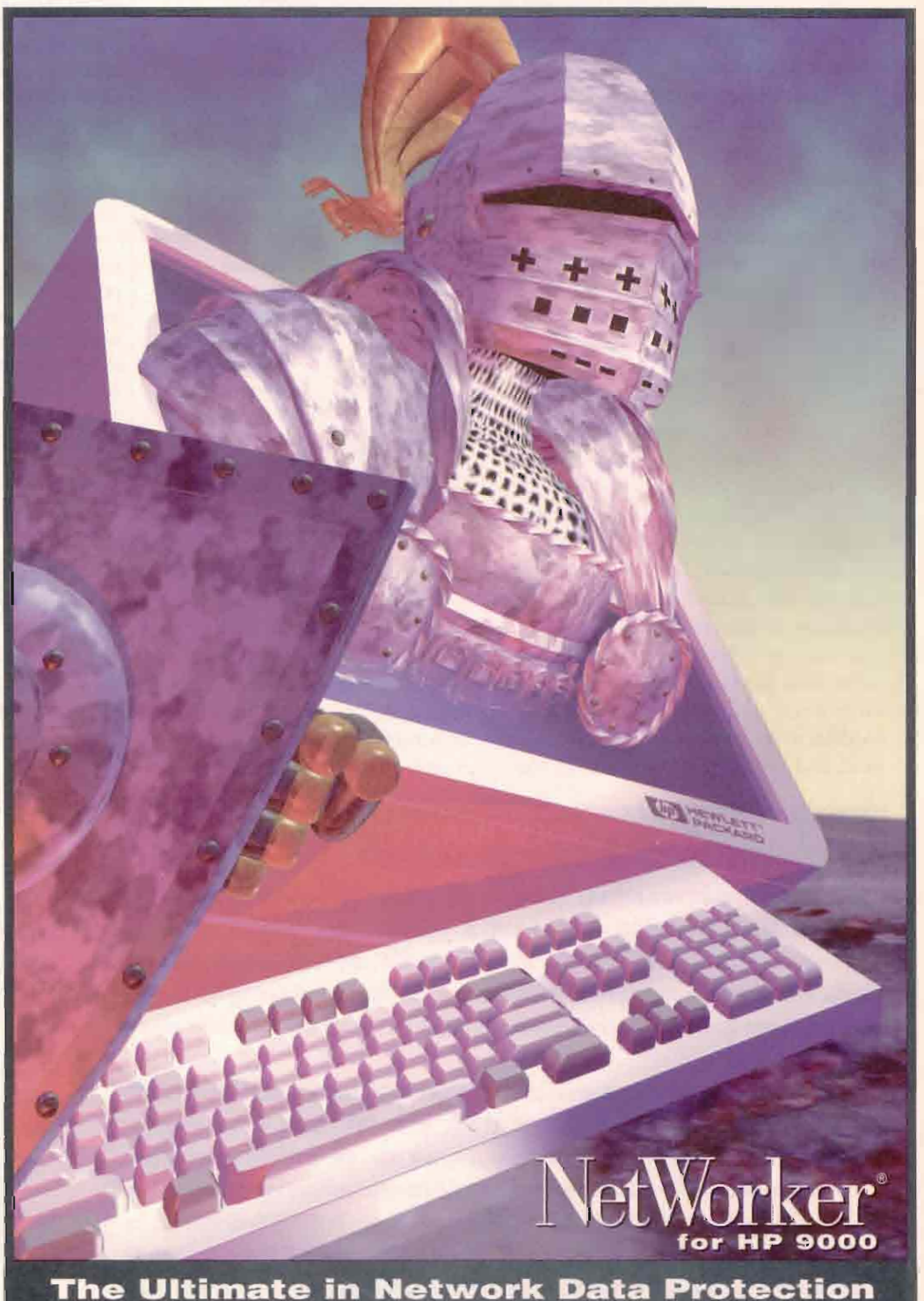

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of use enhancements, and optional applications for managing DECnet and DEC systems.

■ AT&T OneVision

NNM code ported to the AT&T GIS 3000 system running SVR4, with numerous value-added applications, including some for event filtering.

Competition from products not based on OpenView include:

■ Sun Microsystem's Solstic

Solstice includes SunNet Manager and Enterprise Manager (EM), the former is like OpenView NNM while the latter is similar to OpenView DM. NNM's GUI is generally considered to be easier to work with than SunNet Manager's GUI, but both products are installed base favorites with a healthy third-party applications market. However, SunNet Manager costs about one-third the price of NNM. SunNet Manager also features an optional Cooperative Consoles application supporting data sharing between multiple SunNet Manager consoles — a feature that HP does not yet provide for NNM.

Like OpenView DM, Sun's EM is scalable and therefore attractive to telcos and systems integrators. And EM also features a distributed architecture and CMIP support. However, DM has only been available for about six months, so its installed base is still quite small and the product's impact on the market cannot yet be determined.

■ Cabletron's Spectrum

Unlike either DM or EM, Cabletron's Spectrum is in widespread use at many customer sites today. Spectrum also supports a highly distributed architecture with support for alarm correlation — the ability to suppress secondary alarms and help pinpoint primary causes of network failure — no mean feat in networks comprised of multiple protocols, hundreds of device and system types, and thousands of attached nodes. Cabletron's strategy has been to emphasize more on applications for managing the network infrastructure, including switching and ATM, rather than systems management.

Table 2: Comparative Definitions Of Network And Systems Management In The Open Systems Environment

Area	Managed Objects	Tasks	Process and Protocols Used
Network Management	routers bridges hubs repeaters cabling modems terminal servers multiplexers CSU/DSUs T1 lines frame relay links ATM connections	Device configuration, IP address administration, directory services, traffic monitoring, fault isolation, alarm handling, service restoral, data analysis and reporting, trouble ticketing, service provisioning and network security	For IP networks: SNMP, ICMP, ping and telnet. For all networks: protocol analysis — packet capture and decode, network node discovery and network mapping.
Systems Management	file servers print servers databases workstations operating systems E-mail applications: shrink-wrapped in-house applications financial applications other applications	Console automation, performance monitoring, fault isolation, inventory, software distribution, user administration, trouble ticketing, backup storage management, spool management and system security	Console message management, terminal emulation, RPC-based applications, UNIX command schedulers, UNIX processes and statistics. RDBMS SQL table statistics. DMTF/DMI.

HOW MUCH CAN OPENVIEW HANDLE?

Assuming NNM is running on a midrange workstation, a single copy of NNM can support no more than two to four third-party applications without adversely affecting performance.

Customers will integrate a trouble ticket application with NNM, and perhaps a traffic monitoring application. One or two device-specific applications such as CiscoWorks or SynOptics Optivity may also be launched from OpenView, although many customers use SunNet Manager instead for router and hub management.

Thus, it is not unusual for organizations to maintain both SunNet Manager and HP OpenView NNM (or IBM NetView for AIX). Unfortunately, neither Sun, HP nor IBM support links to competing management systems. However, applications for synchronizing maps and correlating events between disparate management systems are available from several independent software vendors.

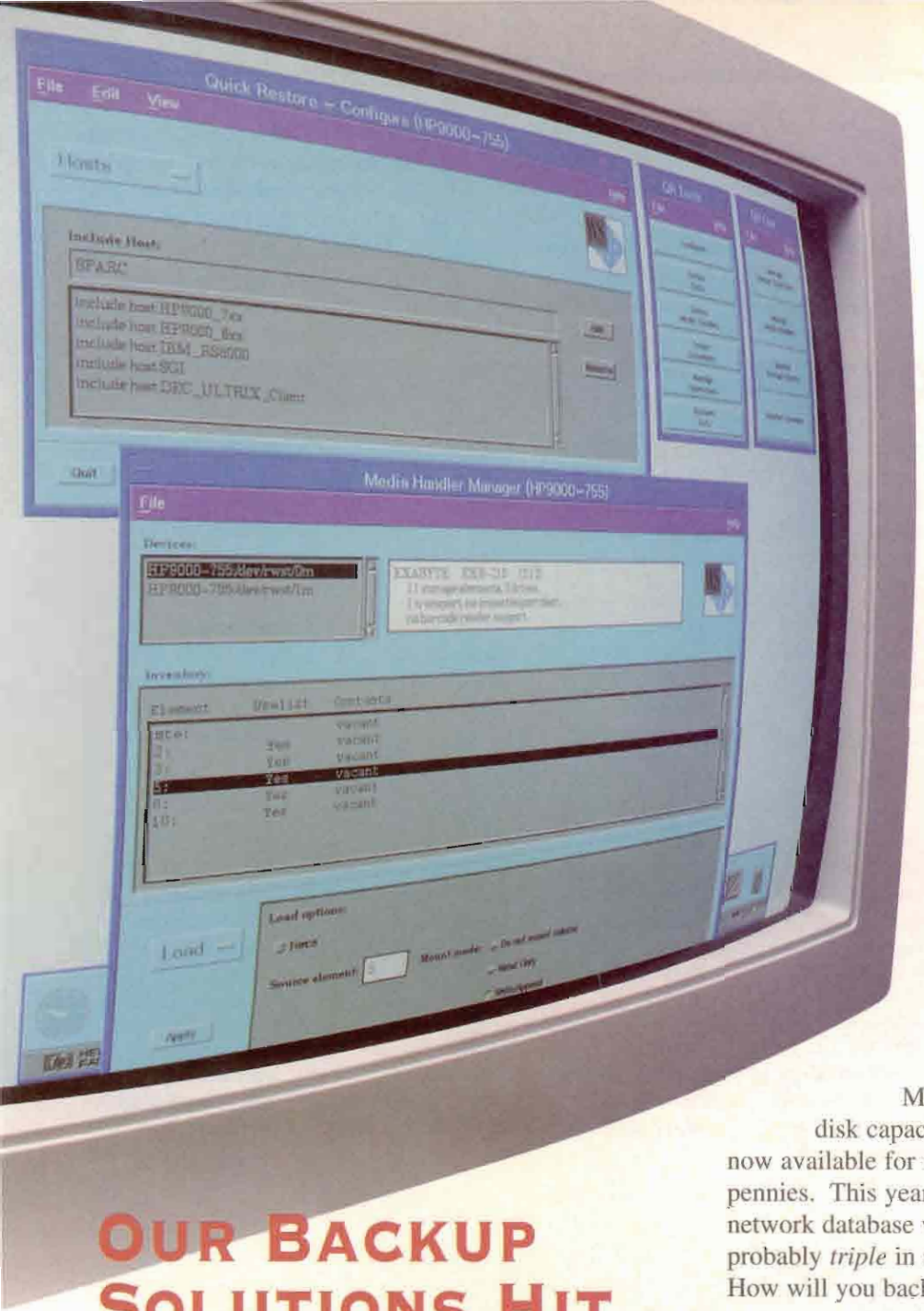
In particular, Micromuse (Dallas, Texas) offers an application called NetCool/OMNIbus for collecting, prioritizing, filtering and correlating events from multiple copies of SunNet Manager, HP OpenView NNM and IBM NetView for AIX, in any combination. Bridgeway Corp.'s (Redmond, Wash.) MapSync utility can be used to synchronize network topology maps across multiple copies of these same management systems, again in any combination. — JHL

Is There Something Better?

HP PLEDGED TO reveamp NNM to support distributed architectures — the much-heralded "Tornado" release which shipped in June, but a distributed architecture won't arrive until mid-1996. (see "Not So Open OpenView," *HP Professional*, April 1995.)

Because the functionality will be based on the Object Management Group's Common Object Request Broker Architecture (OMG CORBA), the distributed version will be well worth the wait — according to HP.

However, the OMG's progress in refining CORBA for network and



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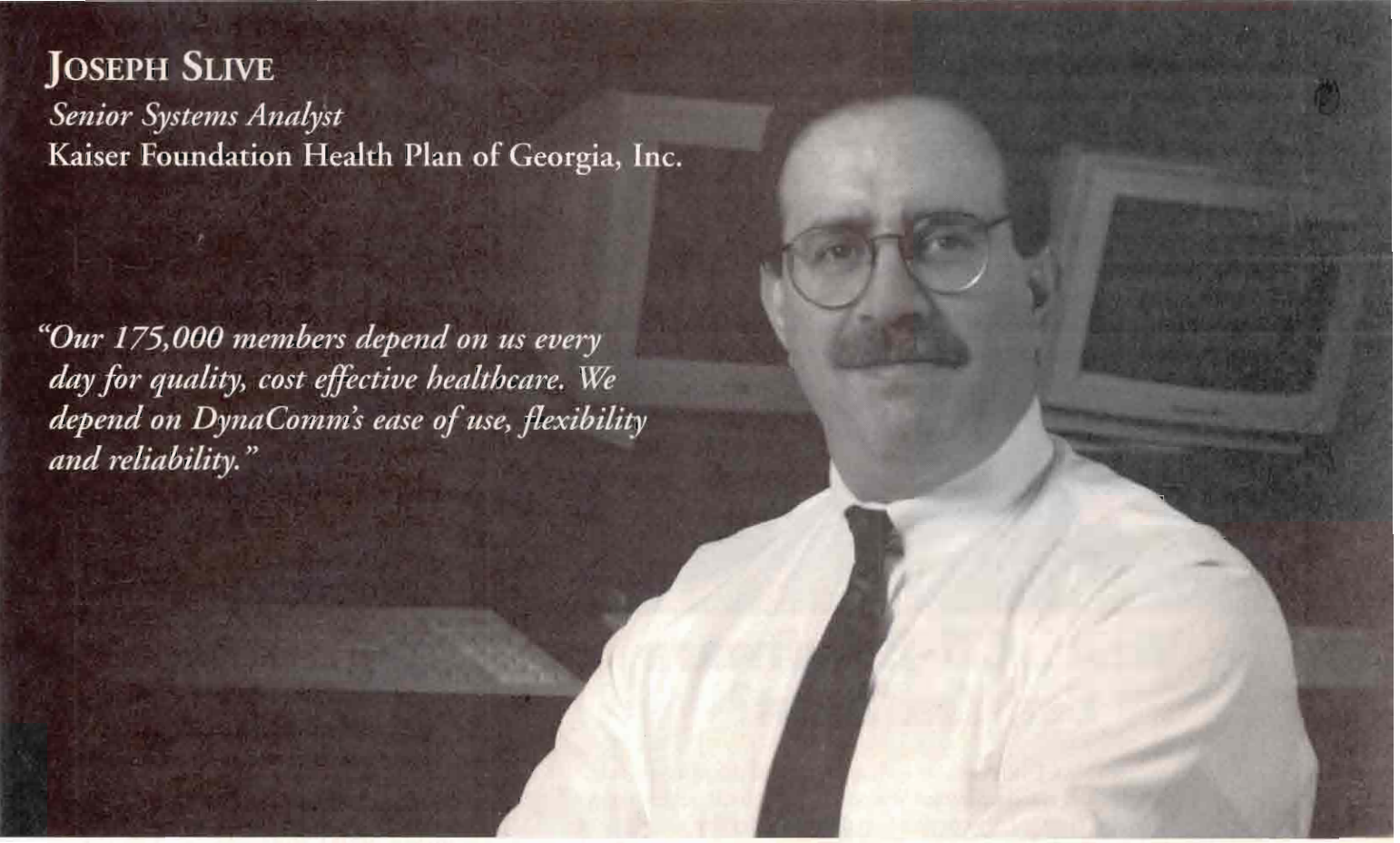
system management purposes has been slower than expected, so HP's bet on a standards-based distributed architecture is not a sure thing. Long shot? Currently, Sun's Solstice Enterprise Manager relies on CMIP to support distributed functionality. IBM is using an intelligent SNMP agent approach which is difficult for users to configure. And, Cabletron's distributed implementation is considered to be proprietary.

But even more significant is HP's increased emphasis on delivering systems management capabilities within the OpenView framework. Like Sun, IBM, DEC and AT&T, HP knows that reliable, comprehensive systems management tools are essential for selling distributed computing solutions —

Table 3: NNM And The Competitors

Product	Scalability	Extensibility	Database	Third-Party Support	Price
HP OpenView	Fair Each NNM can manage 250 to 500 nodes. Supports multiple users via X Windows only. No manager-to-manager communication.	Good Nice GUI and MIB application builder. Developer's toolkit supports multiple levels of integration.	Good Supports links to Ingres and Oracle RDBMSs. Support for distributed database not yet announced.	Excellent Large and growing number of third-party developers.	Moderate Approximately $20,000. Value-added applications cost extra and require more processing power.
Sun SunNet Manager	Fair Manages up to 250 nodes. Can't support multiple operators. Optional Cooperative consoles application allows sharing of data.	Fair to Good Straightforward although laborious. GUI can be awkward.	Good SQL links support by third-party applications.	Excellent Large and growing number of third-party developers.	Very affordable $3,995 base price. Value-added applications cost extra and require more processing power.
Cabletron Spectrum	Excellent Supports multiple clients/multiple servers. Distributes processing across multiple servers. Supports manager-to-manager communication.	Fair to Good Integration can be complex, however, very tight integration is supported.	Very good Allows database to be distributed. Databases can communicate.	Fair Small number of third-party developers, however, this is expected to improve in 1996.	Moderate to expensive $20,000 and up for base system with device management modules. Requires high-powered workstation.
IBM NetView For AIX	Good Optional Systems Monitor for AIX (intelligent SNMP agents) can reside on distributed workstations polling locally, reducing the central system's burden of discovery, polling and thresholding.	Very good Nice GUI and MIB application builder. Also, Navigation Tree helps users perform daily operations.	Very good Supports Ingres, Oracle, Sybase, DB2 and Informix RDBMSs.	Excellent Large and growing number of third-party developers.	Moderate Approximately $20,000. Value-added applications cost extra and require more processing power.
DEC Polycenter NetView	Good Can manage several thousand nodes. Performance enhancements and Alpha CPUs make the system very fast.	Very good Nice GUI and MIB application builder. Also, Navigation Tree and other visual enhancements help users perform daily operations.	Very good Supports Ingres, Oracle, Sybase, DB2 and Informix RDBMSs.	Fair Small but growing number of third-party developers.	Moderate Approximately $20,000. Value-added applications cost extra.
AT&T GIS OneVision	Good AT&T offers an OSI Distributed Manager and Agent supporting distributed management in large networks. Applications for telecom management are in development.	Good Nice GUI and MIB application builder. Developer's toolkit supports multiple levels of integration.	Good Supports links to Ingres and Oracle RDBMSs.	Very good Large and growing number of third-party developers.	Moderate Approximately $20,000. Value-added applications cost extra.



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namely high-end hardware in the form of HP 9000 UNIX servers.

HP eventually intends to sell NNM bundled with a comprehensive systems management product suite that includes HP OperationsCenter for system message filtering and consolidation, HP PerfView for server performance analysis, and AdminCenter for user administration and system configuration. HP's success will depend upon the willingness of the current installed base of NNM network management customers to take the next step and invest in integrated systems management.

In that respect, HP has an advantage over IBM and Sun — with a larger installed base to start with in most areas of the world, and about one year's lead time in offering a comprehensive suite of systems management products.

But two factors could hinder HP's plan:

- Underestimating the frustration among NNM customers — they will have to wait another year for distributed management.
- Windows NT. While AT&T, DEC and Cabletron are already investing in NT-based management solutions, HP is crossing its corporate fingers and hoping that NT will not become an enterprisewide OS anytime soon.

SunNet Manager is cheaper, products from IBM and DEC are faster and easier to use, and Cabletron Spectrum is more scalable. But today, HP OpenView is still king, at least while UNIX reigns supreme in the domain of TCP/IP internetwork management. — *Jill Huntington-Lee is president of Brandywine Network Associates (Cinnaminson, N.J.) and co-author of HP OpenView: A Practical Guide (McGraw-Hill) to be published this fall.. Huntington-Lee is also* HP Professional's *Network Management columnist. She can be reached at 9004463809@mcimail.com.*

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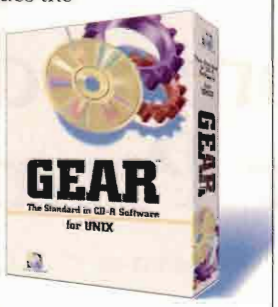

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CIRCLE 252 ON READER CARD

Jim Carr

The Greed For Speed In The High Speed LAN Race

In the race to create bigger, better and faster network links to desktop computers, Asynchro-

chronous Transfer Mode (ATM) is playing the proverbial tortoise to the hare that is 100 Mbps Fast Ethernet. "Long term, almost everyone recognizes that ATM will be the solution," says Marty Palka, the principal networking analyst with market researcher Dataquest (San Jose, Calif.). "Short term, things like switched Ethernet and other high-speed alternatives, such as 100Base-T (Fast Ethernet) and FDDI, will coexist in the marketplace."

Vendors "will drive down the price of 10/100 Mbps (Fast Ethernet) adapter cards as quickly as possible until they're priced very close to 10 Mbps-only solutions, so that people will more easily migrate to Fast Ethernet" rather than ATM, he adds. This means wide-scale deployment of ATM to the desktop probably won't occur until 1998 or shortly thereafter.

WHY THE DELAY?

At the heart of this delay, says John Riddle, president of Information Networking Co. (Laguna Hills, Calif.), a networking VAR, are two obstacles: "No. 1 is price," he says, "and No. 2, does the customer need ATM's speed?"

Despite these very real barriers, more and more vendors have begun releasing relatively low-cost products designed to migrate ATM's scalable, high-speed bandwidth from the LAN/WAN backbone to desktop-based computers. These vendors — including Adaptec Inc. (Milpitas, Calif.), First Virtual Corp. (Santa Clara, Calif.), Whitetree Technologies Inc. (Palo Alto, Calif.) and Advanced Telecommunications Modules Inc. (ATM; Cupertino, Calif.) — are hoping to cash in on the slowly rising tide of early ATM adopters by releasing interface cards and switches aimed at delivering ATM to workgroup-based computers.

LOWERING THE COST OF ATM

Not surprisingly, most of these vendors have focused on the 25.6 Mbps ATM standard ratified this spring by the ATM Forum (Foster City, Calif.). The ATM Forum's acceptance of the 25.6 Mbps standard, developed by IBM and the Desktop ATM25 Alliance, a subgroup of the ATM Forum, marks a major step in delivering cost-effective ATM to the desktop.

By basing the 25.6 Mbps ATM standard on a physical-layer encoding scheme similar to Token Ring's, the ATM Forum effectively lowered the entry-point — cost-wise — for ATM. Users can get a 25 Mbps ATM interface card and ATM switch port for about $1,000, while similar connections for the other prevalent ATM standard, at 155 Mbps, cost about $3,000 to $4,000. Although various ATM interfaces also support 51.84

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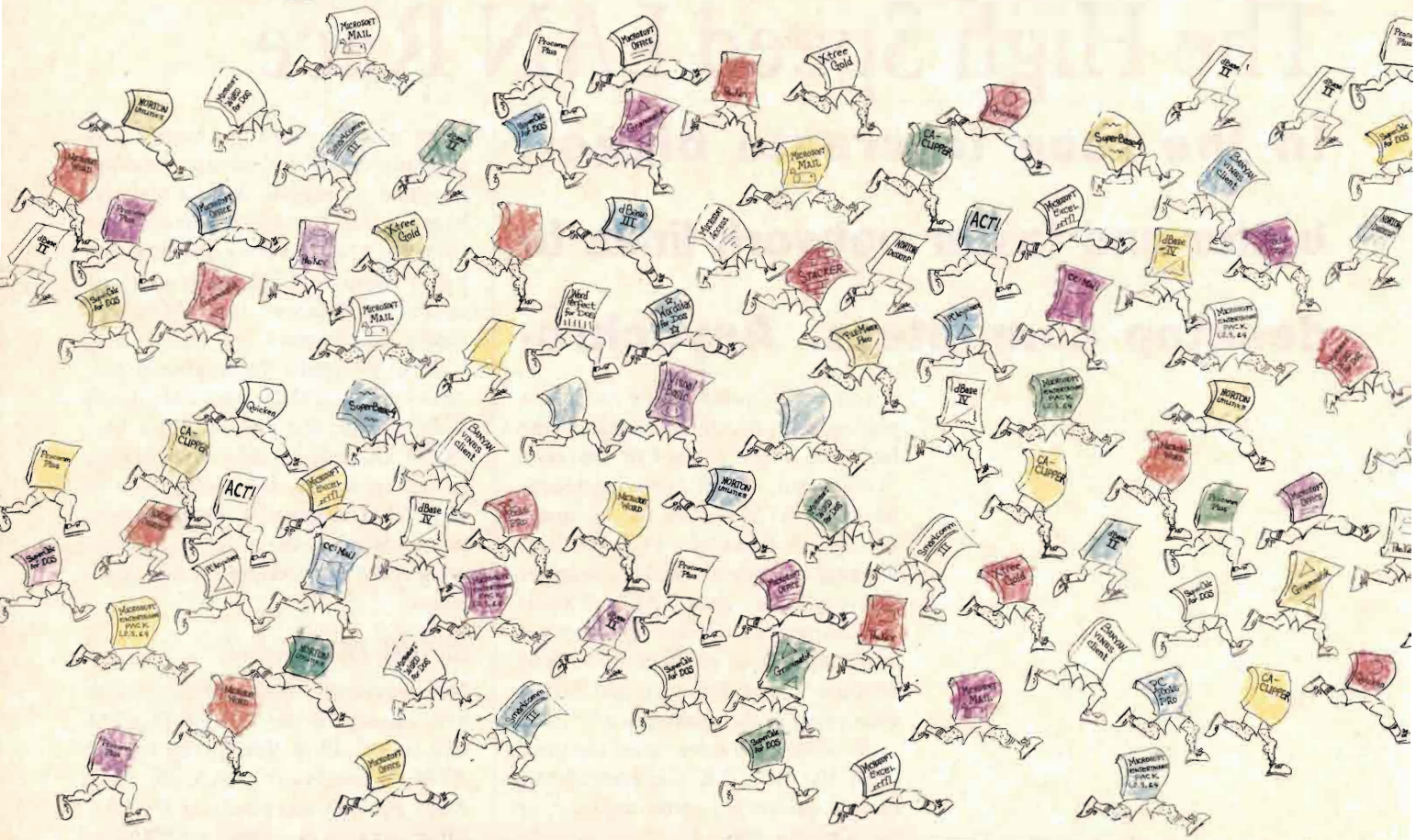

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Mbps and 100 Mbps, with a 622 Mbps specification in the works, most vendors are developing products for the 25.6 Mbps and 155 Mbps data rates, especially for workgroup connections.

At a grand a desktop link, even 25 Mbps ATM is a tough sell to those who see Fast Ethernet available for about half the price. Users wanting to run true networked multimedia applications, however, don't have much choice.

Despite Fast Ethernet backers' claims that it can carry multimedia data streams, it really isn't suited for that use, says Doug Tsui of First Virtual, which sells a package solution that delivers Lotus Development Corp.'s (Cambridge, Mass.) Video for Notes to desktop computers. "With multimedia applications, speed (per se) is not the solution," says Tsui.

The quality of service and allocated bandwidth are important, not just bandwidth, he explains. "The issue is how you use the bandwidth, and ATM provides that, whereas with 100 Mbps Ethernet you get either 0 Mbps or 100 Mbps."

STRIKING UP THE BANDWIDTH

ATM, unlike traditional broadband networks such as Ethernet or HP's 100VG-AnyLAN, is a cell-based, connection-oriented, packet-switching technology that *guarantees bandwidth on demand*. This approach ensures the delivery of time-sensitive signals, such as voice or video, and is a critical requirement for multimedia applications.

In traditional broadband networks, on the other hand, end users share the network bandwidth. Because all nodes on these networks contend, in one fashion or another for bandwidth, ATM's proponents claim they're poor choices for multimedia applications because they can't guarantee delivery of time-sensitive voice and video information.

If you really need to run multimedia over your network, ATM *can* do it for you. Unfortunately, ATM isn't really ready for widespread deployment to the desktop because many of ATM's key standards — such as ensuring quality of services (abbreviated QoS) and a multimedia API — are as yet unsettled. Guaranteeing QoS ensures users get the ATM bandwidth they expect. Consequently, "There's no such thing as true interoperability yet," admits Tsui.

NOT READY FOR PRIME TIME MULTIMEDIA

The ATM Forum still has yet to decide exactly how video will be carried over ATM, although early ATM standards released by the International Telecommunications Union (ITU) proposed a synchronized variable bit rate (VBR) class of service called Class B. The

ATM, unlike traditional broadband networks such as Ethernet or HP's 100VG-AnyLAN guarantees bandwidth on demand.

ATM Forum leans toward a VBR service in conjunction with the ATM Adaptation Layer 2 (AAL2) to transport video. An "ATM adaptation layer" specifies how varying levels of ATM service are provided. For example, AAL1 provides circuit emulation, AAL2 audio and video transport and AAL3-4 data transmission.

The ATM Forum also is making only slow progress in developing a standardized multimedia API. This API is needed to allow applications to easily set up connections and negotiate QoS. Although some ATM adapter vendors offer their own multimedia APIs, they are, of course, not standards-based. Another limiting factor regarding APIs is the following: The major network operating systems vendors, including Novell Inc. (Provo, Utah), are working independently to bundle their own multimedia APIs into their products.

Consequently, until these problems are worked out — and prices of ATM products drop considerably — ATM will remain the laggard in meeting network users "greed for speed."

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CIRCLE 231 ON READER CARD

Miles B. Kehoe

Looking For A Clear VUE

HP VUE is one of the nicest graphical interface shells on commercial UNIX products. And it clearly offers extra functionality to HP owners. However, one feature missing from the standard invocation is the ability to scroll back more than a single screen of data. But you can easily add this functionality in any of several ways.

If you normally want an hpterm without scroll bars, but want to use them every now and then, you can invoke hpterm from within a standard (non-scrolled) window by typing:

```
hpterm -sb -sl 1024 &
```

This will open an hpterm window with scroll bars and with the ability to recall the most recent 1,024 lines of text. If you would rather specify the number of screens instead, use:

```
hpterm -sb -sl 4s
```

If you want to globally use scroll bars and scroll back in all instances of hpterm, you can add a couple of lines to your systemwide resource file:

```
HPterm*scrollBar: TRUE
HPterm*saveLines: 1024
```

Finally, if you don't want to modify your Xresources, but you want the hpterm icon to launch instances with scroll bars, modify the global control file /usr/vue/types/xclients.vf so the EXEC-STRING has the above command line.

HPTERM BY ANY OTHER NAME

Another command line option lets you name the window something other than hpterm. Add the **-name** parameter and you can change the name to something other than hpterm.

For example, you might invoke hpterm using the command:

```
hpterm -title "Call Tracking"
```

This will give you a custom title bar and make it easier to remember what application you are using in each session.

Actually, you can change the title of hpterm sessions with an escape sequence as well.

The sequence is:

```
[ESC] & f 0 k <titlelen> D <title>
```

Thus, to set the window title to "Call Tracking," you would display the escape sequence:

```
[ESC]&f0k13DCall Tracking
```

Note that the **[ESC]** shown here represents the ASCII ESC character, decimal value 27.

You can display this sequence in any of several ways. One involves writing a small program that will let you give any name to a window. Another choice would be to write a shell script that will do the same thing.

You also can set the label that HP-

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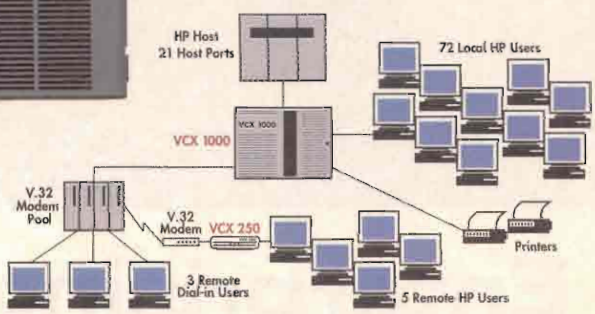

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UX gives the iconized hpterm. The escape sequence to do this is:

```
[ESC] & f - 1 k <iconnamelen> D <iconname>
```

To give the minimized icon the same label as the window example above, the sequence would be:

```
[ESC]&f-1k13DCall Tracking
```

The C program to perform the above tasks is straightforward. You really just need two **printf** statements and some wrapper code:

```
#include <string.h>
#define ESC 27
main(argc, argv)
        int argc;
        char **argv;
{
        if (argc != 2) /* quit if no parameter given */
                exit(0);

        printf("%c&f0k%dD%s",ESC,strlen(argv[1 ]),argv[1]);
        printf("%c&f-1k%dD%s",ESC,strlen(argv[1]),argv[1]);
}
```

If you enter and compile this program and call it "label," you can label the hpterm window and the minimized icon by using the command:

```
label "Call Tracking"
```

The same basic code works fine if you plan to write a shell script. However, remember to use **\c** at the end of the **echo** statement to prevent unwanted line feeds.

CONSOLATION MESSAGES

One final tip will help you if you've ever been frustrated because HP-UX writes system console messages over the top of VUE graphics, badly garbling both VUE and the console message.

To solve the problem, program VUE to open and iconify an hpterm on startup, and to re-direct console messages to that hpterm. In fact, you can even program VUE to open the hpterm window when a message is redirected to the hpterm console.

In your session file ~/.vue/sessions/home/vue.session, add the following lines:

```
vuesmcmd -cmd "hpterm -C -iconic -ls -sb -sl 1024 \
    -name Console -T Console \
    -xrm *mapOnOutputDelay: 30 \
    -xrm *mapOnOutput: True \
    -xrm Console*clientFunctions: -close \
    -xrm *workspaceList: all"
```

The **T** option is similar to the **-title** option discussed earlier. The **-name** option is the name the application uses to identify itself to other applications — here, it is Console.

There are dozens of other parameters you can use with hpterm. Check the man pages. Then learn how to customize your own environment.

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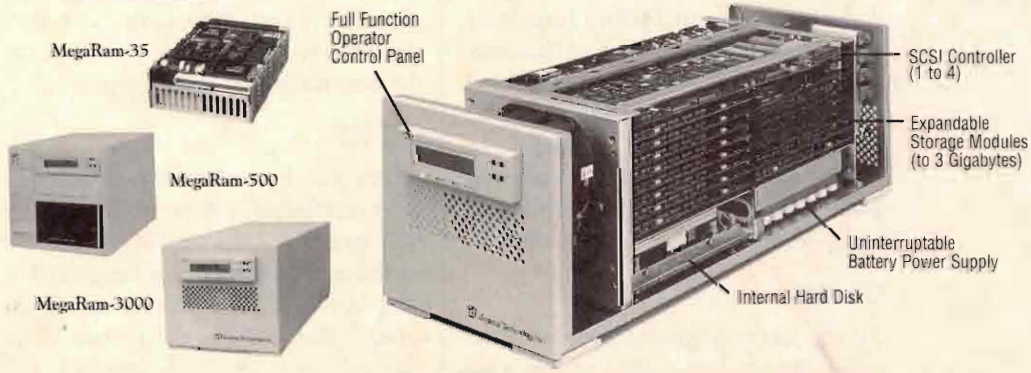

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CIRCLE 144 ON READER CARD

Miles B. Kehoe

The Missing Link

Copying files between two PCs can be a chore. If you've used any of the commercial file copying

software, you know how helpful they can be to perform backups or to make authorized copies of software. What you may not realize is that, starting with MS-DOS 6.0, there is a utility included with MS-DOS that lets you do the same thing.

The InterLink utility lets you connect two systems using either the parallel port or one of your serial ports. And like some of the better commercial products, InterLink will connect on the first connection it finds; you don't have to tell it which port to use. Once connected, both systems can share disk drives, directories and printers.

This is a great way to synchronize data files between a portable and your desktop system, to backup important files on your laptop, or to effectively share data between two systems without the cost of a network. Another great capability that InterLink provides is the ability to use the CD-ROM drive on your desktop system directly from your laptop for installing or running software.

GET READY

To connect two systems, use a standard parallel printer cable. But get one with a 25-pin male connector at both ends. The parallel connection is by far the fastest, and will deliver the best possible performance. If you prefer to use a serial port, buy a null-modem cable with either a nine-pin or 25-pin female connector at each end.

Some electronics stores sell a special "link" cable with a nine-pin *and* a 25-pin connector at each end, which lets you easily connect your systems no matter what type of serial port exists on each system. If you can't find a special link cable or a null-modem cable with the proper connectors, simply use two modem cables with a null-modem adapter.

However, if you are using a serial connection, it's not a bad idea to confirm the connection using a simple terminal program like the Windows utility TERMINAL.EXE. Simply specify the same baud rate on each PC and the correct serial port, and whatever you type at one system will display at the other end. Make sure you can send from each end. Sometimes, I've seen "one-way-only" connections that can be very frustrating to debug.

GET SET

Once you have the physical connection established, you're ready to set up the InterLink software. When you use InterLink, one system is designated as the server and the other is called the client. The server is the system where the printer is physically attached, and

InterLink will connect on the first connection it finds; you don't have to tell it which port to use.

normally will be your desktop PC.

The client system is connected to the server, and the drives on the server are re-mapped to new drive letters on the client. Thus, drive C on the server might look like drive E on your laptop system. The InterLink software lets you define the mapping, as well as omit any mapping for any drives on the server that you don't want to export.

On the server system, start the INTERSVR.EXE utility by typing **intersvr** on the command line. Run the InterLink server without having Windows loaded. Therefore, if your system boots directly into Windows, exit back to MS-DOS before you start the server. When the server loads, you will see a status report on your screen that reports which drives and printers have been exported and are available for any client that connects.

On the client system, you'll need to add a device driver to your CONFIG.SYS file. As always, remember that any time you make changes to your system configuration files you should create a safe backup copy.

Once you have, add a line to CONFIG.SYS that reads:

```
DEVICE=C:2-JUN-95
13:22:320S\INTERLNK.EXE
```

Once you've saved the changes, you'll need to re-boot your system.

When you re-boot, you will see a message during start-up reporting that INTERLNK.EXE loaded. If the connection was successful, a status report will tell you which new local drive letters and printers have been mapped to which server drives and printers. Once your system has completed its start-up, you can use the mapped devices as if they were local to your PC.

If the server is not running INTERSVR when you boot up your client PC, you can manually start it from the MS-DOS command line by typing **interlink**.

GO!

When you use InterLink, remember that although these new devices look like they are local to your PC, there is actually a low-speed physical connection between your system and its mapped drives and printers. While serial connections can use rates as high as 19,200 bps and parallel connections can use even higher rates, compared to a local disk drive that is still slow. You may find some of your programs seem to run much slower, especially if they frequently perform status requests on drives.

If you find a particularly slow program, I suggest you minimize its use when you are connected via InterLink and consider a small network. And, if you are going to use the MS-DOS command line, I'd suggest you keep a local driver as your default drive as much as possible.

InterLink includes a number of other options which let you fine-tune its use and capabilities. For example, you can specify the number of drives the server is to share; whether you will be using any printers; and whether the client software should load if no server is available. This last option lets you load INTERLNK.EXE in your CONFIG.SYS, secure in the knowledge that it will not use any memory unless you are connected to a server.

InterLink can be really handy as more and more software is available on CD-ROM, and as you store more and more valuable data on your laptop PC.

Kehoe's Internet address:
mbk@netcom.com

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CIRCLE 132 ON READER CARD

John P. Burke

The Best Kept Secrets

The next 12 months will determine the future of the HP 3000 and MPE/iX. Keep that in mind

this month's Interex '95 in Toronto, Canada. If HP doesn't change its passive position on the HP 3000, few of us will be using the HP 3000 when the next century begins. And Interex '95, is the show to convince HP to aggressively position MPE/iX against the likes of UNIX, OS/400, VMS, MVS as well as Windows NT.

While UNIX systems are improving (HP-UX 10.0 is a big advance), and Windows has Microsoft's PR staff operating full throttle, there is still an opportunity for emphasizing the strengths of MPE/iX and gaining some market share. MPE/iX need not be relegated to a niche player.

Recent enhancements from both HP and third-parties allow the HP 3000 to integrate smoothly into multiplatform environments. It is good for the industry to have real competition; and not just in price/performance, which is easily measured compared to the more subjective criteria of usability, reliability, availability, maintainability and serviceability.

The computing paradigm du jour is client-server. Its promise is to put the right work on the right machine, maximizing both access and resource utilization. The model says nothing about operating systems. The trend is toward multitiered, distributed client-server models, with a client tier, an application tier and a data tier.

Although MPE/iX has never been scaled to the desktop; it can successfully fill any other role in the client-server distributed architecture.

In addition to its traditional functionality,

- ease of use and operation
- high degree of integration
- stability and reliability
- OLTP performance
- batch processing
- versatility
- competitive cost vs functionality

MPE/iX now has all the components necessary for it to compete with any server platform in the industry:

- POSIX.1 and POSIX.2 compliance
- DCE (summer 1995)
- NetWare/iX
- ODBC and Gupta APIs
- serial ODBC and direct ODBC access to IMAGE (M.B. Foster Associates; (800) ANSWERS)
- TCP/IP support, ftp, Berkley sockets, outbound telnet
- inbound host-based telnet (1995)
- gopher server software
- NFS/iX (Quest Software: (714) 720-1434)
- direct Internet E-mail connectivity (3k Associates; (800) NETMAIL)

Thousands of concurrent users—on-line as well as batch—can now access *terabytes* with IMAGE/SQL databases on HP 3000 computers.

Yes: *millions of megabytes.*

How? With *Jumbo Datasets,* which can now hold much more than the previous limit of four gigabytes (four thousand megabytes) per dataset.

Once again, IMAGE/SQL (Hewlett-Packard's award-winning database management system) leads the way with the open Posix capabilities of MPE/iX on the high-availability (and fast) RISC HP 3000.

Sheer, massive quantities are not enough, though. With IMAGE/SQL, you also get day-to-day reliability. And you do not have to pay a king's ransom just to barely keep up with the needs of your business. You do not have to spend your time and attention constantly fiddling with your computer system. And you enjoy rock-solid stability from one version to the next.

Thanks to Hewlett-Packard, *you* get all of this—and more—with its IMAGE/SQL DBMS. Pity your friends who are forced by peer pressure (or by ill-advised management directives) to waste their lives fighting with mediocre (but hyped-up) database servers, operating systems, and hardware.

At Adager, we are proud to complement the work of Hewlett-Packard's R&D team for IMAGE/SQL.

An example of our efforts is Adager's support for jumbo datasets.

This technological feat is nice, of course. But the true beauty of Adager's approach is that, by design, it is 100% transparent.

There is nothing special for you to do. Adager takes care of all the nitty-gritty operating-system bits and bytes on your behalf.

As you would expect from us, Adager does not charge you extra for jumbo-dataset support. We don't do tier pricing either.

We are here to help you in a big way, not to cause you a massive heart attack with unreasonable prices.

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Clearly, HP's strategy toward MPE/iX is a defensive one — protect the installed base until we can get them to migrate to HP-UX.

■ www server software (httpd, in the best skunkworks tradition, http://jazz.external.hp.com)

Seems like a world-class server to me. Interoperability, *not the OS*, is the key. So why is MPE/iX still one of the best kept secrets in the computing industry? Because HP will not promote the HP 3000. Why not?

At Interex '94, Rich Sevcik publicly promised there would be some HP 3000 specific advertising. At IPROF, Olivier Helleboid, CSY General Manager, suggested that CSY is spending its dollars on the installed base. This is preaching to the choir and will ensure the demise of the HP 3000.

The HP 3000 is a better replacement for mainframes than the HP 9000 (consider reliability, OLTP performance and batch processing). The HP 3000 is also a better replacement for the AS/400 than the HP 9000 (consider ease of use, integration, and batch processing). Clearly, HP's strategy toward MPE/iX is a defensive one: Protect the installed base until we can get them to migrate to HP-UX.

At Interex '90 in Boston, HP was forced to sit up and take notice of our needs and requirements. Let the revolution for the future start in Toronto.

Burke's Internet address:
burkej@cardinal.com

Would you like to continue to see articles on this topic?
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BURKE'S BITS:

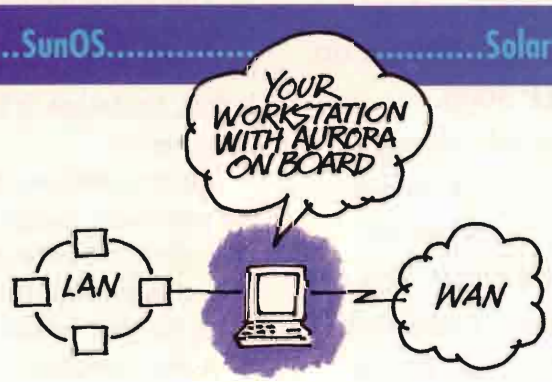
Show Me The Way To Go Home

Information about the HP 3000 is available on the Internet and its alter ego, the World Wide Web (WWW). For an easy on ramp to the information superhighway, the three major U.S. online services, America Online (AOL; (800) 827-6364, CompuServe; (800) 848-8199, and Prodigy; (800) 776-3449, are your best bet.

Good places for HP 3000 information are with the following URLs:

- http://jazz.external.hp.com (see Mike Belshe's paper: The HP 3000 and the World Wide Web)
- http://www.3k.com
- http://www.allegro.comhttp://www.hp.comhttp://www.interex.comhttp://www.robelle.com (see David Greer's paper:

SunOS Solaris/Intel HP/UX



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Client/Server, the Internet and WWW)

If you only have E-mail access to the Internet, you can still join in by subscribing to HP3000-L by sending this single line message subscribe hp3000-l your_full_name to listserv@utcvm.utc.edu

If you would rather receive just one big message each day, a digest of all the days messages, send this message set hp3000-l digest to listserv@utcvm.utc.edu

A Frequently Asked Questions (FAQ) document on the HP 3000 is available (thanks to Chris Bartram and 3k Associates):

Via E-mail: send any message to: faq@3k.com

Via anonymous ftp: ftp to ftp@3k.com and retrieve HPFAQ

Via WWW: http://www.3k.com/

Via gopher: connect to gopher.3k.com

Client-Server Ain't As Easy As It's Cracked Up To Be.

Many people are discovering that the road to client-server computing is full of potholes. Denys Beauchemin, of Hicomp America (purveyors of HIBACK, a multiplatform backup tool, and DBTUNE/SQL, for administering IMAGE/SQL databases — (800) 323-8863), played a major role in the January Technology Closeup Broadcast on IMAGE/SQL and Client/Server Tools. You can order a tape and find out about upcoming events at (800) 224-HP3K; from outside the United States and Canada, call (408) 447-7885. Denys speaks at many user conferences and has been very active with SIGIMAGE.

He has become one of the recognized experts on IMAGE/SQL and client-server and frequently contributes to HP3000-L. Fortunately for the rest of us, Denys is writing a book on the subject of IMAGE/SQL and client-server: "Within these pages, the reader will find the updated layouts of the root file, datasets and control blocks. We will see how IMAGE/SQL interfaces with MPE/iX and how it uses XM to ensure data integrity...

Since IMAGE/SQL has changed so much from the MPE/V days, we will study various aspects dealing with performance and management of the database. We have also dedicated an entire section to SQL access,how to enable it, manage it, and use it."

Denys hopes to be in a position to start taking orders at Interex '95 in Toronto. I do not know Denys personally, but his past and continuing contributions to the HP 3000 user community make this a must buy, sight unseen.

Introducing the First and ONLY Source of OpenView Information Available!

Focus on OpenView:
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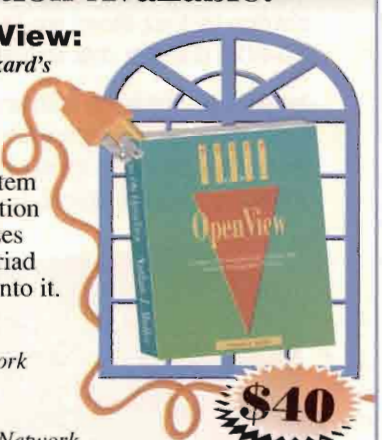

Focus on OpenView is the only source for system integrators and application developers that discusses OpenView and the myriad applications that plug into it.

Book Highlights:
- *The OpenView Framework*
- *Systems Management*
- *OperationsCenter*
- *Managing the Physical Network*
- *Managing the Multivendor Enterprise Network*

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- Jill Huntington-Lee, Consultant, Brandywine Network Associates.

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new Products

SOFTWARE

Micronetics Launches The Accounting XPert

Micronetics Inc. announced a client-server version of its accounting software, The Accounting Expert. XPert may be configured to run entirely on the client or the server.

An advanced feature of XPert includes application partitioning where specific pieces of the application may be partitioned to run simultaneously on either the client or the server depending on the network configuration and performance objectives.

Gateways to Btrieve, Oracle, Sybase, C-ISAM, CTREE, Informix, Rdb and legacy data allows data to be stored in various networked computers with access available from any console.

XPert includes accounts receivable, accounts payable, inventory, sales order processing, payroll, general ledger, sales analysis and bank reconciliation. Prices for single users range from $795 to $995. Network prices are based on platform and number of users.

Contact Micronetics Inc., 3511 W. Commercial Blvd., Fort Lauderdale, FL 33309; (305) 777-3723.

Circle 400 on reader card

SoftQuad's Panorama PRO Integrated Into Latitude

SoftQuad Inc. announced that SoftQuad Panorama PRO has been integrated into Open Text's enterprisewide document distribution software, Latitude.

Create CD-ROM Discs on Your Desktop

The first complete turn-key CD-Recordable (CD-R) solution for Unix allows you to create inexpensive CD-ROM discs for data archive or distribution.

Includes premastering software, an intelligent controller and a CD recordable unit. Supports all major Unix platforms including HP 9000, Sun, IBM RS/6000, Silicon Graphics, Digital and others.

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For more information, call Concorde Technologies, Inc. at (800) 359-0282.

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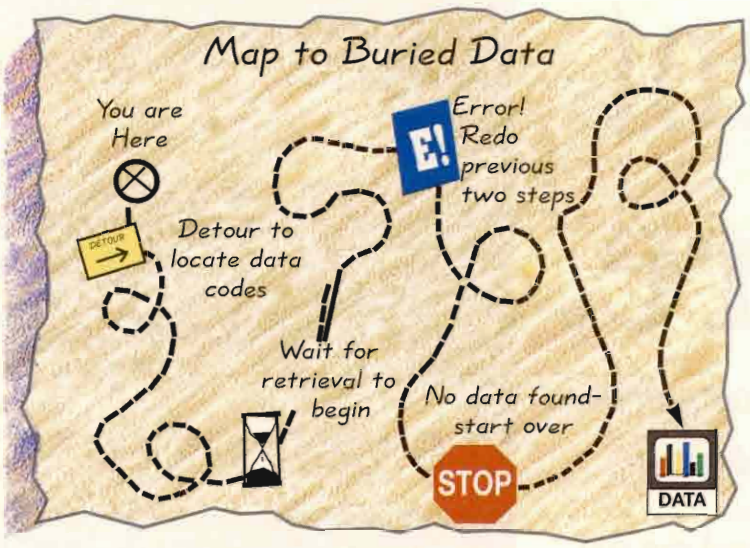
CIRCLE 232 ON READER CARD

Is Your Business Data Hard To Access?



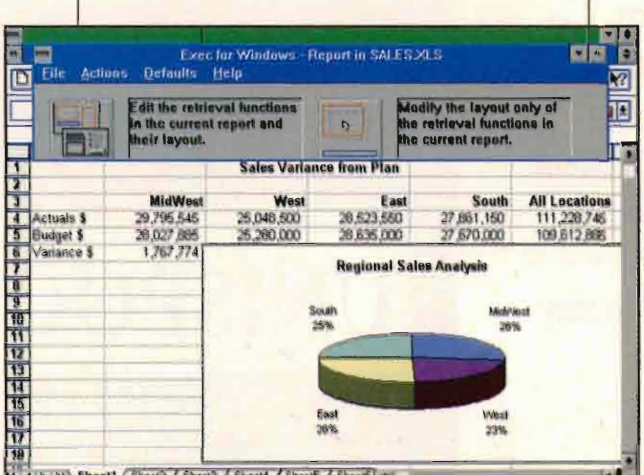
You might need a map to find your data in some financial software applications. And even then, some of that data may be buried so deep in the system that it takes forever to retrieve.

You'll have no such problems with FMS II, Mitchell Humphrey & Co.'s complete suite of financial software. Our decision support tools give you direct, fast access to the data you need, when you need it.

FMS II includes these easy-to-use, yet powerful and flexible PC-based tools:

- **FMS-ONRAMP,** a multidimensional data analysis and presentation tool which features instantaneous drill downs, drill arounds and multilevel consolidations for an almost limitless number of dimensions.
- **FMS-ACCESS,** a report writer which can be used to create both ad hoc and production quality reports, as well as for other functions such as data base development and forms creation.
- **FMS-EXEC,** a two-way data transfer application that can be embedded in spreadsheets, word processors and other Windows-based applications.

Server-based inquiry, report writing and budgeting tools are also available in the system.



FMS-EXEC allows you to download and upload data directly from within your choice of spreadsheet environments.

Each decision support tool may be used with any of the FMS II financial systems, including: **General Ledger, Accounts Payable, Accounts Receivable, Fixed Assets, Project Accounting, Purchasing, Inventory, Budgeting.**

The tools are also used with FMS-DSS, an exciting new decision support system. Mitchell Humphrey & Co. software is portable across the HP 3000 and HP 9000 platforms, as well as a wide variety of data bases, networks and graphical user interfaces. You can also mix terminals and PCs in a way that allows you to meet the special needs of your organization, while minimizing the impact on your budget.

So if you're looking for financial management software with direction, contact Mitchell Humphrey & Co. at **(800) 237-0028** for a free copy of our software demonstration diskette.

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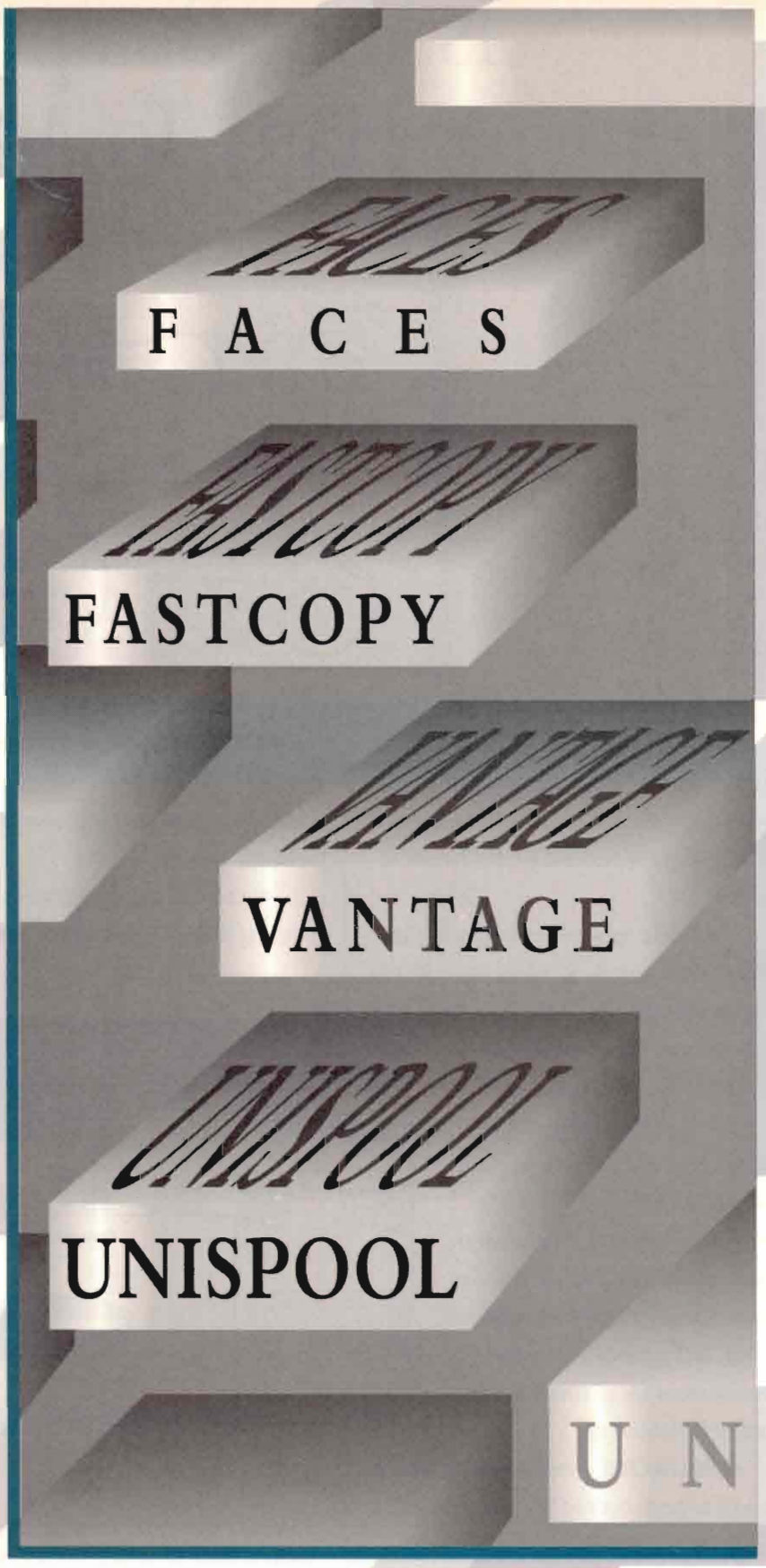

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CIRCLE 297 ON READER CARD

Latitude is Open Text's client-server search and retrieval system that allows users to find, view and reuse information stored in documents, regardless of how those documents are formatted.

Latitude includes: Open Text 5, a high-performance text retrieval engine; Open Text's Parallel Execution Monitor and Router, which allows concurrent searches across CD-ROM, LAN and WAN networks as well as the Internet; the No Hands viewer from Common Ground that displays pages in a wide variety of word processing formats; and SoftQuad's Panorama Pro.

Panorama PRO expands Latitude's scope by providing the technology necessary to view and navigate documents that have been marked up in the SGML. It also automatically generates hypertext-linked document outlines as tables of contents or figures. Panorama PRO provides users and publishers with control over a document's typeface, size, color and position. Panorama PRO costs $139.

Contact SoftQuad, 56 Aberfoyle Crescent, Toronto, ON M8X 2W4; (416) 239-4801.

Circle 399 on reader card

Taligent Produces cpConstructor

Taligent Inc. introduced cpConstructor, the first in a series of development tools optimized for creating applications with the CommonPoint application system. cpConstructor is a GUI development tool designed to facilitate the rapid creation and prototyping of application user interfaces.

cpConstructor uses direct manipulation editors and a graphical drag-and-drop metaphor to speed the layout of application interfaces using predefined and custom-built UI objects. In addition, it also allows developers to work with live objects, guaranteeing consistency between the design and execution phases or application development.

cpConstructor also includes attribute inspectors, UI previewers and action monitors, and a persistent object archive.

Contact Taligent Inc., 10201 N. De Anza Blvd., Cupertino, CA 95014; (408) 255-2525.

Circle 398 on reader card

Object Design Announces ObjectStore 4.0

Object Design Inc. announced ObjectStore 4.0, a full-featured object database designed for customers building distributed, client-server applications.

ObjectStore 4.0 provides users with standard database requirements such as security and availability, while providing an increase in performance and scalability.

New ObjectStore features include: multiversion concurrency control (MVCC); SMP/asynchronous I/O; collections enhancements; and thread safety.

ObjectStore 4.0 is the centerpiece of Object Design's ObjectStore Component Architecture (OCA), an open framework of tools and technologies allowing ObjectStore to interoperate with relational databases and tools.

ObjectStore is currently available for Sun, Windows NT and HP. Support for OS/2, Microsoft Windows 3.1 and Win 32s will be available shortly. Prices start at $3,800, depending on the platform, number of customer seats and sites for which licenses are provided.

Contact Object Design Inc., 25 Mall Rd., Burlington, MA 01803; (617) 674-5000.

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CIRCLE 166 ON READER CARD

To use NFS, you could dump all your HP 3000s, set up a new network, and retrain all your MIS staff.

Or not.

NFS/iX

NFS/iX is a high-performance implementation of NFS for the HP 3000 that:

~ Provides industry-standard, transparent interoperability on heterogeneous networks.

~ Eliminates lengthy, time-consuming file transfers.

~ Lets the HP 3000 operate as a high-performance file server.

~ Allows centralized management of diskless clients for improved security and backups.

~ Facilitates workgroup development and client/server deployment.

Phone: 714-720-1434, e-mail: info@quests.com.

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Helios Offers Update Installer

Helios Software GmbH announced its Update Installer. The Update Installer works with any RISC-based UNIX platform running Helios software including Data General AViiON 5.4, DEC Alpha OSF/1 and MIPS Ultrix 4.3, HP-UX 9, Motorola 88k SVR4, PowerPC-based AIX 4.1 systems from Bull, IBM and Motorola, Silicon Graphics Irix 5, and Sun SPARC Solaris 1 and 2.

Update Installer will be included with all of Helios' cross-platform software products for mixed, networked and prepress environments including Helios EtherShare, PCShare and EtherShare OPI.

The Update Installer looks in structured directories for the actual update files offering greater flexibility for future Helios product enhancements.

Contact Helios Software, 269 Mt. Hermon Rd., Ste. 100, Scotts Valley, CA 95066; (408) 461-6061.

Circle 396 on reader card

Arbor Software Corp. Releases Essbase V3.2

Arbor Software Corp. announced Essbase Analysis Server Version 3.2, which facilitates the deployment of enterprise data warehousing solutions by tightly linking OLAP applications running in Essbase with the detailed data stored in relational database systems. Additionally, Essbase has been ported to the UNIX platform and simultaneously internationalized for the French and German markets.

The Outline Mapping APIs enable IS to build custom applications that tightly map the data from the relational systems directly into the analytical data structure used in Essbase.

The SQL Drill-Through Module combines the operational benefits of multidimensional and relational databases into a single, transparent user interface. Users can view summary data within Essbase and then seamlessly access the associated detail-level data residing in the relational database.

Version 3.2 supports HP-UX, Windows NT and OS/2, with AIX and Solaris to follow shortly. Additionally, version 3.2 supports Windows, Mac, OS/2 and UNIX clients.

Pricing starts at $43,250 for a multiseat, five concurrent user license. The SQL Drill-Through Module is sold separately for $750 for five users.

Contact Arbor Software Corp., 1325 Chesapeake Terrace, Sunnyvale, CA 94089; (408) 727-5800.

Circle 395 on reader card

Cross Access Corp. Delivers CrossAccess

Cross Access Corp. announced a new version of CrossAccess, their SQL-based data delivery system which provides real-time access to relational and nonrelational enterprisewide data. CrossAccess version 2.1 automates mapping nonrelational data into relational formats.

Version 2.1 currently automates mapping from COBOL copybooks, IMS DBDs and the IDMS IDD. Using this base information, version 2.1 creates the mapping required to access VSAM, QSAM, RMS, IBMS/DB, IDMS, Model 204 and any other nonrelational data defined with COBOL data descriptions.

Also included are user-defined security extensions designed to proactively guide end-users into more effective information access work paths.

Supported client platforms are: MVS, AIX, HP-UX, OpenVMS for VAX and AXP, SunOS and Solaris, SCO UNIX, Windows and Windows for Workgroups with ODBC 1.2 or 2.0. Supported server platforms include MVS, AIX, HP-UX, OpenVMS for VAX and AXP, SunOS and Solaris, and SCO UNIX. Access to DB2, IDMS, IMS, Ingres, Model 204, Oracle, Rdb, RMS, System 2000, Sybase, VSAM and QSAM data structures is supported.

User-based or departmental pricing starts at $30,000. Enterprisewide licenses start at $200,000.

Contact Cross Access Corp., One Tower Ln., Ste. 2410, Oakbrook Terrace, IL 60181; (708) 954-0500.

Circle 394 on reader card

Liant, Oracle Forge Agreement

Liant Software Corp. announced an agreement with Oracle Corp, where Liant will port the Oracle Pro*PL/I precompiler to UNIX and incorporate it into their OpenPL/I solution — a development environment that transitions mission-critical PL/I applications from proprietary systems to open systems.

Teaming with Oracle's Pro*PL/I precompiler, which processes Oracle SQL statements embedded in PL/I applications, with Liant's Open PL/I solution will provide customers with the ability to move legacy PL/I applications from the mainframe to open systems running Oracle databases. Open PL/I is available on the following systems: HP 9000 running HP-UX, Sun SPARC running Solaris or SunOS, IBM RS/6000 running AIX, Intel running SVR4 and DG AViiON running DG/UX.

Price for a single-user license of Pro*PL/I is $600. Price for Pro*PL/I included with Open PL/I is $2,950 for a single-user license.
Contact Liant Software, 959 Concord St., Framingham, MA 01701; (508) 872-8700.

Circle 393 on reader card

Armon Networking Announces EyeNet

Armon Networking introduced the Eyenet internetwork monitor. This application represents an advance in the implementation of the RMON standard (RFC 1271, 1513) for enterprise-level network monitoring by graphically mapping end-to-end network traffic. EyeNet provides empirical information to help network managers arrive at informed network planning and configuration decisions.

An enterprisewide view of network-layer conversations is accomplished by consolidating information from multiple RMON probes into a single, map display. The map display provides a graphical indication of traffic volume by selected types (IP, Novell and others), as well as annotation for easy identification of segments and hosts.

EyeNet allows the user to specify host sets that may include machines on a single segment or any aggregation of individual hosts across segments. The user also may apply a variety of filters to create a specialized view of network traffic.

OnSite EyeNet gives users the ability to view aggregate information for the enterprise monitored at the network and application layers.
Contact Armon Networking Inc, 314 E. Carrillo St., Ste. 3, Santa Barbara, CA 93101; (805) 965-0859.

Circle 392 on reader card

ProAmerica Systems Develops SCM 3.2

ProAmerica Systems Inc. released Service Call Management 3.2 (SCM), a comprehensive customer support and helpdesk application that capitalizes on the high-performance Watcom SQL 4.0 database server while providing true client-server technology.

SCM 3.2 provides scalability across departmental, workgroup or standalone customer support environments. SCM 3.22, developed in PowerBuilder from Powersoft, features Microsoft Windows clients connected to a Watcom SQL database server. Servers supported include Windows, Windows NT, NetWare and OS/2. SCM also is available for UNIX platforms from IBM, HP, Data General, DEC and Sun.
Contact ProAmerica Systems Inc., 959 E. Collins, Ste. 101, Richardson, TX 75081; (800) 888-9600.

Circle 391 on reader card

LabView Ports To HP 9000 Series 700s

National Instruments announced the port of LabView graphical instrumentation software to HP 9000 Series 700 workstations. LabView 3.1 for HP-UX is compatible with other versions of LabView 3.1 on Windows PCs, Mac computers and Sun SPARCstations. LabView for HP-UX features a graphical compiler which will take advantage of the PA-RISC architecture, maximizing execution speed of LabView applications.

Enhancements include the ability to call share libraries written in other languages and new configuration management tools to aid users in building large applications. LabView 3.1 for HP-UX is compatible with the GPIB-HP700-EISA plug-in IEEE 488.2 interface and the GPIB-ENET/HP Ethernet-to-GPIB controller. The software includes more than 460 instrument drivers for GPIB instruments from more than 40 manufacturers.

LabView 3.1 includes the VISA Transition Library, which gives instrument driver developers and users an upgrade path to the next-generation National Instruments I/O architecture called Virtual Instrument Software Architecture (VISA). VISA provides a single interface library for controlling VXI, GPIB, RS-232 and other types of instruments. Cost is $2,995.
Contact National Instruments, 6504 Bridge Point Pkwy., Austin, TX 78730; (512) 794-0100.

Circle 390 on reader card

AimTech Corp. Provides IconAuthor 6.0 For UNIX

AimTech Corp. announced IconAuthor 6.0 for UNIX. IconAuthor is a full-featured multimedia authoring tool designed for creating interactive enterprisewide multimedia applications, including computer-based training programs, performance support systems and self-service kiosks.

With IconAuthor 6.0 for UNIX, AimTech now provides common IconAuthor file formats across leading development platforms, including Motif, Windows and OS/2. Users of these platforms can run and edit interactive multimedia applications developed and stored on UNIX systems. This enables IconAuthor developers to create on one platform and

To protect your data, you could back-up hourly, buy a fire-proof safe, and a $5 million insurance policy.

Or not.

NetBase

NetBase is a comprehensive disaster recovery and clustering solution that:

- *Creates a fault-tolerant network integrating MPE, UNIX and desktop systems.*
- *Improves performance and maximizes system availability.*
- *Optimizes workloads by distributing processes and data on the network.*
- *Provides industrial strength disaster tolerance without the need to change applications.*
- *Improves system management through file and user statistics for any node.*
- *Protects investments by allowing modular growth.*

Phone: 714-720-1434, e-mail: info@quests.com.

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QUEST SOFTWARE

Expect a solution.

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For client/server computing, hire a staff of 50, spend $1 million, and rewrite all your legacy applications.

Or not.

NetBase® Client

NetBase Client is a simple, straightforward client/server solution that:

~ Provides access to HP 3000 MPE or KSAM files and TurboIMAGE from UNIX, DOS and Windows.

~ Makes existing legacy data accessible from PC and UNIX applications without remote logons, expensive HP user licenses or unnecessary application changes.

~ Can be quickly and inexpensively implemented in a tightly-integrated HP 3000 environment.

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play on another, without converting files.

In addition to eliminating the conversion process, IconAuthor for Motif's common file formats make applications more accessible to users in distributed environments. Team developers can work with single copies of application files without transferring files across platforms, making project management and maintenance easier. For applications deployed across multiple platforms, a single copy of the application files can be stored on a single file server and accessed by heterogeneous client platforms.

IconAuthor for UNIX enables developers to link hot words with animation and video clips, create drag-and-drop exercises and update database records.

IconAuthor for UNIX provides full text, graphics, animation, video and audio support for the following UNIX platforms, including Sun Solaris, Silicon Graphics IRIX, HP-UX, DEC Alpha OSF/1 and IBM AIX.

Contact AimTech Corp., 20 Trafalgar Sq., Ste. 300, Nashua, NH 03063; (603) 883-0220.

Circle 389 on reader card

LBM Systems Corp. Bundles UniQue With Forms & Fonts

LBM Systems Corp. announced the addition of UniQue V3.20, a full-function print queue manager for UNIX. UniQue will be bundled with Forms & Fonts printing enhancement.

V3.20 contains features for remote printer support, new structures for scheduling by printer group, an interactive configuration program that verifies correct printer setup and a user-by-user environment definition utility.

Contact LBM Systems Corp., 145 Cherry St., New Canaan, CT 06840; (800) 898-6434.

Circle 388 on reader card

PinPoint Software Enhances ClickNet

PinPoint Software Corp. upgraded ClickNet Professional network diagramming, documenting and reporting utility that simplifies its installation and reduces the amount of time required to print diagrams.

An intelligent, object-based utility, ClickNet 2.0 is built around an image library of more than 2,300 vendor-specific and general network images for drag-and-drop placement in on-screen diagrams that can range in dimension from a global WAN to a single desktop on a LAN.

Behind each diagram, ClickNet 2.0 builds a specialized ODBC-compliant database that can hold over 100 details in 14 categories of information on each network component. From this information, ClickNet 2.0 can automatically produce full documentation of the network diagram as well as more than 80 management reports of varying complexity on specific categories or combinations of categories. Price is $795.

Contact PinPoint Software Corp., 6531 Crown Blvd., Ste. 3A, San Jose, CA 95120; (408) 997-6900.

Circle 387 on reader card

AHC Releases NetGuru Simulator

American Hytech Corp. (AHC) announced NetGuru Simulator, a fully functional network simulation module that is integrated with NetGuru Designer. The Simulator uses OOP techniques with graphical icons that allow even nontechnical users to perform design and simulation activities. The NetGuru family of tools have plug-and-play Microsoft Windows-based modules that represent generic physical and logical network elements. The product addresses the needs of professionals dealing with LANs with hundreds of workstations, or larger networks that can be further segmented.

NetGuru provides the ability to design the network from scratch or document an existing design and conduct "what if" analysis to understand whether the networks are performing efficiently, identify potential bottlenecks and predict the effect of new hardware, software, users, network configuration or network tools as they relate to overall performance.

Contact AHC, 565 William Pitt Way, Pittsburgh, PA 15238; (412) 826-3333.

Circle 385 on reader card

3k Associates Updates NetMail/3000

3k Associates shipped entry-level releases of its NetMail/3000 mail system in eight- and 20-user versions — NetMail/3000 LT8 and LT20.

NetMail/3000 includes a terminal-window interface client for uses on either terminals or PCs linked to HP 3000s making access intuitive and minimizing training. The new LT8 and LT20 versions let a company link key workgroups or departments.

An eight-user LT8 version of Netmail/3000 establishes an Internet-aware mail system on a reliable HP 3000 server without the extra expense of installing a high-cost SMTP gateway.

NetMail/3000 uses a streamlined terminal window that gives point-and-shoot power to every user at every desktop. It uses no special hardware or software, needing only an HP standard LAN card and common-place LANlink, HP networking software to make the connection.

Graphic files, audio instructions or executable files are automatically extracted by NetMail/3000 when a user reads a message.

NetMail LT8 and LT20 are shipping for MPE V and MPE/iX systems. The LT8 package costs $995 for eight mailboxes. The LT20 supports 20 mailboxes and costs $2,995. An unlimited mailbox license costs $4,995.

Contact 3k Associates, 6901 Old Keene Mill Rd., Ste. 205, Springfield, VA 22150; (703) 569-9189.

Circle 384 on reader card

Jobscope Corp. Ports Jobscope To HP 9000, RS/6000

Jobscope Corp. announced that its flagship software application Jobscope is available for the HP 9000 and the RS/6000. Using Speedware's development tools, Jobscope enhanced the functionality of its comprehensive management information system and offers cross-platform independence. Jobscope is written in Speedware 4GL.

In addition to portability and interoperability, the new version of Jobscope offers an easier-to-use interface. It includes color, 3D boxes, scrolling and pop-up windows along with a mouse-driven, point-andclick interface. A full-function GUI will be added this year. The version also supports Speedware's EasyReporter, a product that allows the non-technical user to create custom reports.

Speedware 4GL code is stored in a platform-independent state from which it can be compiled to run in many operating systems and database environments. The Jobscope system is kept in a single development format from which new versions are grown. Delivery of the code to customers on their platforms simply requires this single development operating format to be compiled into the customer's operating environment. This ensures that Jobscope will have identical functionality and a similar look and feel across all platforms.

Contact Jobscope Corp., 355 Woodruff Rd., Ste. 405, Greenville, SC 29607; (800) 443-5794.

Circle 369 on reader card

About Software Announces 5PM Term 3.1, 5PM Pro 3.1

About Software Corp. announced 5PM Term 3.1 and 5PM Pro 3.1. 5PM Term is a full-functioned high-end terminal emulation product for accessing applications and data from a variety of computers. Its companion product, 5PM Pro, is a powerful environment for creating custom user interfaces. 5PM Pro allows developers to quickly create and put into operation GUI front-ends for 5PM Term.

5PM Term 3.1 supports HP 9000 Series 700/98 and SCO ANSI terminals (5PM Term already supports IBM mainframe, AS/400, UNIX, VAX, PC-ANSI, Unisys and Honeywell/Bull terminals). Other new features include: cross-platform binary file compatibility between Macintosh and Windows versions; ASCII 3270 and 5250 keyboard and function key support for VT420 dial-in; full 16 color ANSI support; accelerated VT pass-through printing; and Apple Macintosh System 7.5 savvy, including Drag Manager support.

5PM Pro 3.1 provides cross-platform binary compatibility for 5PM Term files. Developers can create binary files with 5PM Pro on the Macintosh which can then be run by the Macintosh and Windows versions of 5PM Term. Additional features in the new version include: new user interfaces, including 3D buttons; and Apple Macintosh System 7.5 savvy, including Drag Manager support.

Contact About Software Corp., 1422 Arnold Ave., Roslyn, PA 19001; (215) 657-4338.

Circle 368 on reader card

Gejac Enhances ARSAP 4.0

Gejac Inc. announced new enhancements for ARSAP 4.0 System Accounting software that provide managers with valuable system accounting information of computer resources consumed within Oracle.

Until the ARSAP enhancement for Oracle, Oracle system accounting information to the user level was not available. This enhancement enables the MIS manager or system administrator to perform resource management and to allocate or chargeback usage of all applications within OracleE, including multiple instances on the same server.

The new ARSAP enhancement capabilities for Oracle usage accounting include: tracking connect time, cpu time, I/O and multiple instances on the same

To share printers, you could do complex spooling and spend a fortune on implementation and training.

Or not.

NBSpool

NBSpool is a high-performance HP 3000 print spool management solution that:

- ***Empowers your users to select the right printer for the right job.***
- ***Provides transparent printer connectivity across MPE, Windows NT, UNIX, IBM, VAX, NetWare, LAN Manager, Banyan Vines and more.***
- ***Eliminates lost reports and facilitates information routing.***
- ***Provides an intuitive user interface that accelerates implementation and lowers training costs.***

Phone: 714-720-1434, e-mail: info@quests.com.

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To move data faster on your network, you could increase your bandwidth and spend lots of money.

Or not.

QUARK Plus

QUARK Plus is a multi-platform file compression solution that:

- *Provides quick and easy compression of file groups into a single file for efficient network transportation.*
- *Greatly reduces data transfer times and line costs.*
- *Provides all the capabilities of STORE and RESTORE.*
- *Compresses and uncompresses accounting structures (passwords, capabilities, etc.)*

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CIRCLE 270 ON READER CARD

server, as well as other important Oracle resources such as user commits and physical reads and writes; accounting for the use of Oracle resources by user, project, section or department on any multiuser system or workstation; and supporting an unlimited number of workstations, nodes, users and projects as part of its advanced chargeback capability, allowing administrators to easily allocate Oracle costs back to users or departments.

In addition, the same high value Gejac places on ease-of-use and time savings that is characteristic of all ARSAP 4.0 Resource Management and Chargeback software can be applied to Oracle resource management. This includes optional ARSAP 4.0 presentation graphics, added reporting options, and friendly graphical user interface (GUI) for added flexibility and enhanced display capabilities.

ARSAP 4.0 with enhanced ORACLE capabilities operates across all major UNIX systems or workstations. The graphics module operates across HP 9000/700 HP-UX, IBM RS/6000 AIX, SGI Irix, Sun Solaris, SunOS, and OSF/1 platforms.
Contact GEJAC Inc., 8643 Cherry Lane, Laurel, MD 20707; (301) 725-2500

OpenVision Announces OpenV*Event Manager 3.0

OpenVision Technologies Inc. announced OpenV*Event Manager Version 3.0. The new release manages and monitors operating system, database and business application operations on over 4,000 nodes from a single OpenV*Event Manager Event Engine. Its improved scalability represents a four-fold increase in the number of nodes capable of being managed in previous versions of OpenV*Event Manager.

OpenV*Event Manager Version 3.0 features a three-tier architecture that separates Management Console, Event Engine and Intelligent Agents. The Management Console hosts the graphical interface for viewing and managing networkwide activities. The Event Engine runs on a UNIX server and handles communication between Intelligent Agents and the Management Console.

Intelligent Agents are placed on remote nodes, either servers or clients, to monitor systems, network, database or application activities. Over 12 Management Consoles can be run against a single Event Engine allowing multiple administrators to seamlessly manage their business application environment.

OpenV*Event Manager Intelligent Agents will continue to provide uninterrupted management of nodes through its local error detection and correction capabilities. In the OpenVision design, each Intelligent Agent has the capability to act as a standalone management application, managing and monitoring critical node activities.

In the event network services are interrupted, Intelligent Agents continue to manage nodes, maintaining the integrity of the user's business application environment. OpenVision also announced today the availability of an Intelligent Agent for Microsoft's Windows NT. As a result, NT nodes can be managed as peers with UNIX server and client systems.

OpenV*Event Manager 3.0 also includes the capability to integrate with leading network managers such as HP OpenView, IBM NetView for AIX, Digital PolyCenter, AT&T OneVision and Cabletron Spectrum. OpenV*Event Manager can forward events as SNMP traps, allowing the network manager's management console to display them and giving users the ability to manage and monitor events for networks, systems, databases and applications simultaneously through a single interface. In addition to menu-level launch, OpenV*Event Manager also can detect all the nodes discovered by the network manager, facilitating its setup and configuration. Release 3.0 also provides event integration with Remedy's ARS trouble ticketing system through its ability to automatically generate trouble tickets for any event.
Contact OpenVision Technologies Inc., 7133 Koll Center Pkwy., Pleasanton, CA 94566; (800) 223-OPEN.

HARDWARE

Genoa Supplies SIR Tester

Genoa announced the SIR (Serial Infrared) Tester, which is a small, battery-powered device that can determine whether a computer or peripheral is able to communicate using the IrDA protocol via serial infrared link.

With a simple change in configuration, the SIR Tester can: perform pass/fail peripheral test; perform pass/fail computer test; send and receive test frames; and test for the presence of IR energy.

The SIR Tester is a two-button device: press "peripheral test" and the SIR Tester will emulate a computer in a computer-to-peripheral communication. If the peripheral is a printer, a test page can be printed. SIR Tester will emulate a peripheral by responding to a host computer's attempt to establish a communication.

The SIR Tester can query devices, such as IR telephones, to see if they are active. It also can be set to detect the presence of IR signals to show when any device is transmitting IR energy, replacing the function of optical IR scopes.

Contact Genoa Technology Inc., 5401 Tech Circle, Moorpark, CA 93021; (805) 531-9030.

Circle 383 on reader card

JMR Electronics Offers Infinity RAID

JMR Electronics introduced the Infinity RAID Series, which are enclosures compatible with current RAID controllers or RAID software.

Available with either N+1 redundant hot-swap power supplies, or with individual 60 watt power supplies integrated into each hot-swappable canister either 3.5- or 5.25-inch form factor. Infinity RAID offers LED status display of power, drive activity, power failure and over-temperature on each canister. The enclosures contain power fail, fan failure and over-temperature alarms.

The Infinity "Smart" RAID models feature front-panel push button control of a four-line LCD display which permits drive start-up sequencing, drive ID selection and fan speed control. Other features include subsystem-to-system communications, connection to hosts or RAID controllers and numerous other enclosure functions.

The two-canister models of Infinity RAID are good for mirroring. The four, five and seven-canister modules are good for software RAID. Or, by adding a matching Infinity RAID controller housing, the five- and seven-canister models can be connected to hardware-controlled RAID.

Contact JMR Electronics Inc., 20400 Plummer St., Chatsworth, CA 91311; (818) 993-4801.

Circle 382 on reader card

IMC Announces Virtual SHM

IMC Networks introduced Virtual Switching Hub Module (Virtual SHM), a microcomputer-based module for the EtherWay family of modular, SNMP-Manageable Ethernet hubs. The new module provides users with programmable Ethernet store-and-forward switching between Virtual Workgroups. Current IMC users will be able to install the new modules on their existing hubs.

Contact IMC Networks, 16931 Millikan Ave., Irvine, CA 92714; (714) 724-1070.

Circle 381 on reader card

JBS Distributes EasySpooler

EasySpooler and Jones Business Systems (JBS) announced an alliance which will enable JBS to distribute the full line of EasySpooler UNIX-based print management and print spooler products. JBS will bundle EasySpooler with productivity tools, such as SCO, JSB, FacetTerm and VisFax.

EasySpooler is a print manager/spooler which brings mainframe print scheduling functionality to UNIX. EasyNet, a recent addition to the EasySpooler product family, allows cross-platform users to manage remote printers connected to any LAN in an enterprise.

Contact JBS, 6120 West By Northwest Blvd., Houston, TX 77040; (800) 876-8649.

Circle 380 on reader card

Rockwell Network Systems Unveils NetHopper

Rockwell Network Systems announced NetHopper remote access server models. The NetHopper NH-RAS Remote Access Server Series provides remote access via asyn--chronous lines to users and LANs supporting the Point-to-Point Protocol (PPP).

The NetHopper NH-RAS is available as a rack-mounted or standalone unit with five internal modem slots. Units are built with one to five V.34 modems. Additional modems can be purchased and installed later.

The NetHopper NH-RAS Series uses standard telephone lines to extend networks to wherever they are needed. Integrated high-speed Rockwell V.34 modems provide connectivity to remote users or LANs at speeds up to 115 Kbps with compression. All NetHopper products are fully manageable using SNMP, and support complete IP and IPX protocol routing. The NetHopper NH-RAS Series includes one Ethernet LAN connection via an AUI or 10Base-T interface and up to five integrated V.34 modems.

Intuitive, menu-driven set-up allows users to configure passwords, telephone numbers and network addresses within minutes. Phone line costs are controlled through quotas, audit trails, extensive filtering and Rockwell's SmartRoute Software which eliminates unnecessary dialing.

Prices range from $1,995 to $3,995.

Contact Rockwell Network Systems, 7402 Hollister Ave., Santa Barbara, CA 93117; (805) 968-4262.

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To use Xerox production printers, electronic forms and highlight color, just buy a mainframe.

Or not.

EnterPrint™

EnterPrint is a fully-scaleable, enterprise-wide printer server that:

~ Provides a modular and robust solution for Xerox production printers on heterogeneous TCP/IP networks.

~ Supports ASCII, AFP and PCL documents.

~ Supports UNIX, mainframe, minicomputer, workstation and LAN application servers.

~ Provides an ideal solution for downsizing environments, site consolidations and departmental integrations.

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You could shop around endlessly to solve all your networking and output management needs.

Or not.

Quest Product Family

Our complete family of HP networking and output management solutions means one-stop shopping:

- *VISTA Plus, the easy-to-use electronic report management solution.*
- *NBSpool, the high-performance spool management solution.*
- *NFS/iX (Client and Server), the only NFS for MPE XL and POSIX.*
- *NetBase, the comprehensive clustering and disaster recovery solution.*
- *NetBase Client, straightforward access to MPE data from UNIX and LANs.*
- *EnterPrint™, a robust and scaleable server for Xerox production printers on TCP/IP networks.*
- *QUARK Plus, the multi-platform compression solution.*

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new products

SunRiver Data Systems Releases CXLE 3531

SunRiver Data Systems announced their CXLE 3531 series of multimedia X Stations — the Multi-Information Station and the Customer Care Station.

These X Stations, with SunRiver's XEasy software, combine the diverse hardware/software capabilities required for high-end, telephony-based customer interaction into a single self-contained communications systems.

The CXLE3531 integrates video, audio and telephony for desktop access over a LAN. The X Stations are good for online training, integration of LAN audio with telephone, or audio information dispersion.

The 3531 X Station comes with an i960CA 33 MHz processor (i906CF optional) for increased performance, and supports flexible communications such as twisted pair (standard), thin or thick Ethernet (optional), and one parallel and two serial ports. Monitor size ranges from 15- to 20-inches with resolutions up to 1280 x 1024.

Contact SunRiver Data Systems, Echelon IV, Ste. 200, 9430 Research Blvd., Austin, TX 78759; (512) 346-2447.

Circle 378 on reader card

Convex Announces SPP1200 Systems

Convex Computer Corp. introduced a new model in the Exemplar Scalable Parallel Processor (SPP) family of high performance scalable computers.

The Exemplar series, based on HP's PA-RISC processors tracks the price/performance development cycle of the desktop. As a result, customers will be able to use high-performance systems and software to solve problems workstations can't solve, and gain access to new technologies at a rate that before was possible only in desktop systems.

Leading high-performance applications for the Exemplar include: Computational Fluid Dynamics — FIDAP, FLUENT, RAMPANT and STAR-CD; Decision Support — SAS; Impact Analysis — LS-DYNA, PAM-CRASH and RADIOSS-CRASH; Metal Forming — PAM-STAMP; Molecular Mechanics — Amber, Discover and Macromodel; Multiphysics Analysis — SPECTRUM; Petroleum Exploration — Geovecteur and SeisUP; Quantum Mechanics — Gaussian 94, MOPAC, DMOL and GAMESS; Seismic Imaging — VIEWS; and Structural Analysis — ABAQUS, ANSYS, MARC and MSC/NASTRAN.

The systems can be expanded up to 128 CPUs, with a linear increase in performance. Further, the Exemplar family supports an ABI to HP-UX, which allows the Exemplar systems to run thousands of applications available for HP workstations.

The PA-7200 processor used in the SPP1200 features 240 MFLOPS of peak performance. In addition, the PA-7200's new on-chip "assist cache," integrated memory interface and 64-bit wide memory bus delivers significantly improved performance in the SPP1200 memory subsystem.

The new Exemplar systems are available in two models: the SPP1200/CD, ranging from two to 16 CPUs, and the SPP1200/XA, ranging from eight to 128 CPUs. Pricing for SPP1200/CD systems begins at $160,000 for a two-CPU system. Pricing for SPP1200/XA systems begins at $586,300 for an eight-CPU system.

Contact Convex Computer Corp., 3000 Waterview Pkwy., Richardson, TX 75080; (214) 497-4000.

Circle 377 on reader card

Triticom Ships MasteRMON V1.0

Triticom announced Version 1.0 of MasteRMON distributed network monitoring software. MasteRMON displays the activity of a selected Ethernet or Token-Ring LAN segment through the use of industry-standard RMON agents. All SNMP functions are handled transparently by MasteRMON.

Because it is a Microsoft Windows-based program, it takes advantage of Windows multitasking capabilities by allowing several concurrent instances of MasteRMON to be executed on the same machine. Each instance connects to one RMON probe. This allows network managers to monitor an entire distributed network from one central monitoring station.

Other features include: traffic displays, real-time display modes; alarms; baselining; snapshot reports; real-time graphing; and online help.

A single license to operate MasteRMON is $595, which includes an Introduction and Installation Manual and software on a 3.5-inch disk. A five instance license costs $2,395, and a 10 instance license costs $4,195.

Contact Triticom, P.O. Box 444180, Eden Prairie, MN 55344; (612) 937-0772.

Circle 376 on reader card

NEW $1,000 2 GB SCSI-2 SUB-SYSTEM FOR HP-UX SYSTEMS

To introduce the new 9000 Series of Floppies, Hard Disks and Tape Storage Products for HP-UX Systems, Texas ISA is offering a special introductory pricing on their new **high performance 2 GB** subsystem. It's ***fast*** with an average seek time of **9.5 ms**. More importantly, it's extremely **reliable** with an MTBF of 800,000 hours. That's why it's backed with a **five-year warranty**. But best of all, its compatibility with your HP 9000 Series 700/800 systems is **guaranteed**! Contact Texas ISA at (800) 361-2258, or (713) 493-9925.

Circle 403 On Reader Card

INTRODUCTORY PRICING FOR HP712 MEMORY BOARDS

ISA introduces their newly released memory cards for the HP712 with a special introductory pricing. Call for their 32 MB and 64 MB guaranteed best prices, with lifetime warranty. Call (800) 361-2258 or (713) 493-9925.

Circle 401 On Reader Card

AUTOMATIC UNIX STARTUP/SHUTDOWN DEVICE PROVIDES SECURITY, SAVINGS AND CONVENIENCE

Texas ISA, Inc. announced the availability of its new Model 7030 with an Ethernet interface to allow the operation and control of networked UNIX system(s), with a single flick of a switch. The system power ON/OFF process can also be automated by the built-in timer, UPS Power Fail Signal, a shutdown request from the RS-232 or modem ports, and also by environmental triggers such as temperature and humidity. Additionally, alarms or preset messages can be sent to a pager. A Model 7020 (with no Ethernet interface) is also available. Prices for the Models 7020 and 7030 range from just under $1,000 to $2,500. Contact Texas ISA at (800) 361-2258, or (713) 493-9925.

Circle 402 On Reader Card

NEW TOTOKU HIGH RESOLUTION, FULL-FEATURED COLOR MONITORS

If you are looking for a high-quality 17- or 21-inch color monitor, check out the new Totoku line of enticingly priced monitors from Texas ISA. Totoku has been an OEM for Sony and other vendors, and now introduces their very own models, the CV172U (17-inch priced at $1,190) and CV211U (21-inch priced at $2,125). Texas ISA can be contacted at (800) 361-2258, or (713) 493-9925.

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CoStar Corp. Presents SE200 Series Printers

CoStar Corp. announced its LabelWriter SE200 and SE200 Plus, small-size desktop label printers that can operate on standard CPUs without requiring special software. The SE200 Series is ideal for use in supporting vertical bar code printing applications.

The SE200 Series supports a subset of the standard Epson FX command language, and can print all ASCII characters. Because each includes a standard serial interface, they can be connected to virtually any CPU (PC, AS/400, DEC VAX and UNIX workstations) that is capable of printing to a standard ASCII printer.

The SE200 and SE200 Plus have two built-in fonts, with each font printable in regular, double-height, double-width and double-height/double-width formats. In addition, eight bar code symbologies also are included that support user-definable height, density, positioning and orientation. Both models provide a standard print resolution of 203 dpi, but can easily be switched into a 138 dpi mode.

Other features include: the ability to mix text in portrait and landscape modes; inverse mode (white on black printing); underline mode; and support for standard baud up to 115 Kbaud.

Price for the SE200 and SE200 Plus is $449.95 and $499.95, respectively.
Contact CoStar Corp., 100 Field Point Rd., Greenwich, CT 06830; (203) 661-9700.

Circle 375 on reader card

Boffin Ltd. Offers CD SIETE

Boffin Ltd. announced its CD SIETE, a seven-disk CD-ROM jukebox that is ideal for use in today's storage-intensive computer networks. Featuring an industry-standard SCSI-2 interface and compatibility with all major CD standards, the CD SIETE integrates smoothly into virtually any computing environment.

By using CD SIETE and Boffin Ltd.'s optional network software, network managers have the ability to daisychain up to seven units together and gain access up to 49 separate discs.

Compatible disc standards include: CD-ROM, CD-DA, CD-ROM XA and Photo CD. Average access time is 380 ms. Buffer memory is 64 KB. Audio outputs are stereo mini jack (front panel) and RCA type phone jacks (rear panel).

Price is $499.
Contact Boffin Ltd., 2500 W. County Rd., #42, Burnsville, MN 55337; (612) 894-0595.

Circle 374 on reader card

Dallas Digital Distributes Philips LMS Products

Dallas Digital Corp. announced the signing of an agreement to distribute the Philips LMS Infinity 6000 family of permanent, 12-inch, laser magnetic storage solutions, the LaserDrive 4100 (LD4100) line of 12-inch WORM optical disks and CDD522 CD-Recorders.

The Infinity 6000 lines' ability to simultaneously read or write both sides of a disk yield burst transfer rates of up to 10 MBps and sustained transfer rates of 2.7 MBps. Additionally, the family's six- and 12-disk RapidChangers bridge the gap between single disk and large jukebox systems. With the Infinity 6000's 2.5 second disk change rate and 2 MB data buffer, data access is never compromised.

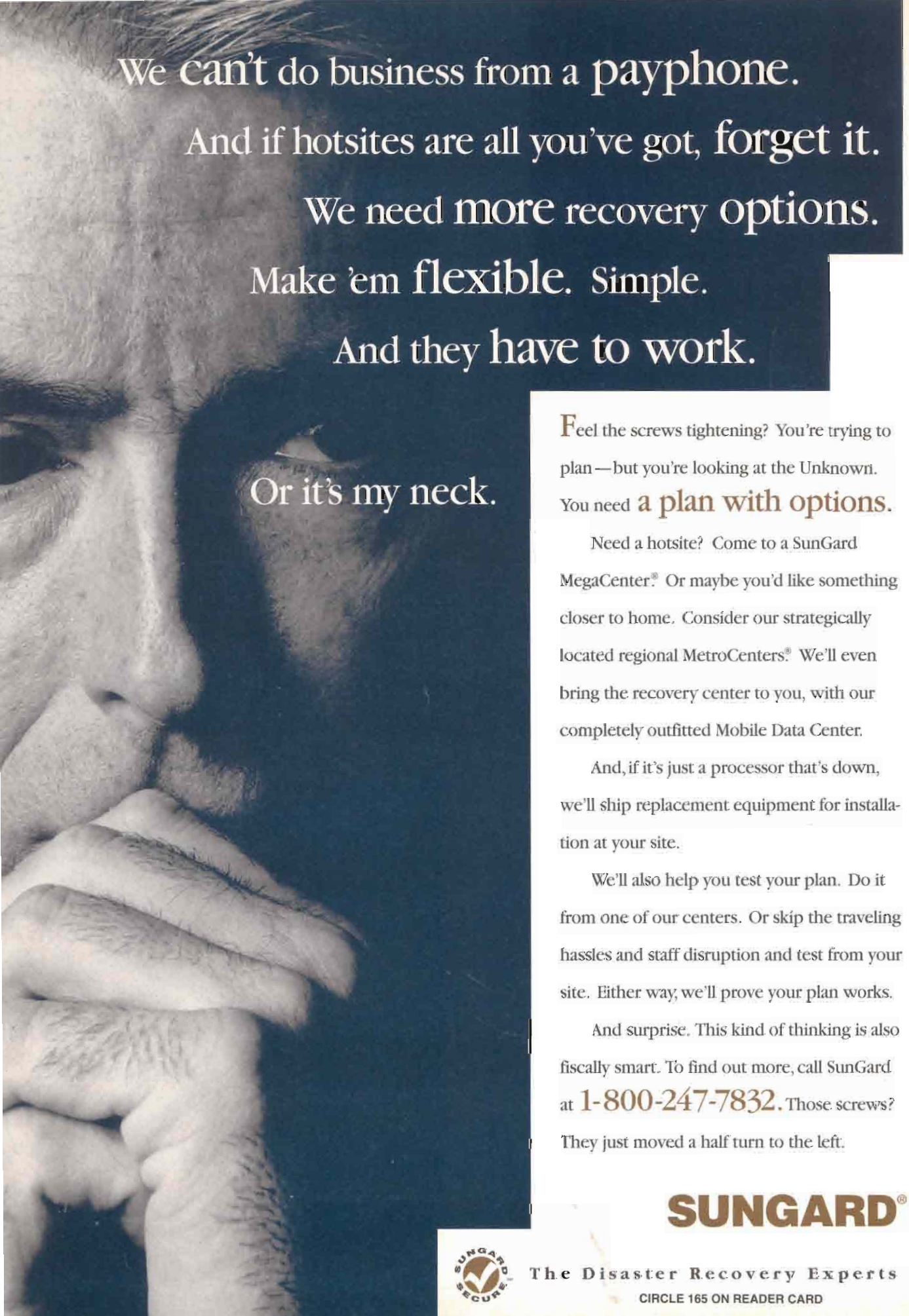
Philip's LD4100 12-inch WORM optical disk combines dual-head read/write performance with 5.6 GB online capacity. The drive's dual actuator design removes the need to flip cartridges for access to both sides of the disk and offers a single logical partition of 5.6 GB. The LD4100's sustained data transfer rate for read data is 700 KBps. The LD4100 supports asynchronous and synchronous data transfer and uses a standard SCSI interface offering either single-ended or differential (D style) connectors.

Philip's CDD522 CD-Recorder ensures connectivity with all major hardware platforms and operating systems including MS-DOS, Windows, Mac and UNIX. The CDD522 records CD-ROM, CD-ROM XA, CD-I, CD-Audio, CD Bridge Multisession, CD-Video and Photo CD. Other CDD522 features include data addition to recorded disks, double speed and single speed recording and playback, and an upgradable cache buffer. Data integrity is ensured with integrated error detection/correction software, combined with individual disk calibration and full data recovery options in the event of a power failure.
Contact Dallas Digital, 624 Krona Dr., Ste. 160, Plano, TX 75074; (214) 424-2800.

Circle 373 on reader card

DigiBoard Announces DataFire Adapter

DigiBoard announced DataFire ISDN LAN adapter, a new card that includes all the hardware needed for connecting a PC to an ISDN line. DataFire integrates an ISDN network interface card, NT1 (line terminator) and power supply into a single unit reducing system complexity, simplifying



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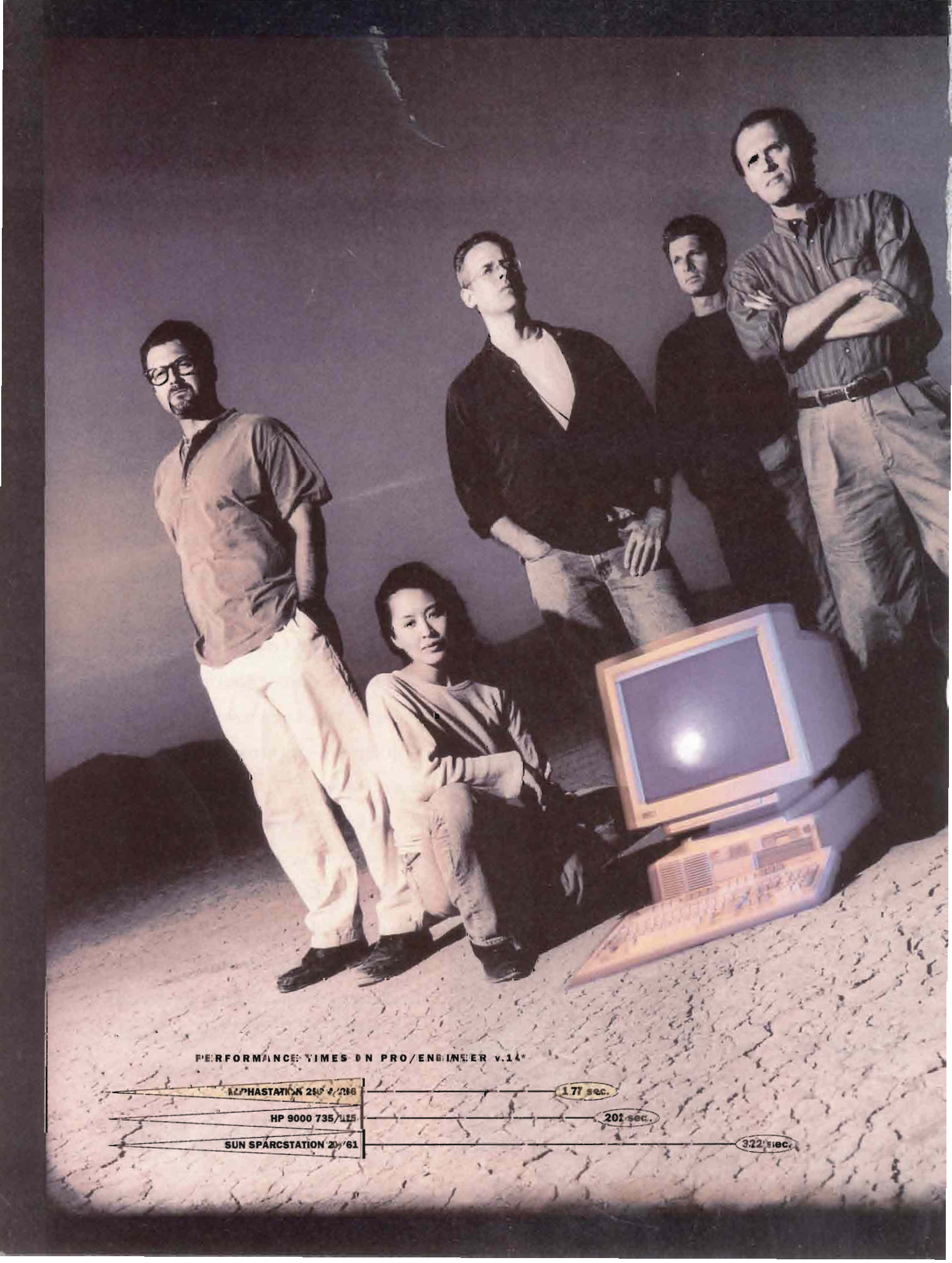
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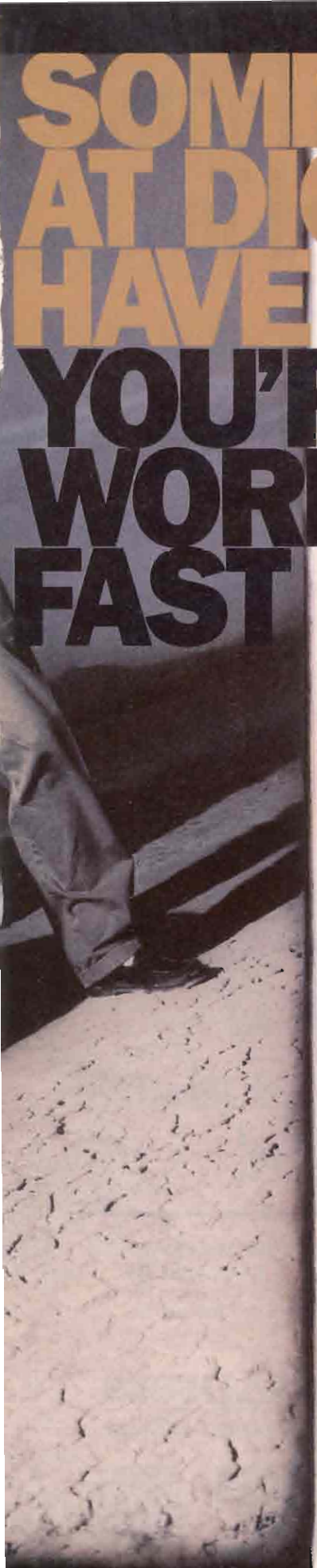
ALPHASTATION 255 4/266
1.77 sec.
HP 9000 735/125
201 sec.
SUN SPARCSTATION 20/61
322 sec.



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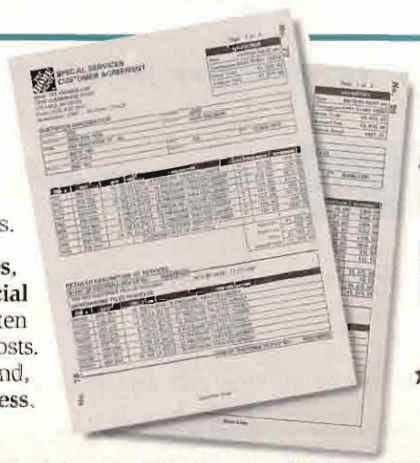

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installation and lowering the cost of ISDN communications hardware for PC users.

DataFire installs in the expansion slot of ISA-bus PCs and connects directly with a Basic Rate Interface (BRI) ISDN line. It supports Microsoft Windows NT, Windows for Workgroups and Novell NetWare operating systems. DataFire works in conjunction with DigiBoard's Link Optimizing Software. PPP support ensures interoperability with other BRI and Primary Rate Interface ISDN devices. Price is $595.
Contact Digi Int'l., 6400 Flying Cloud Dr., Eden Prairie, MN 55344; (612) 943-9020.

Circle 372 on reader card

XCd Inc. Supports SNMP, HP JetAdmin

XCd Inc. announced support for SNMP for all their multiprotocol Ethernet network print servers. In addition to SNMP support, XCd announced compatibility with HP's JetAdmin printer management tool. JetAdmin software is included with Microsoft's Windows 95 and IBM's OS/2.

Support for MIB I and II means the print servers can be managed from most network management systems. Unlike many competing products, the XCd SNMP runs over IP and IPX, and will work with Novell's NetWare Management Systems (NMS) software. Compatibility with HP's JetAdmin means users can monitor, configure and diagnose XCd print servers.

The print servers allow users to print simultaneously from DEC LAT, UNIX TCP/IP, Novell NetWare, AppleTalk, Windows NT/ NTAS, LAN Server, LAN Manager and Banyan Vines. They also offer optional LNO3 hardware and LocalTalk support.
Contact XCd, 3002 Dow Ave., Tustin, CA 92680; (714) 573-7055.

Circle 371 on reader card

MicroTech Updates ImageMaker CDR

MicroTech Conversion Systems announced ImageMaker CDR, a one-cabinet, two to six Yamaha drive hardware and software CD duplication system.

ImageMaker CDR duplicates and verifies as many as six full disks per hour in its two-drive configurations. It comes complete with a 486 computer system, including keyboard, monitor, 2 GB hard drive, 4X reader and full software. It is upgradeable to its parent system, the ImageMaker, a CD and tape duplicator producing up to 30 disks per hour.

The basic system is an 80486 DX-66 computer, SVGA monitor, SCSI 2.0 GB hard drive, one 4X read drive and two 4X recorders. Each ImageMaker CDR is expandable one drive at a time, up to six drives.

Featuring a true bit-for-bit duplication and read-after-write verification, ImageMaker CDR keeps track of the number of good disks produced and reports quantity and time to complete each job.

The duplicator copies CDs for the following operating systems: Mac, UNIX, OS/2, DOS and proprietary systems. It supports ISO 9660, Rock Ridge, HFS, UFS, CDR, CDI, CD-XA and CD Audio formats.
Contact MicroTech Conversion Systems, 940 Industrial Ave., Palo Alto, CA 94303; (415) 424-1174.

Circle 370 on reader card

IEM Introduces 25-Tape Datawheel

IEM Inc. announced a 4mm, dual-drive, 25-tape datawheel provides up to 200 GB of data storage in a small, compact size. These units are available with or without a bar code reader. Two of these units will fit into a standard 19-inch rack, providing four drives and 50 cartridges in one rack. The units are lightweight, compact and supported with a wide variety of network backup software packages.

IEM's datawheel products are available with one or two HP DDS-2 DAT drives in each unit. The DDS-2 DATA drives offer from 4 GB (uncompressed) up to 8 GB of storage (assuming a 2:1 compression ratio), and a MTBF of 200,000 PCH.

IEM's datawheel products are supported with Network Archivist, Networker, ARCserve, BudTool, Quick Restore, SMarch, Open V-Backup and OmniBack II software packages.
Contact IEM Inc., 1629 Blue Spruce Dr., Fort Collins, CO 80524; (970) 221-3005.

Circle 367 on reader card

Bering Technology Launches OptiPac CD-R

Bering Technology Inc. introduced a low-cost way to archive data on HP 3000 and HP 9000 computers. The OptiPac CD-R subsystem features a 2x or 4x CD-Recordable disk drive and a 1 GB hard disk for mastering CD-R disks. CD-R disks hold up to 650 MB of data on durable and data-reliable media.

Bering's OptiPac CD-R supports MPE and HP-UX operating systems. Using standard MPE or HP-UX backup commands, the OptiPac CD-R creates a DDS tape drive backup image on the hard disk that can then be copied to the CD-R disk offline. Target files and data are written

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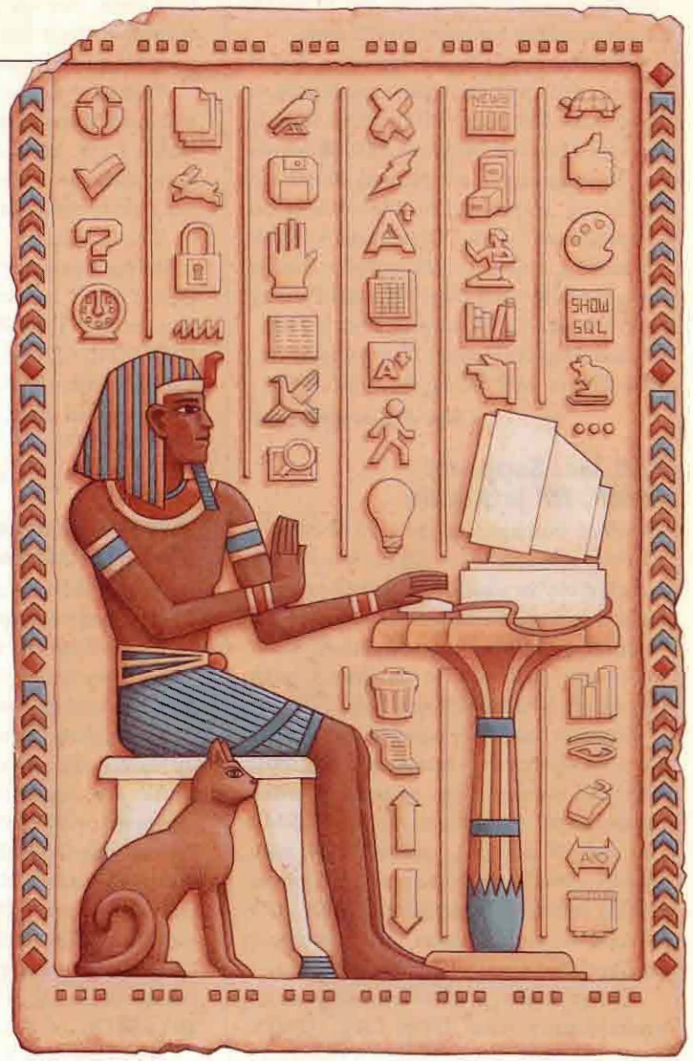

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first to the unit's hard disk to create the CD-ROM image on the blank media.

Alternatively, the OptiPac CD-R can be mounted as normal read-write removable volumes (private volumes for MPE). Then the volume can be archived onto the CD-R disk.

Price for OptiPac CD-R are $3,590 and $4,990 for the 2x and 4x versions respectively.

Contact Bering Technology, 1357 Dell Ave., Campbell, CA 95008; (408) 364-6500.

Circle 366 on reader card

Hilton Systems Ships TowerFeed Sheet Feeders

Hilton Systems Inc. introduced new TowerFeed models designed especially for HP LaserJet 4, 4+ and 4Si/IIISi printers. The company also introduced Windows software for simple paper selection.

The TowerFeed models include two desktop models and two floor models. The two desktop sheet feeders are Model 444/33 (three drawers, priced at $1,995) and Model 444/44 (four drawers, priced at $2,695). The two floor models are Model 444/75 (five drawers, priced at $3,695) and Model 444/77 (seven drawers, priced at $4,895, available for the 4Si only).

The new TowerFeed models consist of a stack or drawer-like trays designed so that the laser printer sits on top of the TowerFeed sheet feeder. Each tray, legal or letter size, can store up to 500 sheets of paper. Hilton's Window software enables users to select any tray or any sequence of trays, depending on the document to be printed. Some applications, including Microsoft Word, permit the selection of TowerFeed trays and paper sequences as part of Page Setup. Frequently-used paper selection sequences can be stored by name, so users need not redefine page selection sequences each time they print.

Contact Hilton Systems Inc., 3 Maple Place, Glen Head, NY 11545; (516) 759-7018.

Circle 365 on reader card

HP Introduces 10/100 Switch

HP introduced the AdvanceStack 10/100 LAN Switch-16, which provides managers with flexibility.

In addition to 16 10Base-T ports, the AdvanceStack 10/100 LAN Switch has two slots, each of which can hold two 100VG ports.

The AdvanceStack 10/100 LAN Switch is a department switch, which means that each of the switch's ports can keep track of multiple addresses. In other words, an individual switch port can connect to a hub that has multiple nodes connected to it. A workgroup switch, on the other hand, can only have individual nodes or PCs connected to each port. The AdvanceStack 10/100 LAN Switch can function as a workgroup switch, but it is not limited to workgroup functionality. As a result, the HP 10/100 LAN Switch's "top-of-stack" functionality provides switching between 10Base-T and 100VG workgroups as well as providing dedicated bandwidth for the server and selected clients.

The HP AdvanceStack 10/100 LAN Switch16 costs $6,495. The two-port 100VG Module costs $2,195.

CIRCLE 457 ON READER CARD

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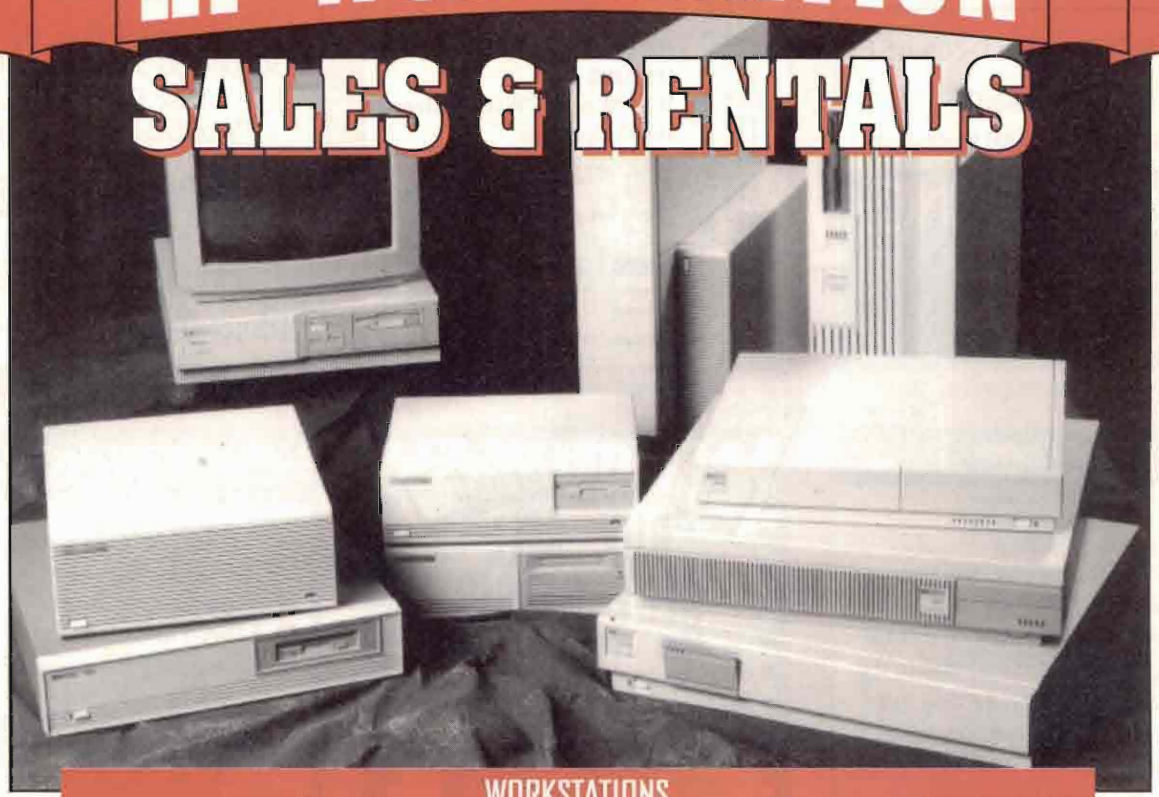

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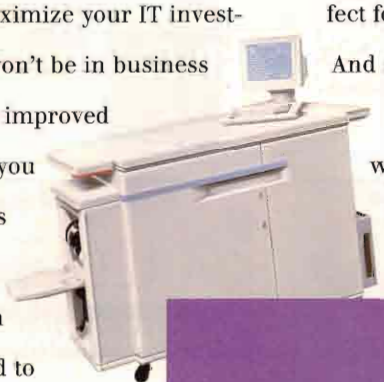

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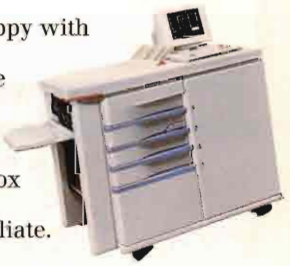

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A New Lease On Obsolescence

Modified Agreements Rejuvenate Old Leases

Mac McLaughlin

Since its invention, computer technology has blasted thousands of other electronic and mechanical systems onto museum shelves. The one thing that computers have proven best at obsoleting, however, is computers. That's tended to make computer systems managers age a little more quickly too.

Computer system performance has been improving at about 40 percent per year; faster for PCs, workstations and disk storage. So as Gordon McLachlan said on this page in May: "Since you can't avoid computer system obsolescence, you might as well plan for it."

But replacing old computer systems has been a painful process. There's the time and effort required in conversions, not to mention the potential disruption of business operations; but also in terms of expense. While we've learned more and more about minimizing the impact of the physical change, dealing with the cost has been rough.

Has the system been purchased? Then what do you do if you're amortizing it over five years, and it's obsolete in three? Do you have it under lease? Then get ready to incur big penalties for terminating early. Part of the problem is that current lease agreements were not designed for products that depreciate as rapidly as computer systems. Something new is definitely needed.

Well, that "something new" has just started to come on the market. In the United States, Avnet Computer, a reselling arm of the $3.5 billion Avnet Inc., offers a "financial vehicle" it calls TMMS (Technology Management Maintenance Service). TMMS is like a lease. There are monthly payments related to the value of the computer system installed, but you can upgrade during the term of the agreement without financial penalty. It's a financial agreement that builds in funds for upgrading, but still costs the user about the same as a three-year closed-end lease would. Users don't even have to know exactly *when* they will need to make the move; that's up to the computer vendor.

The success of TMMS itself *depends on obsolescence*. It also depends on Avnet knowing the computer vendor's sales programs in some depth so Avnet's own upgrading costs are minimized.

In Canada, GE Capital Technology Services, another reseller, offers a financial product called Evergreen. Evergreen allows a user to specify at the beginning of the lease what percentage of his hardware will be replaced on what schedule, although the user need not know which hardware will go out in which period. When a computer is updated, that portion of the lease is restarted.

Theoretically, the same agreement could go on indefinitely, so Evergreen is similar to earlier "step leases." The Canadian firm focuses its program on PCs and workstations. A sister company, GE Capital Computer Leasing, does something very similar in the United States under the name Cyclepoint. Currently, Avnet Computer offers the program for HP, DEC and Sun users.

The two computer resellers seem alone so far in offering such plans. Banks and conventional finance companies will be hard-pressed to do it because they don't have the equivalent of Avnet's Technology Migration Center. Computer vendors don't want to do it. Other resellers *may*, however, if they are large enough to accept the risks involved. Still, just how much the user is expected to predict remains to be seen. One advantage to Avnet's program is that TMMS is fixed-term and can be cancelled after one year.

So, after a "gazillion" computer generations, we're beginning to see financial vehicles that are designed for acquiring computer systems. Of course, IS managers will still be aging faster than the population at large. But they'll just have to find other excuses. —*Mac McLaughlin is a senior partner in High Tech Advertising (Costa Mesa, Calif.). Mac has been in the computer field since 1963, and claims to be more worried about his own obsolescence than that of any computer system.*

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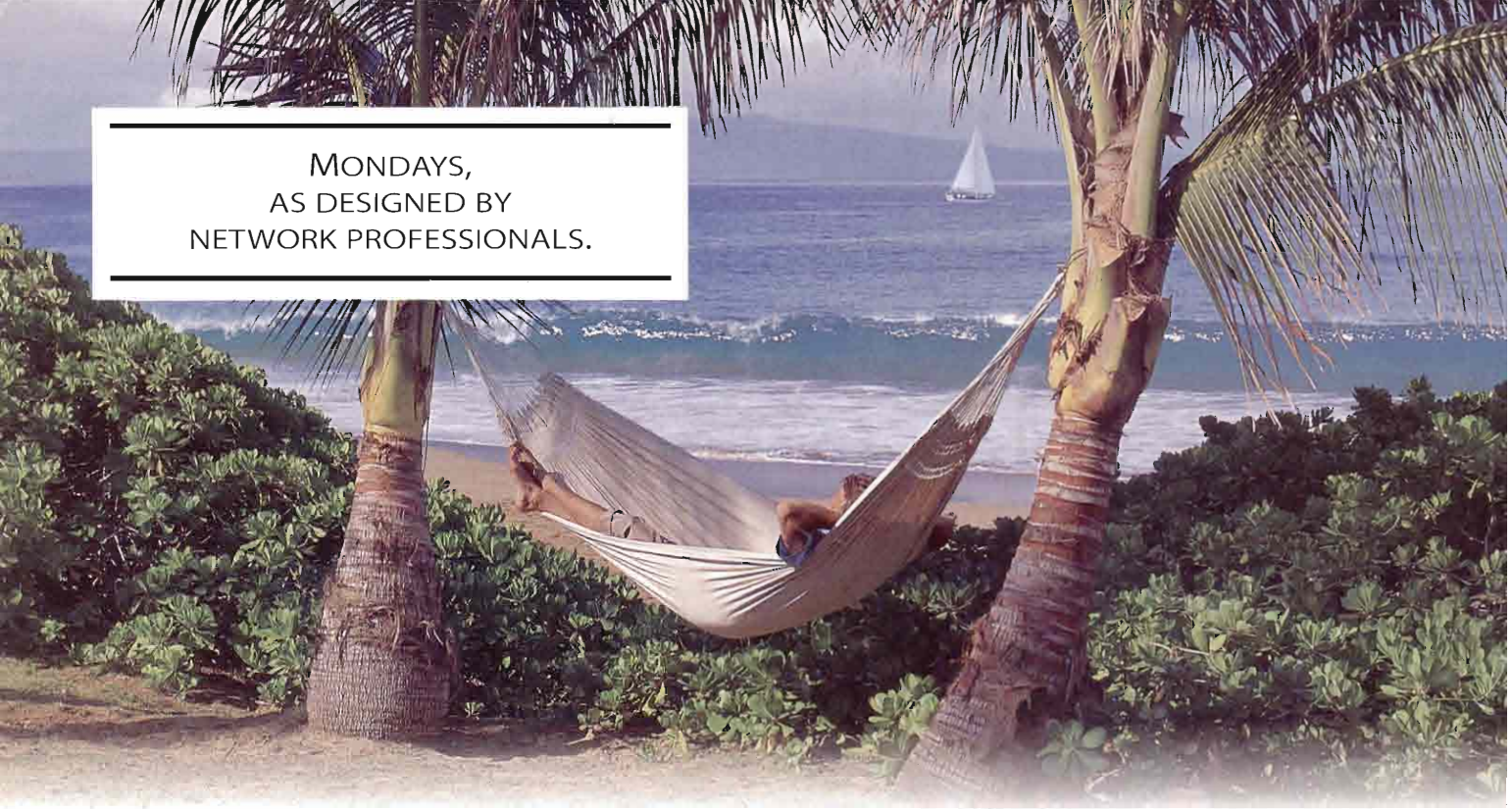
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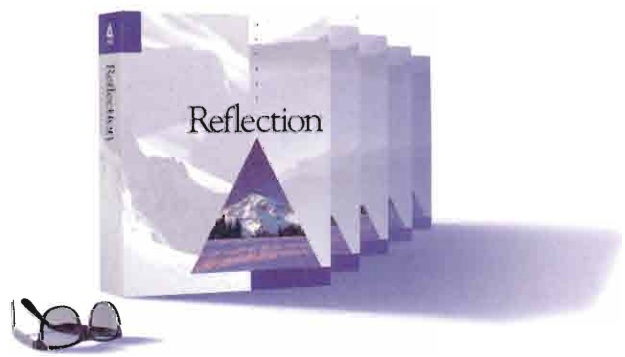

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