HP Professional

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SEPTEMBER 1993

WORKGROUP COMPUTING

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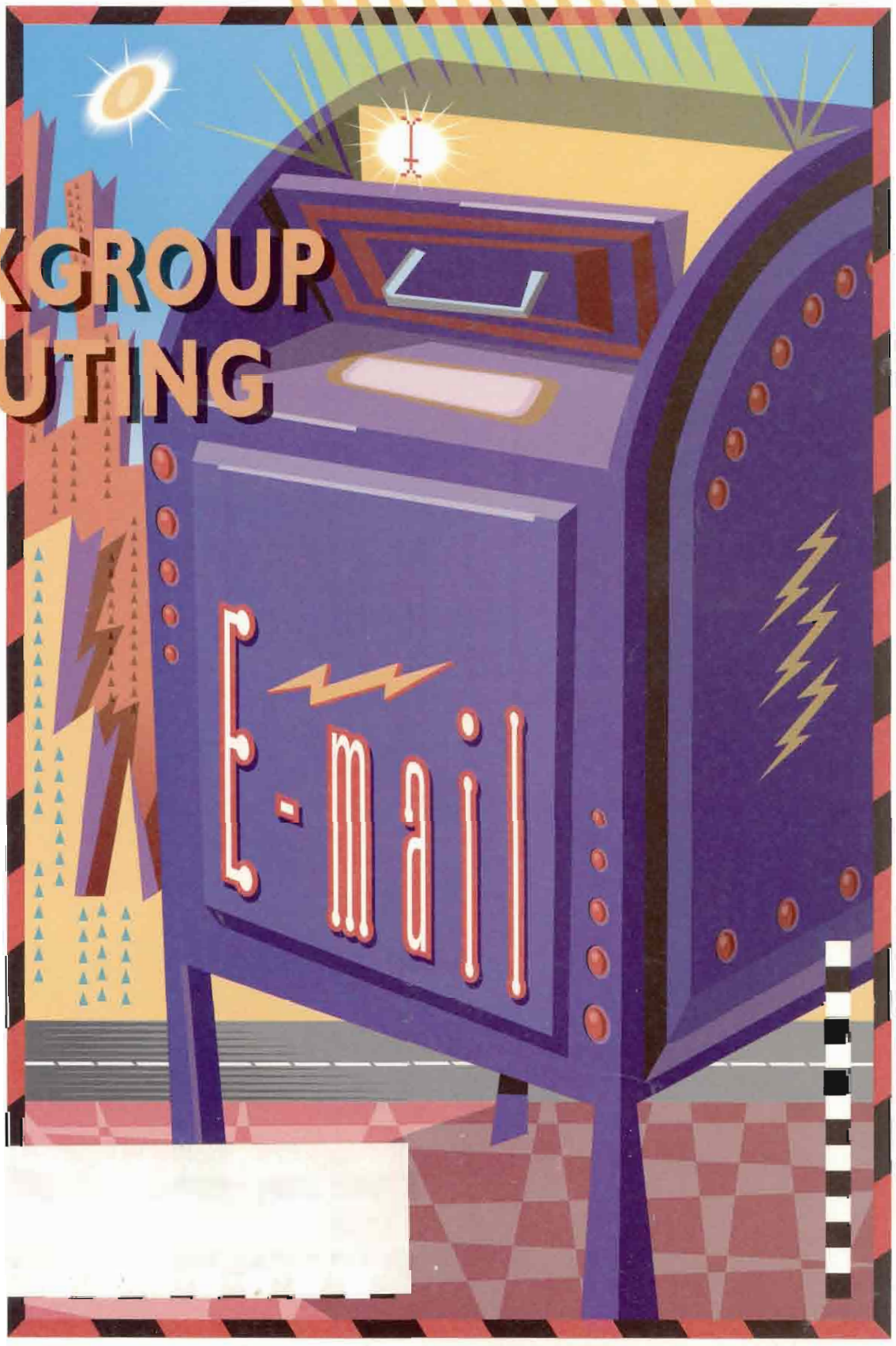

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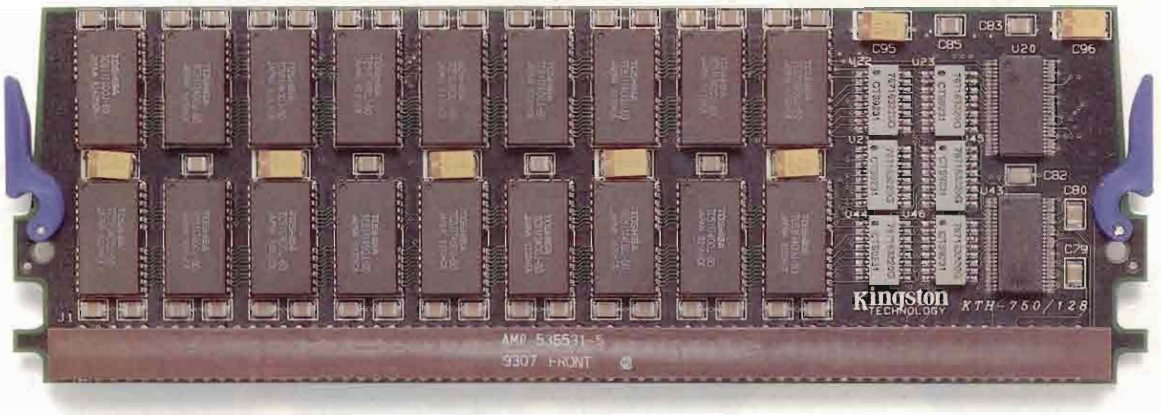

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The Cost Of Leadership

By Charlie Simpson

• • •

I kick off my watch as editor of HP Professional in search of the HP Way of Life. While covering the IBM Midrange market, I had often heard of, but never experienced this mythical business philosophy, where once upon a time the customer was ever so gently coddled by personal visits.

My quest began in the heart of the magical valley, Cupertino, at HP HQ. And after a full day of seminars, slides, more seminars and a few more slides, I set out for dinner.

Cruising down the avenue trying to organize thoughts of 3000s, 9000s, networking and object oriented computing my Budget rent-a-Tempo slapped me back to reality with a flat tire. Suddenly, I became the ultimate remote user of Budget's product. Left with no alternative, I changed the flat myself. I had hoped to reach a service station on the oversized teething ring new car manufacturers call a spare. Designed simply to get you through the transition, the spare donut can't handle speeds over 50 mph and shouldn't log more than 100 miles in its lifetime.

While searching for a garage I decided that because I had paid Budget for the convenience and independence of a car, I was entitled to some service. Why should I be burdened with replacing the tire? Afterall, I was on a mission myself and didn't need to get involved with the technical details of a flat tire. The car was simply the tool to my destination. Instead of a garage, I located a phone.

Budget, however, had other ideas. Not only was the company not sending a new car, there would be no mechanic to replace the tire. In fact, I was to bring the car to the nearest Goodyear tire center, which was contracted by Budget to fix or replace the tire within 10 minutes.

As a participant in the world of high-technology, I appreciated the logic in this solution. Let a tire expert handle the tire; the rental agency reduces its service and sales staff, while its customers take advantage of local expertise. However, as an everyday consumer, I still longed for the personal touch. I wanted traditional service where a mechanic reassures me that all was well while repairing the tire, so that I could get on with my job.

Goodyear, just a few miles away as promised, would fix or replace the tire; however, it would take about two hours. "Sorry, you didn't call in advance." I was told, "I've got seven cars ahead of you." So I left the car, with the experts, and hitched a ride to my remaining meetings.

Four hours later, trying to accept the days events alone in my Tempo of Doom, in a long since darkened Goodyear parking lot, I was suddenly enlightened to the new business world, a world of experts, outsourcing and networked services. A world where the telephone rules. And the HP Way was adapting to thrive in this new world.

Changing Needs

We all know that we're no longer the fragile customers of yesteryear. But do we really want to be? Neither we nor HP can afford the time and cost of us being the traditional, hand-held customer that for years HP pampered with visits and long talks over endless cups of coffee.

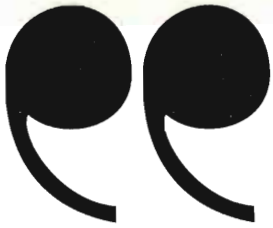
HP clearly has become the leader in the computer industry. I won't rehash the quarterly figures or layoffs at other firms many of us lamented over the last two months. As the leader, HP is finally practicing and no longer preaching. By accepting the responsibility of its new role, the company sets the example for the way of doing business beyond the 90s. However, HP and its customers must also pay a price for its leadership.

Out of nothing else but necessity, HP retires its Taurus fleet and implements technologies such as telesales, video conferences and its Channel Partners and Worldwide Customer Support Programs. Technologies that for years have promised to make all our lives easier, while reducing costs and saving time.

Normally I'm the first to cast a stone at any emerging technology that doesn't deliver immediate gratification, but it's time to accept the fact that the way the world does business is changing and we are the children of transition.

It's now up to us to learn how to interface with this technology and eventually exploit it, afterall we're the ones who demanded it. Although we may, for a little while longer, ride the teething ring, slightly under the speed limit, when the transition is complete we'll access highways of information and support. But if we refuse to change the tire ourselves today, we'll be left waiting by the roadside, with no tow truck in sight.

Charlie Simpson



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EUROPEAN WATCH

Marsha Johnston

HP Makes Points

Four hundred users of mechanical CAD/CAM/CAE systems in Europe and in the United States gave HP's Precision Engineering/ME the highest ratings in terms of ease of use and overall software quality in a first-quarter Dataquest Inc. survey.

The 50 CAD system managers from Germany, France, the United Kingdom and Italy who were surveyed, ranked their satisfaction, on a scale of 1 to 5, with the vendors' ability to provide a high-quality software product that is also easy to use. The user responses focused primarily on the 2-D ME 10 package, but included the 3-D ME 30 system. HP's new 3-D software Solid Designer was not available at the time of the survey.

From a pool of the CAD market's major vendors including Dassault, Matra Datavision, Adra Systems, Autodesk and Parametric Technology Corp. — HP's ME tied with Matra Datavision for highest software quality, with a 4.00. Autodesk and Adra Systems took second (3.88) and third (3.82) places, respectively. ME's highest score came for ease of use (4.33), which was followed at some distance by Adra Systems (3.82) and CADAM (3.69).

In terms of market share, HP is the third-largest vendor in the $3.1 billion European MCAD market, with $267 million in revenues, following IBM ($604 million) and Computervision ($487 million), Dataquest says. The market research firm estimates that MCAD software-only revenues in Europe totaled $939 million in 1992 and that HP's share of that totaled approximately $40 million, or just under five percent of that market segment.

The strength of HP's ME line in Europe rests largely with ME 10, because 2-D software is preferred in Germany, the country that accounts for the lion's share of the MCAD software market.

Germany accounts for approximately 33 percent of the overall European MCAD software market and more than 45 percent of HP's European MCAD software revenues, says Petra Gartzen, industry analyst for Dataquest Europe Ltd., U.K.

In other words, says Stephan Schmitt, HP's product marketing manager for ME 10/ME 30 in Boeblingen, Germany, 50 percent of the world's 40,000 ME 10 and ME 30 seats are found in Europe, and two-thirds of those are in Germany. Only about 20 percent of the total number of seats worldwide are 3-D systems, Schmitt adds.

Schmidt says, "In the mechanical engineering workstation market, which is 2-D, we are clearly number one. On that side, we see only competitors in niche markets; there are very few global players."

According to Schmidt, the saturation level of 3-D systems in Europe is low; however 3-D systems are the fastest growing part of HP's revenue stream, in all countries. With Solid Designer, he says, HP hopes to penetrate the market segments in Germany, such as automotive OEMs, where HP has been largely absent.

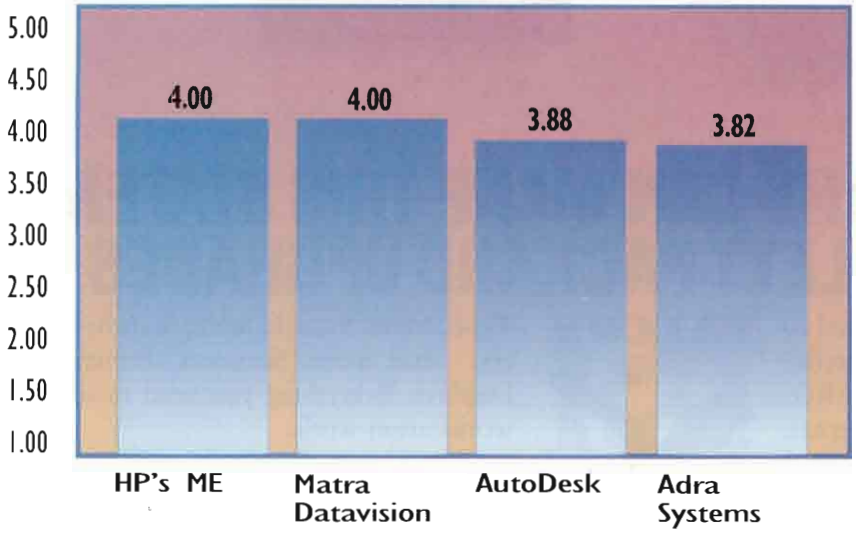
Despite the gloomy predictions about German economic growth this year, Schmitt says the mechanical design division in Boeblingen has recorded year-to-date growth of more than 20 percent, compared to the same period in 1992. "Our customers are definitely spending more than they did last year," he says.

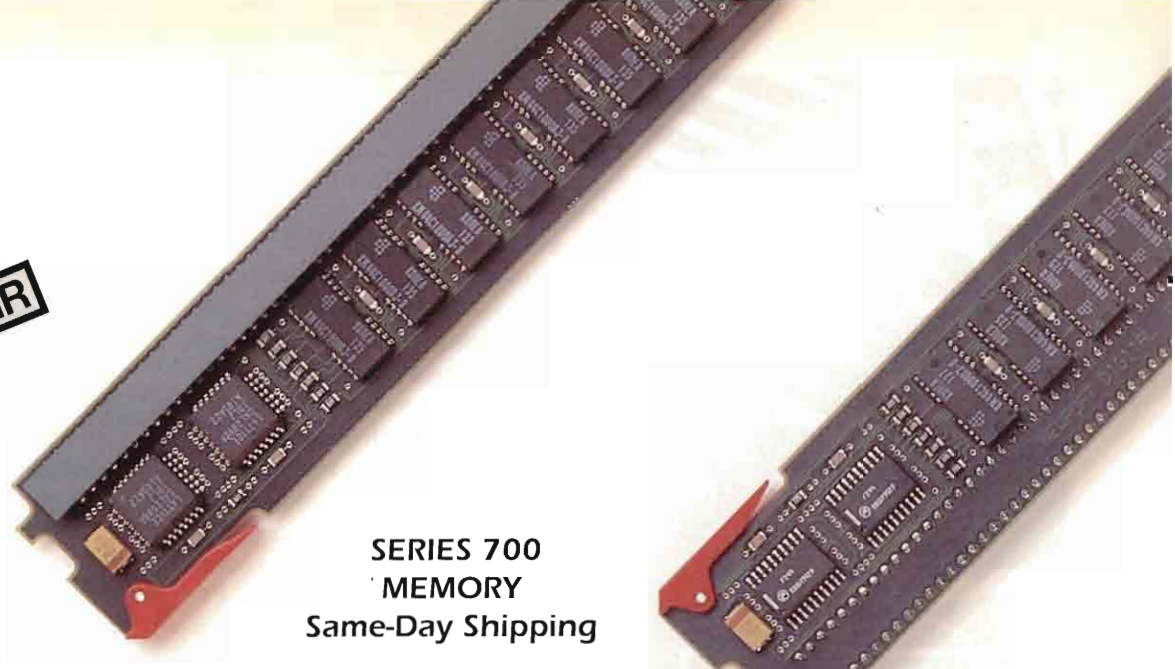
The final third of ME's 20,000 seats in Europe are divided among France, the United Kingdom and Italy, Schmitt says.

The French Marketplace

In France, Labege-based Access Productique has been a leading ME VAR since its inception in 1986. Stephane

Dataquests CAD Vendor Ratings for Overall Software Quality





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Gilet, sales director, says the company accounts for approximately 20 percent of HP France's ME 10, ME 30 and Solid Designer revenues. Access posted 1992 revenues of approximately $8 million; half of which comes from HP software products and associated services, Gilet says. He adds that Access has added functionality to allow the storage of supplemental information with the design file, eliminating the need for a database.

"For a lot of these companies with only two or three workstations, it's a question of avoiding the high cost required to install a database," says Paul Lahitte, an Access technical support engineer, adding that such companies don't need an elaborate parts database. "Very often these companies don't produce the part; they just do the designs and send them on to the manufacturer," he says.

Overall, says Lahitte, HP's ME series is well-adapted to the French market, and users are particularly enamored of its macro language. "The ME products are very accessible, particularly ME 10," says Gilet. "Once you're into it, it doesn't require much training; users can easily train themselves. It's also easy to customize."

Despite its positive features, ME has less penetration in France because of stiff competition, Gilet says. "ME is presold in Germany and sells very well in Italy and Switzerland; but not in France, because France has lots of its own CAD product developers," he explains. "Matra's Euclide and Catia from Dassault [distributed by IBM], which are big international CAD products, for instance, are French."

Schmitt concurs, "Penetration of CAD is high all over Europe, and the French vendors in particular have been successful." He adds that Matra's Euclide is the most serious competitor of the group. "We have seen much more significant product announcements from Matra than from the others. We rarely see Catia or CADAM as competitors for new accounts," he says.

In the competition for new accounts in Britain, price, says Schmitt, is the supreme deity, much more so than in the rest of Europe. "[The purchase] tends to be more of a short-term investment minimization to build up [the firm's] CAD environment. [Britain] tends to be a country that favors AutoCAD," he said.

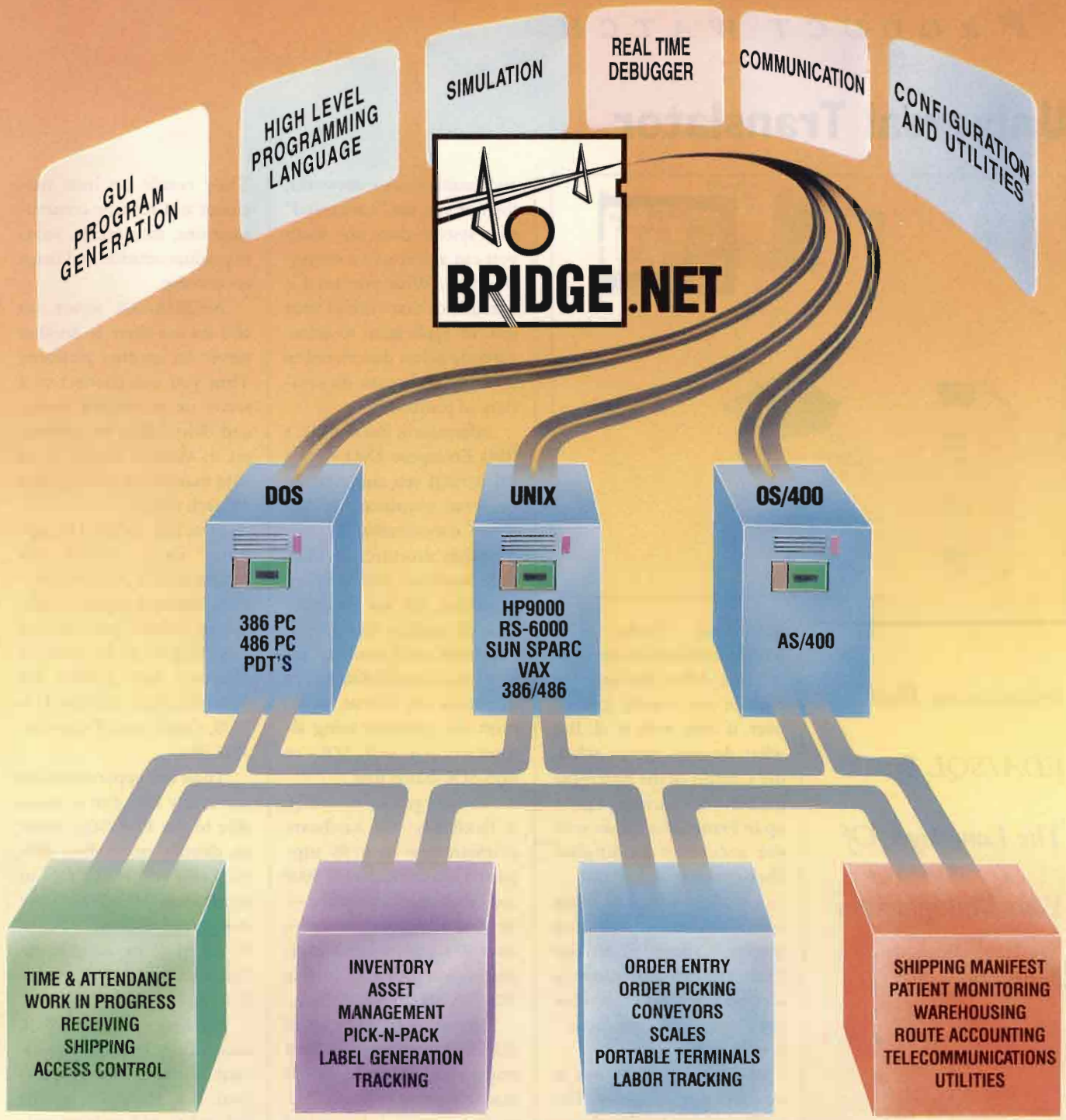
Charles Clarke, managing director of London-based Random Consulting, a subsidiary of Random Computing, an HP CAD VAR, says ME's low market penetration is attributable to a classic case of cultural chauvinism. Its lack of success in the United Kingdom is due in part to its being regarded as a German product, which sparks the typical British dislike for Germany, he says.

On the other hand, Clarke says, ME 10 is "a brilliant 2-D design and drafting system. There's no better drafting system in the world."

Several observers believe that a lack of marketing push by HP is also responsible for the lower penetration rates in France and the United Kingdom. "The marketing behind ME is not sufficient in the face of products like AutoCAD and Parametric Technology," Access' Gilet says.

Clarke says, "HP is not adept at marketing its technology, particularly software," and adds that companies such as AutoCAD and Parametric Technology Corp., with average or less-than-average products, "know how to sell, to market and to discount their products." By contrast, he notes that the yearly marketing budget for the HP United Kingdom's mechanical design division, after salaries, was about $90,000, which "buys nothing."

Schmitt says HP has been aware of a lack of marketing muscle in Europe, which they plan to change. In the course of this year, you're going to see product introductions, publicity, articles and consultant events. "We're also planning an awareness campaign for next year."
— *Marsha Johnston, International Editor*



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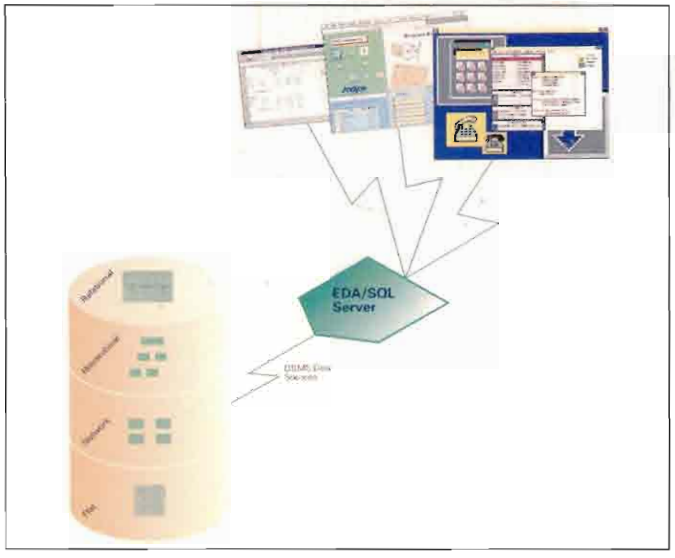
Universal Translator



Information Builder's EDA/SQL Speaks The Languages Of Your Multiplatform Network

In Star Trek: The Next Generation, communication difficulties between entities are usually glossed over, if dealt with at all. But what do you expect when the Captain of the Enterprise has a French name and grew up in France, yet speaks with the accent of an English Shakespearean actor?

On those occasions when communication between species is addressed on Star Trek, the communication is accomplished with the aid of the "universal translator." Pretty cool.

Reality is usually not as neat and tidy as fantasy. The relational data model, the de facto standard SQL data access language, and the tremendous power available on the desktop have given rise to a new generation of data access tools. However, the new tools are usually limited in scope and much of the data still resides in non-relational databases.

In this era of open systems and multi-vendor networks, the fact you are "connected" to a system does not mean you can access it in a reasonable way. What you need is a translator that enables your tool or application to transparently access data stored in a variety of formats on a variety of platforms.

Information Builder Inc.'s (IBI) Enterprise Data Access (EDA)/SQL sets out to be the universal translator for data stored concurrently in multiple data structures on multiple hardware and software platforms. IBI has created a suite of products that use client-server architecture to enable you to reach data stored in almost any format on almost any platform using almost any 3GL, 4GL, SQL- or non-SQL-based tool.

The key goal of EDA/SQL is flexibility: for hardware platforms — over 35 supported including the HP 9000 and HP 3000; file structure — over 50 supported; tools — over 50 supported and communication protocols such as TCP/IP, SNA, and DECnet.

The main components of EDA/SQL are the server-client engine, EDA/Link which manages communication between servers, and between servers and clients, API/SQL which provides a programmer's interface to the EDA servers, the EDA/Extender interfaces to desktop tools, and the data driver interfaces to relational and non-relational databases and to various non-database file types.

The server-client engines are at the heart of EDA/SQL. They reside on host machines and manage communications, data access, security, administration and usage accounting.

An EDA/SQL server can also act as a client to another server on another platform. Thus you can connect to a server on an HP-UX system and daisy-chain to a server on an MPE/iX system or an IBM mainframe, pulling data off each system.

EDA/SQL for HP-UX supports data drivers for ALLBASE/SQL, C-ISAM, FOCUS, Informix, Ingres, Oracle, Sybase, UNIFY and Teradata files. EDA/SQL for MPE/iX supports data drivers for ALLBASE/SQL, C-ISAM, FOCUS, Oracle and Turbo-IMAGE files.

Tools and applications can access any data that is available to the EDA/SQL server by directly embedding API/SQL calls within the tool or application (HP's NewWave Access and Channel's Forest & Trees) or by using EDA/Extender interfaces (Lotus 1-2-3 and Excel).

Implementing EDA/SQL successfully requires significant planning and preparation. But, EDA/SQL can be tailored to address large scale any-to-any connectivity across complex multi-vendor networks. — *John P. Burke, HP 3000 Editor*

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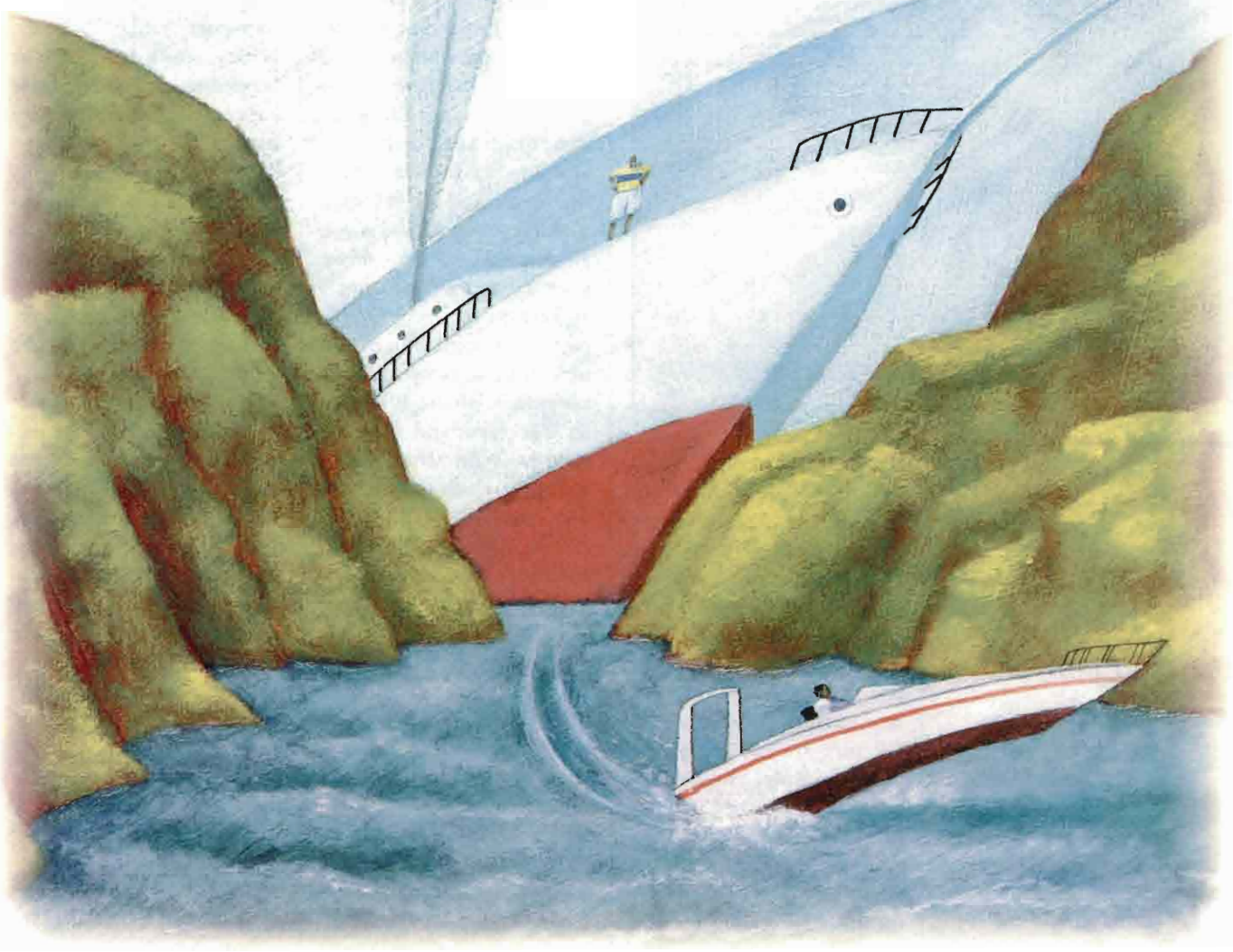

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All In A Day's Work

IEM's New Tape Backup Products Provide Quick and Efficient Solutions

Like honest men, good tape backup solutions can be hard to find, especially in multi-vendor environments. However, with capricious standards and the ever quickening pace of technological innovations, its sometimes not any easier at sites with homogeneous environments. HP sites are no exception. For example, when HP abruptly abandoned its proprietary HP-IB interface in favor of the SCSI standard some users may have been inconvenienced — especially if they were using Exabyte 8mm tape drives which required specialized hardware or software to allow them to work on HP systems.

But, in June 1993, IEM (Fort Collins, Colo.) introduced the 487xS and the 488xS Series of 8mm tape drives and controllers that make it easier to accomplish tape backups with HP 3000 (both MPE V and MPE/iX) and HP 9000 systems.

Replacing all of their old 48xxS8 product line, the 487xS and 488xS provide several advantages. Besides a possible 28 percent performance improvement when used with the new 8500C tape drive (depending on data, buffer sizes, drive used, and current transfer rates), the new tape drives span multiple volumes, and if you are using the HP DAT driver your searches will be faster.

Perhaps the most significant announcement is of two new IEM developed drive controllers — the 6049 HP-IB Controller and the 6045 SCSI DAT Emulation Controller — which allow you to use standard HP software drivers. With the 6049 HP-IB controller, you can connect an Exabyte 8mm tape drive to HP 9000 Series 800 or 300 systems, HP 3000 systems or HP 1000 systems which have HP-IB interfaces. Because the HP-IB controller emulates a DAT tape drive or an HP 7979 reel-to-reel, you can use HP's own device drivers.

With the 6045 SCSI controller, you can connect your Exabyte 8500 tape drive (5 GB capacity) or new 8500C tape drive (5-20 GB capacity) to any of HP's newest systems — the HP 9000 Series 800 and HP 3000 Series 900 systems — with standard SCSI interfaces. According to IEM, the 6045 is the first solution available for SCSI-based HP 3000 systems and the only hardware solution available for the HP 9000 Series 800.

Like the 6049 controller, the 6045 can be used with HP's device drivers.

That's exactly what Susan Stokes, supervisor of System Integration and Hardware Suppport at EDS (Raleigh, N.C.), found when she wanted to automate the tape backup of an HP 9000/867 running HP-UX 8.02.

"I needed to migrate my HP data to a new format because the reel-to-reel backup we were using was slow, *really slow*. So, I needed a compatible 8mm tape drive that would work with the HP 9000 system."

Becuase HP does not make or market tape drives, HP recommended the new IEM 4880S as a solution. The result was positive. Stokes explains, "Backing up the entire system used to take five hours and several 4mm tapes, now it takes three hours and one 8mm tape in one unattended backup. Overall, it took us less keystrokes to get the same amount of work done."

Configuration was simple too. The entire setup took 20 to 30 minutes and only one call to HP technical support.

In today's multivendor, open systems world, data integrity and reliability are essential. With IEM's tape backup solutions, honest men will still be harder to find. — *George A. Thompson, Technical Editor*

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fax: (303) 221-1909

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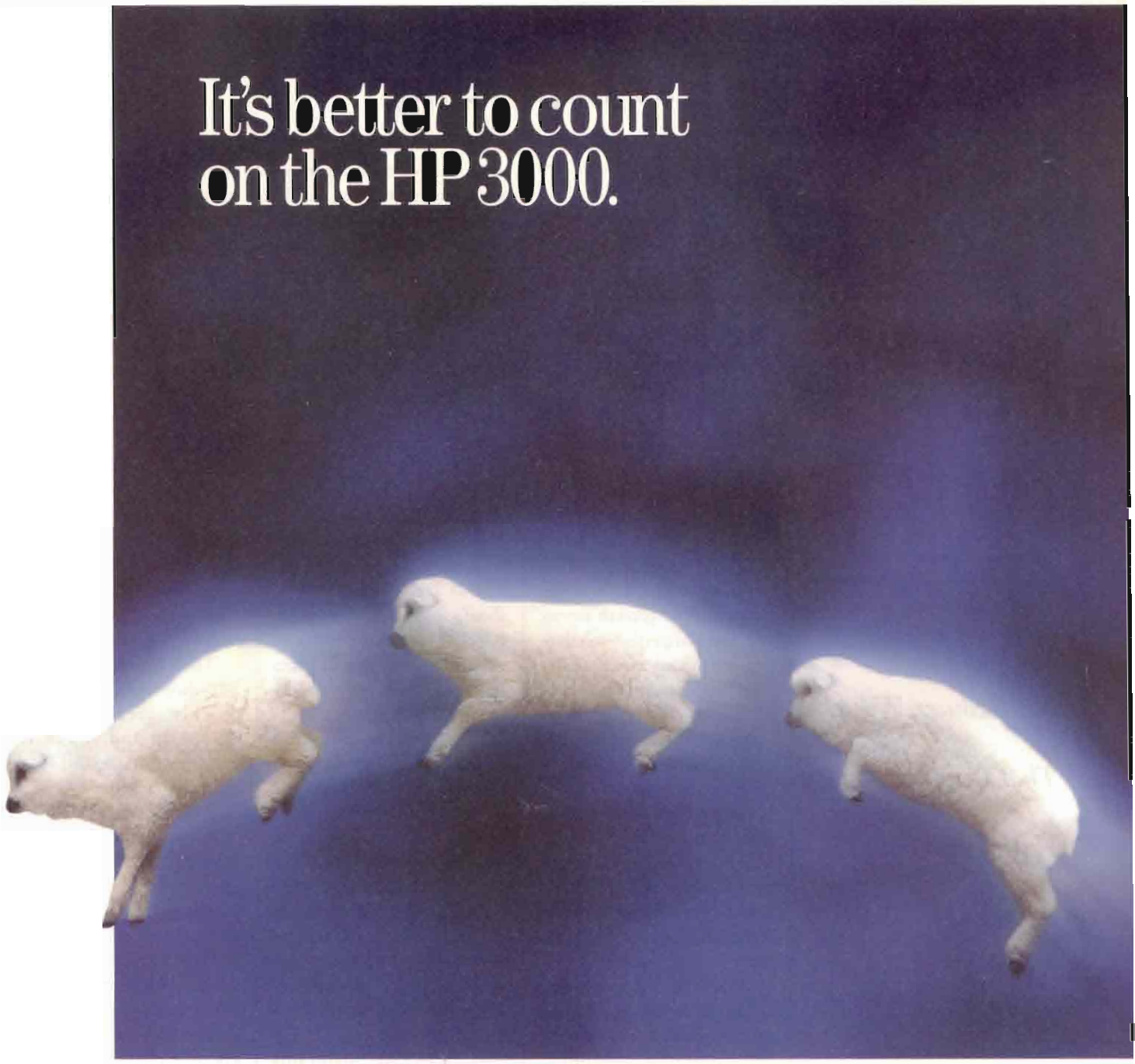
It's better to count on the HP 3000.



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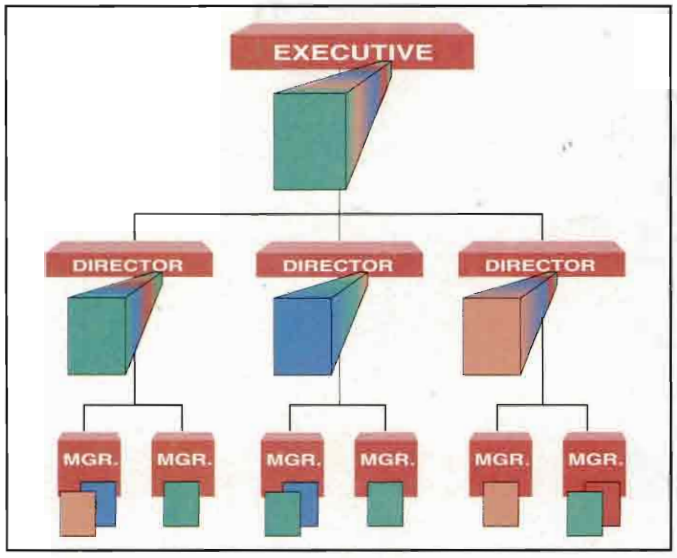

O'PIN's REVEAL 3.2 Reduces Waste That Can Exist With Paper-based Reporting

In an age when the tenuous status of old-growth forests and their imperiled inhabitants garner so much attention, an increasing number of businesses are trying to go "green" by reducing the volume of waste paper. Unfortunately, the nature of today's business environment and the information explosion are seldom compatible with such environmentally-conscious objectives. Paper-dependency has become a habit that's hard to break.

REVEAL, an advanced electronic reporting software solution from O'PIN Systems (Bloomington, Minn.), streamlines the reporting process on HP 3000 systems by providing online access to reports and locating precise information quickly.

REVEAL provides rapid access to reports from any PC or terminal, reducing the time and cost associated with paper versions. But, perhaps, the most useful and time-saving feature is Pinpoint Distribution, which ensures that users receive only the information they need and are eligible to receive. For example, a regional sales office would receive its own sales data, not the company-wide figures.

A string search function pages through documents to find designated items which may be randomly located throughout a report. A new feature of REVEAL 3.2 is the "Find All" string search, which enables users to locate and group all occurrences of an item with a single search.

But let's face it, folks, there's always a need to print. REVEAL makes it possible to print only the page or pages that you need, provides the flexibility to print on any attached system or LAN printer, lasers included, and automatically configures the printer for a wide array of formats and fonts. Predefined control options for HP LaserJet, DeskJet and other printers are included.

Those old paper reports take up a lot of space, and once the paper's gone you'll still need to store all those electronic versions. To this end, REVEAL maintains multiple generations of reports and automatically purges obsolete versions as specified. Users have control over the number of days or report generations saved.

REVEAL also allows for reports to be stored on optical disk — eliminating the need for microfiche storage and providing a single format for both old and current reports. REVEAL is easy to use as well. The point-and-shoot interface uses the cursor and function keys. It supports vertical windowing and scrolling, and horizontal scrolling up to 240 columns.

In addition to the "Find All" string search, Version 3.2 allows users to download report pages to PC files with menu keys, eliminating the need to re-key data for PC applications. The new Report Toggle feature provides the ability to switch between several reports with a single keystroke. Automatic data compression is new as well, allowing for better disk utilization.

These features provide HP 3000 shops with the means to quickly locate, display, download and, when required, print specific information.

REVEAL 3.2 runs on HP 3000 systems under MPE V, MPE XL or MPE/iX. It requires an HP terminal (or compatible), or a PC running HP terminal emulation software. An O'PIN representative tells HP Professional that the company provides a migration path for HP 3000 users to a client-server environment for Reveal. Reveal supports UNIX servers as well as MPE/iX servers. — *Grant Evans, Contributing Editor*

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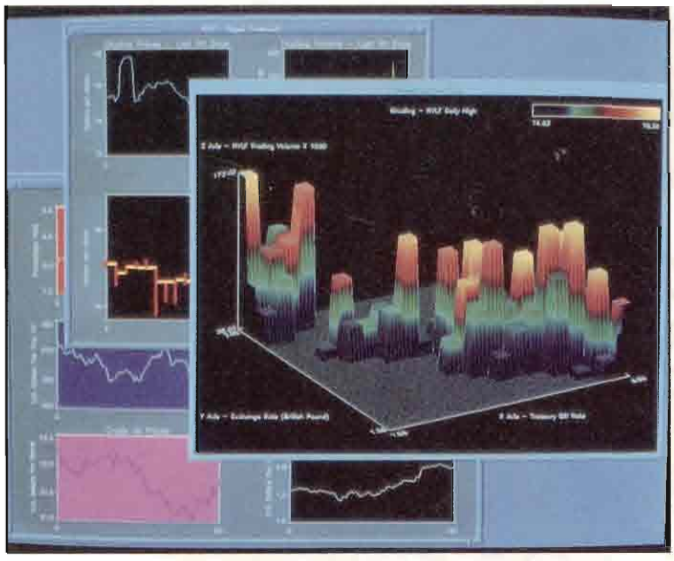
Analysis Advantage



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The December 1992 merger of IMSL and its numerical analysis libraries with Precision Visuals and its data analysis software has resulted in Visual Numerics and the debut of PV-WAVE Advantage. It features the seamless integration of IMSL's C/Math/Library and C/Stat/Library into Precision Visuals' PV-WAVE Command Language (CL) Version 4.2.

PV-WAVE Advantage targets test engineering, decision support, scientific research, image and signal processing, process monitoring, financial analysis, energy exploration, materials research, experimental analysis and medical imaging.

PV-WAVE Advantage can link directly with databases, user interface development, symbolic computation, desktop publishing and gridding packages, giving you all the tools needed to analyze data.

Its numerical functionality addresses a range of mathematical and statistical analysis problems. "PV-WAVE Advantage is unique," says Alan Brockett, product development manager for PV-WAVE Advantage, "because of its blend of high-end numerics, visualization and data access. The numerics and statistics are unsurpassed.

"One other distinction," adds Brockett, "is that we've made it a product for OEMs, VARs and resellers, because you can imbed it into another product. PV-WAVE can be in the driver's seat, or your product can."

PV-WAVE's faster performance, even with large, multidimensional datasets, allows for more productivity in less time, leaving more time for new discoveries. It offers superior interactive graphics including raster and vector, 2-D, 3-D and higher dimensions at the same time, to help quickly identify important features and trends in the data.

Included with PV-WAVE Advantage is a widget toolkit that lets GUIs be customized for faster application development. Other features are run-time licensing, online documentation in FrameMaker and Z-buffered graphics.

Visual Numerics also makes three options for PV-WAVE Advantage. PV-WAVE:Database Connection provides an interactive, production-quality link between PV-WAVE Advantage and commercial databases. It also provides seamless connections between the databases and internal PV-WAVE data structures, allowing for open, query, select, subset and import of data directly from the database into PV-WAVE.

PV-WAVE:Maple, based on Maple V from Waterloo Maple Software, works with exact numbers instead of numerical approximations. First, you symbolically derive equations using the Maple option and then graphically analyze or plot the equations using PV-WAVE Advantage.

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PV-WAVE Advantage costs $6,995 for a single floating license. It supports UNIX-based workstations from HP, Sun, Digital and IBM. PV-WAVE Advantage for Windows NT-based systems is planned.

The PV-WAVE:Database Connection option costs $995. The PV-WAVE:Maple option costs $1,995.— *Lonni Wright, Contributing Editor*

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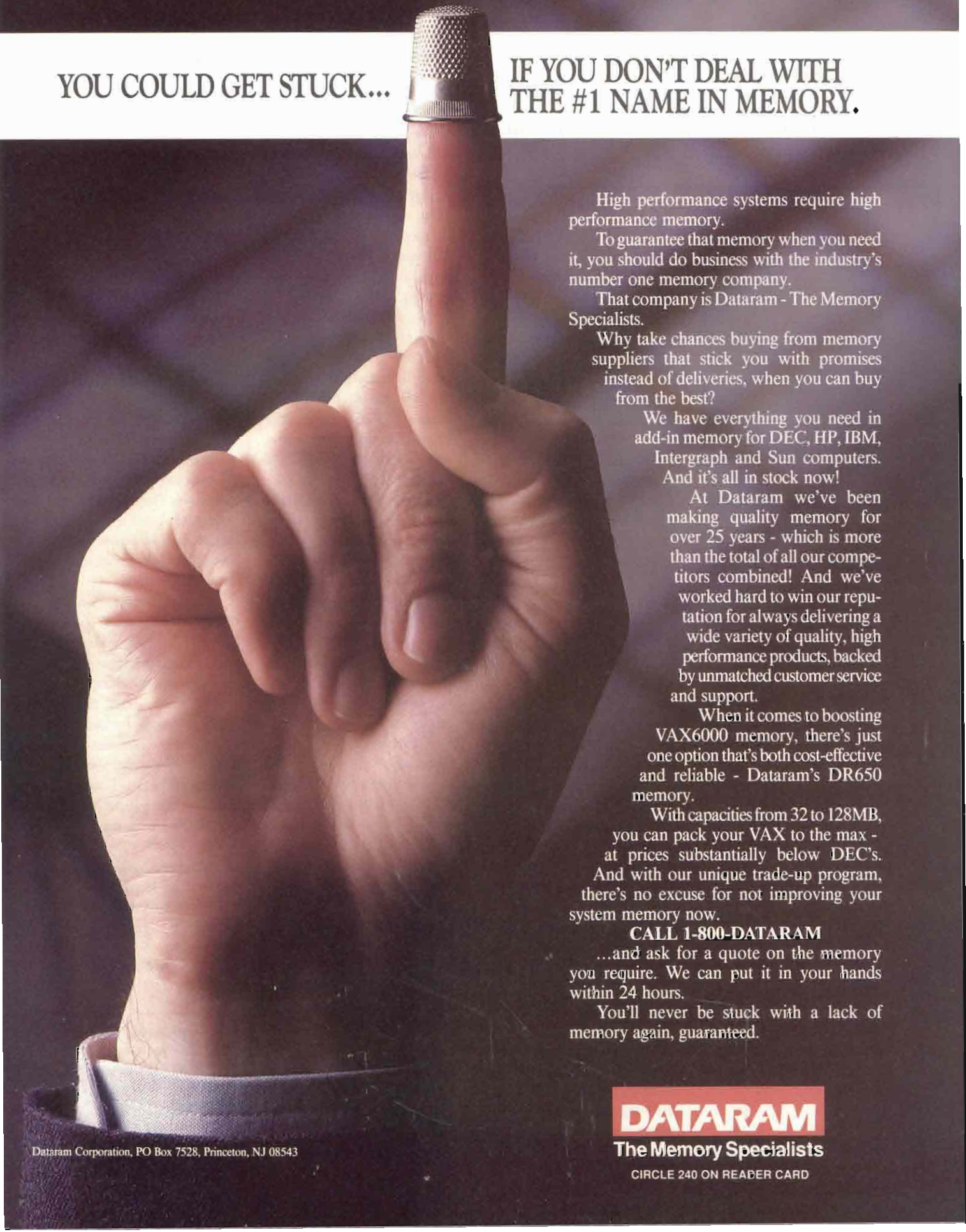

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A Human Touch

Collier-Jackson Shifts Its Development And Corporate Strategies

"We're doing everything we can to make this company a healthy and comfortable place to work. To us, our people are our assests."

Warren Fletcher
General Manager and CEO
Collier-Jackson

When the Aerospace Division of B.F. Goodrich created its Component Overhaul and Repair (COR) unit by consolidating two of its business units (one in Fort Lauderdale, Fla. and one in Austin, Texas), the MIS department at the new unit's headquarters in Austin underwent an overhaul of its own.

A single HP 9000 Model 876 replaced two IBM System/36s in Austin and three HP 3000s in Fort Lauderdale. The Florida end users are connected to the HP 9000 via an X.25-based wide area network. According to Alex Hodge, COR's MIS manager, to ease the transition to the new hardware, COR decided to continue using the S/36 software by adding a Unibol emulation program which provides a S/36 look and feel on a UNIX platform.

"Our objective was to make this conversion as transparent as possible to our users and MIS people," Hodge says. "To our users the new system looks and feels the same as the 36, and our development people can still develop in RPG."

While most of the S/36 software is still used at COR, there was one exception — the general ledger package from Collier-Jackson (a subsidiary of CompuServe; Columbus, Ohio) that had been running in the HP 3000 environment in Fort Lauderdale now runs on the new system.

"We considered the Collier-Jackson general ledger system so far superior to what we had on the 36 we decided to write an interface that would allow us to continue to use it after the conversion," Hodge says.

It is not surprising that the Collier-Jackson product made the cut. The Tampa-based developer of accounting, financial, human resources and newspaper applications has been closely associated with HP since it was founded in 1975.

According to Warren Fletcher, Collier-Jackson's general manager and CEO, in the future the company's focus will be on the desktop — on client-server applications. "We're believers in the desktop as an information center," he says. "That's where most of our research and development money is now being spent."

Fletcher says that by "desktop," he means Microsoft Windows. Windows 3.X tools will be integrated into coming desktop versions of Collier-Jackson's software, with HP 3000 or HP-UX systems as servers. "All our future applications will be built to run under Windows," he says. "Everything we have will transition totally, seamlessly, into a Windows client-server environment — if Windows run there, our software will run there too."

The shift in development strategy at Collier-Jackson has been accompanied by changes in its corporate environment too. Once a typical "coat-and-tie" company, Fletcher has relaxed the dress code for its 150 employees.

In a business environment that is changing as fast as the information industry, Fletcher says, you do what you can to help employees deal with it. "What I was hoping for was a more relaxed, enjoyable and interactive atmosphere," he says, "one that breaks down barriers between managers, analysts and salespeople."

It proved a positive move. "The results have been overwhelming. The employees really appreciate it, and if you can do something that people appreciate and that helps the business, it's a winning situation."

Fletcher is concerned not only with employees' comfort, but with what they eat. Interested in studies linking productivity to healthy eating habits, Fletcher has deleted the junk from company-provided meals and snacks — no more doughnuts at 8:30 a.m. that put people to sleep by 10 a.m. There have been no complaints he says.

"We're making a statement," Fletcher says. "We're doing everything we can to make this company a healthy and comfortable place to work. To us, our people are our assets." — *Sam Dickey, Contributing Editor*

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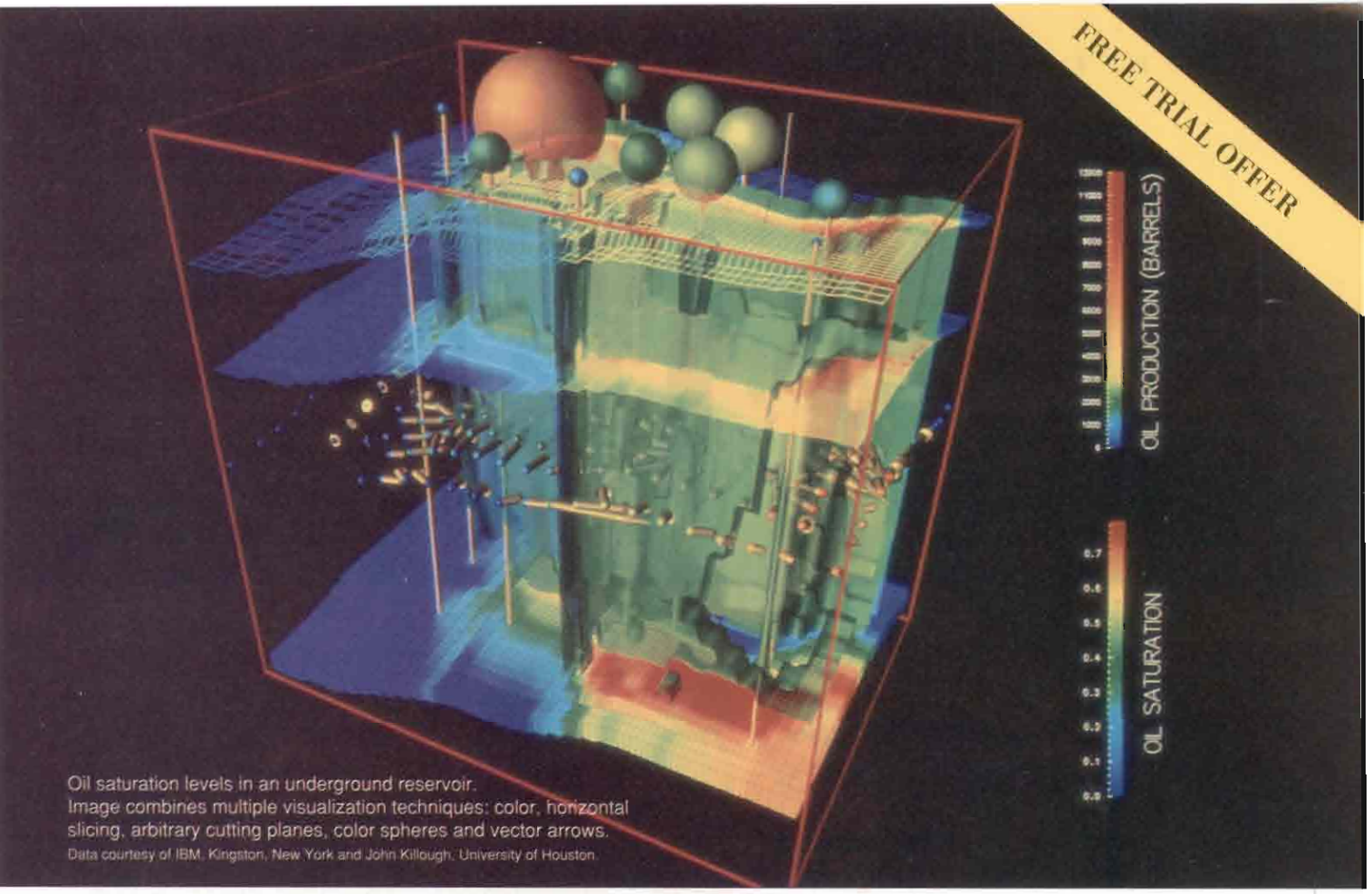

Oil saturation levels in an underground reservoir.
Image combines multiple visualization techniques: color, horizontal slicing, arbitrary cutting planes, color spheres and vector arrows.
Data courtesy of IBM, Kingston, New York and John Killough, University of Houston

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IBM

E-MAIL's NEW ROUTES

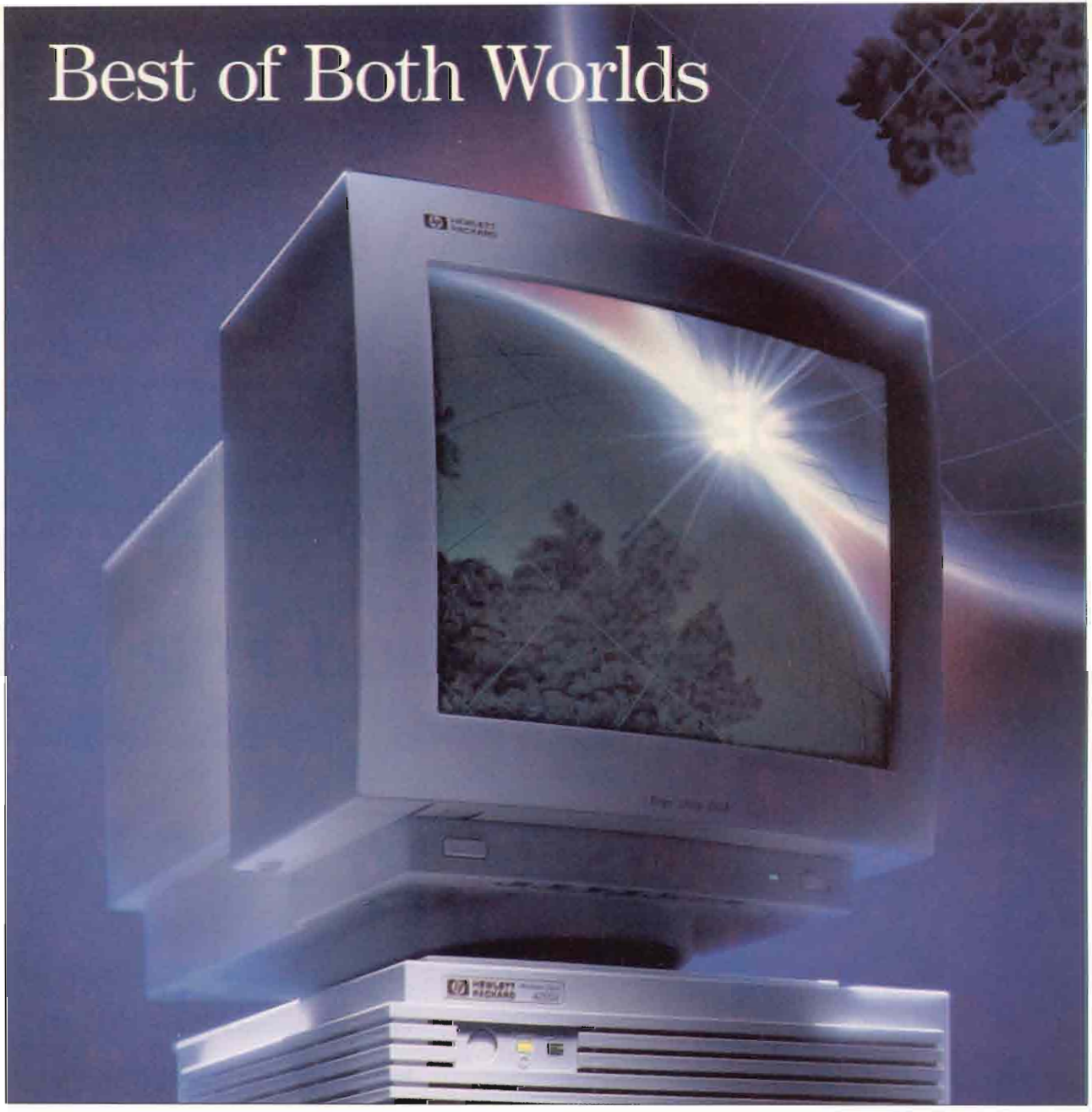
The Burgeoning Popularity Of E-mail Has Led To Increased Access And New Levels Of Functionality

So you want to speak your mind to President Clinton or Vice President Gore? Most electronic mail users know that you just send your E-mail message to president@whitehouse.gov or vice.president@whitehouse.gov over the Internet. You can also send E-mail to the White House via CompuServe, America OnLine, MCI and Fidonet.

In June, the White House announced its connection to Internet and to several online commercial vendors in order to make the Presidency and this administration more accessible to the people. Initially, E-mail messages are read and receipt immediately acknowledged. A careful count is taken on both the number received and the subject of each message. The White House cannot yet send back tailored responses, and is experimenting with different ways to handle E-mail from the public.

PAULA JACOBS

Best of Both Worlds



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For system administrators, the HP Windows Client offers client/server computing with centralized administration of PC software and data for faster, easier backup and simplified management of applications. The elimination of disk drives from the desktop enhances data security and control of the software environment, while reducing the risk of data theft and virus infections.

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With its small size, low power requirements, high reliability, bundled software, and central administration, the HP Windows Client is the ultimate in low-cost desktop computing. In fact, the U.S. list price is only $895*!

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For more information on the HP Windows Client, contact your local HP sales office or HP authorized reseller, or call HP at 1-800-637-7740 (1-800-387-3867 in Canada). It could make a world of difference to your organization.

See us at INTEREX Booth #517

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b. If you answered yes, does your development tool have built-in "application models" and predefined business constructs to eliminate the tedious and time-consuming coding process? (Hint: Only PowerHouse has them.) ☐ No ☐ No

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And if you sign up for White House Electronic Publications and Public Access E-mail, you can electronically receive the latest official White House releases on President Clinton, Vice President Gore, cabinet members, Hillary Rodham Clinton, Chelsea and, yes, Socks. The White House Communications office is distributing press releases over an experimental system developed during the campaign at the MIT Artificial Intelligence Laboratory. Users can sign up to receive these releases directly from the MIT system by using an automated E-mail server. E-mail users can now search and retrieve White House documents using WAIS, Gopher and the FedWorld BBS.

The Office for Information Technology at the University of North Carolina (pjones@sunsite.unc.edu) maintains the full collection of White House electronic releases available for search with WAIS and also accessible via Gopher, a distributed menuing system developed at the University of Minnesota for information access on the Internet. Users without WAIS clients or gophers that act as WAIS clients may telnet to sunsite.unc.edu (login: swais) to access this information via WAIS. Those without gopher clients but with access to telnet can access: telnet sunsite.unc.edu (login: gopher). The CLINTON@MARIST log files which contain all the official administration releases distributed through the MIT servers are available via anonymous FTP. and can be obtained at FTP MARISTB.MARIST.EDU; logs are in the CLINTON directory.

Correspondence with 1600 Pennsylvania Avenue

Users who send electronic mail to The White House can expect to receive an instantaneous response message, such as was sent to this author.

Thank you for sending in your thoughts and comments to the President via electronic mail. We are pleased to introduce this new form of communication into the White House for the first time in history. I welcome your response and participation.

As we work to reinvent government and streamline our processes, this electronic mail experiment will help put us on the leading edge of progress. Please remember, though, this is still very much an experiment.

Your message has been received, and we are keeping careful track of all the mail we are receiving electronically. We will be trying out a number of response-based systems shortly, and I ask for your patience as we move forward to integrate electronic mail from the public into the White House.

Again, on behalf of the President, thank you for your message and for taking part in the White House electronic mail project.

Sincerely,
Marsha Scott,
Deputy Assistant to the President
and Director of Correspondence

Despite the recent political hoopla, many businesses are only now beginning to take advantage of E-mail

Computer Professionals for Social Responsibility (CPSR) is providing all Clinton documents on technology and privacy at the CPSR Internet Library, available via FTP/WAIS/Gopher at cpsr.org /cpsr/clinton. For E-mail access, send a message with the word "help" in the first line of text to listserv@cpsr.org. The FedWorld Computer System, operated by the National Technical Information Service, archives White House papers in a traditional BBS-type file library.

Users can obtain copies of these press releases from a wide variety of online services or discussion groups devoted to either national politics in general or President Clinton in particular. Sources for electronic information about the White House include: USENET/NETNEWS, CompuServe, America OnLine, The WELL, MCI Mail, Fidonet, and Peacenet or Econet.

The U.S. House of Representatives has also announced the Constituent Electronic Mail System, which will allow citizens to communicate directly with a member of Congress via E-mail. Participating members of the House have been assigned public mailboxes which may be accessed by their constituents from home computers. Many libraries, schools and other public institutions now provide, or soon will provide, public access to the Internet.

The Library of Congress Information System (LOCIS) is now available over the Internet. LOCIS includes over 15 million catalog records and over 10 million records for other types of information: federal legislation, copyright registrations, Braille and audio, organizations and selected foreign legal materials.

Business Online

STILL, MOST ELECTRONIC mail use is for business communications. And despite the recent hoopla, many companies have only recently begun to use E-mail. Such was the case at Omni Services, a Virginia-based textile rental services company. According to Peter Wooten, system administrator on the Technical Service Team, prior to E-mail, everything was done by phone and fax, or logging in over a modem.

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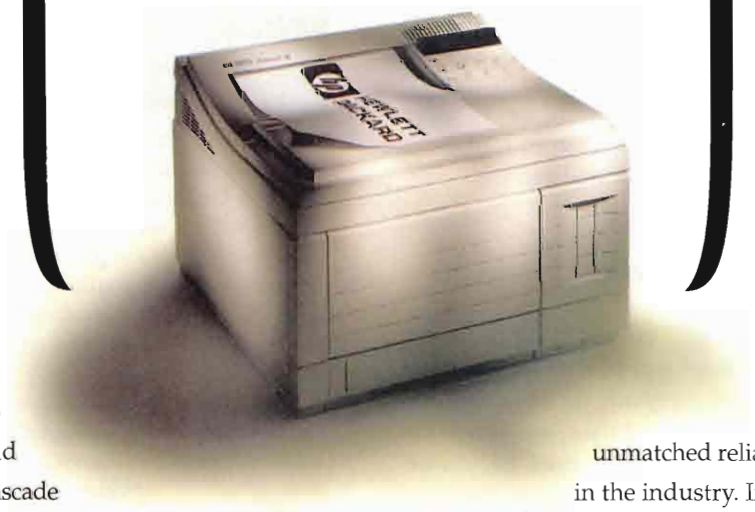

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"Our biggest need was transferring information from plants throughout the United States," explains Wooten. "Electronic mail now enables us to transfer text documents, spreadsheets and reports, based on weekly plant sales and invoices, to central headquarters in Culpeper, Virginia."

For Omni, several considerations were key in choosing an E-mail system. An integrated office solution was considered superfluous because the company already had a large investment in WingZ and Island Graphics applications. A flexible user interface was also important because the company was already GUI-oriented. Another key consideration was support for MIME (Multipurpose Internet Mail Extension), a standard for multipart attachments.

Omni Services purchased 380 copies of Z-Mail software, from Z-Code Software (San Rafael, Calif.), for use at plants throughout the United States. The company's system configuration includes HP 9000/425E and HP 9000/720 systems running HP-UX Revision 8.05, X-terminals and LANs.

Z-Mail is an electronic mail user agent (MUA) that provides all the functions needed to exchange and manage E-mail correspondence. Based on the X-Window system, Z-Mail provides an intuitive GUI and supports both MOTIF and OPEN LOOK interfaces. Basic send, receive, print and save operations are all executed through simple push-buttons and dialog boxes. Z-Mail is available on all UNIX platforms (including HP-UX Revision 7.x/8.x and HP/Apollo Domain OS 10.3x), with the same look, feel and functionality on each system. The Z-Script scripting language enables users and system administrators to modify the mail system to meet their specific requirements, i.e. to assign push-buttons to new functions or develop custom mail interfaces for specific applications, such as stock trading.

Broadened Horizons

IN JUNE, HP SIGNIFICANTLY enhanced its enterprise messaging system with new releases of HP OpenMail and HP X.400. According to the company, the objective is to provide a choice of clients, gateways and transports which can be integrated as front-ends for a larger mail backbone.

"HP's intent is to have OpenMail as the dominant standards-based solution," said Carol Hamilton, marketing programs manager, Cooperative Computing Systems Division, HP. "Our focus is on improving flexibility and manageability."

Major new functionality for HP OpenMail includes support for Lotus cc:Mail and Microsoft Mail as direct clients. This strategy is extremely important, according to David Markshak, vice president, Services and Consulting at the Seybold Group.

Other major OpenMail enhancements are: HP clients for Macintosh and Sun users, which include new HP interfaces for Apple Macintosh and Sun Solaris 2.1 and new versions of existing interfaces for Microsoft Windows and HP NewWave; HP Phonebook support for Windows, Macintosh and Motif clients — which allows easy look-up access to the HP OpenMail directory; an OpenMail Bulletin Board; and a PROFs migration program.

Additional OpenMail enhancements include: people mover and directory synchronization services. People mover consists

PROJECT HERMES: ELECTRONIC DISSEMINATION OF U.S. SUPREME COURT DECISIONS

Project Hermes was started in May 1990 by the U.S. Supreme Court as an experiment in disseminating its opinions electronically. Case Western Reserve University was one of the participants in the pilot project. In the Fall of 1992, the Court decided that the experiment was successful. Starting with the 1993 calendar year, the U.S. Supreme Court began disseminating opinions electronically on an official basis.

You can contact Project Hermes via e.mail on the Cleveland Free-Net at: aa584, via the Internet at: aa584@cleveland.freenet.edu, by writing: Project Hermes, CWRU, 319 Wickenden Building, Cleveland, Ohio, 66106; (216) 368-2733.

U.S. REPRESENTATIVES PARTICIPATING IN THE CONSTITUENT ELECTRONIC MAIL SYSTEM

The members of the House of Representatives who have agreed to participate in this pilot program are: Rep. Jay Dickey (AR-07), Rep. Sam Gejdenson (CT-02), Rep. Newt Gingrich (GA-06), Rep. George Miller (CA-07), Rep. Charlie Rose (NC-07), Rep. Fortney Pete Stark (CA-13) and Rep. Melvin Watt (NC-12). When House Information Systems and the Committee on House Administration are satisfied the system is sufficiently error-free, other members of the House will add this new service as technical, budgetary and staffing concerns allow.

Constituents who wish to communicate with House members participating in this pilot project will be asked to send a letter or postcard stating their interest to the member's office. The request must include the constituent's Internet "address," name and postal address. This process will allow members to identify an E-mail user as a constituent. When your representative receives the letter or postcard, you will receive an electronic mail reply with the representative's Internet address. Constituents can then write to that member of Congress at any time by following the guidelines specified in the initial message. Presently, House members will largely respond to E-mail messages from their constituents by postal mail, to ensure confidentiality.

For more information, Internet users can send a request for information to the House of Representative's online information service at CONGRESS@HR.HOUSE.GOV.

of utilities that allow administrators to move HP OpenMail users and their data easily between distributed nodes in the network. Directory synchronization services synchronize HP OpenMail directories and SoftSwitch Central so end users can send messages to anyone in the enterprise without understanding the details of different products' addressing conventions.

HP X.400 now supports X.400 integration with HP OpenView, making it easier for network managers to monitor HP OpenMail and X.400 processes and to initiate administrative procedures using HP OpenView's centralized management functions. Additionally, network managers will be able to monitor message-store disk usage, queue levels and gateway usage, and obtain accounting/billing reports of mail usage.

HP also has announced plans to ship an X/Open-APIA gateway API with X.400 in the fourth quarter of this year. This capability will enable customers to develop applications via a standard API on an HP-integrated messaging backbone.

Third parties are getting into the E-mail integration act as well, and are providing a variety of open, standards-based E-mail systems.

Worldtalk Corp. (Los Gatos, Calif.), which markets standards-based messaging integration solutions, provides gateways and servers that can be configured to each customer's specific requirements. The gateways reside on their native platforms, such as DOS and UNIX, with management and configuration centralized at the Worldtalk server. Worldtalk servers are available for HP 9000s and PC platforms.

Worldtalk Corp. has announced that directory synchronization capabilities for HP OpenMail, cc:Mail, and Microsoft OpenMail will be available in the fourth quarter of 1993 and early 1994. Directory synchronization provides users with a preauthorized "view" of the Worldtalk directory for access to nonnative E-mail users by simply pointing and clicking on their names within the E-mail system's address book. Additionally, E-mail administrators can set filters to control synchronization between the Worldtalk directory and the LAN or HP E-mail directory to restrict unauthorized access to corporate directories. Worldtalk has announced plans to develop message-based directory query services to allow users to retrieve directory information directly, even if they are not connected to a Worldtalk 400-supported E-mail system. Future plans include support for native X.500 corporate directories.

E-Mail Inc. (Los Angeles, Calif.) provides One-Stop Mail for HP 3000 systems which need automated information distribution. Alone, One-Stop Mail provides internal office connectivity. However, combined with E-Mail's Gateway/3000 products, One-Stop Mail is bridged to the public mail carriers of MCI Mail or AT&T EasyLink Services. The exclusive HP 3000 mail system gateway lets you transparently send and receive E-mail, FAX, telex, postal and X.400 messages.

Electronic messaging vendor ISOCOR (Los Angeles, Calif.) plans to introduce an X.400 implementation for HP-UX on the HP 9000 in the fourth quarter of this year. Presently, ISOCOR offers X.400 and EDI multi-media messaging systems, including a family of X.400 user agents that supports a variety of UNIX and LAN operating systems. The company has a marketing agreement with AT&T EasyLink Services to provide EDI services based on the X.435 EDI protocol.

HP users also can take advantage of E-mail offerings from integrated office system vendors, such as Uniplex Integration Systems (Irving, Texas). Uniplex Mail is a standalone E-mail system that can support from four users to hundreds of servers. This UNIX E-mail product functions across environments of mixed UNIX minicomputers, workstations, and character and X-terminals. Uniplex Mail works with either WordPerfect or Uniplex word processing system, and provides a gateway to an X.400-compliant mail system through HP's OpenMail and to other Simple Mail Transport Protocol (SMTP)-based mailing systems.

In mid-September, Uniplex is expected to introduce on the HP platform, onGO Office, a native X.400 mail system that supports heterogeneous clients and offers group collaboration facilities. Based on an advanced UNIX electronic messaging system, onGO Office uses X.400 addresses and can transport documents over TCP/IP or Open Systems Interconnect (OSI) networks, and PC LAN environments such as Novell NetWare and LAN Manager. OnGO supports multiple computing clients, including Microsoft Windows, X-Windows and character terminals. As a complete electronic messaging system, onGO Office includes electronic mail, filtering, calendaring, routing, and directory and resource management. — *Paula Jacobs is a marketing consultant and writer based in Framingham, Massachusetts. She can be reached at* pjacobsworld.std.com.

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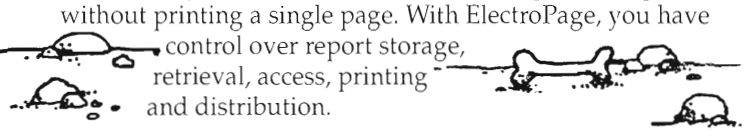
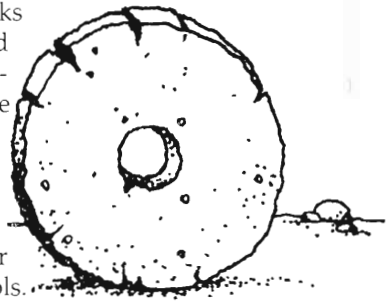
TimeSync™ is a software utility that automatically synchronizes the internal clocks on various types of networked computers to within one millisecond of each other. Available for a wide range of operating systems, this tool currently supports TCP/IP, Berkeley Sockets, Network Services, ARPA Services, LAN Manager and LAN Manager/X protocols.





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Where's Wendell

LANs Force Printers Out of the Air-Conditioned Closet

BILL SHARP

Gone are the days when network printing could only be accomplished by the back room pioneers of the computer age. Gone are the greats like Wendell the Lab-coated Wonder who would recreate print jobs after they spilled through the spooler piecemeal, and whose devotion was such that he once went a month without leaving the filtered, air-conditioned confines he shared with the mainframe.

Yep, Wendell is gone, retired to Winslow, Ariz., where he spends his days wandering around town in a white lab coat, mumbling vague incantations concerning print server connections and toner cartridge life expectancies.

But while Wendell has gone west to rest, those of us who remain find that network printing is both growing and changing rapidly. Wendell was used to large printers chunking away within the data center, far from users. But personal computers arose during the '80s, and low-cost printers proliferated as their frequent companions — ending the dominance of back-room printers spewing reams of dirty paper miles from the user.

In an effort to minimize costs, users and developers found ways to share less costly printers and plotters using primitive switches and simple device-sharing systems. Now as LANs and

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other networks abound on the computing landscape, printers are increasingly connected to networks in new and innovative ways.

LANs show no signs of slowing their reproductive rate. BIS CAP predicts a 34 percent compound annual growth in networking, while IDC says that by next year some 65 percent of installed PCs and workstations will communicate over LANs.

In some locations, printers remain personal peripherals, connected only to an individual desktop computer, but this is expensive. In other locations, large workgroups share one or more printers tied to a print server, but these printers can be bogged down from the sheer volume of jobs, or because of inadequate throughput in the connection scheme. HP and other firms are are trying to speed things up.

"When I started in the computer industry in the mid-1980s, the user had no idea what was going on with the printer," recalls Tim Nagle, product and marketing manager for ACOM Computer Inc. (Long Beach, Calif.), a firm that sells printer software and check printing systems. "Is the printer even there, or is it jammed, or out of paper? You'd often send a job for printing and it would just disappear, or an 80-page job might take 30 minutes to print. There were systems with serial cable 1,500 feet long going into some box with a buffer. If too many jobs were sent, the buffer filled up and new jobs would just overwrite old data in the buffer. If two people sent large jobs, the printer just couldn't keep up. And the worst part was, you had no way to know."

More recently, users on LANs found that under some circumstances, even HP's earlier laser printers didn't always get the job done. In Oregon State University's Corvallis campus computer lab, Greg Scott, computing service manager for the College of Business, recalls that at times, printing to an HP LaserJet II over their Novell network was "really a pain."

With 100-plus Vectra PCs on the network, after three or four big print jobs went to the printer, nobody could get any printing done "for a couple of hours," Scott recalls. Printer problems created a lot of management problems on the network, resulting in high levels of frustration, as well as lots of wasted paper.

Scott's frustration with network management is not unique. According to HP, network printing problems can take up as much as 50 percent of a network administrator's time — an astonishing percentage considering that printing is generally not something thought of as a crucial part of network management.

What comes out of all this is that network-capable printers are no longer a niche market, but are THE market. Network printers are falling in price while simultaneously increasing in capability. Rather than a choice of a personal or back-room printer, many LAN users are opting for local printers on the network that offer high performance, network capability and the convenience of retrieving documents with a few steps rather than a half-day hike.

As vendors realized that the closer relationship between printers and networks would spawn market opportunities, products began popping up to meet the new demand. The dominant force in the printer market for several years now (*surprise, surprise*) is good old H&P.

The big players beside HP include Lexmark, the IBM spinoff, still 10 percent owned by Big Blue; Compaq, which knows how to design and market high-quality, inexpensive computer gear as well as anybody; QMS; and others. In addition to printer vendors, there are vendors who sell software, plug-in cards and other odds and ends to make network printing possible.

HP introduced its latest products for the network printing market in April. The HP LaserJet 4Si and LaserJet 4Si MX both provide 17 page per minute speed with 600 dots per inch resolution and will accept printing jobs in different formats from PCs, Macintoshes, UNIX workstations and other networked computers.

HP LaserJet 4Si includes:

- PCL 5 enhanced printer language
- 2 MB memory
- Centronic high-speed parallel interface
- 2 modular I/O (MIO) expansion slots for optional JetDirect interface cards
- $3,749 U.S. list price

HP LaserJet 4Si MX includes:

- PCL 5 enhanced printer language
- 10 MB memory
- Centronic high-speed parallel interface
- Macintosh LocalTalk interface
- Adobe PostScript Level 2 compatibility
- HP JetDirect Ethernet interface that switches automatically among 10 network operating systems
- $5,499 U.S. list price

The printers themselves include the kind of capabilities you'd expect from HP, but there are some new capabilities that are surprising. Clearly, printers and networks are converging.

What makes this convergence possible is a collection of collaborations and standards that ease the end user and network administrator past the difficulties of network printing. Ultimately, users will decide what network operating systems are successful in the marketplace, so a printer vendor has little choice but to function with as many of the front runners as possible. This requires close cooperation.

Windows NT from Microsoft will ship with code developed by HP to ensure that NT provides a high level of automatic LaserJet support and status information for its users, says Ormond Rankin, marketing manager for HP's Network Printing Division (Boise, Idaho). The companies also worked to provide support on Windows for Workgroups. HP's relationship with Novell is so close that the two companies run joint training classes.

This kind of cooperation is essential to solving the tougher problems of network printing administration. "If there is a way

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we can help them spend more of their time on higher value areas and less with angry customers, we have really helped them out," Rankin says.

At this past spring's Comdex show, HP, IBM, Microsoft and Novell announced support for simple network management protocol (SNMP) for network printing. SNMP was already the most widely used network administration standard, says Rankin. The announcement "shows the industry that we are interested in using standards that exist today where they are capable and widely implemented, rather than adding proprietary ones."

Installation of network printers is getting gradually easier, says Rankin. "Ultimately, we want installation to be automatic — you just connect the printer to the network. But we haven't achieved that yet." However, there has been progress. Novell NetWare administrators can install a LaserJet 4Si MX using one screenful of data with the HP JetAdmin utility, he says. Once installed on the network, JetAdmin/NetWare provides bidirectional communication that provides remote status information such as OFFLINE, PAPERJAM, PAPEROUT and TONERLOW. It also allows network administrators to automatically load new drivers into PCs on the network or lock the printer front panel to avoid remote configuration changes by users.

Another new addition, the HP JetPrint utility, simplifies network printing for end users using Microsoft Windows 3.1. It allows users to select from available printers using point and click commands, automatically updates drivers, provides a printer "virtual front panel," printer status messages and an alert when the printer needs attention.

JetDirect MIO cards

HP JETDIRECT INTERFACE cards for these printers make it possible to switch automatically among four network protocols and 10 network operating systems (NOS). Supported protocols include IPX/SPX, DLC/LLC, TCP/IP and Apple EtherTalk. The MX model can handle print jobs from the following different NOS: Novell NetWare, Microsoft Windows for Workgroups, Microsoft Windows NT, Microsoft LAN Manager, IBM LAN Manager, EtherTalk, HP-UX, Sun OS, Solaris, and SCO Unix.

JetDirect interfaces for Ethernet, Token Ring or LocalTalk also are available. HP maintains these interfaces move data at 350 KB per second – 30 times faster than parallel I/O. The speed comes from the JetDirect packet method of transferring data, as opposed to the smaller one-byte method used in parallel I/O. Faster PostScript printing comes from formatting one page in a buffer while another page is printing. The printer switches between enhanced PCL 5 and PostScript Level 2 with no print delays.

Speed is of the essence in the printer marketplace, ranking up there with low price among users. Support for multiple operating systems also means as much to some customers. Some of HP's competitors count on that. Scott Chandler, network printer product manager for QMS Inc. (Mobile, Ala.) , points out that network printers from QMS accept data from multiple ports simultaneously, rather than the HP method of taking jobs serially and switching the port configuration to suit the data type arriving.

"We don't have as many protocols, but those we have are multiple simultaneous ports. HP and Lexmark make you wait in line and are excellent for single users — their products are printers on a network. Our solutions are for workgroups or departments — our products are network printers."

But HP's printers have a few features in its favor, here. HP's new printers support SNMP, which for QMS products is "on the way," says Chandler. Price and ease of use are also different, he admits. "Our printers are for people with a tolerance for a price premium because they see the benefit of access for all systems simultaneously." At mention of HP's icons for printer control, he remarks, "Our customers are smart enough to know how to use our product and its features — we don't need icons."

Olympus Image Systems Inc. (Irvine, Calif.) recently introduced an electron imaging printer which emulates LaserJet models. The printer is aimed at heavy use and networked applications, with several NOS options and an entry price of $6,995. Lexmark and Compaq are also in the network printer market and will offer competing products worth a look. However, HP dominates — at last count HP had shipped more laser printers than all its competitors combined.

In addition to the printers themselves, related network printing products abound; some from seemingly unlikely quarters.

Walker Richer & Quinn (WRQ; Seattle, Wash.) includes network printing capabilities in its Reflection emulation products. As long as you have the correct drivers, says WRQ, you can pull up a screen and redirect your print job to LAN-attached printers using the emulation interface.

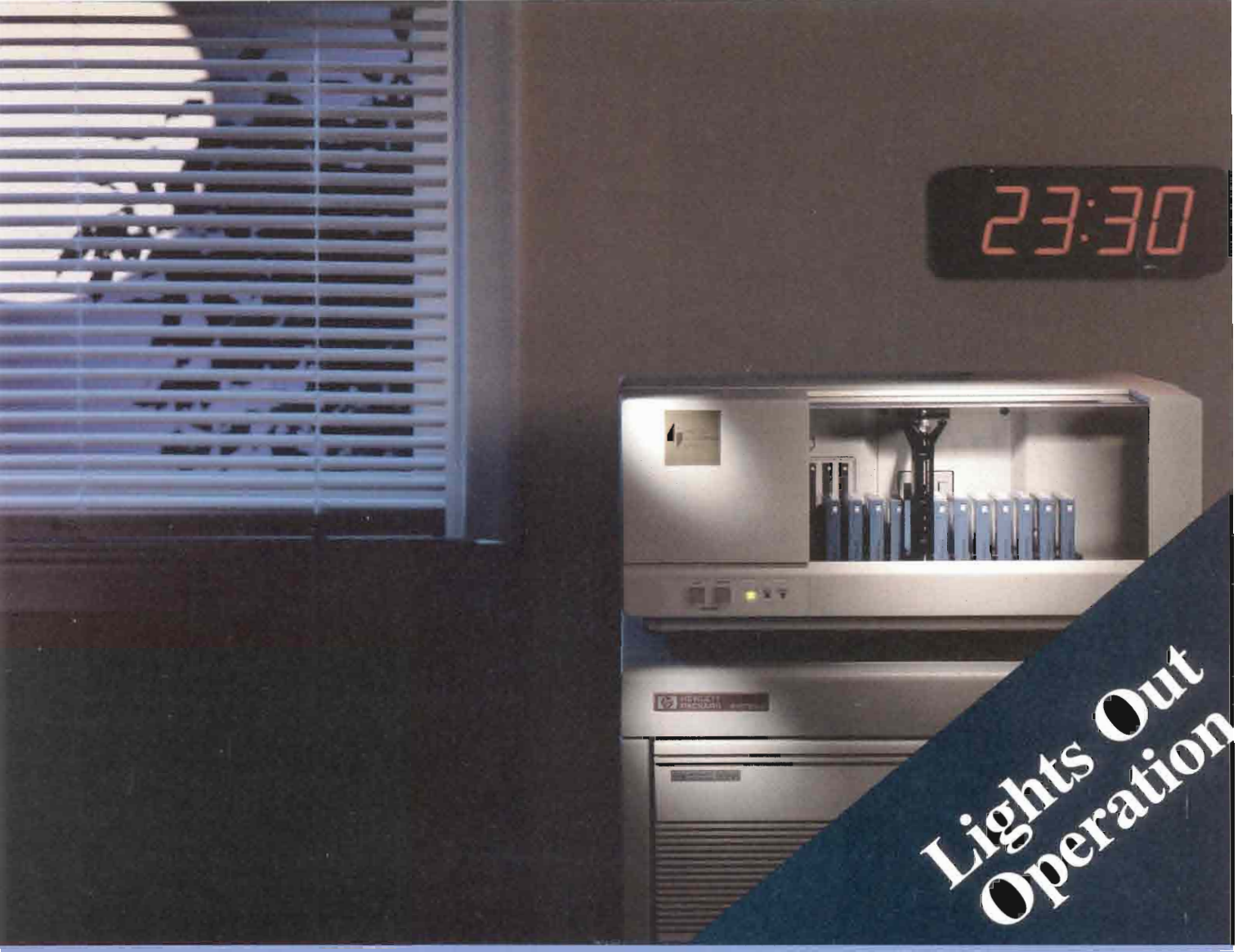
Speaking of large computers that speak strange languages, you can also print to HP printers on the network from IBM mainframes and AS/400 systems using an HP-MIO interface from Axis Communications (Danvers, Mass.).

Another MIO-compatible product comes from Castelle Inc. (Santa Clara, Calif.). Castelle introduced its JetPress MIO PLUS print server, with MIO as well as parallel and serial ports.

Emulex Corp. (Costa Mesa, Calif.) produces printer sharing devices for parallel and serial port devices, as well as one that uses HP's MIO slot to control two printers with multiple protocols including IPX/SPX, AppleTalk, TCP/IP and DEC-licensed LAT.

The network printing market offers plenty of room for start-up companies such as XCd (Irvine, Calif.). The young company offers multiprotocol converter cards, the XJet series, for HP LaserJets using an Ethernet interface. The XJet cards support LAT, TCP/IP, as well as NetWare protocols, eliminating the need for an intermediate print server.

Although Keith Sugawara, vice president of sales for XCd, admits his company doesn't attempt to compete with the HP's



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products, he maintains that, "combined with the 4Si's LAN manager and AppleTalk capabilities, XCd provides a cost effective means of multiplatform printing."

Connectivity supplier Wilco AMS (Vero Beach, Fla.) offers NetJET and NetQUE — multiprotocol Ethernet interfaces, including HP-UX, Novell NetWare, SCO and AIX to name a few, for HP LaserJet printers. NetJET's and NetQUE's serial ports function as an input from an HP 3000 MPE system, or as an output port to a second printer. NetJET plugs into any HP MIO-equipped printer including the LaserJet 4, 4Si and IIISi. NetQUE connects to any parallel port supporting the LaserJet II and III printers. Both devices self configure for either BNC or UTP connections.

ACOM Computer produces software and check printing systems for anything from low to very high volume needs. By using laser printing technology with magnetic toner, Nagle's firm allows large companies to print checks on plain paper rather than pre-printed check forms, many of which are wasted. Because the check number comes from the computer rather than a blank check form, both errors and waste are reduced. A new Superlink interface product from ACOM will allow connecting one printer directly to both a LAN and an AS/400 system for a multi-platform, multi-host interface to a LaserJet printer.

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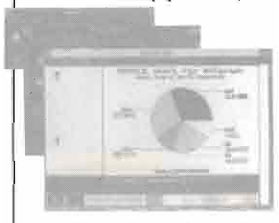

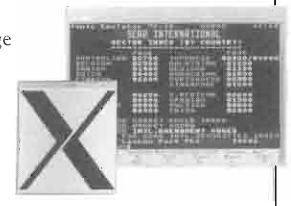

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Out From The ABYSS

Document And Image Management Comes Of Age

MILES B. KEHOE

I've heard removing just the paper documents from an aircraft carrier would lift the vessel three inches in the water. Corporations across America, and around the world, annually create and archive millions of memos, contracts, engineering drawings and other documents. For some industries, the rationale is imposed by government regulation; for others, this effort is intended to support legal claims; for still others, it's done because it always has been done.

The problem most corporations have with archiving is that the process is a one-way effort, with little planning or forethought going into the eventual retrieval of the archives, and practically no mechanism for using this burgeoning repository of corporate knowledge and history. As we enter the last decade of the 20th century, corporations are beginning to realize, many for the first time, that without the ability to retrieve documents and images, the archives are virtually useless.

Fortunately, it looks like technology will once again provide a "just in time" solution, or at least one that will keep us from burying ourselves further into the document abyss. One of the most rapidly growing segments of the software business is Document and Image Management Systems, or DIMS. Many of the players in this field may be new to you, but they won't be for long.

Companies like Viewstar, Recognition International, Wang Laboratories and Filenet market products that support the complete integration of documents, images, and, in some cases, the management of work flow as paper or electronic documents make their way around a corporation. Most of these products use the power of UNIX or HP-UX as file and data servers, while taking advantage of the flexibility of Microsoft Windows for the user interface. Some have even bypassed UNIX and provide networked solutions based on purely Intel platforms running Novell servers with MS-DOS and Windows clients. Which choice is better? As usual, it depends on the task at hand.

In addition to dedicated DIMS solutions, there are a number of vendors who provide tools to roll your own. Verity markets a generalized text retrieval application product called TOPIC, which includes a highly configurable user interface that offers the flexibility to view not only documents, but images either of the original document or attached to the original document using what Verity calls HyperLinks.

Other companies, like Fulcrum Technologies, offer an applications programming interface (API) that adds text retrieval to new or existing applications. This approach has gained popularity among mid-sized companies, and probably will continue to be where most firms can improve their productivity. Text-

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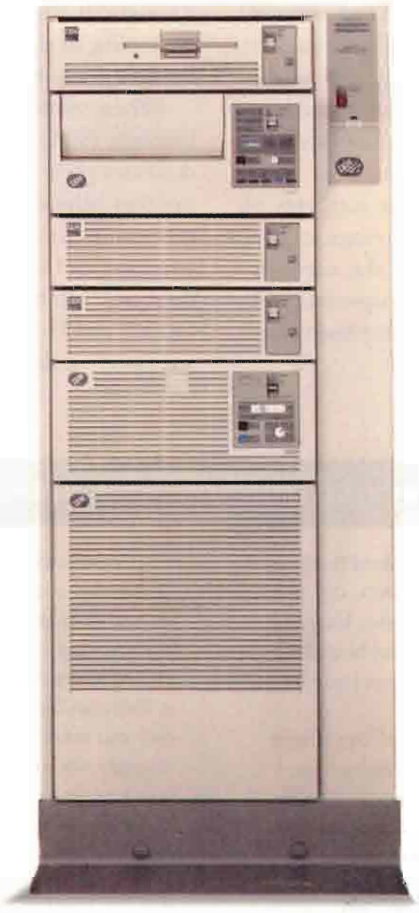

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and document-enabling of existing applications lets users continue to use their familiar applications, but with the power to locate relevant documents with minimum time and effort.

Advanced Document Tracking

ORIGINALLY, DOCUMENT management meant the ability to keep track of files and documents. If someone needed access to a document, early management systems tracked the request and provided the document. The tracking system allowed only one person to check a document out for editing, and an arbitrary number of previous versions were maintained for historical reference.

Now, document management is used to describe a wide variety of disparate functions including document capturing and scanning, work flow processing, library archiving, search and retrieval, and document viewing. In reality, document management encompasses all of these components. The Gartner Group uses what it calls a magnet model to describe how these different functions come together. Think of each of the functions as iron bars and any can become a magnet that attracts the other functions.

The Gartner Group projects that many of the elements of document management will evolve from the application level and become one of the basic building blocks of the network. In fact, Gartner states "By 1995, document management will become the most important service on the LAN after basic communications." Pretty heavy statement.

The Gartner Group describes a layer of software called middleware that sits between applications and the operating system. Typical middleware applications include Saros Mezzanine and Lotus Notes, which provide document management services to other applications. Gartner predicts core document management services will be available as middleware, or even as part of the basic operating system services, in the next few years.

The impact of this convergence shouldn't be to sit back and wait years for document management services while productivity suffers. Rather, it is important to avoid the tendency to rush into quick solutions that solve short-term needs without taking into account the longer-term corporate-wide demand that will evolve later. As the basic building blocks of document indexing, search and retrieval become part of the core network functionality, you must avoid those islands of incompatible data throughout your company. Fortunately, industry standards are beginning to evolve, and staying with open solutions here can be as important as they are to your basic computing.

When relational databases standardized on Structured Query language (SQL), the number of companies using these relational databases grew exponentially. SQL Access, the standards organization behind the move to standard SQL and a common programming access to SQL databases, has recently proposed a common API to apply to text retrieval as well as to relational databases. Microsoft's open database programming specification ODBC, and Fulcrum Technologies' new product, SearchTools, are based on the SQL Access Group's proposal. As more com-

Reaching The Ultimate Goal

For years, the state-of-the-art in text retrieval involved Boolean operations that let users locate documents using AND, OR and NOT operations. These Boolean expressions were often long and complex, and you could never be sure if you might not be missing some key document. The technology of text retrieval has come a long way, both in theory and in practice.

First, the technology focused on "fuzzy Boolean" operations that provided ranked result lists. If all terms in the original query were present in a document, it was ranked higher than documents which did not contain all of the terms, but no document was excluded because it did not contain all of the search terms.

The next advance allowed users to assign weights to the original search terms. For example, if you search for "Hewlett" and "Packard," you might want to assign a higher weight to "Hewlett" because the word "Packard" might be associated with a reference to Packard-Bell. By assigning a relative weight of 99 to "Hewlett" and a weight of 20 to Packard, you would expect documents relevant to Hewlett-Packard to be ranked higher.

A new retrieval technology, based on work done at Cornell University, is called vector space similarity and provides a way for the search engine to determine what query terms are most useful in retrieving documents and images. HP uses such a technology in their internal support system, and it is also available commercially in Fulcrum Technologies' SearchTools. With this technology, a user can enter what looks like a natural-language query — for example, the phrase "How do I mount a File System?" — and the search engine can determine what words are relevant based on the collection of words on the indexed documents and image, and what weights should be associated with each term.

For example, in searching UNIX documentation, the words "mount," "file" and "system" are probably good discriminators for retrieval and will have relatively high weights. The word "how" might be less relevant, and the word "I" may be stopped out because it occurs frequently. Thus, without any specialized syntax, a novice user can retrieve relevant documents right away — the ultimate goal of document and image systems.

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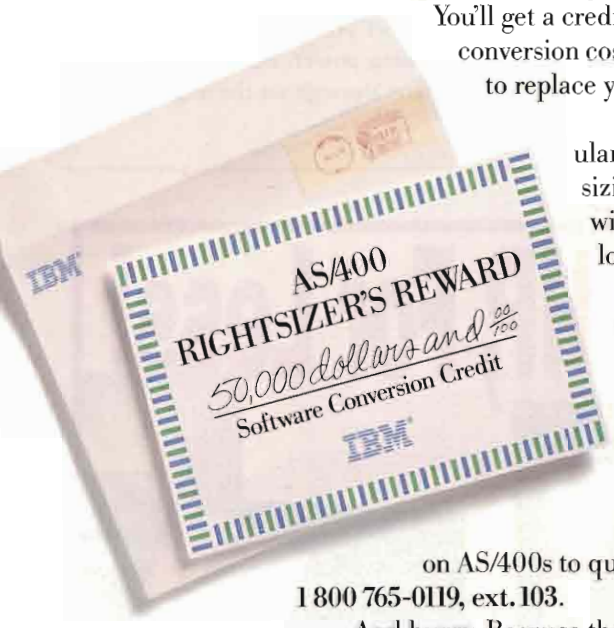

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When you begin to look at document management, there are a number of levels with which you can start. Some companies have complete solutions for document management, some have tools to enable existing applications, and some provide the tools that let you and other third parties implement the exact solution you want.

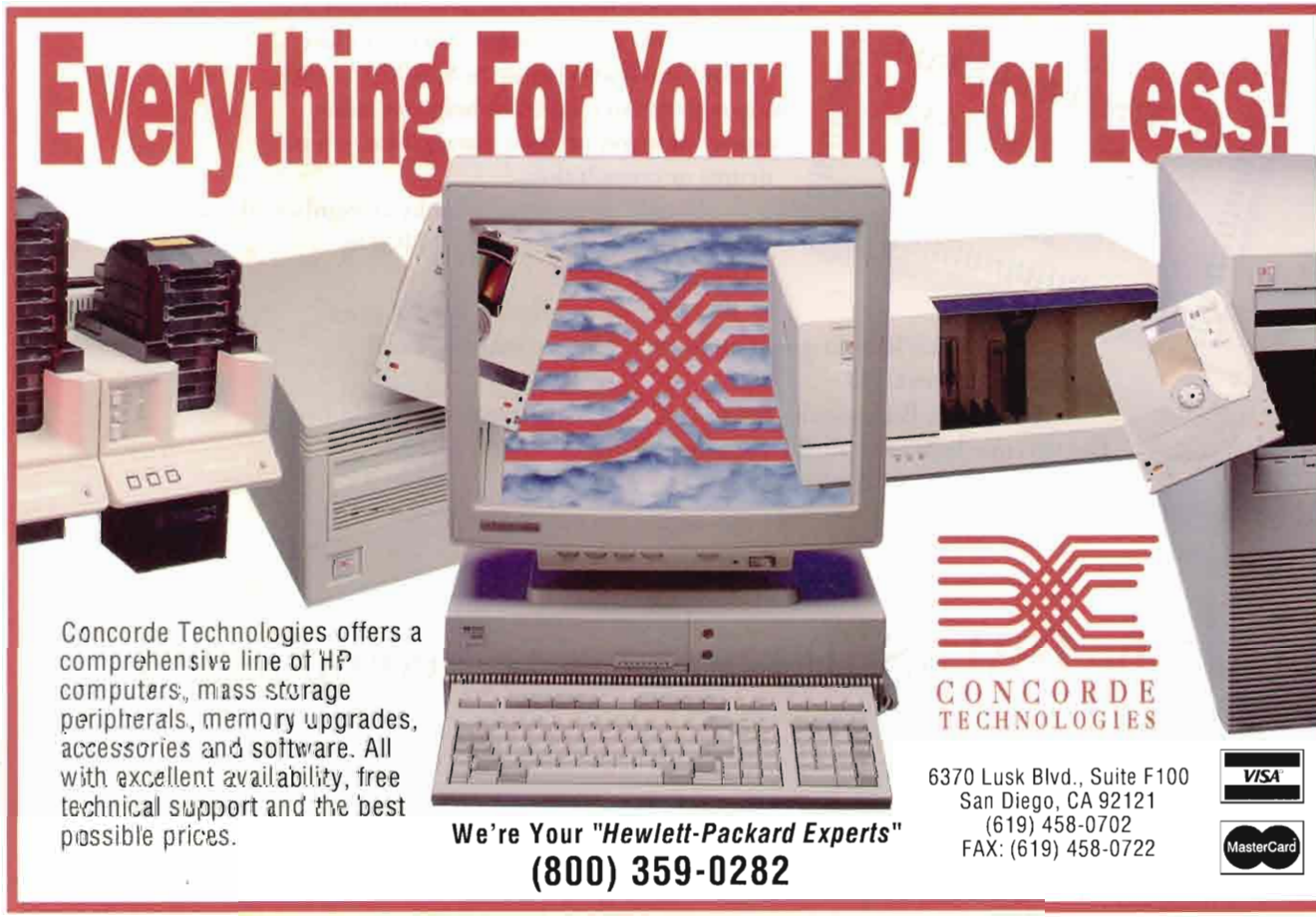
Depending on your company and its needs, any of these functions may be the compelling application driving the move to document management. In reality, all will eventually play an important role as your document management system evolves.

Applications That Make It Happen

VERY FEW DOCUMENT management applications are purely textual in nature, and most complete applications are flexible enough to allow for both textual and graphical documents. For example, a number of DIMS vendors can provide a complete solution, starting from the scanned original documents to retrieval and display software. One of the most experienced companies in this area is Wang Laboratories (Lowell, Mass.) which has just announced a comprehensive strategic marketing agreement with HP.

This agreement means that Wang, a long-time leader in document and image management, will provide HP and its customers with powerful, state-of-the art solutions that haven't always been available to UNIX and HP-UX users. Bernard Guidon, marketing manager for HP's Computer Marketing Group, maintains that the agreement opens a new set of applications for HP and its resellers and customers, as well as opens a new market to Wang Laboratories in the form of the HP installed base. Don Ganley, product manager for Wang's OPEN/image software, says the agreement will initially cover OPEN/image, PACE for OPEN Systems, OPEN/office and COBOL/ReSource.

OPEN/image includes HP-UX server software, and an API for both HP-UX servers and Microsoft Windows-based clients. This true client-server family of products lets users make the most of their HP-UX processing power, but retains the familiar graphical interface common throughout the industry, and is available today.



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OPEN/image includes OPEN/image Connect, a toolkit to image-enable existing applications. You can even use it on applications to which you don't have source code, a real coup in image-enabling without significant programming!

PACE for OPEN Systems provides a set of Windows-based applications tools that allow MIS departments to create client-server solutions using high-level building blocks. OPEN/office is a distributed electronic mail system based on industry standards for corporate-wide environments. COBOL/ReSource is an application toolkit designed to support commercial COBOL applications under HP-UX. These products will be available in late 1993.

Tools like those available from Wang Laboratories can be used to customize existing applications. OPEN/image Connect lets you define screens in existing applications — even 3270-based mainframe applications — and, based on the window or screen, initiate image management and retrieval from the HP-UX-based server.

OPEN/image Connect has three components: an application or script that drives the screen-level integration; a Format Generator utility; and an Extract program.

Application and scripting tools are provided in both Microsoft's Visual BASIC and in Softbridge's Bridge scripting language. MIS departments with familiarity with one of these two environments can further customize OPEN/image Connect. The application or script defines the user interaction between the existing application and the Wang imaging system.

Workflow Management

ONE OF THE MORE interesting recent technologies is the development of applications in what is called workflow management. While management consultants have always been available to study the flow of paper and work from one department to another, and to report on bottlenecks and staffing needs, few have ever evolved to the point where they could reliably provide 'what-if' scenarios.

Today's workflow management applications are to document production what spreadsheets have been to financial analysis. With uncomplicated graphical user interfaces, workflow applications like Plexus FloWare from Recognition International let

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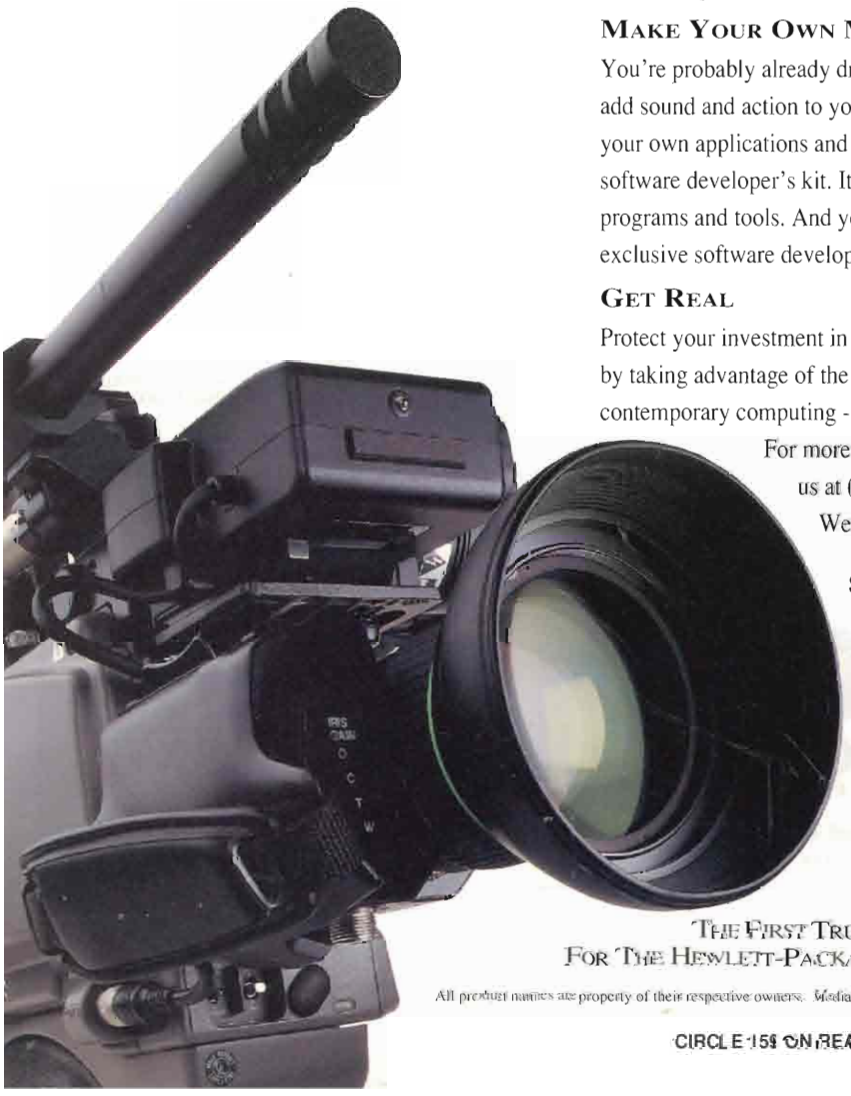

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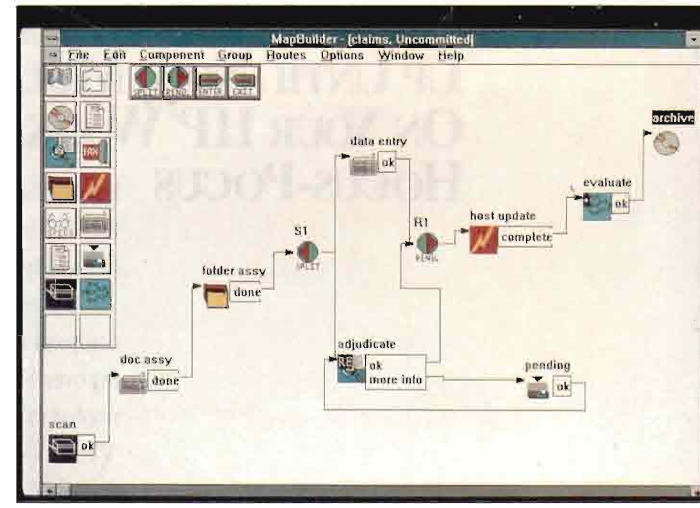
you create and monitor the flow of documents, information and tasks from one place to another within your company.

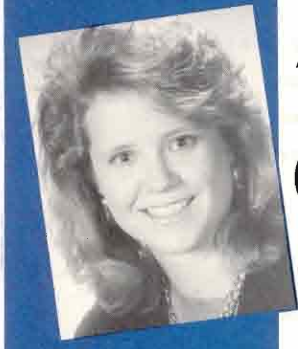
For example, consider a customer services organization. It receives mail, telephone calls and customer queries via fax, and has to evaluate the nature of each query. It may need to forward the query to another department for action, and finally follow-up on the response back to the customer. With FloWare, you create activities and queues, and specify parameters about each activity like the number of input documents, the processing time per document and the next activity for each document.

Once the overall model is in place, you adjust it to match your actual business experience. You individually track each document throughout the system, to verify that each customer query receives a timely response. And you assign alarms and escalation procedures for work that doesn't meet deadlines, to ensure you are always on top of the situation.

You also perform what-if analysis to determine future loads and needs, project the required resources, and where they are needed, well in advance. For example, if you know your marketing staff is beginning a promotion that will increase the number of incoming calls, you can vary the input and parameters at each activity to see how the added call load impacts your department. This kind of planning tool may be just the answer



Recognition International's FloWare software uses graphical maps to manage work processes.



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for departments that want to maintain or improve customer satisfaction without adding unnecessary costs.

FloWare is designed so a company doesn't need to change current applications to gain the benefits of its modeling. And, it runs in client-server mode to maximize existing computer resources. Typically, FloWare uses a relational database management system (RDBMS) on the server system, and clients running Microsoft Windows. Recognition has tools to let you build user interfaces without advanced C programming skills, so you can integrate how FloWare works with your own applications.

A number of other companies have customizable user interfaces with text and image retrieval that you can use to create custom applications. These, however, normally require a great depth of understanding of the application. Most often, the vendor sells consulting services to customize the application to your exact needs.

This approach, while useful in some cases, doesn't solve the overall corporate solution because every time you need a new application, you need to bring in expensive consultants to solve the problem. However, if you're looking at solving a specific document problem and don't need the enterprise-wide solution, these customized applications may fill your needs.

Writing Your Own Applications

MANY COMPANIES HAVE full-time data processing staffs to provide custom applications. Others, however, are looking for complete solutions and don't want to invest the time and money in custom programming. If you fall into this latter category, you may still want to consider the possibility of looking at some of the new high-level tools available to you for customized applications.

First, of course, with development environments like Visual BASIC, the time to develop or customize applications is much less than it used to be. In addition, some vendors like Fulcrum Technologies, provide source code to a sample application that is flexible enough so you can modify it.

Secondly, unless you subscribe to the belief that "one interface can work for all applications," you won't want your document and image management applications to remain isolated

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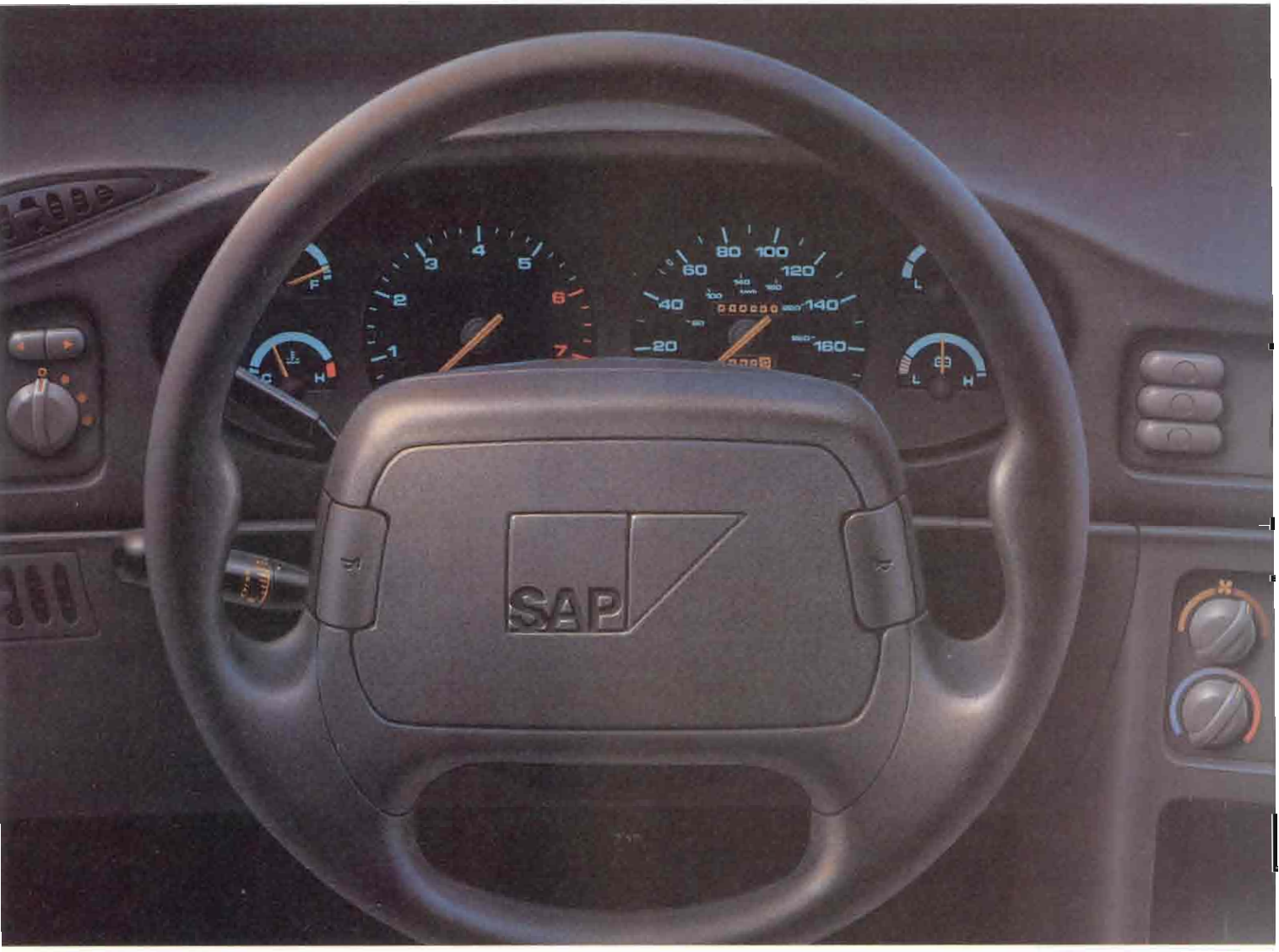

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islands. You need the engine that can serve as the core technology for your immediate DIMS project, as well as the ones you haven't thought of yet. For this kind of flexibility, you probably need a vendor that works with dozens or even hundreds of other companies – that way, when a new application comes along, you have a number of choices in addition to writing your own.

Document and image management represents the next hot technology for MIS and users alike. The trick in successfully catching the wave without wiping out is to approach DIMS from a corporate-wide view, and not get bogged down in single-application solutions. Before DIMS becomes generally accepted as middleware, your company needs to find a core technology that it can stick with for years. Find one that has a proven track record, and one that will be around in the future. Also, find one that is built into a number of solutions, and one that is based on industry standards. It may take a little longer to get that first application going, but it will be the right decision for your company in the long run.

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GRACE`s modular architecture allows to use TCP/IP, NCS or DCE as the communication mechanism. This provides multiplatform support and assures compliance with the emerging standards. Currently it supports HP-UX, SunOS, AIX, Solaris and MPE/iX operating systems. Grace is aggressively priced for enterprise networks as well as for software development.

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DAT Old Drive Magic

The Model 5032-S DAT Drive From Texas ISA Is A More Than Sufficiently Advanced Technology

Can anyone honestly claim to be unimpressed by the advances in data processing technology over the last several years?

In a nutshell, we take for granted technologies which may not even have been imagined a few years ago. Perhaps the best acknowledgement of this trend can be found in an observation by the renowned science fiction author Arthur C. Clarke who said, "Any sufficiently advanced technology can seem indistinguishable from magic."

Recently, DP Labs tested a product which performs its own magic in the area of data storage, the Model 5032S DAT tape drive from Texas ISA (Houston, Texas). The 5032S uses an HP data compression algorithm to permit the storage of up to 8 GB of data on a single 4mm, DDS-format DAT tape. That's gigabytes, folks. Let's put it this way — the 5032S could enable you to pack several copies of *War and Peace* on a single medium smaller than a pack of cigarettes, and still leave room for something by Mr. Clarke.

The Model 5032S communicates with any HP-UX host via a SCSI interface. Any is not an exaggeration; the 5032S will hook up to any HP 9000 or HP 3000 system running HP-UX 7.0 or above. The unit's only other requirement of note is input voltage in one of two ranges: 115V (90 - 120 vac, 50 - 60 Hz) or 230V (180 - 264 vac, 50 - 60 Hz). Beyond that, common sense rules, as in "don't block the ventilator slots

Michele Petrovsky

5032 -S DAT DRIVE

OBSERVATIONS:

- Front panel switch allows easy toggle between uncompressed (2GB) and compressed (8GB) modes of storage
- Rapid data transfer
- Quiet operation
- Low profile requires minimal space
- Interacts with entire HP 9000 and HP 3000 product lines
- Clear, concise documentation

PRICE:
$3000 (U.S. List)

PLATFORM:
Any HP 9000 or HP 3000 platform

Texas ISA
14825 St. Mary's Lane
Houston, Texas 77079
tel: (713) 493-9925
fax: (713) 493-2724

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or grille," or "keep the cable run between the drive and its host as short as possible."

As mentioned, it offers 2 to 8 GB of storage, with an error rate of less than 1 in 10^{15}, in other words, the 5032S doesn't make too many goofs. Tape loading time averages out to 25 seconds; data transfer takes place at 1 MB/second, while a read/write would need approximately 1 second to move 183 KB. And the choice of compressed or non-compressed format is available by defining the 5032S to HP-UX and also by a simple flick of a switch on the unit's front panel.

The 5032S packs all this power into a sleek profile. The box is only 75 mm x 325 mm x 285 mm. The 5032S sits comfortably and unobtrusively next to its host. Its controls (power and compressed/uncompressed toggle) are readily accessible in its front panel. What's more, it's a hardy little critter. Its operating temperatures are between 5 and 40 degrees Celsius, but it can be stored in temperatures ranging from -40 to 70 C. Any potential user, whether DP manager or system operator, will find few constraints working with this device.

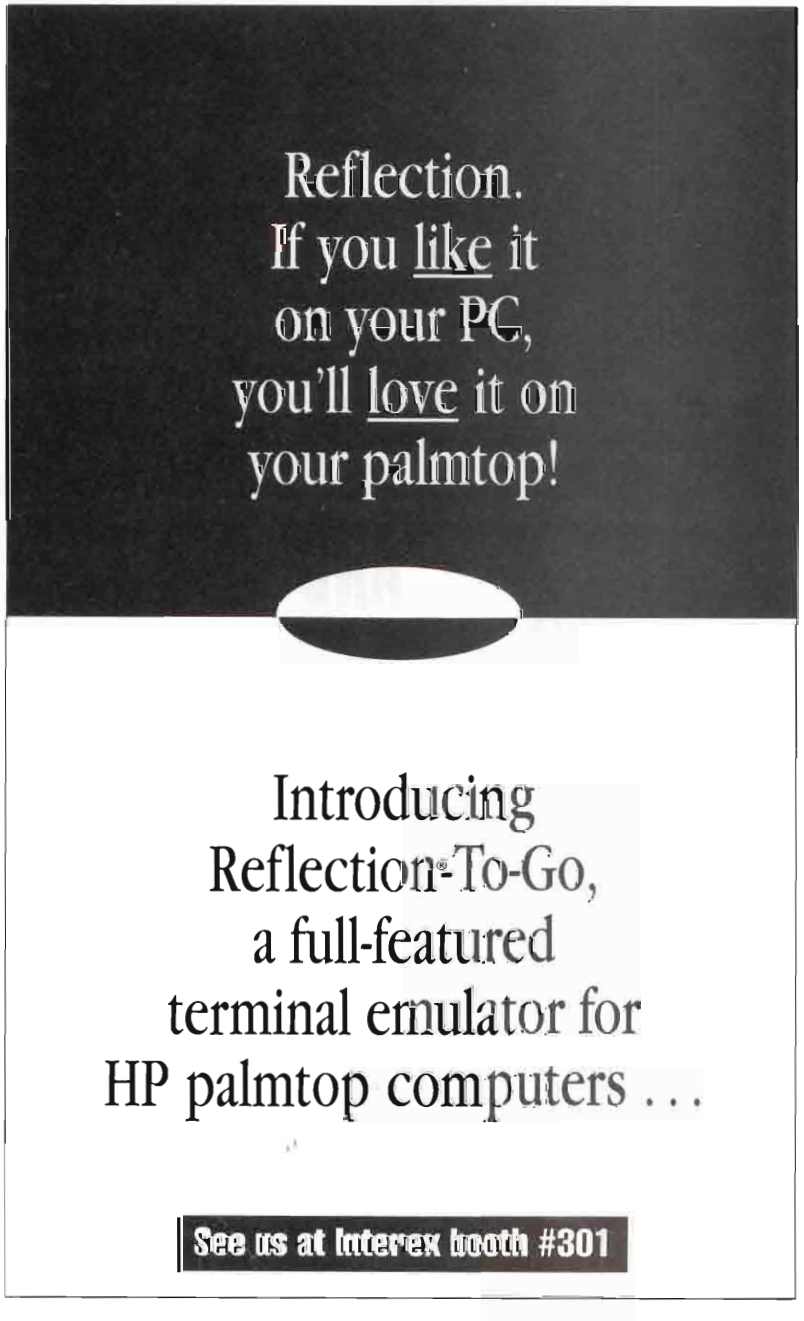
Hooking up the 5032S was so straightforward that even a died-in-the-wool hardware-phobe needn't break a sweat. This ease of installation is due to simplicity of design and clarity of the documentation. Because we had no other SCSI devices attached to our HP 9000/710 at the time, we didn't need to concern ourselves with daisy-chaining.

We ran HP-UX's system administrator utilities. Once into Kernel Configuration, we selected Change I/O configuration and Tape Drivers. From this latter menu, we selected "scsitape." This last step was necessary because the 5032S has an enhanced controller which allows it to emulate devices already identified to the kernel, and we had a SCSI tape drive noted there previously. We then generated a new kernel and rebooted.

Because the unit supports two recording modes — HP DDS and compressed formats — and because HP-UX requires these characteristics and also automatic rewind (or lack thereof) be specified for tape devices, two files relating to the 5032S must be placed in the directory path **/dev/rmt**. To accomplish this, we once again logged in to the root and then executed the following command:

```
/etc/mknod /dev/rmt/0d c 54 0x021342
```

Here, "0d" is the name we gave to the first of the special device files we were creating in **/dev/rmt**. The "c" in-



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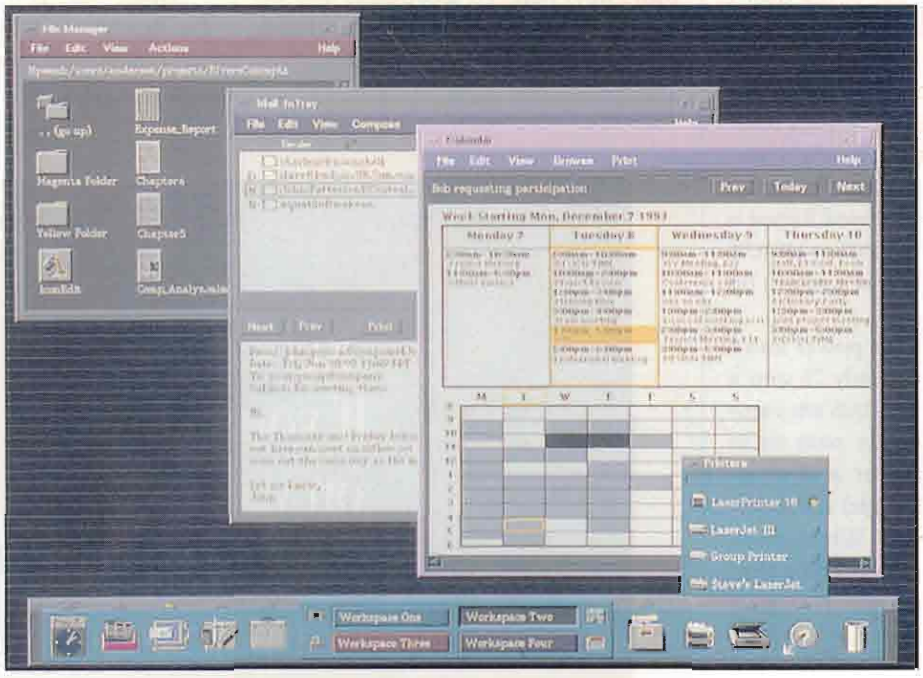

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dicates the file type, a character-special file. The "major number" is 54, by which HP-UX will refer to the file. And 0x... is the minor file number, whose primary purpose is to identify the SCSI address of the device, derived from the switch setting on the back of the 5032S, as well as the style of its closing and rewind, in the case of the command above, a Berkeley close with rewind.

Repeating this command created the second of the two files HP-UX expects for each tape drive it's asked to recognize. The only difference this time was that we allowed for a Berkeley close with no rewind. Total installation took about 25 minutes. What's more, the 5032S is readily portable. Just power it down, unhook the SCSI cable and you're ready to move it to its new host.

Now for the nitty gritty. On a single blank 4mm DAT tape, we backed up *the entire file system* of our 710 via a simple **tar** command. You read that right. All 488 MB went quickly and quietly (in about 49 seconds) on to that little cartridge about the size of a pocket calculator. And, those 488 MB came back off just as rapidly. And the table of contents we took of the tape needed only about 19 seconds to execute.

Technical support for the 5032S is excellent. Texas ISA's representatives were immediately responsive in helping us through the very few installation problems we encountered. And as noted, we breezed through our tests primarily because of the speed with which it does its job.

The importance of quick and timely backups cannot be overemphasized. We recall an instance several years ago in which we lost hundreds of lines of code when a complete backup wasn't run because of insufficient tape capacity. With performance like that of the 5032S, such backups can become a matter of course. If you have data you can't afford to lose, and who doesn't, take a long look at the Model 5032S DAT drive from Texas ISA.

Editor's Note:

The August issue of the HP Professional Lab Review article titled "Systems Ho!", did not include the Holland House address. It is:

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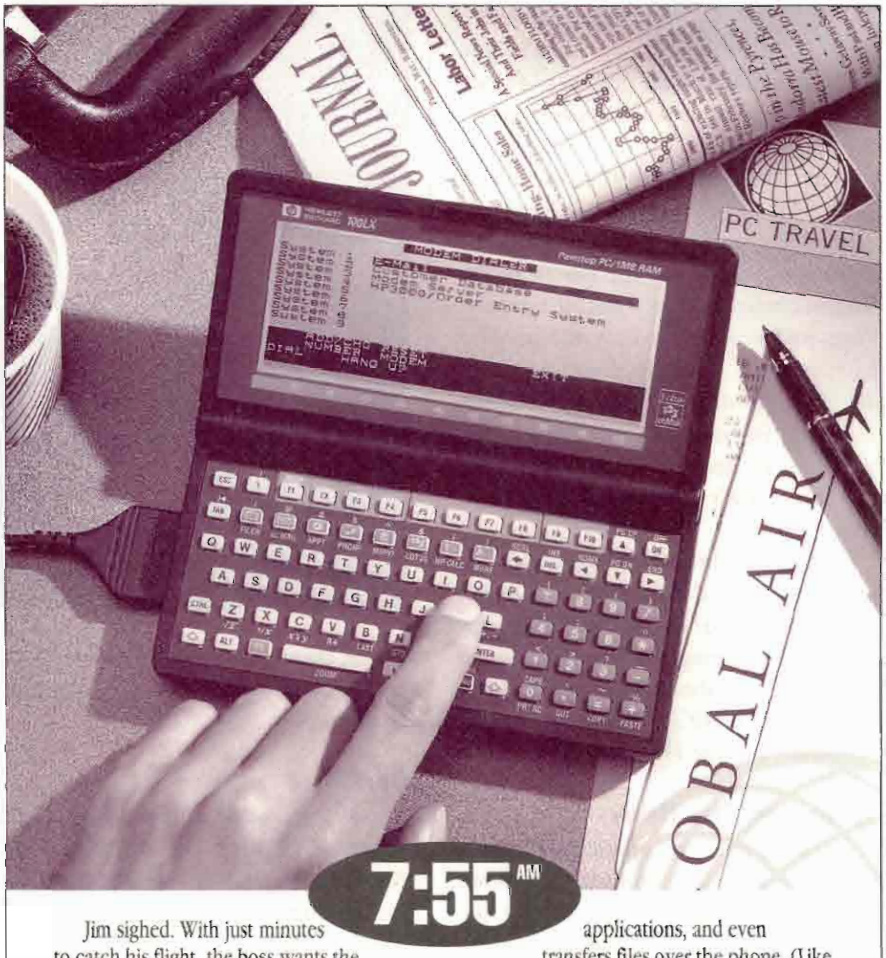

Jim sighed. With just minutes to catch his flight, the boss wants the memo he wrote yesterday! Good thing he has Reflection®-To-Go on his HP palmtop computer.

Reflection-To-Go is a full-featured Reflection terminal emulator, complete with modem dialer and command language, on a PCMCIA card. Thanks to Reflection-To-Go, Jim logs on to the HP 3000 right from the airport. Because Reflection-To-Go works with PCMCIA and external modems, as well as direct serial connections. Jim uses HP DeskManager, works on block-mode applications, and even transfers files over the phone. (Like a letter composed in Memo Editor.)

"Now boarding Flight 7..." Jim smiles to himself. The memo is on its way.

The moral? Make a note: if you have an HP 100LX or an HP 95LX, Reflection-To-Go helps you work smarter.

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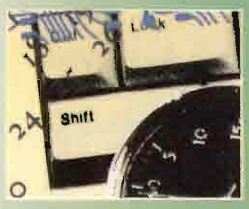


MANAGING YOUR HP 3000

John P. Burke

Good News And More Good News

A positive, upbeat column????

That's right. There HAVE been many positive developments for HP 3000 customers.

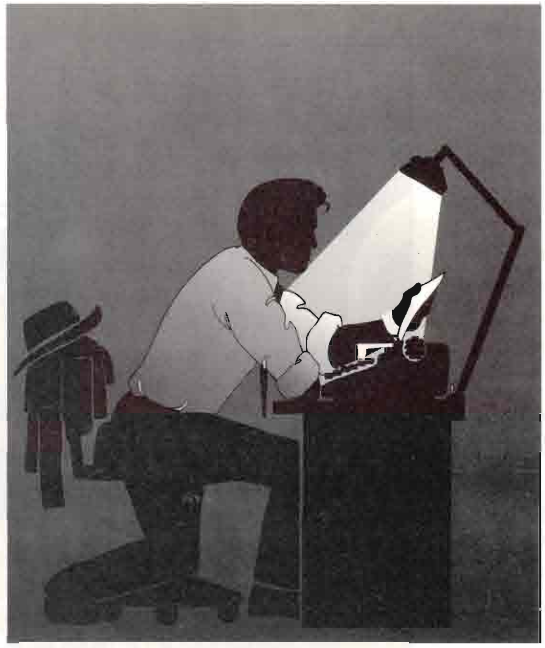
The INTEREX '93 Conference & Expo takes place this month in San Francisco. Early indications are that it will be a pleasant affair, with the rancor of the Boston conference but a distant memory. Poor communication with the installed base, coupled with the perceived abandonment of IMAGE in favor of ALLBASE and MPE in favor of UNIX, led to the brouhaha in Boston. It was a watershed moment in HP's relationship with its customers.

It is easy to throw barbs from the sidelines (a la Ross Perot). It usually makes good reading too. I've certainly taken my shots at HP during the past year; but it is time to talk about some positive developments in HP's relationship with its customers and the HP 3000.

Spreading The News

If you have access to a fax machine, you now have a wealth of information about HP, its products and services at your fingertips. How? With HP FIRST (Fax Information Retrieval Support Technology). Introduced with little fanfare, HP FIRST is available around-the-clock, anytime you feel a hunger for information. And it is free too!

The name is a little too cute, but check it out: (800) 333-1917. Start with one of the indexes; for example, the index to HP Computer Systems (#39991). It lists everything from a one-page Wim Roelandts response to a ComputerWorld article, through a 46-page HP 3000 Corporate Business Systems Configuration Guide.



Or TV

Another recent addition to HP's bag of information dissemination tools is the Audio Conference Seminar Series. From the comfort (or discomfort if you do not have a speaker phone) of your own office or conference room, you can join hundreds of people in an electronic seminar. Register several weeks in advance so that copies of the presentation slides can be mailed to you; then 10 minutes prior to the starting time, dial the conference service, give them your registration ID and you'll be connected.

The technology is two-way, with polling, and question and answer sessions. I haven't experienced any difficulty hearing the presenters or questioners.

HP also introduced a Video Teleconference Series, including a twice yearly conference on "The Strategic Direction of the HP 3000." Video is nice, but not necessary. Because the number of sites is limited, perhaps HP could create a combined Video/Audio Conference to get the widest possible participation for the November Strategic Directions seminar?

Watch your mail for information about the Audio and Video conferences. And participate! These conferences are more than video tea parties where no one takes a stand.

I've heard HP publically say more positive things about the HP 3000 over the last year than at any time in the past six to eight years — including favorable comparisons of the HP 3000 and MPE

```
SELECT HRS.Direct_Deposit.Entity_No,
       HRS.Direct_Deposit.Id, Name, Rate, Account_Type_1,
       Active_Flag_1, Bank_Tr_No_1, Bank_Acct_No_1,
       Tr_Calc_Type_1, Tr_Value_1 * 1.0 / 100.0, Tr_Desc_1
FROM   HRS.Direct_Deposit, HRS.Employee
WHERE
((HRS.Direct_Deposit.Entity_No=HRS.Employee.Entity_No)
       AND
        (Active_Flag_1='Y '))
ORDER BY 3 ASC
```

SQL statements generated by HP's NewWave Access.

over the HP 9000 and UNIX. Of course, we knew it all along. But HP-iX?

You Ain't Heard Nothing Yet

Legacy systems. The term has been perverted into something nasty, something to be rid of at the earliest opportunity. The reality is that there are many older systems plugging away every day without any problems. Maybe they could use a cosmetic makeover with a GUI front-end, or perhaps a better way for access and analysis. But, on the whole, they are doing the job they were intended to do and doing it efficiently. It would be foolish and a huge waste of money and resources to start from scratch, unless that were the only alternative. Which gives me the perfect segue to IMAGE/SQL.

A legacy system on the HP 3000 is almost guaranteed to make use of TurboIMAGE. Extensive use. Until recently, the owner of one of these legacy systems had relatively few options for modernizing, short of rewriting the entire application using a GUI and an RDBMS. Ugh.

Consider *Figure 1*. Wait! Don't toss this aside! This will not be an ode to the everlasting beauty and brilliance of SQL! Think of SQL as just another tool.

I am an old TurboIMAGE warhorse. I grew up professionally on IMAGE. I know how to design IMAGE-based OLTP systems that are screamers. And I've got many TurboIMAGE-based systems running today. Some will probably still be running five years from now. But they won't look the same, or be used the same, because the users (the true owners) will demand more.

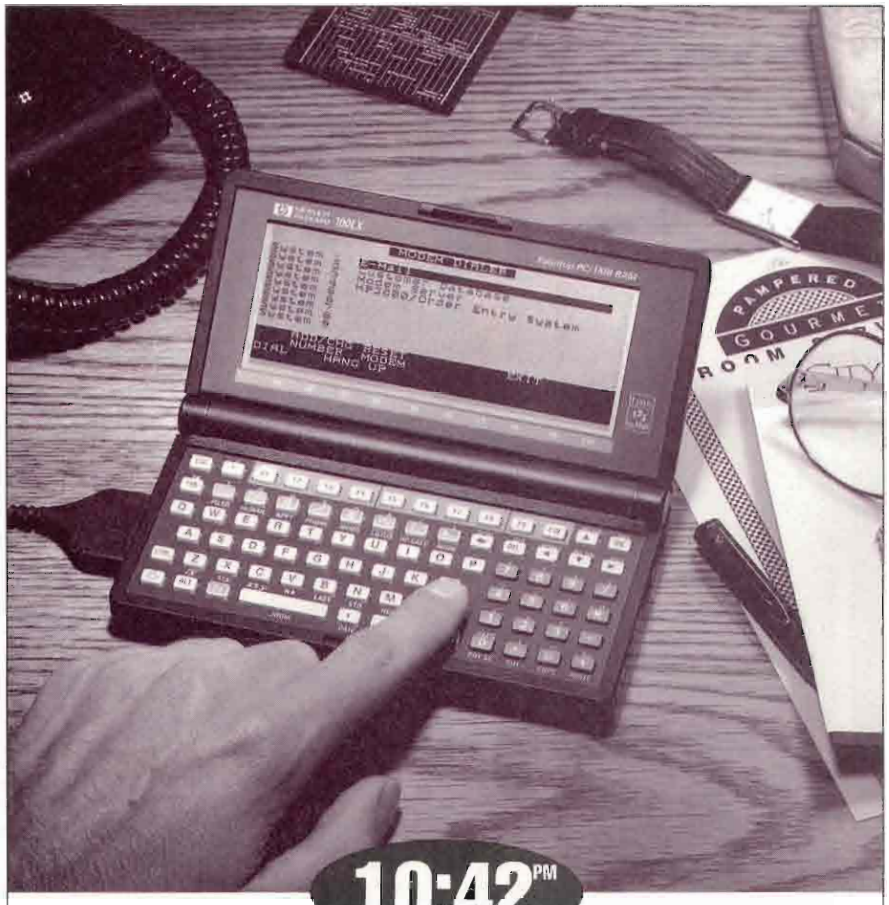
Anyway, back to *Figure 1*.

This little bit of SQL esoterica was generated by HP's NewWave Access, one of a variety of relatively inexpensive, shrink-wrapped, PC-based Decision Support tools for RDBMSs. As with so many neat tools these days, NewWave Access operates under the Microsoft Windows environment — in this case, on my PC at home.

I didn't have to know any SQL; all I needed were basic rodent skills. NewWave Access knew all about my database and even knew how to access and combine data from different sections of my database. The only reason for displaying the generated SQL was intellectual curiosity.

Big deal, right? You've seen or heard of people using tools like this on PC databases, perhaps even on databases on a PC LAN server.

OK, but how about this — the database I was using, "connected to" in SQL jargon, was not on a PC, or PC server, but



What a day! A long flight, a big sale, and his hotel bed is waiting—but first, Jim checks HP DeskManager.

Thanks to Reflection®-To-Go on his HP palmtop computer, Jim reads his e-mail from the comfort of his hotel room. Or transfers files, or works on block-mode applications. Reflection-To-Go is a full-featured terminal emulator, completely integrated on a PCMCIA card that just pops into the palmtop—you never need to download from a PC!

So . . . the meeting is set for noon and the office needs a reply by morning. A quick hot-key to the Appointment Book confirms his schedule. No conflicts. He hot-keys back to HP Desk. He'll answer now. After all, he has plans for tomorrow morning—he'll be sound asleep.

The moral? Rest easy: if you have an HP 100LX or an HP 95LX, Reflection-To-Go helps you work smarter.

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on an HP 3000 at the other end of a dial-up line. And, it was not ALLBASE or ORACLE. The database I was accessing from my PC using NewWave Access running under Microsoft Windows 3.1 was a production Payroll/HRS TurboIMAGE database with 17 datasets (only one an automatic master) and over 200 data items, many of them compound. In addition to using NewWave Access on my PC to report data, I used ISQL (which comes with IMAGE/SQL) on the HP 3000 to interactively report, add and update my IMAGE database.

```
:IMAGESQL

HP36385B B.F0.20 .........

>>SET TURBODB HRS
>>SET SQLDBE HRSDBE
DBE does not exist, do you want to
create one? [Y/N] : Y
Creating DBE now ...
>>ATTACH
Split 19 compound source field(s)
(ATCWARN 32063).
Mapped 231 source table/source field
name(s) (ATCWARN 32062).
Mapped 18 incompatible/imprecise
source type(s) (ATCWARN 32061).
>>EXIT
```

A few simple commands prepares the Payroll HRS TurboIMAGE database for access.

To prepare the database for SQL access, all I had to do was issue a few simple commands (see *Figure 2*).

Of course, in real life, there is still a lot of work to do. Security and possible translation incompatibilities come to mind. But these are not hard. You have to get used to terminating ISQL commands with a ";" and that hyphens in your IMAGE names get converted to underscores when using the SQL personality. But you can handle it.

Thanks to the cooperative efforts of SIGIMAGE, INTEREX and HP, IMAGE/SQL is available to all customers on support agreement in return for a reasonable increase in support fees.

If you don't take advantage of IMAGE/SQL, then you are missing out on the single most important software development to come out of HP since the original development of IMAGE and MPE. It's your chance to be a hero in your organization and advance your career without trashing everything you've worked on over the last 15 years.

How's that for being positive about Hewlett-Packard and the HP 3000?

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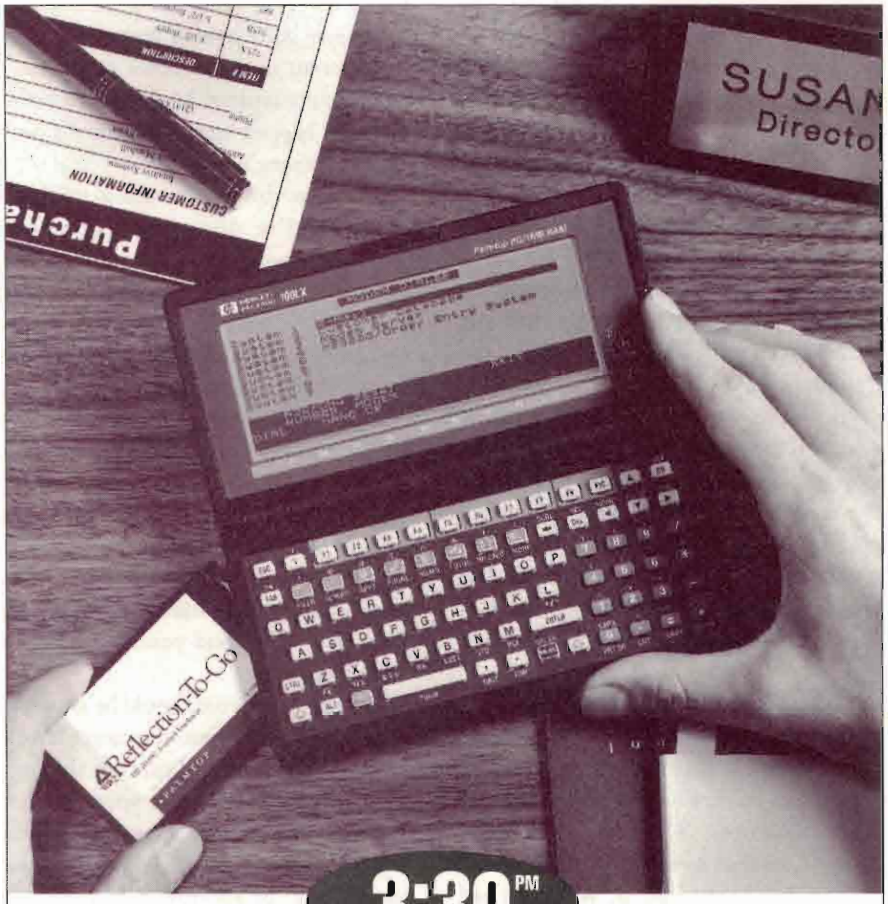

Jim felt his stomach tense. Two months' work is riding on this sale, and finally he is in the client's office. Then the client asks, "How soon can you deliver?"

Success! Thanks to Reflection®-To-Go on his HP palmtop computer, Jim has the answer—straight from the HP 3000. "The order will ship tomorrow."

Reflection-To-Go lets Jim dial in to the HP 3000 anytime. Even when it's 3:30 p.m. on the West Coast, and the East Coast office is closed. Reflection-To-Go is a complete Reflection terminal emulator that uses state-of-the-art PCMCIA technology. It fits on a credit-card sized card. Now, Jim works on block-mode applications, checks HP Desk messages, or transfers files from almost any phone—without packing any extra baggage.

The moral? Stay in touch: if you have an HP 100LX or an HP 95LX, Reflection-To-Go helps you work smarter.

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CIRCLE 262 ON READER CARD

UNIX

Miles B. Kehoe

Using Good Passwords Helps Safeguard Your System Against Unauthorized Entry

And The Password Is . . .

As we all know — or should know — UNIX is not one of the most secure operating systems. Improvements over conventional UNIX were made in HP's implementation of HP-UX, but each user and system administrator still needs to do everything possible to improve system security. With the proliferation of networked systems, security issues become even more important.

If you're a system manager, part of your job description should include educating users on how they can help insure the security of your system. If you are a user on a system that allows dial-in access by phone, or a system connected to the Internet, you need to be aware of ways to protect your information.

The First Line of Defense

As a user, one of the most important things you can do to make your entire system less vulnerable is to create and use good passwords. What is a good password? One that is easy to remember and type in, but hard to guess. What is a bad password? One which someone might guess based on information about you, an English or foreign word that is found in a dictionary, or a simple pattern of letters on the keyboard.

If you are new to computing, or if you are a trusting soul, you might feel your computer is safe. After all, if your computer is mostly used for E-mail or as a file server, you may not think that any- one would benefit from the information they might find. Well, even if your system only contains backup copies of last year's annual report, which is public information, there are people who would love to get into your system, 'because it's there.' And those are the least dangerous of the hackers. Others might use your system as a starting point to get into other systems within your company, or to dial into other corporate or government systems. It's happened before, and will happen again. In fact, it's probably happening right now.

So how do you create a safe password? As I've suggested, a good password will not be a common word, or even a common word with a leading or trailing digit. Instead, use a password that combines upper and lower case letters, punctuation and numbers.

In addition, a good password won't be about you. A hard-core hacker, might check a user profile to learn about you, or even work behind your back to learn what you do on your days off. Avid sports fans should never use passwords like "tennis.bum" or "par$four" even though they do fit the good password profile in other respects.

Finally, a password should be so easy for you to remember that you never have to write it down. If you insist on writing it down, don't keep it near your computer terminal, or encode it by writing it within a group of words. Never write it near your login name, or advertise it is a password — don't, for example, keep a note in your secretary's desk that says "John's password: smelly%fish."

Changing your Password

It's so easy to change your password on HP-UX that there is no reason not to do so regularly. From any terminal session, simply type:

```
passwd
```

HP-UX prompts you for your existing password, so no one can change your password while you're away from your desk. Then it prompts you for a new password, which will not be displayed on the screen. To confirm your password, HP-UX will ask you to enter it again. At some sites, the system will not accept short passwords or easy-to-guess combinations.

Even with the confirmation, it's a good idea to test your new password before you log out, just in case you goofed. This is especially true if you are changing the root password! While you are still logged in, go to another terminal and try to log in as yourself with your new password. That way, if you have made a mistake, you are still logged in, and you can try to figure out what went wrong — it might be as easy as having the Caps Lock key on.

If your HP-UX system is part of a network with Sun Microsystems computers using NIS, you may need to use the command "yppasswd" to change your password rather than "passwd."

Having More than One?

If you use a number of systems at different locations, you probably shouldn't use the same password on every system. I know, it can be a pain to remember all those passwords, but if the security of any system you use is compromised, then all of the systems may be compromised.

To solve the dilemma of many passwords, you might try using a common root password with a prefix or suffix for each specific system. For example, if you use systems named Calvin and Hobbes, append a "c" to your password for Calvin and prepend an "h" for Hobbes. These may not be completely foolproof, but it will keep out the casual hacker.

Remember that your password is a key allowing authorized people into your system. But in the wrong hands it lets unauthorized people browse through your files. So, do all you can to keep your electronic key safe and secure.

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NETWORKING

Tim Cahoon

What's Happening?

With all the information we get bombarded with everyday, it's hard to keep a focus on how things are really shaking out. Let's look back and ahead at what could and should be influencing our lives in computing America.

HP OpenView is not a new product but it sure got a lot of attention this year. 1993 has seen almost every network software vendor port their product to other platforms. Companies such as Cisco, Synoptics and Racal Vadic have moved their products to HP OpenView this year. HP OpenView provides a common platform for multiple network applications to coexist and share information.

Even diehard Sun supporters are making the switch to HP OpenView running either on HP-UX- or SunOS-based workstations. It seems that Sun hasn't kept up the pace in network offerings. This causes even the most ardent Sun supporters to lose heart.

It isn't just the UNIX network vendors that are going to HP OpenView. Peregrine Systems has their OpenSNA software running under HP OpenView. This allows you to monitor and control an IBM SNA network just like your LANs. Other vendors have software to monitor DEC networks as well.

Intel Corp. and HP announced an agreement this spring to integrate Intel's LANDesk Manager software with HP OpenView for Windows. The product will be called LANDesk/OpenView for Windows and should be available by the time you read this article. What HP OpenView on UNIX is to the Enterprise network, HP OpenView for Windows is for the workgroup.

Intel's LANDesk Manager software integrates essential LAN administration functions under a single Windows application. It includes remote desktop management, traffic and application monitoring, virus protection and inventory management, as well as supporting Novell 3.x networks. Both HP and Intel intend for their products to support the Desktop Management Task Force (DMTF) Desktop Management Interface (DMI) when available.

The battle still rages in the Internet Engineering Task Force (IETF) between 100BaseVG and Fast Ethernet. For now the consensus seems to be that there will be room for both, and 100BaseVG will have its own standard.

Datability Inc., HP and the Wollongong Group jointly announced an extension to Telnet called Telnet/OLTP earlier this year. This extension is a solution that enables computer systems to support more users in a large commercial online transaction-processing (OLTP) environments. Where normal Telnet sends each character to the CPU as it is typed, Telnet/OLTP allows terminal servers to group characters from many users into larger packets that are sent to the CPU. This in turn reduces network traffic and CPU usage. This extension is transparent to both users and applications so current applications can realize its benefits immediately. Tests have showed an average of 50 percent CPU reduction in the Telnet process and up to a 90 percent reduction of network traffic.

HP is integrating this new feature into their communication servers and in their Series 800 business UNIX servers. Datability will also be integrating this new feature into their line of communication and terminal servers. Because Datability markets to other companies you can expect to see Telnet/OLTP appearing in equipment from numerous vendors. However, since the product announcement, Datability was bought by a larger company. Also, the Wollongong Group will be incorporating Telnet/OLTP in to their DEC VAX product line this year. While Telnet/OLTP is aimed at terminal server to CPU communications, a spokesman for Wollongong stated they will be investigating other ways of using this new technology.

Spry is working hard to bring their Air For Windows terminal emulation product to the HP community. Today it is strictly a PC to UNIX product. Spry is looking to have an HP 3000 emulation product out in the third quarter of 1993.

NetWorth Inc. is a company that designs and manufactures a range of intelligent hubs. Its claim to fame is a complete line of products designed specifically for the Novell Netware environment. The Series 4000 hub can use their NetWorth Netware Application Engine to integrate communications-related applications within the hub itself as Netware Loadable Modules (NLMs).

If you have IBM mainframes, Open Connect Systems Inc. is unique in providing TCP/IP to SNA connectivity as a

LAN-based resource. They have a gateway that sits on your LAN and provides bi-directional communications between your SNA and TCP/IP hosts. Most IBM connectivity solutions only connect one IBM host to your network. Open Connect Systems has a winner in that their gateway is a true network resource.

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CONTROLLED POWER

Since the dawn of the age of automation, its been a battle for control. Users need data as quickly and as often as possible, no matter what the system cost. IS managers, however, charged with the task of protecting and safeguarding the sacred database need to control the flow of information from the host, thus securing the system and ensuring reasonable response times. But, perhaps the war has finally ended.

The HP Windows Client combines PC network flexibility with host-centric stability.

HP's new Windows Client combines the LAN connectivity and PC power with the centralized control of a terminal-based environment for HP 3000 and HP 9000 systems, as well as DEC VAX, and IBM RS/6000 and AS/400. The base unit, priced at $895, consists of a 486 diskless client, and accepts several monitors from monochrome to Ultra VGA. HP's Windows Client provides a Windows-based multisession terminal, with network access to host-based and PC applications.

"The Windows Client is the first-of-its-kind solution for the desktop," says Gregg Huber, marketing manager for HP's Windows Client. Midway between a text terminal and a network PC in size and cost, Huber says, "The Windows Client aims at the high transaction oriented jobs, such as health care, government and financial environments."

The basic unit comes bundled with Microsoft DOS 6.0, Windows 3.1, and Walker Richer & Quinn's (WRQ) Reflection Series terminal emulation and networking software. The WRQ emulation packages allow for HP Block Mode and DEC VT terminal emulation, as well as 3270, 5250 and X Window Systems.

The Windows Client's diskless integrated single-board design delivers a compact footprint. Huber says, "Because the operating systems and application software is downloaded directly from the network server, system managers can easily control user access to stored applications." Huber sees the Windows Client as an alternative to text terminals in new systems or and as an upgrade to existing terminals and PCs. In addition HP offers a server kit ($495) to support local sites with an unlimited number of Windows Clients.

Ronald Cooke, senior industry analyst at Dataquest Graphics and Displays Service says, "Dataquest believes that many users are now sophisticated enough to realize that data integrity and system security, network discipline and cost of ownership are important criteria in the selection of display stations for the desktop." Cooke maintains that the diskless display station's "useful software" distinguishes it from older diskless PCs. "These stations give users the ability to execute familiar PC-based horizontal applications, . . . as well as the opportunity to develop custom vertical applications."

Cooke summarizes, "The user maintains the discipline of computer systems management, has reasonable control over data integrity and avoids the security risks of laissez-faire system access."

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*Pro*_EDI runs on HP 3000 computers, PCs, and UNIX systems (ATT SVR3, SVR4).

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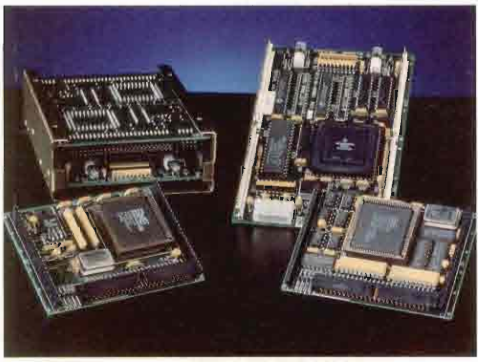
NP

NEW PRODUCTS

SCSI Expander Increases System Storage

ATTO Technology Inc. introduced SCSI Expander, which allows integrators to increase the number of devices that can be attached to a single SCSI bus.

With the SCSI Expander, up to 49 devices can be supported from a single SCSI host adapter. This added expansion is attributed to the SCSI Expander's ability to translate SCSI Logical Unit Numbers into additional SCSI bus IDs.



ATTO Technology's SCSI Expander.

SCSI Expander is the solution for environments that require vast amounts of storage at peak performance levels. Systems for imaging, database servers, network fileservers, CD-ROM libraries, digital video and disk arrays now can support hundreds of gigabytes of online storage attached to a single SCSI host adapter.

Contact ATTO Technology Inc., 1576 Sweet Home Rd., Amherst, N.Y. 14228; (716) 688-4259.

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Camintonn/Z-RAM Offers Warranty Rescue Program

Camintonn/Z-RAM announced its new Warranty Rescue Program. This program offers owners of Clearpoint memory an alternative should their memory products fail.

Camintonn/Z-RAM will repair or replace a Clearpoint product with a comparable Camintonn memory product for a nominal fee. With the Camintonn Warranty Rescue Program there aren't any up-front costs or annual fees.

Contact Camintonn/Z-RAM, 22 Morgan, Irvine, Calif. 92718-2022; (714) 454-1500.

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Kelly Computer Releases Advanced HP 9000 Utility

Kelly Computer Systems released Ramdisc utility software for HP 9000 Series 300, 400, 700 and 800 systems.

This advanced tool enables HP-UX systems users to speed up access to frequently used files by up to 1,000 percent. It allows users to access data at RAM speeds versus hard disk speeds.

Ramdisc provides an advanced method of improving disk response times on HP-UX systems by using portions of main memory as solid-state disk drives. Ramdisc is a disk drive consisting of solid-state semiconductor DRAM devices and performs I/O at the highest rate physically possible. Reads and writes are instant. An I/O takes less than one microsecond rather than 30 milliseconds.

Contact Kelly Computer Systems, 139 N. Whisman Rd., Mountain View, Calif. 94043; (415) 960-1010.

Circle 394 on reader card

ASK Doubles MANMAN/X Open Options

The ASK Group introduced MANMAN/X Release 2, doubling the number of platforms supported and providing customers maximum choice. The new release extends support to the Oracle database and the MPE/iX, Open VMS and DEC OSF/1 operating system.

ASK also announced MANMAN/X Tools, a suite of development tools that enable easy customization of the application to suit a customer's individual business needs. MANMAN/X Tools are open to interoperate with other tools, such as INGRES/Windows4GL, so that customers can integrate and develop applications complementary to MANMAN/X.

Pricing is user-based and starts at $25,000 for an eight-user system. For a 128-user system, MANMAN/X is typically priced at $250,000 to $300,000.

Contact ASK Computer Systems, 2440 W. El Camino Real, P.O. Box 7840, Mountain View, Calif. 94039-7640; (415) 335-5527.

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Prism Solutions Supports HP Open Warehouse Program

Prism Solutions announced it will support HP's Open Warehouse program. Under this program, Prism and HP will jointly market their products and services to customers, combining resources to create a complete software and hardware solution for building a data warehouse.

Prism Warehouse Manager software automates the transformation of data from legacy systems and operational applications to a data warehouse or informational database. It automatically extracts and integrates data, generates code, creates and manages meta data, and builds a subject-oriented, historical base of meaningful information for decision support.

Warehouse Manager supports UNIX-based data warehouse development using Sybase, Oracle or Red Brick database management systems on the HP 9000 Business Servers.

Contact Prism Solutions, 440 Oakmead Pkwy., Sunnyvale, Calif. 94086; (408) 481-0240.

Circle 391 on reader card

PROGRESS Ported To HP 3000s

HP and Progress Software Corp. announced a joint marketing and development agreement to port the PROGRESS application development environment to the PA-RISC-based HP 3000 family of systems.

The port will enable HP 3000 users to run PROGRESS-based applications unchanged on

“I have been using the manual for practical applications as necessary, and have found it to be very helpful. The notes are very explanatory and easy to understand.”

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top of HP ALLBASE/SQL, HP's relational database management system.

HP 3000 users will have access to thousands of applications from Progress Software's base of more than 2,000 Software Partners. HP 3000 users will maintain their investment in existing hardware and data, while they take advantage of a wealth of new packaged applications and the PROGRESS development environment.

Contact Progress Software Corp., 14 Oak Park, Bedford, Mass. 01730; (617) 280-4000.

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Oregon Digital Ships Vectra ES, QS Upgrades

Oregon Digital announced the RT Series of 386- and 486-based upgrades designed specifically for the HP Vectra ES and QS family of PCs. The upgrades also work in HP Vectra 286/12 PCs with some additional items required.

The RT Series upgrades provide a cost-effective way to bring older Vectras back on line with today's software packages. RT-386DX-40, RT-486DX-33 and RT-486DX-50 upgrades are user-installable motherboards designed specifically for the older HP Vectra Chassis. Keyboard connectors, power connections and the shape of the upgrade board are identical to the Vectra motherboard being replaced.

Contact Oregon Digital Computer Products Inc., 885 NW Grant Ave., Corvallis, Ore. 97330; (800) 854-5678.

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MiniSoft's MAC92 Supports Telnet

MAC92, the Macintosh version of the MiniSoft 92 terminal emulator, now supports LAN connections to an HP host via Telnet protocols. The Telnet connection marks the debut of LAN connectivity for MiniSoft's Macintosh product.

MAC92 joins the MiniSoft 92 terminal emulation series on Windows and DOS platforms, which include networking capabilities built into the standard package. Users need purchase nothing extra to make a connection via MiniSoft 92 on their LAN.

Contact MiniSoft Inc., 13617 State Highway 9, Snohomish, Wash. 98290-9000; (800) 682-0200.

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ParaSoft Announces Insight For TQS

ParaSoft announced Insight, a software tool for the development and maintenance of Total Quality Software (TQS). TQS is the process of developing, delivering and maintaining software products with fewer bugs, better performance and quicker response to customer needs.

Insight finds errors automatically, instantly and effortlessly whenever the program is

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Our newest feature, standard on many of our models, allows conversion from HP-IB to SCSI interface with the simple push of a button. Migration to the latest SCSI-based computer systems is easy and economical. Bering's unique built-in dual interface switch allows the same drive to integrate with either interface.

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High Performance, High Capacity 2GB DDS Tape Cartridge Backup Subsystem. Fast, efficient and cost effective. HP DDS compatible. SCSI and/or HP-IB interface.

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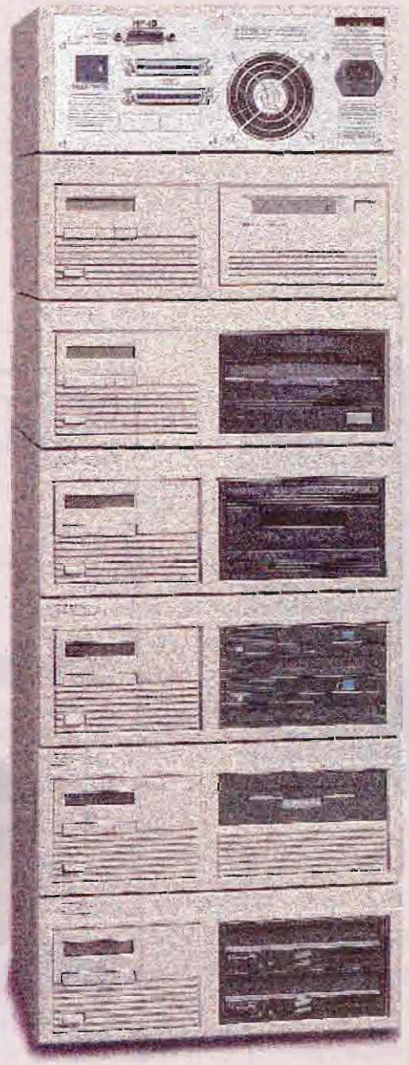
Winchester Technology

ECONOPAC II Series

High performance 80MB to 1.7GB fixed hard drives for basic storage needs. HP-IB and/or SCSI interface. HP-IB drives are available with 2.0MB FDD. Designed and tested to replace the discontinued HP9153C hard disk and floppy disk drives.



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HP 9000, 1000 and 3000 computer users – the storage options are stacked in your favor.

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CIRCLE 105 ON READER CARD

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executed. It identifies programming errors, memory reference errors and algorithmic errors. Insight pinpoints errors in UNIX system calls, C libraries, third-party libraries and I/O statements. It verifies calling sequences and format specifiers for consistency and correctness.

Insight is compatible with third-party debuggers and compilers and is non-intrusive, creating no additional files in other directories. It operates automatically on distributed system applications. It runs on popular workstations, including HP, Sun, DEC, IBM and SGI. Insight is priced at $995.

Contact ParaSoft Corp., 2500 E. Foothill Blvd., Ste. 205, Pasadena, Calif. 91107; (818) 792-9941.

Circle 387 on reader card

Cognos Debuts Impromptu 2.0

Cognos announced Impromptu 2.0, a new release of its desktop SQL data access and reporting tool.

A typical query/report screen using Cognos' Impromptu 2.0.

Impromptu 2.0 users can work directly on query results to build presentation-quality reports. The new product also features more powerful query functions; advanced security and performance capabilities; ODBC support for access to a broad assortment of mainframe, mini- and microcomputer data sources including DB2; and new native support for dBase and Paradox in addition to Sybase, Oracle and MS SQL Server.

For $395, Cognos offers an Enterprise Edition of Impromptu for end users. The Enterprise Edition makes low cost rollouts to large numbers of users possible. For IS, an Administrator Edition is available for $595. the Administrator Edition enables IS to create catalogs, limit costly query activity and add security.

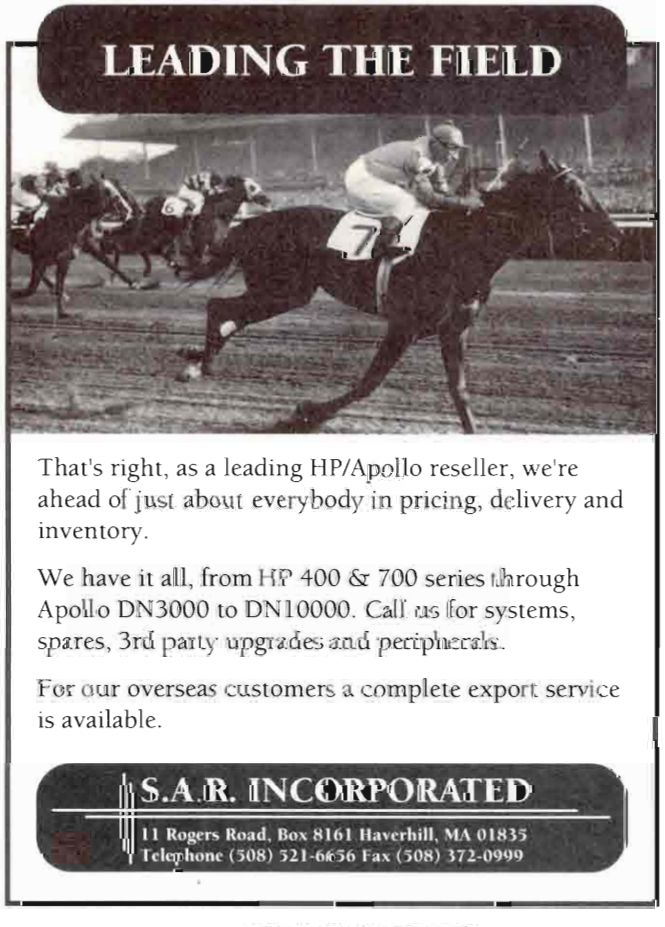
Contact Cognos, 67 S. Bedford St., Burlington, Mass. 01803; (617) 229-6600.

Circle 393 on reader card

WLZ-320 Ether Board Runs With HPL+II

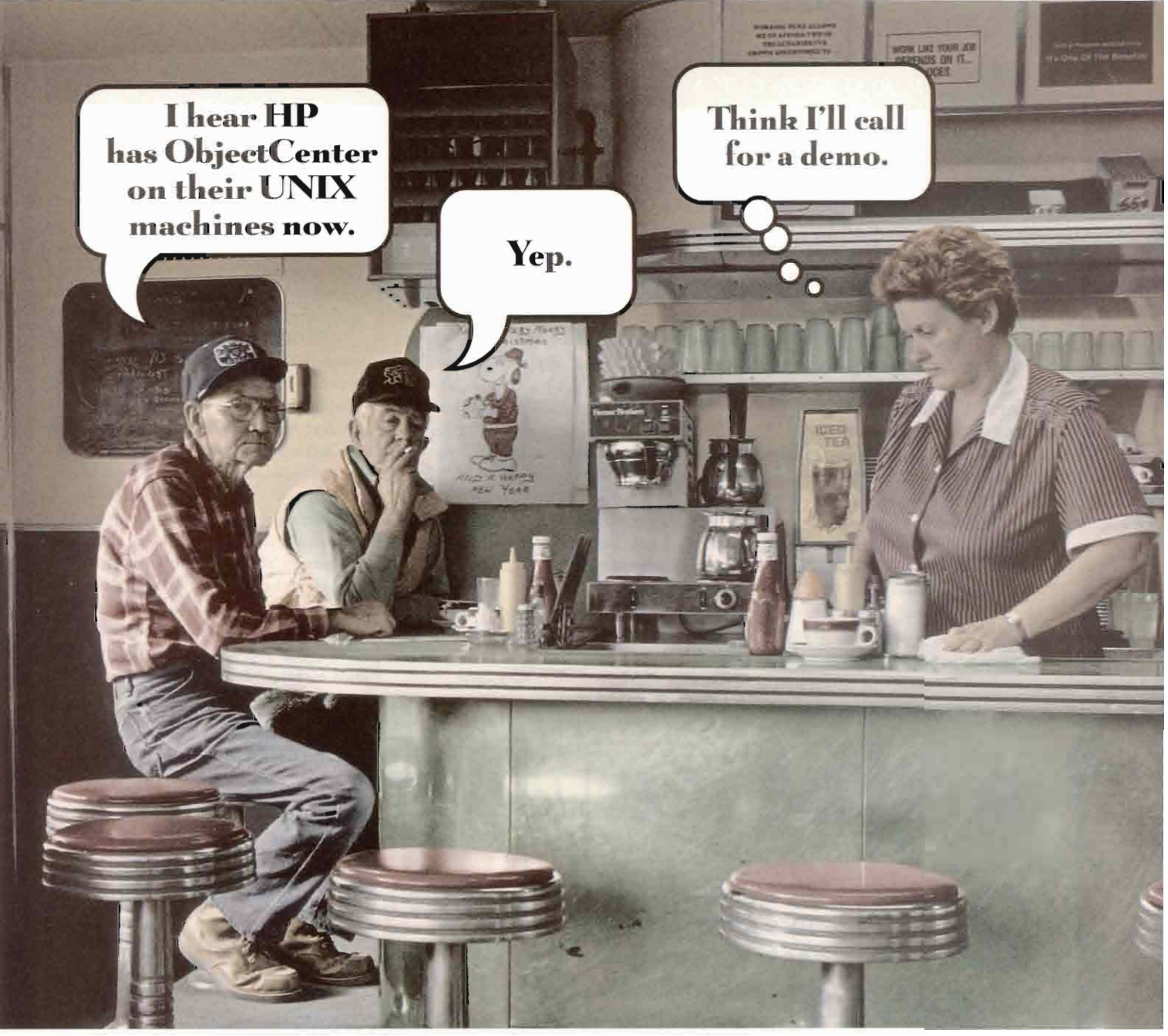
Eventide Inc. announced that its WLZ-320 Ether Board Network Interface is fully compatible with Structured Software Systems' HPL+II operating system. HPL+II runs on all HP Series 200 and 300 machines (except model 237) and supports HP's SRM and SRM-UX networking systems.

With SRM-UX, the file server is a standard UNIX (HP-UX) machine, and data files can be exchanged with UNIX programs.



CIRCLE 131 ON READER CARD

CIRCLE 297 ON READER CARD



News travels fast. Hewlett-Packard UNIX workstations now run ObjectCenter™ for C++.

So developers who want to program on HP's hottest boxes, like Hewlett-Packard Series 700 workstations, can do it in an environment that lets them work the way they're used to. Intuitively. Creatively. Because ObjectCenter on HP helps you develop code interactively. Write some code, test it, and change it—all without breaking stride.

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Plus, the ObjectCenter/HP combination makes object-oriented programming a reality. For example, say you want to explore how a C++ class works. With ObjectCenter, you can create an instance in the interactive work space and simply try it out. So you don't waste time writing test driver code. No other C++ toolset supports this kind of interactive unit development. And with HP's reputation for performance, you know you'll have all the workstation power you need.

We'll prove it. Just call 1-800-NOW-CNTR. And we'll send an evaluation copy of ObjectCenter on HP (it's free to qualified developers). Or arrange a demo of CenterLine Software on HP hardware. So you can sit a spell, and try both yourself.

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The WLZ-320 Ether Board gives any HP Series 200/300 workstation full Ethernet access. With the Ether Board, these computers can function on an Ethernet LAN with a UNIX server. Ether Board networks do not require an additional SRM card in the server as HP's SRM card networks do.
Contact Eventide Inc., One Alsan Way, Little Ferry, N.J. 07643; (201) 641-1200.

Circle 381 on reader card

ICC Offers HP 9000/700 Ada Language Development

Irvine Compiler Corp. (ICC) announced the availability of a complete Ada language development environment for the HP 9000/700 series of engineering workstations.

ICC Ada/HP 9000/700 is specifically written to shorten Ada software development time by taking advantage of the high-performance features of the HP 9000/700 workstations and providing seamless integration to a wide variety of third-party software tools.

Additionally, through its support of the HP-UX and the HP-UX 8.09 B-Level Security (BLS) Operating Systems, ICC Ada/HP 9000/700 enhances overall system security through improved accountability and system access control.

ICC Ada/HP 9000/700 Ada development environment includes automated program compilation tools, library management utilities and programming support tools. The combination of ICC's advanced Ada with the HP 9000/700 workstation provides Ada developers with a set of tightly integrated development tools in a consistent, easy-to-use development environment. As an Ada development tool, ICC Ada/HP 9000/700 provides the Ada programmer a seamless path through the software development edit-compile-debug cycle.

Price is $7,500.
Contact Irvine Compiler Corp., 34 Executive Park, Ste. 270, Irvine, Calif. 92714; (714) 250-1366.

Circle 385 on reader card

Needs Assessment Improves Selection Of ODBMS

Barry & Associates announced the first release of its DBMS Needs Assessment for Objects. The Needs Assessment significantly improves the selection of an object database management system (ODBMS) that best meets application feature needs.

The ODBMS market has grown to include more than a dozen vendors. Each vendor provides a somewhat different set of features beyond a basic object model and every product has its feature strengths. Successful product selection will match feature strengths to application needs.

Beyond the choice of vendors, the complexity of their products has increased to include a myriad mix of features. The Needs Assessment allows an informed selection by providing data on over 650 possible features. Features are collected into more than 160 tables. Major categories of tables include transaction properties, concurrency control and locking, data independence, security

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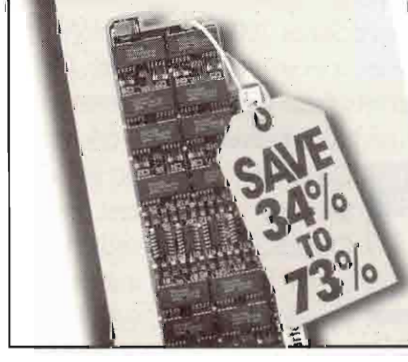
How to save big on memory for HP/Apollo.



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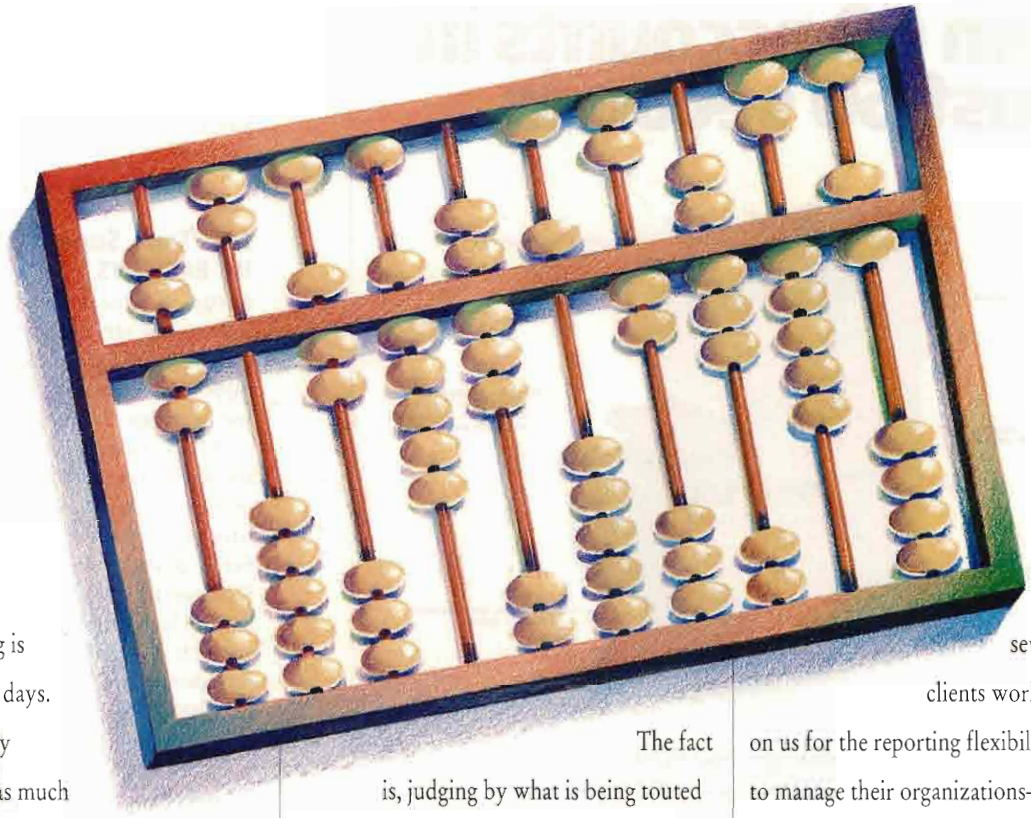
CIRCLE 220 ON READER CARD

You Might Be Surprised By What Some Financial Software Vendors Mean By Flexible Reporting.



It seems flexible reporting is all the rage these days.

Which really shouldn't come as much of a surprise. After all, one of the fundamental reasons for investing in business software is to get your hands on the information you need to better manage your business.

However, ask most software vendors to show you what they mean by flexible reporting, and *you could be in for quite a surprise.*

The fact is, judging by what is being touted as flexible reporting, there seems to be quite a difference of opinion regarding just what you should expect.

At Mitchell Humphrey & Co., the basic tenet of our financial management software has always been to deliver the information you need—when you need it. And this is something that won't come as a surprise to our customers.

You see, several hundred clients worldwide count on us for the reporting flexibility they need to manage their organizations—whether that means restating financial results to include a new acquisition; providing alternate views of complex financial data for ad hoc analysis; or dealing with the financial implications of a reorganization.

So if your current business systems' idea of flexible reporting is beginning to look dated, give us a call at 800-237-0028.

See us at INTEREX Booth #509 & 511

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Mitchell Humphrey & Co. provides software exclusively for Hewlett-Packard mini-computers. © 1993 Mitchell Humphrey & Co.

CIRCLE 154 ON READER CARD

authorization, query capability, object model and more.

The introductory price is $1,195.

Contact Barry & Associates, 13504 Clinton Pl., Burnsville, Minn. 55337; (612) 953-8178.

Circle 382 on reader card

Refection-To-Go Travels With HP Palmtop

Walker Richer & Quinn announced that Reflection-To-Go, a customized version of the connectivity software that is the standard package for desktops in HP 3000 shops, is now available for HP 100LX and HP 95LX palmtop computers.

In addition to supplying terminal emulation for HP 3000 applications, Reflection-To-Go offers enhanced modem dialing and screen handling.

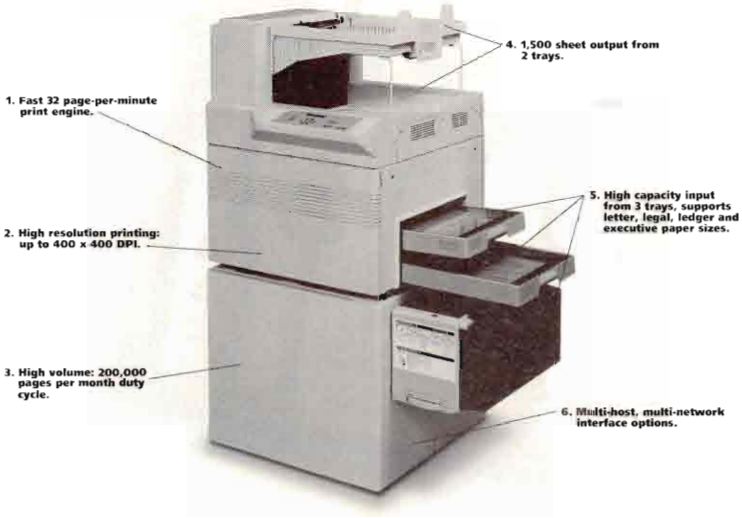
Reflection-To-Go ships on a credit card-sized PCMCIA card and gives users the option of running Reflection from the card or loading it into the palmtop's memory. The product will run with industry-standard PCMCIA modem cards, over an external modem connected to a serial port or over direct serial connection between the palmtop and the HP 3000.

Single copy price is $199.

Contact Walker Richer & Quinn, 2815 Eastlake Ave. E., Seattle, Wash. 98102; (800) 872-2829.

Circle 400 on reader card

Write 60 checks from 60 accounts in just 60 seconds.



Introducing the first 32 page-per-minute laser MICR printer.

The MC5832 is our fastest MICR printer yet. Starting with a blank sheet of safety paper, it turns out completed checks in seconds. It prints the MICR line, the name of the bank, your company's name and logo, your signature, and all variable information.

MC 4816
16 pages per minute
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Simultaneously write checks from multiple accounts.

Because ACOM MICR printers use blank stock, you can write checks from multiple accounts at the same time. There's no need to switch pre-printed stock every time you switch bank accounts.

MC 4808
8 pages per minute
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Greater security.

All critical data, including the MICR font, signature and logo is contained in a security cartridge that you can store in a safe place when not in use. It sure beats the hassle of storing boxes of pre-printed checks.

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You can take secure information from your host and download it to a remote site to produce completed checks. It's both convenient and secure.

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CIRCLE 200 ON READER CARD

SCSI Tape Support For HP BASIC/WS

RMBtech announced STAPE, a software product for HP BASIC/WS users providing BACKUP and streaming tape data logging support for a variety of SCSI-based DDS, QIC and 8mm tape drives.

STAPE includes a separately loadable HP BASIC binary, utilities and user documentation for HP BASIC/WS revision 6.x or later. The product is supported on all HP Series 200/300 computers equipped with a SCSI interface.

The binary provides low-level support for HP SCSI-based DDS (Digital Data Storage) tape devices and SCSI-based QIC and 8mm (EXABYTE) tape devices from IEM Inc. This binary enables SCSI tape devices to be used as BACKUP mechanisms and tapes also can be manipulated directly from users' programs with HP BASIC statements like CONTROL, STATUS and TRANSFER.

Price is $695.

Contact RMBtech Inc., P.O. Box 1889, Fort Collins, Colo. 80522; (303) 221-3005.

Circle 380 on reader card

AMCC, HP Provide Optimum Clocking

Applied Micro Circuits Corp. (AMCC) announced the S4407, a 14-output phase-locked loop (PLL) clock generator designed with assistance from HP's Workstation Systems Group.

The device provides optimum clocking for HP's PA-RISC PA-7000 processor modules and

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also can be configured to drive clocks for other high-performance computing applications.

The S4407 generates two +5V-referenced 25 ohm ECL outputs to drive the primary PA-RISC clock inputs and 12 TTL clock outputs for system clock use with less than 400 ps of skew.

In quantities of 1,000, the S4407 costs $28. Contact AMCC, Marketing Communications Dept., 6195 Lusk Blvd., San Diego, Calif. 92121-2793; (800) 755-AMCC.

Circle 379 on reader card

HP Introduces Low-Priced LaserJet

HP introduced its lowest-priced HP LaserJet printer for individual users.

The HP LaserJet 4L printer for PC and Windows users is $849. A companion product with Adobe's PostScript Level 2 software language, the HP LaserJet 4ML printer, also was introduced.

The printer is targeted for home and small-business users upgrading to HP LaserJet brand printers for the first time, and corporate users who currently share laser printers and want their own desk-corner printer.

The HP LaserJet 4L printer features Memory Enhancement technology (MEt), which effectively doubles the standard memory in the printer; easy set-up and operation with a one-button control panel; EconoMode, which prints pages with 50 percent less toner; an instant-on fuser, which requires less power to operate than other laser printers; free software drivers in the printer box; and a software utility called HP Explorer.

HP's new LaserJet 4L printer for PC and Windows users.

The printer is based on a new 4 ppm Canon engine and uses a 16-MHz Motorola 68000 processor. It offers 300-dpi print quality with Resolution Enhancement technology (REt), which smooths the edges of laser-printed text and graphics.

STR Announces Faxcom Enterprise

STR Software Company announced the Faxcom Enterprise, which combines STR's HP 3000-based FAX/3000 software with the Faxcom 5000, a multi-host, multi-channel fax server from Biscom.

Users now can fax not only through the HP 3000, but also through other hosts including network servers (Novell, Banyan, and AppleTalk), DEC VAX, IBM AS/4000 and S/36 and others. Faxcom Enterprise allows HPs, DECs, IBMs and networks to share a single FAX system.

One new feature is the ability for users to both send and receive documents in a fully automated manner. Faxcom Enterprise allows users to fax documents automatically through programmatic, spooler, E-mail and interactive interfaces. Another feature is PersonalFax which allows users to fax from PCs which are serially connected to the HP 3000.

Contact STR Software Company, 3133 Briarmore Lane, Midlothia, Va. 23113; (800) 272-0723.

Circle 378 on reader card

IEM Releases SCSI Tape Drives

IEM introduced a new line of 8mm SCSI tape drives that support all HP 1000, 3000 and 9000 (Series 300, 400, 700 and 800) computer systems. They also support Series 3000 MPE/iX SCSI systems.

The 8mm drives are available with either data compressed (up to 20 GB per tape) or non-compressed (5 GB) configurations. IEM has developed a new SCSI to SCSI controller board that eliminates the need for any software drives or operating system dependencies. The controller board also supports 8200, 8500 and 8500C formats, fast search, spanning multiple volumes and can provide up to 28 percent performance increase. By eliminating any software

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requirements, IEM's new 8mm products can be moved from system to system without requiring any software or hardware changes.

The six new 8mm products are: 4870S 5 GB standalone drive; 4880S 5-20 GB (with data compression) standalone drive; 4875SC 10-tape 50 GB autofeeder; 4885SC 10-tape 50-200 GB (with data compression) autofeeder; 4876SC 10-tape 50 GB intelligent autofeeder; and 4886SC 10-tape 50-200 GB (with data compression) intelligent autofeeder.

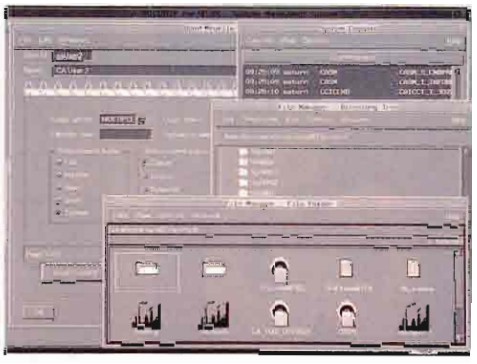
Contact IEM Inc., 1629 Spruce Dr., Fort Collins, Colo. 80524; (303) 221-3005.

Circle 377 on reader card

CA-UNICENTER/125 Enhances Workstation Security

Computer Associates announced it will make CA-UNICENTER/125, an integrated systems management solution for UNIX-based workstations, available on HP's PA-RISC workstations.

CA-UNICENTER/125 provides a cost-effective solution for distributed systems management in today's complex client-server environments. It enhances security, improves file management procedures and automates workstation activities. When working in conjunction with CA-UNICENTER/325, CA-UNICENTER/125 offers complete enterprise-wide integrated systems management.



CA-UNICENTER/125 ***on HP workstations enhances security and storage and works with HP OpenView.***

CA is integrating the capabilities of CA-UNICENTER with HP OpenView Operations Center, a central system-management application, to expand the solutions portfolio for HP OpenView users with integrated solutions covering all major disciplines of systems management. This will allow potential security breaches detected by CA-UNICENTER to be reflected on the HP OpenView map and incorporated into the automated problem-resolution process initiated by Operations Center.

Contact Computer Associates International Inc., One Computer Associates Plaza, Islandia, N.Y. 11788-7000; (516) 342-5224.

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Call (800) ASK-BRAD.

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CIRCLE 117
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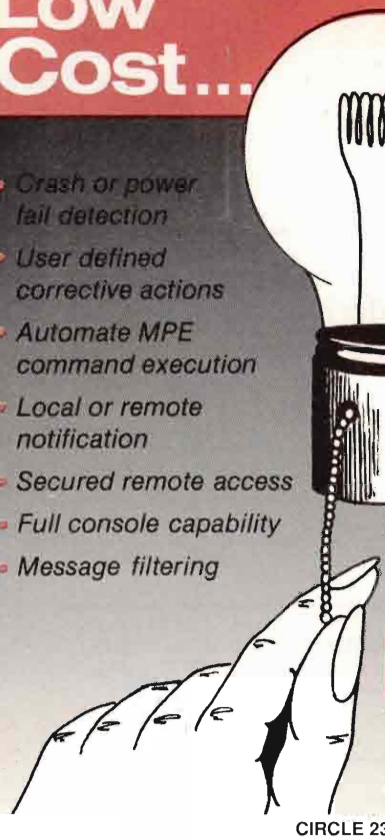

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E-Mail Announces One-Stop Mail

E-Mail Inc. announced One-Stop Mail, an electronic mail system for HP 3000 computer systems requiring automated information distribution and messaging services.

Features include an interactive user-interface of pull-down windows, split-screen In and Out baskets and a full-screen text editor with word-wrap, cut and paste, underline, bold and center features. Local PC file transfer capability and text templates for form use also are available.

In addition to inner-office automation, One-Stop Mail combines this with wide area access connectivity. Network links are built in for E-Mail's Gateway/3000 products for AT&T EasyLink and MCI Mail. Also, HP DeskManager users can run on top of HP Desk.

Contact E-Mail Inc., 111 S. Arroyo Pkwy., Ste 470, Pasadena, Calif. 91105; (818) 403-1999.

Circle 399 on reader card

ACOM Computer Provides High-Speed MICR Printing

ACOM Computer Inc. announces the Check Director (MC5832), a high-speed, high-volume laser check printer for applications running on mainframe, midrange and PC networks.

ACOM's MC5832 has a rated speed of 32 ppm and a duty cycle of 200,000 pages per month. Based on the Ricoh LP-M32 print engine, the MC5832 has been re-engineered to comply with ANSI specifications for laser check printing.

The ACOM MC5832 features high resolution 400 x 400 dpi output for graphics and comes fully loaded with 8 MB of RAM, 1.44 MB disk drive and a 25 MHz 32 bit processor with an optional 40 MB and 120 MB hard drive.

Multi-host and multi-network interface options include L/400 Twinax, M3000 Coax, NetWare Token Ring, NetWare Ethernet, DECnet, TCP/IP, RS-232 and Centronics.

Printer emulations include HP-PCL, HP-GL, Adobe Postscript, IBM 3812 and 3287.

Contact ACOM Computer Inc., 2850 E. 29th St., Long Beach, Calif. 90808; (800) 347-3638.

Circle 398 on reader card

D&B Software Offers HR Stream Flex Benefits

Dun & Bradstreet Software announced HR Stream Flex Benefits, a client-server human resource application.

HR Stream Flex Benefits includes Personnel and Payroll. With this product, plans varying from HMOs to the purchase and sale of vacation time are created and maintained within the same Windows environment, or downloaded from the host benefits applications. It incorporates full modeling and open enrollment functionality enabling employees to do their own modeling and enroll in the plans themselves.

HR Stream Flex Benefits runs under Microsoft Windows operating system on the desktop, with the Microsoft and Sybase SQL/Server database running on HP-UX, and Data General's DG/UX platforms. Price starts at $88,000.

Contact Dun & Bradstreet Software, 3445 Peachtree Rd. NE, Atlanta, Ga. 30326; (404) 239-2000.

Circle 397 on reader card

Arnet Enhances Fiber Link Kit

Arnet Corp. announced the availability of a Fiber Link Kit for its ClusterPort Workgroup Concentrator. The link is a full duplex fiber optic data channel used to interconnect Arnet ClusterPort concentrators to a ClusterPort host adapter or other daisy chained concentrators. It is designed to be used as an alternative for the standard twisted pair cable used and supports synchronous data rates of 1.2 Mbps over distances of up to 2,000 meters when using the proper specified cable.

Immune to electromagnetic interference, surges, spikes and ground faults, the Fiber Link also is more resistant to temperature extremes than standard cables.

The ClusterPort Fiber Link Kit costs $595. Contact Arnet Corp., 618 Grassmere Park Dr., #6, Nashville, Tenn. 37211; (615) 834-8000.

Circle 377 on reader card

Magnetic Software Offers BlankCheck 2.0

Magnetic Software shipped BlankCheck 2.0, a program that enables users to print MICR-encoded checks on an ordinary HP LaserJet printer. BlankCheck turns blank forms into complete customized checks, eliminating the hassle and expense of stocking separate checks for every account.

BlankCheck BASIC is for organizations with two to four checking accounts that use DacEasy, Peachtree, Quicken or AccPac.

BlankCheck ENHANCED is for companies with five to 25 checking accounts. It features a "Triple Security System" which includes user-configurable password protection, a special hardware security key and a Check Log.

BlankCheck CORPORATE is for companies with up to 300 accounts. It supports international currencies, and prints company and bank logos. Other printing options include duplicate checks for file copies.

Price starts at $149.95.

Contact Magnetic Software, P.O. Box 1703, Mount Airy, N.C. 27030; (919) 786-1336.

Circle 368 on reader card

Lateral Engineering Available For LINC

CGI Systems Inc. announced a Lateral Engineering service for LINC applications. Lateral Engineering is a technique for converting 4GL applications to CGI's PACBASE, so they can run on any of 35 operating environments, including HP, IBM, DEC, BULL, TANDEM, NOVELL and UNIX.

The new system uses a compiler developed by CGI to automatically convert existing applications to CGI's repository-based PACBASE environment. Following the conversion, PACBASE can then automatically generate native COBOL code to run the application on any target platform, or on a combination of platforms in a distributed, client-server architecture.

Contact CGI Systems Inc., One Blue Hill Plaza, P.O. Box 1645, Pearl River, N.Y. 10965; (914) 735-5030.

Circle 375 on reader card

Wild Hare Introduces RAID ICOBOL Debugger

Wild Hare Computer Systems introduced RAID, a powerful debugger for ICOBOL applications running on any HP system.

RAID combines simple command operation with multiple overlapping windows, pull-down menus and mouse support in an interactive environment. RAID's debugging environment makes maintaining and testing COBOL applications faster and easier.

This product simultaneously monitors break points, variables, perform status and source code in separate windows, allowing you to immediately zoom in on the problem.

Contact Wild Hare Computer Systems Inc., P.O. Box 3581, Boulder, Colo. 80307; (303) 530-2221.

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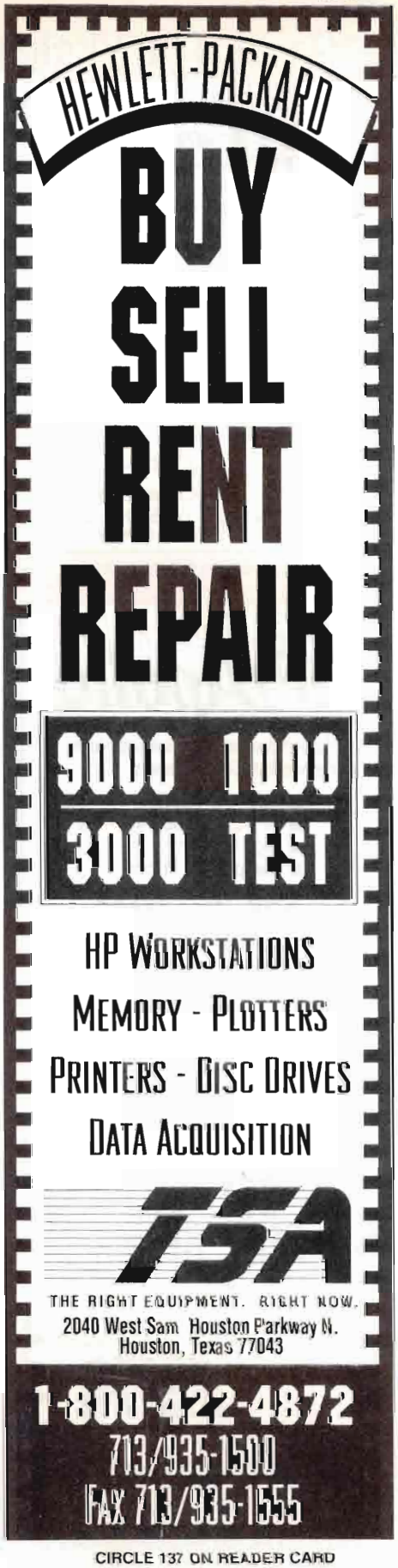

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Interested candidates should submit a resume along with salary history in confidence to: **Sumitomo Electric Fiber Optics Corp., c/o Personnel Assistant, P.O. Box 13445, Research Triangle Park, NC 27709. An Equal Opportunity Employer.**

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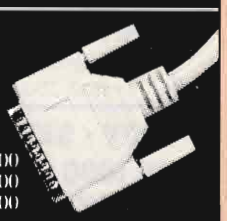

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Please forward resumes indicating interest in this position to: **Lowrance Electronics, Inc., Human Resources Dept., 12000 E. Skelly Dr., Tulsa, OK 74128-2486 EOE.**

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Gordon McLachlan

Telecommuting's Rough Ride

I wonder when telecommuting is going to really catch on. One of the putative economic benefits of the National Information Infrastructure (NII) is that it will provide a widespread means for Americans to telecommute. The question is — will we take advantage of it?

The social benefits of telecommuting are plentiful and clear. Work-at-home arrangements can make it easier to manage a two-career family and kids. Even though you can't work and parent adequately at the same time, telecommuting can afford much more flexibility in your schedule.

Telecommuting also can save energy and reduce pollution because it keeps workers off the road — at least some of the time. In fact, this is one of the major driving factors behind telecommuting in California, where employers will be required by law to significantly reduce employees' commuting mileage within the next few years.

So why aren't we doing it? The technical obstacles are pretty easy to overcome. In fact, it's already quite possible to telecommute, and we don't need the NII to do it. But it isn't very popular, and I don't see any real signs of it taking off just yet. What's the story?

One fear about telecommuting is that employees' productivity will fall if they telecommute, and aren't directly supervised. This widespread concern, however, doesn't appear to be substantiated by the facts.

In a 1991 survey conducted by the Northern California Telecommuting Advisory Council, 88 mid-level managers in the San Francisco Bay area were interviewed about their attitudes toward telecommuting. Of those who supervised telecommuters, 32 percent rated the telecommuters' productivity higher than their in-house counterparts. Another 36 percent said productivity was about the same for both groups, and only 7 percent said telecommuters were less productive.

So, if technology and productivity aren't the problem, what is? The survey's respondents cited several factors, including work that's not suitable for telecommuting, the lack of ways to audit work quality, difficulty reaching workers at home, inadequate support from senior management and clashes with the established corporate culture.

Corporate culture is the biggest obstacle to telecommuting.

Clearly, some jobs just aren't suited for telecommuting. If you run an 800-ton press for a living, telecommuting is clearly out of the question. So what kinds of workers can telecommute successfully?

The best candidates for telecommuting are jobs with some sort of well-defined deliverable. My writing is an excellent example (if not of writing, then of the feasibility of telecommuting). When my editors give me assignments, they don't care what the creative process is, as long as I get the articles to them in good form and approximately on time. If I want to write my articles while on the beach, it's fine with them. They are paying me for a quality product, not the time I put in on the task.

Programming and some other piecework jobs can fit in this category. But unfortunately, not all jobs work out so well. Most of what we do doesn't break down into nice, neat product packages that we can be paid for. Meetings, memos, cipherin' and deep-thinkin' are also work, but they are products that can't easily be priced and paid for.

In the normal workaday world, we've established other ground rules for collecting a check. Most of us get paid directly for putting in hours, and only indirectly for actually producing work. You get paid to show up and sit at your desk, and it's assumed you'll get some work done while you're sitting there. If you look busy, they don't pick on you. If not, you get more assignments. It's a crude method of management, but it has worked well enough for a long time. To manage telecommuters, we'll have to come up with other ways to measure productivity.

I see senior management approval and the corporate culture as the biggest obstacles to telecommuting. Traditional management values hold that employees function best when they are within easy reach of the overseer's whip.

I ran into this on one job, where I had telecommuted for two years. Apparently, one exec with whom I worked wasn't up to speed on the arrangement. As soon as he found out I was working at home, he got testy and complained that I was "hard to reach." That was news to me, considering I have a pager, a cellular phone, e-mail, a fax machine and two voice-mail boxes. When pressed for details he admitted that he was not comfortable with my working at home, and that he believed I'd be easier to reach if I was sitting at an on-site desk. He was wrong, but so ended that glorious experiment in leading edge work styles.

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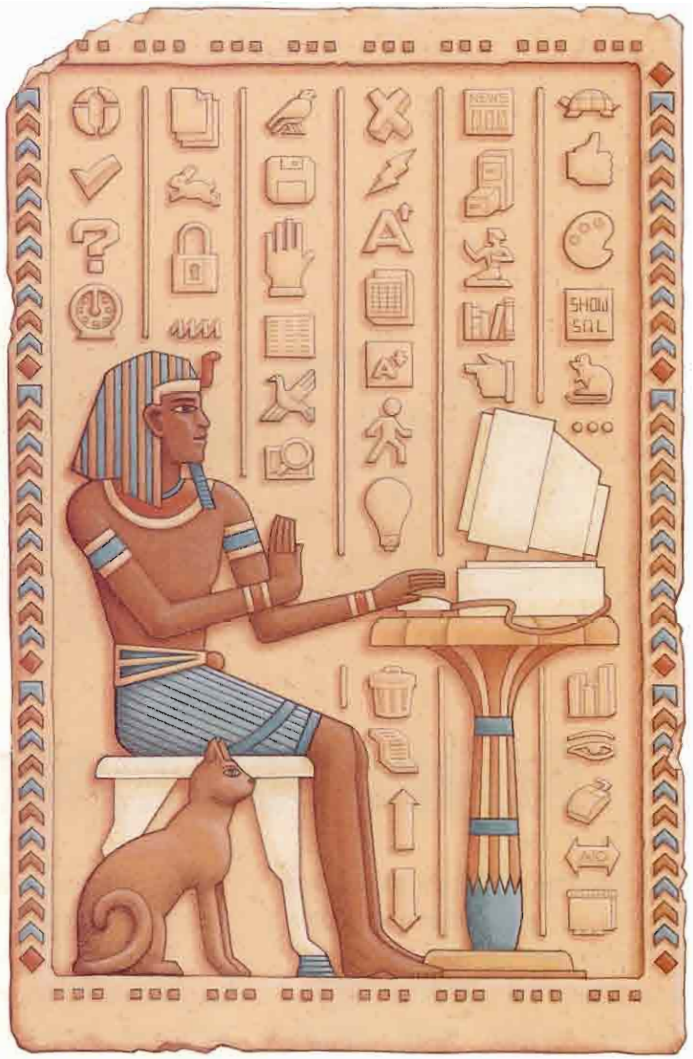

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