

HP Professional

AUGUST 1997

HP-UX

Windows NT

MPE/iX

A Cardinal Publication

IMAGING & WORKFLOW

COLD Fusion

As workflow heats up on the Web, technologies like Imaging and Document Management meld together across the intranet into an all-encompassing information management system.

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In The Year 2000

The sky is falling. So don't play chicken with your company's future. In fact, if you're reading this now without a plan, don't look up, it may already be too late.

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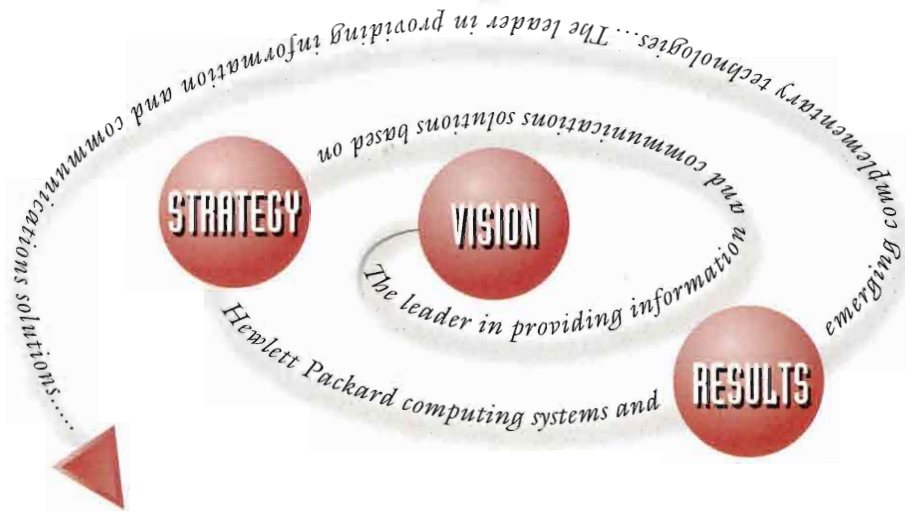


No Drill



LAFD Gets Fired Up Over Citrix

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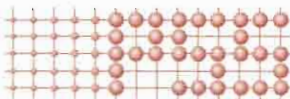
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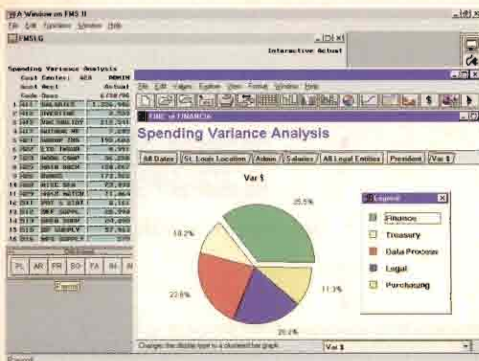
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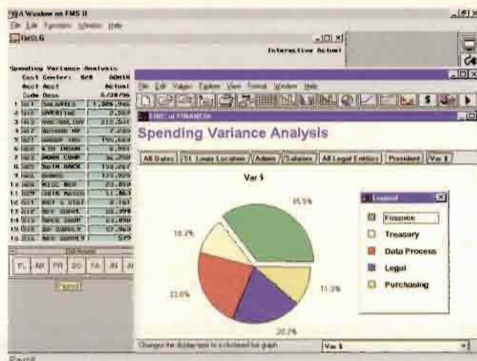


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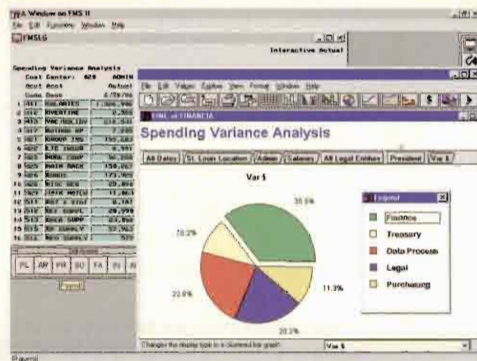
CIRCLE 473 ON READER CARD



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HP 9000



Windows NT

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By James Dukart

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SPECIAL REPORT

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By George Luntz

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THE LINE ON LINUX

Re: your reply in the June "Letters" section of *HP Professional* that "From where we're sitting, Linux is not available for PA-RISC and is not likely to be in our lifetime."

My condolences to the editors' families, because a PA-RISC port of MkLinux, which is Linux running on the Mach microkernel, has been available for download for well over a month and a half. The OSF, which is developing MkLinux for HP PA-RISC, has a page about the project at www.osf.org/mall/os/pa-mklinux/index.html, where you can download the sources and binaries of MkLinux PA-RISC for free, as well as read performance comparisons between MkLinux and HP-UX.

MkLinux's hardware support is not yet as complete as the support found in HP-UX, for obvious reasons, but the performance comparisons indicate that MkLinux should already be very usable for many applications.

Brad Keryan
Student, electrical
and computer engineering
Carnegie Mellon University

AT BLOWS WITH OUR ASSESSMENT

In your June 1997 *HP Professional* article entitled "In this Corner," [James Dukart wrote:] referring to Forrester Research's prediction that by 1998 "... OS/2 will be gone — at 0 servers."

As usual, it all depends on who's

doing the predicting. Forrester Research has never been friendly toward OS/2. What about the Dataquest forecast (*All Platform Operating System Sales History and Forecast Summary - March 1997*) that came out in March of this year?

According to them, "Dataquest forecasts a five-year compound growth rate of 20 percent for IBM OS/2 server licenses through the year 2000, nearly double that of Novell IntraNetware and all UNIX platforms." This quote is from a NewsPage article published via Business Wire via Individual Inc.

That's quite a radical difference from Forrester's prediction, wouldn't you say? Of course, the truth always lies somewhere in between. You sure as hell won't see OS/2 Warp Server sales dropping to ZERO next year — that's absolutely ridiculous — and James R. Dukart didn't even bat an eye.

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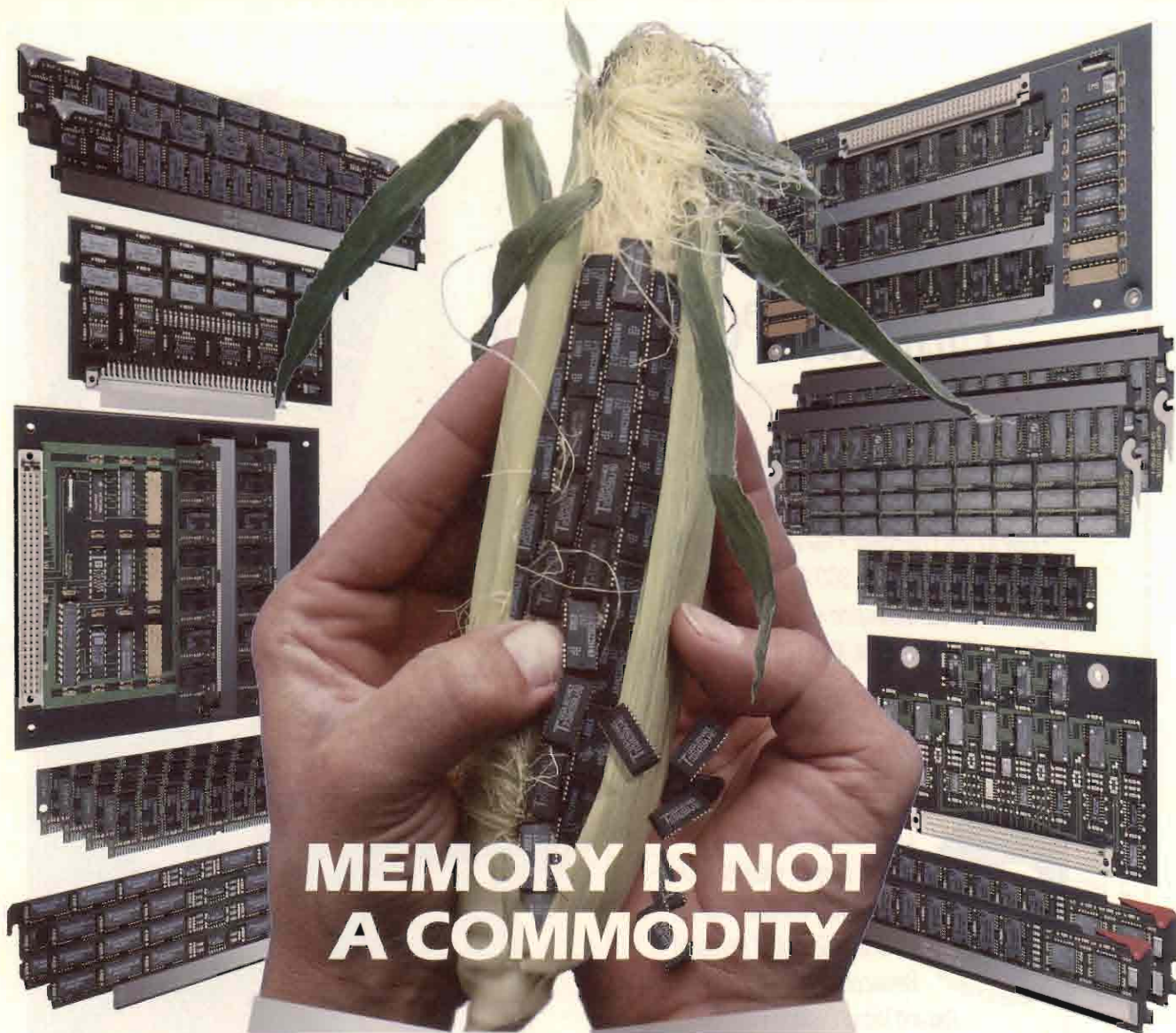
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CIRCLE 246 ON READER CARD

Whole Lotta Shakin'

No one better exemplifies the ever-changing and growing world of Hewlett-Packard than Glenn Osaka, now vice president and general manager of HP's Extended Enterprise Business Unit. And although his titles may change, his vision remains the same.

I first met Glenn Osaka over four years ago when he was general manager of the Commercial Systems Division (CSY). About a year ago, he was named to direct the Enterprise Systems Business Unit, which concentrated on servers, enterprise systems and storage. His most recent leap takes him over to HP's new Extended Enterprise Business Unit, which according to Glenn, "in some ways doesn't even exist." It's not that strange a comment for Glenn, who is an atypical HP manager of an atypical HP business segment.

The Extended Enterprise Business Unit is an effort by HP to build a new business strategy around electronic commerce and business. Because he sees the computer industry going through yet another tectonic shift, Glenn's mission is to help HP align existing businesses, while adding a new generation of partners. And he's already been busy doing just that with HP's VeriFone acquisition.

Although an outside observer might view moving from a \$4.5 billion division, to spearheading an Internet endeavor with only half a million dollars as a step back, Glenn maintains he is taking a step forward in the direction that the industry is moving — the networked-enabled business model. For Glenn, this is the next "trade route" worth exploring, and he's already en route — for late July, HP announced an alliance with AT&T (see this month's Industry Watch, p. 8). Besides integrating their respective Internet and e-commerce technologies, HP and AT&T will also be exploring the formation of an alliance to develop technologies that will improve Internet and intranet services.

To use Glenn's analogy, the networked business model follows the same goals as that of the U.S. rail and highway networks of the past — "to deliver the money" through the system. HP believes that future opportunities will be in organizations who want to match the forms of interaction exactly, on all levels, between their companies and those with which they do business.

This latest shift at HP reflects a stronger emphasis on software and services. If you didn't realize it, the change occurring at HP is not "how it does business," but "what business it does." Glenn's role is part of its "competitive advantage" — by taking a division leader out of the traditional role and into a role that is tied into helping other units and teams steer the company. In fact, Glenn views his role as "temporary" — with the transition complete in 24 months.

AND TO EVERYTHING . . .

Glenn Osaka ain't the only one movin' and shakin'. The August issue marks my last month as Editor-in-Chief of *HP Professional*. Now, now, dry those eyes. Senior Editor and fellow HP Pro-er George Thompson will fill the void with his own keen observations and words of wisdom as *HP Professional's* new Editor-in-Chief.

I'm proud to announce I will now be Editor-in-Chief of our sister publication, *Enterprise Systems Journal (ESJ)*, the premier publication for IBM host-based enterprise computing; so I'll see some of you in the great Big Blue.

Thank you for your letters of encouragement, editorial arguments and those occasional threats. Together, we've helped keep HP and the industry honest. It's been my pleasure.



Charlie Simpson
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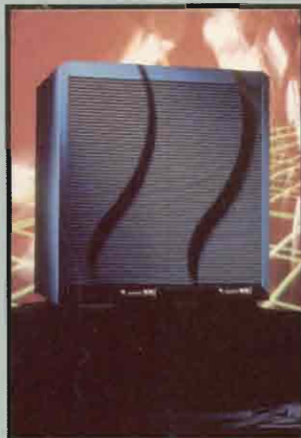
INDUSTRY WATCH

George A. Thompson

HP GOES WITH THE PIXEL FLOW

If you're an MCAD/MCAE engineer, 3D graphics performance from 4 million to over 100 million polygons per second probably sounds too good to be true. But that's the promise of HP's Visualize PixelFlow (PxFl) graphics technology. PxFl uses a massively parallel architecture derived from a technology called Pixel-Planes first developed at the University of North Carolina (UNC) at Chapel Hill. The first full-scale Pixel-Planes system was completed in 1986. Several commercial systems were then built by Division Group plc., a British company.

Introduced this past July, PxFl, initially developed for HP's Visualize J-Class symmetric multiprocessing (SMP) workstations, provides tens of thousands of individual pixel processors and internal network speeds of 12.8Gbps. According to HP sources, HP Visualize PxFl is the first graphics system to apply rendering power to the



It might not look like much, but each chassis in this two chassis Visualize PxFl system (above left) can contain up to nine "Flow Units," which are comprised of two 180MHz PA-8000 CPUs, 64MB up to 128MB of synchronous DRAM, 64MB of texture memory and 32 Enhanced Memory Chips (EMC) which provide 8,192.5 MFLOP pixel processors (above right). Each individual pixel processor has 384 bytes of memory. Each pixel processor is connected to the corresponding pixel processors on the other Flow Units via a 6.4Gbps. According to HP estimates, unlike competitive visualization systems such as Silicon Graphics Inc.'s Onyx2 InfiniteReality, HP Visualize PxFl's performance scales linearly, according to system size.

A T P R E S S

HP REACHES OUT FOR AT&T INTERNET ALLIANCE

HP and AT&T signed an agreement focusing on developing products and services designed to promote easier acceptance of merchant-hosted and outsourced electronic communications and commerce. Initiatives are planned on

- Integrating electronic storefront solutions: Using HP-UX or Windows NT-based HP Domain Enterprise Servers, companies will maintain Web sites on their own premises and outsource the backoffice functions required to process secure credit card transactions to AT&T's SecureBuy Service, which provides the technical infrastructure and management needed to conduct secure transactions over the Web.

- Recruiting HP resellers: AT&T will recruit 15,000 HP resellers to join its Marketing Alliance Program as agents to sell AT&T's Web Site Services, which include Web hosting through AT&T Easy World Wide Web Service; AT&T's advanced hosting solution, the AT&T Enhanced Web Development Package; and AT&T SecureBuy Service. HP resellers will be able to provide their customers with onsite, offsite or integrated Web site solutions.

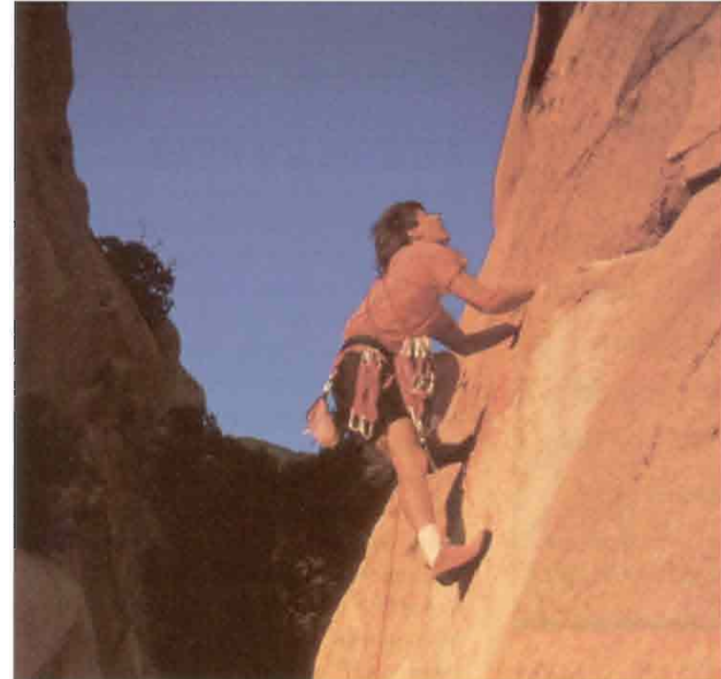
- Collaborative technology development: HP and AT&T are exploring the formation of an alliance to jointly develop technologies that will improve the

performance, scalability, manageability and reliability of the Internet- and extranet-based services.

DELL AND HP PARTNER TO REDUCE TOTAL COST OF NETWORKED COMPUTING

Dell Computer Corp. showed that they were not only ready, but willing to help HP reduce the cost of computing by being the first company to participate in HP's new OpenView-Ready Program (see page 12). Under the agreement with HP, Dell plans to provide its PowerEdge server customers with HP's new OpenView-Ready Network Node Manager, giving them the ability to monitor the health of their networked server environments and manage hundreds of parameters of their servers, desktops, workstations, notebooks and network devices with integration into existing HP OpenView environments.

The Dell and HP solution will be designed to go beyond server management to provide customers with a complete management solution that combines open standards, industry-leading products and third-party support, enabling them to manage their networks from a single management platform. Dell also will offer an HP OpenView upgrade path to allow management solutions to scale as information technology needs grow.



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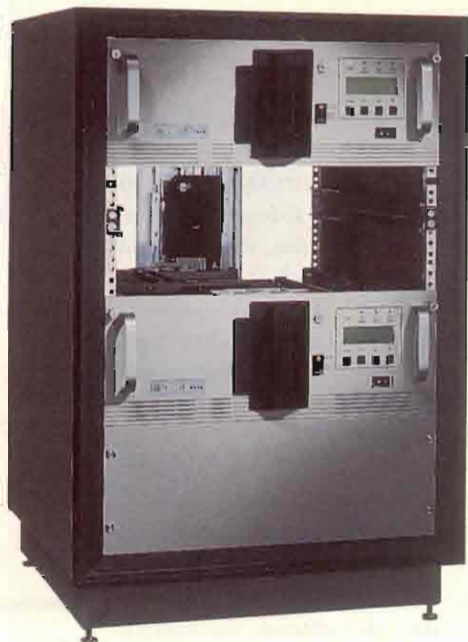
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visible, on-screen pixels — resulting in the real-time generation of animation-quality images. Previously, designers requiring real-world animated images, with accurate highlights, shadows and reflections, used “batch software rendering,” with each image taking several minutes or more to generate. PxFI performance is expected to allow manufacturers to slash product development time and expense.

HP Visualize PxFI supports the OpenGL API as well as well as HP’s recently introduced DirectModel graphics toolkit for large-model rendering. HP Visualize PxFI graphics functionality also extends the current OpenGL specification by delivering true “Phong” interpolation, Phong-shaded textures and “bump mapping.”

And HP Visualize PxFI is supported by several leading ISVs in engineering design and virtual prototyping, including Dassault Systemes, Division Inc. and Engineering Animation Inc. HP Visualize PxFI can be ordered today and is expected to be available during the first quarter of 1998.

FIRST LIVE SET REIGNS IN SPAIN

At first glance, it doesn’t seem all that significant: a consumer using a credit card issued by Banco Santander, a Spanish bank, purchased music CDs from Discos Castello, a music retailer in Spain who is a merchant of Banco Sabadell. So what’s the big deal? First, the transaction was completed via the Internet. But more importantly, it was the first live Secure Electronic Transaction (SET) purchase in Spain between different consumer and merchant banks, as part of a SET pilot program now taking place.

The SET protocol, originally proposed by Visa and MasterCard, is being developed by Visa and MasterCard with contributions from VeriFone, HP and other companies as the emerging standard for Internet bank card transactions. Take note that HP and VeriFone have been committed to rolling out pilot and production solutions that are fully compliant with the SET protocol standards. The Internet portion of the electronic commerce market alone is

V E R B E T A

“There are more places to buy PCs in the United States today than locations of McDonald’s, Wendy’s and Burger King combined.”

— David Goldstein,
president of Channel Marketing Corp.

expected to reach \$95 billion in the United States by the year 2000, according to a research report from IDC (Framingham, Mass.), a research firm.

Banco Santander and Banco Sabadell are two of 38 member banks serviced by Sistema 4B, one of Spain’s largest bank card processors.

Sistema 4B will extend this pilot through other relationships with its 38 member banks (which represent 50 percent of Spain’s domestic banking marketshare) to bring additional merchants and consumers online, providing a solution that will be interoperable between Sistema’s member banks and other participating pilot consumers using the VeriFone SET pilot software.

A VERI FINE ACQUISITION

As expected, HP completed its merger with VeriFone Inc. (Redwood City, Calif.). VeriFone became a wholly-owned HP subsidiary through a stock-for-stock merger valued at \$1.29 billion this past June 25th. HP also assumed outstanding VeriFone employee stock options and other outstanding equity-based compensation arrangements. Hatim A. Tyabji, who continues to serve as president and chief executive officer of VeriFone, will report to Richard E. Belluzzo, HP executive vice president and general manager of the Computer Organization. HP expects this acquisition, which was announced April 23, to accelerate fulfillment of its vision of the Extended Enterprise.

THEY KNOW FROM WARE THEY SPEAK

The Data Warehousing Institute (DWI; Gaithersburg, Md.) announced the winners of its *1997 Awards for Best Practices In Data Warehousing*. Two finalists in each of six categories presented to a panel of media and analysts on May 28 and May 29, 1997 at DWI’s second annual Best Practices and Implementation Conference in Chicago. The winners are listed below:

- Data Extraction, Cleansing & Transformation: Owens & Minor**
- The Warehouse & the Web: AT&T**
- Very Large Data Warehouses: Fidelity Investments**
- Management & Organizational Issues: Eckerd Drug**
- Data Warehouse Applications Winner: Federal Express**
- Data Warehouse in Telecommunications: Concert Communications Services**

Over the duration of the pilot, Sistema 4B plans to have a total of 30 merchants online processing live SET transactions, with VeriFone’s vWAL-LET payment software in use by over 2,000 Spanish consumers.

CHECKING OUT CHECKPOINT

HP announced that Check Point Software Technologies Ltd. (Redwood City, Calif.) has been selected as a key technology supplier in HP’s Praesidium Enterprise Security Framework for

Internet and intranet computing. Under the terms of the agreement, HP will place the Check Point FireWall-1 enterprise security suite on its price list, enabling HP customers and authorized resellers to purchase FireWall-1 directly through HP.

HP will sell FireWall-1 for HP-UX and Windows NT. Both products are expected to be available to customers after August 1. HP's Professional Services Organization and Software & Services Group also will provide worldwide consulting, service and support for the Check Point FireWall product line.

THE QED ON HP VPs

Up until recently, HP vice presidents were only elected by HP's board of directors. But now, 13 HP vice presidents have been the first to be appointed by company management. When a business need arises, Lew Platt and his management team may designate cer-

tain positions to carry the title of vice president. The title will remain with the position if the vice president appointed to it moves to a different assignment. Separately, the board will continue to elect and promote corporate officers in recognition of their positions and individual contributions.

Six of the new vice presidents are from HP's Computer Organization:

- Jacques Clay, 49, vice president and general manager, Extended Desktop Business Unit
- Glenn R. Osaka, 42, vice president and general manager, Extended Enterprise Business Unit
- William Russell, 45, vice president and general manager, Enterprise Servers Group
- Pradeep Jotwani, 42, vice president and general manager, Worldwide Consumer Sales and Marketing
- Lane R. Nonnenberg, 44, vice president and sales and marketing manager, Software and Services Group

- Keith Robert H. Watson, 42, vice president and general manager, Worldwide Commercial Sales and Marketing

HP RESELLERS TO OFFER UNIX AND NT SOLUTIONS

HP announced a reseller program called the HP UNIX/NT Reseller Initiative, which will give HP-authorized resellers the ability to offer HP solutions for both UNIX and Windows NT environments. The initiative is part of HP's pledge to give resellers the tools they need to provide customers a choice of operating systems.

Select resellers that provide both operating system solutions will be eligible to participate in the HP Performance Program. The program entitles resellers to a full range of marketing and technical benefits, including use of cooperative marketing funds; demo units; sales literature; and responsive, toll-free technical support.

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CIRCLE 166 ON READER CARD

HP-UX authorized resellers that meet initiative requirements can serve as a single source for customers requiring HP-UX- and Windows NT-based products.

These resellers can offer HP's full range of HP-UX-based HP 9000 workstations and servers as well as Windows NT-based HP NetServer systems and HP Vectra XW graphic PC workstations.

READY OR NOT WITH OPENVIEW MANAGEMENT PROGRAM

HP has found an ingenious way to get customers to adopt its OpenView management platform. With the recently announced OpenView-Ready program, preconfigured versions of the HP OpenView management solution are packaged with other vendor's systems. As a result, participating companies can

build manageability into their products, giving customers an industry-standard, scalable, out-of-the-box network and system management solution.

The first participants in this program are Dell Computer Corp. (see AT PRESS) and two divisions of HP. HP plans to ship a customized version of its OpenView solution, at no additional cost, with its HP 9000 servers. Strangely enough, however, HP's NetServer Division, which is responsible for its PC products, has committed to shipping OpenView-Ready technology by the end of the year.

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OPEN SUPPORT FOR OPENVIEW

Looking to expand its support for consultants in network and systems management, HP introduced the HP OpenView global solution implementor program and HP OpenView consultant success program this past June.

The HP OpenView global solution implementor program was created for major systems integrators that provide services across multiple continents and have an existing systems integrator relationship with HP. Recently joining the HP Professional Services Organization's (PSO) program as a global provider of HP OpenView solutions is Unisys Global Customer Services (GCS).

Three key elements of the consultant success program include the following: design-review services; access to HP factory-based experts for assistance in the design of enterprise network and systems management architectures; reusable engagement templates — the tools and direction to assist consultants, from evaluating prospects to closing engagements; and 24x7 access to HP's latest technical information via the Web.

The design-review services component of the OpenView consultant success program, which is available now, is based on time and materials. All other services in this program also are immediately available to qualified consultant partners at no cost. Consultant success program services also are available to customers of HP's PSO and those resellers that are HP OpenView Certified Resellers.

CIRCLE 163 ON READER CARD

```
corp:/acctg >ls general.ledger
UX:ls: ERROR: Cannot access general.ledger:
No such file or directory
```

```
corp:/acctg >ls payroll.1qtr
UX:ls: ERROR: Cannot access payroll.1qtr:
No such file or directory
```

```
corp:/mfg >ls inventory.cont
UX:ls: ERROR: Cannot access inventory.cont:
No such file or directory
```

```
corp:/mfg >ls order.entry
UX:ls: ERROR: Cannot access order.entry:
No such file or directory
```

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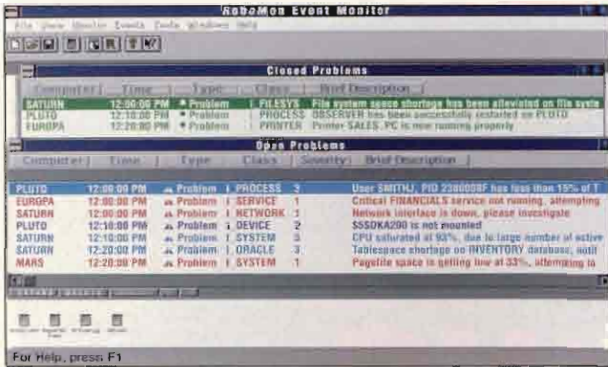


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Take The Night Off



ROBOMON

- Version 6.2 solves problems found with the Windows NT server, the SQL server, the Exchange server and the Internet Information and Systems Management servers
- Version 6.1 monitors databases such as Oracle, Ingres and Sybase through its Omni-Collector
- \$200 to \$5,000 per machine for Windows NT, \$300 to \$2,500 per machine for UNIX

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CIRCLE 353 ON READER CARD

Imagine it's 11:30 p.m. You're home relaxing in front of the TV when the phone rings. Whatever your system is supposed to be doing — it's not. And there is an angry client on the line wondering what the problem is. This episode might have been averted if you hired a systems manager that never needs the night off. It's possible if you use something like Heroix Corp.'s (Newton, Mass.) RoboMon, an automated problem detection and correction software.

RoboMon puts an agent on every system to find problems and fix them, or lets someone know that something is wrong. It also prioritizes problems, with the most critical one detected being the one to be fixed first. RoboMon 6.2 for Windows

NT solves problems found with the Windows NT server, the SQL server, the Exchange server and the Internet Information and Systems Management servers. The software evaluates and acts on all statistics reported to the performance monitor.

RoboMon also monitors problems and events reported to the NT event log. Version 6.2 is available for the Intel and Alpha architectures and ranges from \$200 to \$5,000 per machine.

A new Rule Wizard allows for a fully integrated, graphic environment by which users can customize RoboMon to monitor and fix site-specific problems. RoboMon is also programmed to recognize new objects and include them if they qualify according to a user-defined filter. While the NT viewer is good for browsing events, there is just one window. The RoboMon Event Monitor is multiwindowed, giving the ability to define as many event windows as needed. It can display RoboMon events as well as NT events, and can display events grouped by computer, event type, severity, class, open and solved problems, or any range of combinations.

RoboMon Version 6.1 for UNIX also can be customized for site-specific requirements.

It monitors file problems, storage problems, application and process problems. It also identifies user problems, such as those with multiple user IDs, home directory problems, password problems, and non-existent or inaccessible shells.

Also new in the UNIX version is greater support for SNMP-based frameworks like OpenView and NetView as well as universal database monitoring and problem solving for databases such as Oracle, Ingres and Sybase through its Omni-Collector. This allows users to tell it to check out and act on problems based on any data that can be generated into the computer system.

Version 6.1 supports a specific trap number on the SNMP action and uses it to report to network managers. The user can use the trap number as a severity indicator, giving a broader idea of the problems detected in each system. RoboMon for UNIX, using a TCP/IP server, can interoperate with RoboMon for Windows NT and OpenVMS for transparent, multiplatform monitoring.

Price for RoboMon for UNIX is \$300 to \$2,500 per machine.

—Steve Berlin,
 Contributing Author



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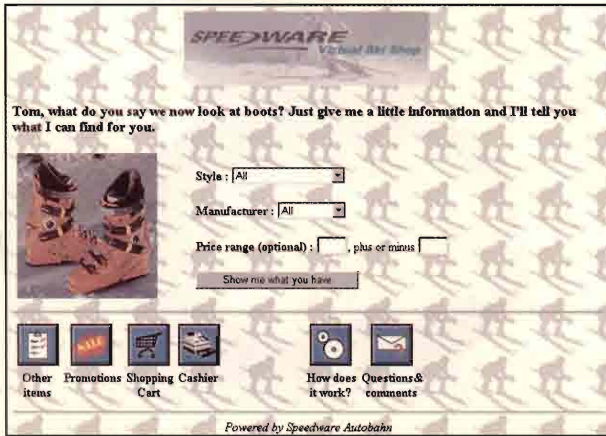
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- ▶ Speedware OrderPoint \$20,000 on NT, \$30,000 on UNIX; Speedware Autobahn \$7,000 to \$96,000

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CIRCLE 351 ON READER CARD

For businesses that want to branch out to the world of electronic commerce or that want to make the most of the Web, the ease of being able to do so is important. Speedware OrderPoint 3.0 and Speedware Autobahn help make this job simple for you. As one of HP's largest international business partners and a member of HP's Channel Partners program, Speedware offers its customers a large pillow of support; any questions and problems that come up while using their applications can be quickly answered and fixed.

Speedware OrderPoint 3.0 is a completely developed application for Internet commerce that enables business-to-business ordering, sales inquiries and order tracking.

OrderPoint can be installed and in-use in one day, with the customer inserting their own information and graphics.

Speedware Autobahn is a secure, scalable, state-oriented application designed for the rapid development and deployment of mission-critical applications to the Web. Autobahn can extend and customize OrderPoint.

"There are two ways to use these products," says Rosemary De Vere, product manager for hardware at Speedware. "You can either start with OrderPoint and then enhance it as you would go on, or if you know from the start that the type of project you want is bigger than what OrderPoint is designed to do, then you should start with the [Autobahn] tools."

Speedware Autobahn can be implemented as both Internet and intranet applications. With Autobahn's Internet applications, you can allow customers and suppliers to check product availability or review their account, set up virtual stores, update stock prices and publish new information in real time.

With Autobahn's intranet applications, you can manage employee expense reports, permit traveling salespeople to record and update commissions, and provide policy

and corporate documents to employees everywhere.

Speedware OrderPoint 3.0 has been improved by the implementation of frames, order tracking capabilities, improved tax handling, new shipping charge calculations, enhanced localization, and improved installation and Getting Started Guide.

Speedware customer support includes telephone consultation, 24-hour toll-free telephone support, classroom and online courses, manuals, software upgrades, release notes, newsletters and activity notes, and access to the Speedware Internet Bulletin Board System.

Speedware Autobahn and OrderPoint are available for the following platforms: HP 3000, HP 9000, IBM RS/6000, Windows 95, Windows NT Workstation or Server, and Sun Solaris. Autobahn and OrderPoint support HTML, VRML, HDML, Active X, Java, VB Scripts, JavaScript and others. Speedware OrderPoint is priced at \$20,000 on NT, and \$30,000 on UNIX; Speedware Autobahn is priced from \$7,000 to \$96,000.

—Rebekah Robertson,
Contributing Author

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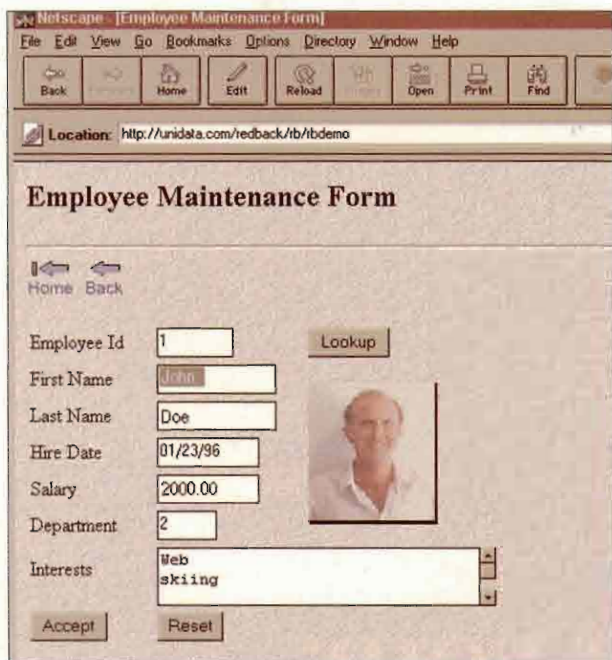
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CIRCLE 352 ON READER CARD

If you can produce an accurate and cost-effective application within a short development cycle, you have a winning solution to what could be an application development nightmare. In six weeks, working around the clock, DMG Enterprises Inc. (DMG; Oakbrook Terrace, Ill.) redeveloped its DMG⁺ membership management system for non-profit organizations using Unidata Inc.'s (Denver, Colo.) RedBack transactional Web development toolkit. One week later, the app was deployed at the first of four new customer sites.

DMG's software is comprised of 48 modules which allow the organizations to keep track of membership management, fund-raising, volunteer tracking, meeting/

trade show management and financial applications, among other things. According to Tom McGourty, vice president of sales and marketing at DMG, "[RedBack] worked well with our existing code. Our developers took to it immediately."

RedBack consists of a Windows-based interactive development environment plus middleware services and interfaces to server-based DBMS and application resources. Server components run on Windows NT and a variety of UNIX platforms, with interfaces to most third-party Web servers. RedBack applications can be accessed using Netscape Navigator or Microsoft Internet Explorer.

RedBack's database-neutral architecture gives Web applications native access to nested relational data in UniData and uniVerse, with support for conventional relational databases and object-relational DBMSs planned. Its WYSIWYG Form Painter allows developers to associate user-interface events with standard or user-written business logic on the client and the server. RedBack supplies default event-handling logic on the client using JavaScript and on the server using BASIC.

With RedBack, client

application components are exported automatically to the user's desktop. Users get access to the latest application version each time they invoke a RedBack application.

Controls have been added to the RedBack Developer object palette for .WAV, .AUD, .MIDI, .MOV and .AVI components. Wizards for form, lookup and query specification offer an alternative to the explicit setting of object properties and event handlers.

RedBack 1.4 optimizes transmittal of content-heavy HTML forms when the same form is used for consecutive interactions with the same user. In addition, the RedBack Development interface has been enhanced, and the RedBack Gateway for Windows NT now supports the Internet Server API (ISAPI) when used with Microsoft's Internet Information Server.

RedBack 1.4 also supports non-English, single-byte character sets (French, German, Greek).

It is available for HP-UX 10.x, IBM AIX 4.1.2 and higher, SCO 5 and Windows NT 4.0. Pricing starts at \$3,495.

—Deborah Schwartz,
 Associate Editor

Corporate Profiles



YOUR POWER TO MANAGE THE ENTERPRISE

Is data important to your business? If your data is unavailable, how do you determine the cause of the problem? Is it the hardware? The database? The application? The middleware? What about the time lost while you find the problem? What is the real cost of an outage?

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BMC Software provides users with integration to HP OpenView via the PATROLVIEW integration product. PATROL extends the HP OpenView product's system and network management capabilities to manage applications, Internet servers, databases and messaging/middleware. Customers such as U S WEST Dex, Inc., who recently moved to a HP distributed environment from a mainframe platform, use joint solutions from HP and BMC Software to satisfy a broad range of management needs. And because all management information can be accessed through a single HP OpenView console, it is much easier to keep all resources across the enterprise highly available.

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- * PATROL Data Management products, which provide database administration, backup, recovery and analysis tools
- * Performance Optimization products which enhance and improve resource usage
- * Internet solutions, which manage mission-critical Internet/intranet applications and data

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DB2* Common Server, MVS and OS/390	PROGRESS	Sybase Replication Server
Informix	Rdb	

Operating Systems:

NetWare	Unix	OS/2
OpenVMS	Windows NT	

BMC Software, Inc. (Nasdaq: BMCS) is a worldwide developer and vendor of more than 160 software solutions for automating application and data management, and optimizing performance across host-based and open systems environments. With annual revenues of more than \$560 million, BMC Software is the world's 12th largest independent software vendor.

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Imaging, Workflow, Computer

Output To Laser Disk And

Document Management Come

Together On The Web.

JAMES R. DUKART

COLD Fusion

Not that long ago, an enterprise implementing imaging, automated workflow, computer output to laser disk (COLD) and document management capabilities would have to work with at least four different vendors, assemble separate sets of capabilities and then try to make it all work together.

Not any longer. The lines between these four formerly discreet technologies are starting to blur. Vendors today are more likely to push software and systems solutions that can handle all four tasks, and industry observers agree that we are seeing imaging, workflow, COLD and document management merge into an all-encompassing information management system that no one seems to know quite what to call — but everyone can plainly see exists.

To make matters even more interesting, most of these formerly desktop-centric technologies are being brought out onto the Internet and company intranets, making them ever more popular and mission critical to enterprises everywhere.

But even without the use of the emerging IP enterprise networks, companies with specific business problems are finding that the combination of technologies is substantially greater than the sum of its parts.

“Take, for instance, an accounts payable system at a large manufacturing company,” says Mark Rupert, president of Optika Imaging Systems Inc. (Colorado Springs, Colo.), a company that began shipping imaging software in 1987. “You

have an image of an invoice scanned into your system. The image gets stored as part of your document management system. COLD takes that image and puts it on an optical disk, and from the COLD report you can pick out the invoice you want to see. On this invoice, you show that you have only been paid for three things when you should have been paid for four. So you annotate that image and start it on a workflow process that alerts someone to send out a letter asking for payment on the fourth item. Now you are seeing imaging, COLD, document management and workflow all work together.”

THE TEAM APPROACH

From a customer perspective, Rupert says, this should all be transparent. Today’s customers do not want to have to mix and match technologies, he continues, they just want an integrated system that works.

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CIRCLE 421 ON READER CARD

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COLD FUSION

One result has been vendors teaming up in strategic partnerships to provide more than their core competencies from among these technologies. Another has been that some imaging or document management companies have acquired companies to try to create technological synergies.

"FileNet got Saros in January 1996, and later that year Wang acquired Vantage, a document management firm in Chantilly, Virginia" says Connie Moore, vice president of The GIGA Group (Cambridge, Mass.), an industry consulting firm. "This is representative of what is happening throughout both the imaging and document management industries. In terms of partnerships, PC DOCS has alliances with just about everybody."

'NET GAINS

The changing alliances and shifting technological boundaries also make it hard to get firm numbers on the "industry" of imaging/workflow/document management and COLD. But a 1995 report by BIS Strategic Decisions (now part of The GIGA Group) predicted that the \$2.5 billion document imaging market in North America for 1996 will grow to more than \$4 billion by 1999.

The Delphi Group (Boston, Mass.) says that the workflow software and services market climbed 13 percent to \$815 million in 1995, and another 14 percent in 1996 to \$933 million. Document management, Delphi says, grew by 41 percent in 1996, from \$243 million to \$341 million. And text search and retrieval, another technology that works into many integrated systems, grew by 21 percent in 1996, from \$421 million to \$510 million, largely the result of increased use of search engines on the Internet.

"Part of the problem here is the labels," says Nathaniel Palmer, senior analyst for The Delphi Group. "Five years ago, 'imaging' wasn't a label that included workflow, document management and text retrieval. Now we are seeing them come together, at least somewhat. Vendors are no longer selling a single solution."

Most observers also predict that, no

matter what the past numbers have been, future numbers will be large for one simple reason — the movement of these technologies onto the Internet and intranets, resulting in significant increase in demand and use. "The Web

Document management deals with storing, accessing and keeping track of images and other types of documents, using indexing, text retrieval and check-in/check-out applications.

is, more than anything, a catalyst here," says Palmer. "Now you have a single point of access, a porthole to the world so to speak. It has raised the expectations and now everyone wants to do everything at once."

Optika's Rupert says movement to the Web will have another effect on the development and deployment of imaging and workflow technology: that of making it more cost effective

and therefore more attractive for companies to implement enterprisewide solutions. "In the past, if you looked at a per seat cost of \$6,000 or \$8,000 or \$10,000 to implement imaging, you probably said I will limit this to 50 people or so," Rupert says. "So now you have a fairly expensive jukebox and imaging system that only 50 people have access to. With Web browser-enabled systems you can all of a sudden roll it out to 7,000 users and this opens up a whole new set of possibilities. Now the users can more easily justify it from a cost basis."

WORKFLOW WELLNESS

HP offers many products and services that operate in all four arenas. For instance, HP optical jukeboxes are recognized as among industry leaders, and HP T500 and HP 9000 servers can be found running imaging and workflow applications in many enterprises.

One of the major workflow partners that HP has worked with over the years is FileNet (Costa Mesa, Calif.),

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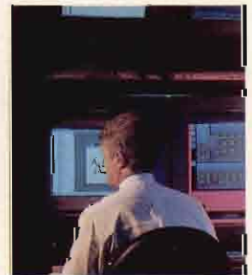
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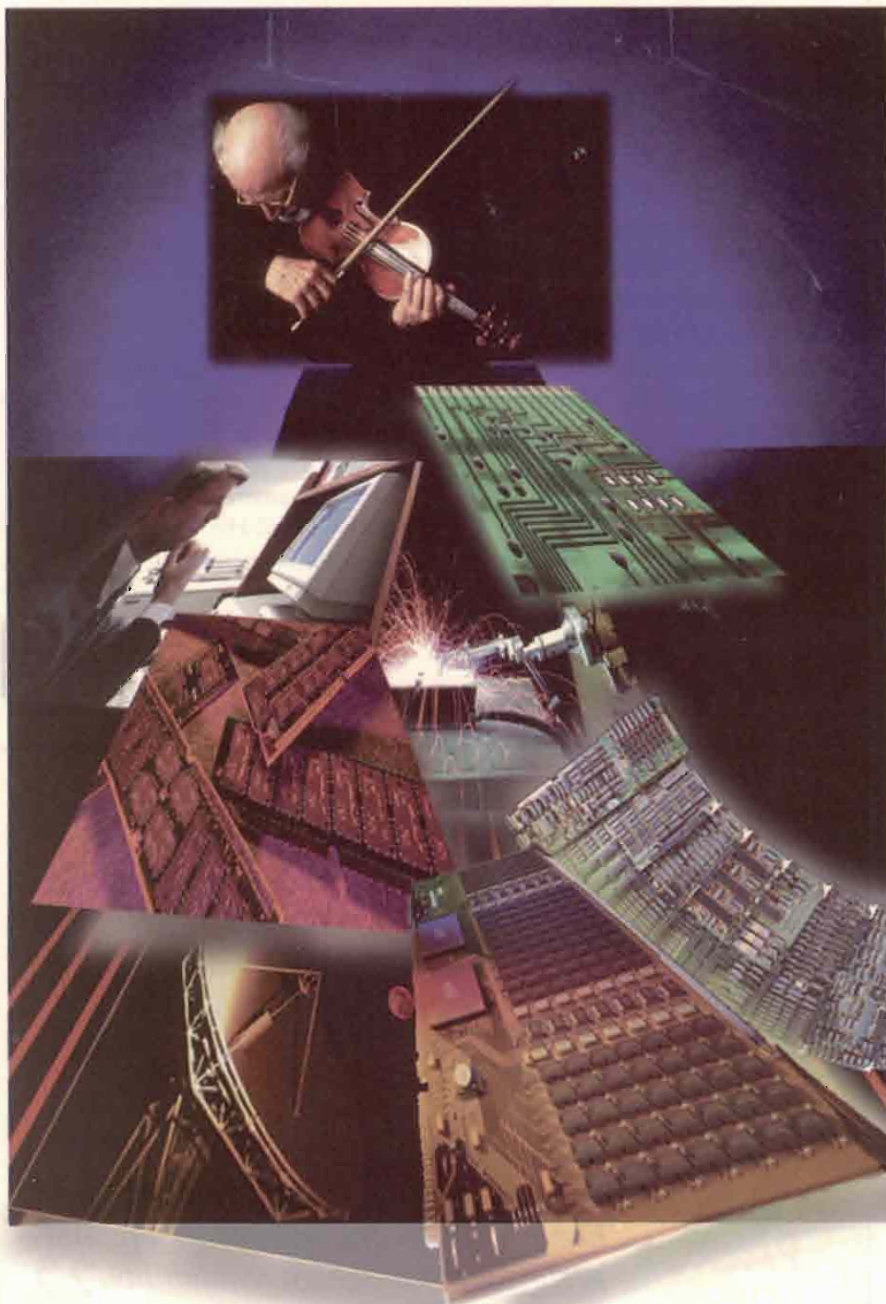
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COLD FUSION

who the Delphi Group calls the market leader in automated workflow applications. According to Delphi, FileNet's Workflo and Visual Workflo products accounted for a 20 percent share of the workflow market in 1996, four times that of the largest competitor, IBM.

Sisters of Providence Health Plans of Oregon (Portland, Ore.) is an example of an HP customer that has automated workflow and incorporated imaging to try to reduce costs and improve efficiency. The HMO and PPO provide services through a network of six hospitals and several thousand physicians. In 1992, Sisters' regional headquarters was receiving about 5,000 pages of claims information per day, and was primarily using paper-based filing and processing systems. If a member or care provider called to inquire about an HMO claim, the wait could be anywhere from several days up to a week for a response.

In September of 1993, Sisters of Providence chose FileNet document imaging software and Workflo software that runs on the HP 9000 Series 800 computer. Image Process Design (Farmington Hills, Mich.), a systems integrator, helped them write their application, which went live in February 1994. Using the system, Sisters' imaging staff now scans claim forms at their workstations in the mail room. FileNet's Workflo identifies the scanned forms by categories, then sorts and routes them to analysts based on the complexity of the case. As a result, claims analysts sort and code forms by hand for only 15 percent of the claims (as opposed to 100 percent before the system was installed), giving them more time to devote to examination of the claims themselves.

After the documents are indexed and analyzed, the system commits them to long-term memory on optical disks. An HP optical disk jukebox, with software enhancements by FileNet, stores more than 750,000 claim form images for quick access. Using COLD, records can now be called up and analyzed, and customer or health insurance company questions that formerly took days can be answered almost immediately.

According to Akil Nathan, senior

operations analyst for imaging at Sisters of Providence, the system has meant that they can receive 36 percent more claims per month, but with 16 percent fewer customer queries. He adds that "online claims processing is up 45 percent, also without increasing the number of online analysts."

While healthcare is one industry that is considered a hot market for imaging and workflow technologies, another is the insurance industry, long a bastion of paper-based processing for claims, policy records and reports.

INSURING IMAGING

Prudential UK is the largest retail insurance company in the United Kingdom, with over 12,000 sales representatives in 200 branch offices across the country. It also turned to HP and FileNet, along with other partners, to design and implement an imaging, workflow and document management

Workflow systems allow companies to map and manage business processes such as the approval of a loan application or tracking of shipments and invoices.

system to help improve efficiency.

Prudential's solution was written in-house with systems integrator Cambridge Technology

Partners (Cambridge, Mass.). It uses a Sybase database to store details of work items as well as organizational data and management information. FileNet software provides document image storage and retrieval. The application creates screen images of all forms and correspondence, enabling these images to be routed as "documents" to individuals and for work in progress. The goal of the system was simply to replace paper files. Prudential did not ask Cambridge Technology to re-engineer business processes. The application runs on an HP 9000 Enterprise server and currently supports 150 users in the Southern Region office. A second phase planned for the near future will scale to serve 550 users countrywide.

The initial phase of the project

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(now in operation) handles up to 13,000 documents scanned in on a daily basis. When the second phase is fully operational, capacity will be up to 55,000 documents per day. These will be stored on eight HP SureStore optical disk jukeboxes with 130GB of storage capacity. In addition, the workflow and imaging application will be scaled up to an HP 9000 T-class Corporate Business Server.

To date, Prudential UK has invested more than \$9 million in the project, and expects that increased productivity of 30 percent will save the company \$7.5 million annually.

Dennis Ratcliff, IT delivery manager at Prudential, says, "There is no doubt we are in a tough market and that cost, from a policy point of view, is paramount. However, we entered this project with a customer service focus and the belief that costs would be saved on the way. We can now give up-to-the-minute information over the telephone; the back office is integrated into the system so that staff can automatically send work to technical services, and managers have a complete overview of the system."

Management information for the Prudential UK is provided via a separate Sybase database which resides on an HP 9000 H-class enterprise server.

THE BURDEN OF PAPER

Another organization that sought HP and partner help to solve its paper burden was the Washington State Department of Labor and Industries (L&I). L&I is one of the largest providers of workers' compensation insurance in the country. The department administers the Washington State Fund, covering 140,000 employers and 1.4 million workers statewide. Each L&I claims adjuster handles between 300 and 500 cases at a time.

L&I processes over 26,000 pages of mail daily. Prior to automating the system, documents were sorted, cataloged and filmed by hand. The resulting paper files and microfiche films were stored centrally and handled by many different people. Just filming and filing a claim used to take up to three weeks, and workers formerly pulled up to

16,000 microfiche images every night in response to requests from claims adjusters. The department estimated that an average day saw an additional 1,200 pages of requests that had not been made the previous night.

L&I contracted with Andersen Consulting to develop a solution called With Imaging Service Excellence

(WISE) that routes all incoming documents directly to the imaging/scanning section, where they are electronically scanned and sent to 40 workstations in two automated claims units. The system is built around an HP 9000 file server with HP-UX and uses Informix as its online database. Two HP Model C1705M optical disk libraries hold the

DO AS WE DO

Instead of just informing its customers about the benefits of imaging, automated workflow and COLD, HP is using those technologies to help keep track of its employee records.

In March, Feith Systems and Software Inc. (Fort Washington, Pa.) completed a 15-month project to replace HP's personnel employee records imaging system with the Feith Document Database (FDD).

FDD is a complete document storage and management system. It integrates imaging, COLD, document management, fax and workflow with existing legacy applications.

As part of an ongoing re-engineering process, HP's Personnel department replaced its existing records imaging system with the FDD and custom built front-end for HP's Human Resources systems. The new system allows HP's U.S. employees and managers to securely access personnel files using PCs and workstations.

Phase one of the conversion of images from HP's legacy imaging system commenced in Q1 1996 with the installation of a 10-user FDD Management of Human Resources application at HP headquarters in Palo Alto, Calif. At completion, 9 million images had been brought online. These included employee records from resumes and letters of hire, to benefits information.

Today, the FDD system entitled "OFIS" (HP's Optical File Imaging System) has rolled out to all HP Human Resources users throughout the United States.

The FDD Management of Human Resources systems' architecture is designed to accommodate HP's high-volume human resources operations with FDD clients operating under Windows 3.1, Windows NT and Windows 95. Supporting an Oracle database, FDD is running on an HP 9000 Series 887/H50 with 768MB of memory and 46.9GB of disk space. The server is running in a TCP/IP network environment. A 200T and a 600FX optical jukebox contain the employee records.

By the end of 1998, HP employees should be able to access their personnel files through standard Web browsers using WebFDD, the Web version of FDD. WebFDD extends the power of FDD to corporate intranets or the Internet. It allows users to access scanned and faced images, COLD pages, as well as computer files such as word processing documents, spreadsheets and e-mail from FDD file cabinets through the Web.

—Deborah Schwartz, Associate Editor

images, each with four optical drives.

None of that, though, seems to matter to claims adjusters who simply describe the benefits of being able to use an automated system to do what was formerly a laborious paper-based and manual filing process. "I've noticed a much quicker response time," says Debbie Kirpes, a claims adjudicator. "And I no longer need to use the microfiche for a majority of my work. Now I use the 'Claim Select' box."

—James Dukart is with the Washington News Bureau.

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In December 1996, Stratus licensed Hewlett-Packard Company's HP-UX™ UNIX operating system (OS), enabling it to run on their Continuum family of fault-tolerant systems. This agreement allows business-critical applications that run on the HP-UX OS to run *unchanged* on Stratus Continuum systems.

Stratus' implementation had to pass HP's own certification tests, and maintain the Application Binary Interface (ABI) and Application Programmer Interface. ABI compliance guarantees that software will run without recompiling on any platform that uses that ABI. With this compliance, any application that uses the HP-UX operating system ABI will run unchanged on a Stratus system that runs the HP-UX OS.

Further, making fault tolerance transparent to developers means they do not have to write specific fault-tolerant operations into the software; fault tolerance is incorporated automatically. This is even more important with the HP-UX OS, because it has to be source code and binary compatible, thus enabling a user to run an application on a Continuum Series computer, no matter which HP-UX operating system platform it was written for.

The unique collaboration between Stratus and HP has resulted in an implementation of the HP-UX operating system that runs on the Stratus Continuum platform. It bears the HP-UX operating system name, which means applications that run on HP platforms will run - unaltered - in the Stratus Continuum fault-tolerant environment. These applications include mainstream products from companies such as Oracle, Sybase, and Informix, as well as other solutions and tools listed in the HP-UX operating system product catalog.

Stratus can be reached via Internet at <http://www.stratus.com>

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By George Luntz

In The Year 2000

Don't Let Millennium Denial Shut Down Your Organization

SO MAYBE THE WORLD WON'T ACTUALLY END ON JANUARY 1, 2000. But what about your organization? Have you begun to execute a planned strategy for dealing with the Year 2000 problem? If not, you may already be too late. In fact, according to many industry experts, if you are not actually modifying code by October 1997, you will almost certainly fail to complete and adequately test the changes necessary to ensure your organization's continued viability after the millennium change.

Now that I have your attention, here is a quick guide to getting the project started. This is not a project approach, however, but rather a reminder to address certain key issues.

GET EXECUTIVE BUY-IN

If your CEO and other executives don't believe this is a major problem, or that it is restricted to large companies, then you need to educate them — quickly. The year 2000 cannot be

postponed. You cannot simply ask the Pope for a dispensation to replace the Gregorian calendar with, say, the Johnsian calendar that rolls us back 30 years. This project is an MIS nightmare — fixed time frame, non-negotiable scope and fast diminishing resources. If you don't believe me, try to hire five COBOL programmers to help you. The cost of failure is huge. Business disruption, exclusion from current trading partnerships, and lawsuits claiming executive failure and nonfeasance are just some of the possible outcomes of failure to act. The cost of the project will be between \$1 and \$2 per line of code in the organization, and

higher if you do not start now. Get the budget to proceed now!

GET STARTED NOW

Cut out the RFPs and other analysis-paralysis activities. Quickly choose a path and act on it. There is no time for delay. Don't forget to:

- ✗ Perform an enterprisewide detailed inventory and assessment. This includes not just in-house MIS systems, but any third-party packages, desktop systems, embedded systems (such as PLCs, security systems, elevators, etc.), data interfaces to external sources, operating systems and utilities.

- ✗ Analyze each for expected failure date and cost of failure, mission critical nature, and prioritize them. Decide which you will replace, which will be retired and which must be fixed, and then develop a detailed plan for each one. This is **not an IT-only problem**.

- ✗ Acquire and use automated tools. Wherever possible, use tools to assist

you. Don't expect silver bullets — there are none. However, don't believe that you can perform this massive task manually as accurately or as quickly as you can with tools. There are tools that can help in impact analysis, code conversion, data conversion and testing.

For example, take a 3 million line application. Using guidelines from a variety of industry sources, you can expect a programmer, using manual methods, to correct and unit test between 40,000 and 200,000 lines of code in a year. With an average of 120,000, your 3 million line project will take 25 man years, at a cost of \$3 million, using \$120,000 per person year, through unit testing. Using an integrated tool that addresses and automates much of the code analysis, conversion, data conversion, and helps with test data preparation and results analysis, you can often increase productivity to 250,000 lines per person year. That computes to 12 man years, saving 13 man years, or \$1,560,000

through unit testing.

X Question third-party vendor claims of compliance. You will have to test every third-party package you have. Just because a vendor claims to support four-digit years or sends you a new release, it doesn't mean the package will perform correctly in 2000. One company we work with has spent over \$1 million correcting a "compliant" package that stored four-digit years, but where internal date routines operated only on two-digit years.

X Test, test and test again. Understand up front that most organizations, yours included, do not have adequate test data, test plans and testing tools to get the job done. Up to 50 percent of your cost will be in this arena. So right at the outset, start to put in place an adequate testing infrastructure with data test beds, scripts, plans and tools for screen capture and playback, and regression testing. You will test your applications at least four or five times — for functional equivalence,

Year 2000 compliance and boundary testing for each year in which forward- and backward-looking applications cross the Year 2000.

The millennium change project, while of the utmost urgency, is manageable if you approach it in a well thought out and structured manner. The most important piece of advice is this: don't deny you have a problem.

— *George Luntz is president and founder of Allegiant Legacy Solutions Inc. (Cincinnati, Ohio), a Year 2000 tools and services vendor, publisher of the ADAPT/2000 Year 2000 Tool Set and an HP Cure2000 member.*

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Editor's Note:

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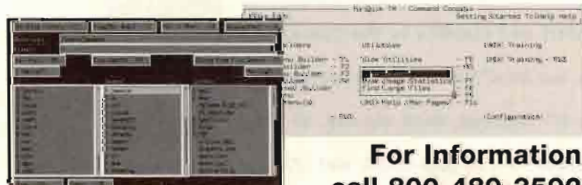
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Code Countdown

NASA's Kennedy Space Center Selects Razor For New Shuttle Launch Processing System.

Deborah Schwartz

When NASA's Kennedy Space Center decided to upgrade their Launch Process System (LPS), which is the software that is responsible for everything related to the shuttle from the time it touches ground on a landing until the moment it takes off for space again, it had a huge project ahead.

The rewrite of LPS, which was originally developed in the early 1970s, would translate into the creation of hundreds of programs, thousands of files and millions of lines of code. NASA, therefore, needed a mechanism to keep the project manageable. Enter Tower Concepts Inc. (New Hartford, N.Y.) with Razor, a Configuration Management (CM) system, to help with the upgrade from the LPS to the new system called the Checkout and Launch Control System (CLCS).

Started in late 1996, the project runs through Fall 2002, with releases scheduled at six month intervals. Over 200 engineers will be involved, including contract help from Lockheed Martin, INET and the United Space Alliance. The CLCS is being developed on a mix of UNIX platforms (including SGI, Sun, HP and Digital machines) as well as PCs running Windows 95 and Windows NT. Engineering will be using object-oriented techniques, C, C++ and Java.

The final system will monitor

the Shuttle and its ground equipment, including all environmental controls and equipment that load the propellants. Consoles will communicate information to and from hardware connected to the numerous ground support systems. Overall, some 40,000 temperatures, pressures, flow rates, liquid levels, turbine speeds, voltages, currents, valves and switch positions are monitored.

Al Menendez, president of Space Coast Information Systems (Melbourne, Fla.), was the consulting engineer involved in NASA's decision to use Razor. Menendez found that while other CM products had a substantial learning curve, "Razor offers a fresh alternative with a simple and intuitive GUI, a command line interface, integrated change tracking system, integrated e-mail, customizable forms, a promotion scheme and a Web interface, at a very fair price. It was an easy decision."

CM tools assist software developers in keeping track of the many different versions and sub-units of their code. Problem Tracking (PT) tools, meanwhile, help developers manage information about bugs, product problems and possible future enhancements to the product.

Razor provides CM and PT solutions in an integrated package. The issues program could be considered the heart of the Razor package. It's a configurable problem tracking system, wherein locally defined problem forms present themselves on screen as X windows, using text fields, text windows and check boxes for whatever information is important to your work.

Through the versions program, Razor provides a window interface to all of the standard version control needs such as checking files in or out for edit,



parallel development, reporting changes, viewing differences and browsing. The final product is actually the culmination and integration of innumerable changes spread across a wide number of files.

Tower Concepts Inc. can be reached at 103 Sylvan Way, New Hartford, NY 13413; (315) 724-3540; www-sales@tower.com; www.tower.com.

This Ain't No Drill

Citrix WinFrame Sparks Better Application Deployment With The Los Angeles Fire Department.

Jon William Toigo

When a fire or other emergency is reported in the city of Los Angeles, Calif., the LA Fire Department (LAFD) is on the spot within minutes, doing what they do best: saving lives. The job is challenging and demanding — the stuff of television and motion pictures. Less appreciated, perhaps, is the work the LAFD performs behind the scenes and between emergency calls.

IN THE TIP SEAT

Imagine a corporate enterprise with 115 branch offices and a need to deploy mission-critical applications across a geographically-dispersed network to over

stations and 12 administrative offices," reports Dale Thomson, director of systems for the LAFD. "This network interconnects 600 HP and IBM desktop computers that are staffed around the clock — so, about 1,800 users in three shifts."

The desktop systems, running Windows, provide access to administrative applications that are vital to the smooth operation of LAFD operations, according to Thomson. Implemented in January of this year, the new infrastructure eliminates the need for staffing schedules and other administrative matters to be coordinated via telephone calls and interoffice mail. However, the mission-critical applications do not reside on the desktops of the users.

At the core of the automation solution deployed at LAFD is WinFrame server technology from Citrix Systems Inc. (Fort Lauderdale, Fla.). Citrix WinFrame provides multiuser extensions to the Windows NT server operating system. In effect, the three NT

Servers deployed by LAFD at their headquarters host the administrative applications and, through the Citrix WinFrame extensions to NT Server, act as application servers for the network.

Citrix WinFrame extensions enable the concurrent, simultaneous operation of the department's custom-developed, Clipper-based applications on each server by end users in fire stations and administrative offices. End users see the applications on their local desktop as though they are operating them locally. In fact, the applications are located tens of miles away on centrally-located servers that can be managed and administered by systems personnel.

WinFrame multiuser application server software is the only authorized extension to Windows NT Server under license from Microsoft. WinFrame simplifies the deployment of 16- and 32-bit Windows, client-server and legacy applications to users over dial-up, LAN, WAN, intranet and Internet connections regardless of client hardware, operating system or available bandwidth. WinFrame's thin-client architecture provides high-performance application access required by users while the multiuser application server design offers professionals single-point-of-management and administrative control.

LARGE DIAMETER NETWORK

In operation, the WinFrame application server communicates with the desktop client via Citrix Systems' ICA protocol. Conceptually similar to the UNIX X Windows protocol, ICA allows an application's user interface to execute with minimal resource



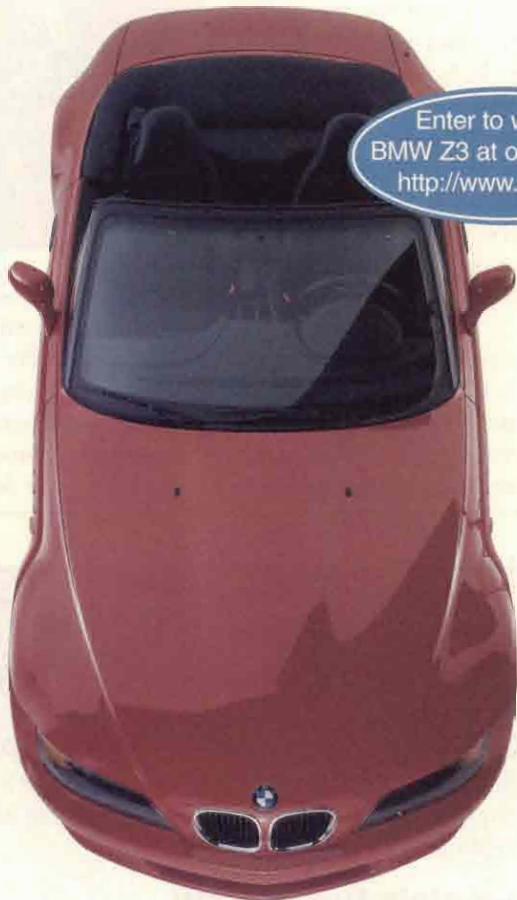
1,800 workers. Without the fire department logo, this essentially describes the configuration of the LAFD technology infrastructure. "We provide a dedicated 56KB circuit from LAFD headquarters to each of our 103 fire

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consumption on a client PC while application logic executes on the WinFrame multi-user application server. This distributed Windows architecture allows Windows 16- and 32-bit applications to perform at very high speeds even over low bandwidth connections.

According to Citrix, ICA provides true location independence for Windows applications by running the Windows program at the server and the program's user interface at the client device. ICA is designed to run over industry-standard network protocols such as TCP/IP, NetBEUI, IPX/SPX and PPP, and over industry-standard transports such as async, modem, ISDN, frame relay and ATM. ICA clients can be any device from PCs to network computers or network appliances.

Thomson reports that the LAFD's selection of a Citrix WinFrame server solution came after consideration of several alternatives, "We probably could have used PC Anywhere and lots

of modems, but with training and equipment, it just wasn't cost effective. I was familiar with the Citrix WinFrame solution and there is just no competitive solution available."

The performance of the Citrix



WinFrame architecture has been outstanding, according to Thomson, who reports that the multiuser application servers are expected to save over 39,000 staff hours annually. "We are seeing WinFrame playing a vital role in improving the department's day-to-day

operations and increasing the employee's ability to concentrate on more critical tasks. It allows our staff to spend less time on administrative work and more time training and performing other important duties, which is a benefit to all Los Angeles residents."

Thomson says that the LAFD is already making plans for the future of Citrix WinFrame at the department, "We will probably add two more WinFrame servers in the next fiscal year. We are looking at placing other office applications on the server, providing limited access to the Internet in the medium-term future, and we have video telephony under study now."

The key mission of the LAFD is to save lives and property. Citrix WinFrame helps the department to realize those goals more efficiently.

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HP AND MICROSOFT JOINT STRATEGY: PRODUCTS AND SERVICES

WHAT IS THE HP/MICROSOFT JOINT STRATEGY?

HP and Microsoft® have developed a three-point strategy to help customers derive greater value from, and lower the total cost of ownership of large enterprise-computing environments and simplify their IT management. To support the strategy, the companies are introducing a series of products, services, and programs to reduce enterprise computing costs while greatly increasing productivity.

WHY WAS THIS STRATEGY DEVELOPED?

Customers are deploying Windows NT™ server throughout their businesses, and are seeking enterprise-class solutions that can simplify management of Windows NT, UNIX® systems, and mixed heterogeneous environments. With Microsoft's offering of industry-leading products, and HP's leadership in delivering enterprise-class services and support, customers will benefit from top-quality, comprehensive solutions that are marketed and delivered in a focused approach. This strategy will make HP the leader in Windows NT, UNIX systems, and heterogeneous enterprise solutions.

WHAT ARE THE THREE PILLARS OF THE STRATEGY?

The three areas of collaboration derived from the HP and Microsoft Joint Strategy are:

- Products and services that address total cost of ownership (TCO)
- Windows NT Server-based enterprise solutions
- Solutions for heterogeneous environments

PRODUCTS AND SERVICES THAT ADDRESS TCO

HP and Microsoft's joint TCO initiative focuses on developing and delivering products, services, and technology to help customers design, implement, and manage cost-effective enterprise environments. HP is also establishing a new organization within the Network and System Management Division to market TCO solutions. The initiative's first deliverables include the following:

- Joint delivery of TCO assessment services to provide recommendations on how to improve an IT organization's ability to lower costs and increase productivity. These services are available now.
- Incorporation of Microsoft's Zero Administration Windows (ZAW) initiative into HP's enterprise computing management products and services. HP plans to develop technology that gives end users network access from any smart card-enabled Microsoft Windows PC. This will enhance security while providing more flexible utilization of Microsoft Windows-based computers. These capabilities will lower costs by optimizing all available PC resources.
- Introduction of the HP NetVectra PC series in the second half of 1997. These PCs have an expected entry-level selling point of about US\$1,000.
- Introduction of a service and technology combination, delivered by HP, that will enable predictable system service levels based on explicit cost and service agreements between business end users and IT organizations. This package will include HP OpenView system and network management software along with Microsoft Windows technologies and management products, (including Systems Management Server_SMS).
- HP's delivery of a new TCO capability based on HP's internally deployed PC-Common Operating Environment (PC-COE). PC-COE has helped HP reduce its desktop computing costs by US\$200 million per year.

**WINDOWS NT
SERVER-BASED
ENTERPRISE
SOLUTIONS**

Responding to customers' needs for Microsoft Windows NT-based enterprise solutions, HP and Microsoft are collaborating on the following:

- Promote Microsoft Exchange Server as a strategic Windows NT messaging solution for the enterprise. The companies are adopting a common messaging technology strategy and will recommend Microsoft Exchange Client and Microsoft Outlook Client as the messaging client for both Windows NT-based Exchange Server and HP-UX-based OpenMail server environments
- Expand HP's messaging practice skill base to follow the market trend to Microsoft Exchange Server. HP consulting services for Microsoft Exchange Server provide assessment, architectural design, implementation, and management consulting to enable the delivery of an integrated, scalable, and cost-effective messaging infrastructure. In addition, HP will offer transition services to Microsoft Exchange Server for Microsoft Windows NT Server customers. These services are available worldwide immediately.
- Open and jointly staff an Enterprise Solutions Center in Redmond, WA, to optimize Windows-NT Server-based enterprise solutions running on HP NetServer systems. The center will focus on performance optimization and proof-of-concept testing for leading NT enterprise software solutions on HP's NetServers. Initial projects will incorporate SQL Server 7 stress testing, Exchange optimization and ERP tuning.
- Expand HP's education services for Windows NT Server and Microsoft BackOffice environments to include skills analysis, custom education training plans, curricula, and certification programs.
- Launch HP consulting services for customers that want to implement Microsoft Windows NT Server enterprise environments. HP will offer a full range of planning, implementation, and operation consulting and integration services.
- Deliver high-availability Microsoft Windows NT Server-based products and services. HP plans to adopt Microsoft's Windows NT Server clustering technology (code-named Wolfpack) as its strategic clustering technology for its Microsoft Windows NT Server-based solutions. As one of Microsoft's core Wolfpack Partners and a Microsoft Authorized Support Center (ASC), HP offers two services that provide scalable levels of support to ensure maximum availability in enterprise-class environments. These services_Critical Systems Support and Personalized System Support_enhance the Microsoft Service Advantage family of services and HP's existing high-availability services for HP-UX environments. Microsoft endorses HP as a strategic partner for high-availability Windows NT services.
- Endorse Microsoft Internet Information Server and HP NetServer systems as a comprehensive platform for Internet, Intranet and Extranet solutions. Microsoft and HP will jointly promote web-based solutions that customers can easily integrate into their environments. The companies also will collaborate on a variety of Intranet solutions, such as a web-based project for Stanford University's Graduate School of Business based on Windows NT and HP desktops and servers.
- Launch programs to aggressively integrate Windows NT into existing enterprise environments. The programs will combine up front consulting services, migration tools, and post-sales support as part of a low risk approach for customers

SOLUTIONS FOR HETEROGENEOUS ENVIRONMENTS

migrating to HP's Windows NT-based systems from competitors' hardware platforms. The first program is expected to focus on the financial services market.

- HP will port its Virtual Vault product to Microsoft Windows NT, which will facilitate secure transactions across the World Wide Web.
- HP OpenView IT/Operations will be available on Windows NT by the end of this year.

HP and Microsoft will collaborate on joint products, services, and technology that make it easier for customers to integrate and manage heterogeneous computing environments. Development will focus on the following areas:

- Tools and procedures that leverage industry standards to provide users with reliable messaging within mixed HP OpenMail and Microsoft Exchange environments. These tools and procedures will provide messaging services, common calendaring, and directory synchronization.
- Complementary, scalable, enterprisewide network and systems management solutions. HP will actively market Microsoft Systems Management Server as part of an HP OpenView IT/Administration package, and Microsoft will distribute, with the next major release of Microsoft Systems Management Server, HP OpenView IT/Administration and IT/Operations agents. HP plans to incorporate standardized Web-Based Enterprise Management (WBEM) technology, including the Common Information Model (CIM), into its management products. HP and Microsoft are supporting the standardization effort of WBEM.
- Single-sign-on solutions, developed by HP with support from Microsoft, to simplify user access and administration in heterogeneous environments.
- Collaboration on Microsoft DirectX as part of a joint effort to continue aggressively pursuing the technical computing market. Microsoft will license HP's soon-to-be-announced Large Model Rendering (LMR) technology and include it as an integrated component of DirectX. HP will offer DirectX on all HP-UX technical workstations. This will enable independent software vendors to easily deploy 3-D technical engineering applications across HP-UX and Microsoft Windows NT Workstations, based on a common set of application programming interfaces (APIs).
- HP's high-availability support services, which are being launched to complement HP's current consulting and education programs for heterogeneous environments. These services will address integration of a wide variety of environments, including Microsoft Windows NT, HP-UX, mainframe, and UNIX system environments.



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Gotta Get A Message To You, Hold On

Last month's column was about incorporating some commands into a shell script that would

send messages to the **syslog** daemon. This month, we'll tackle sending messages from compiled code, and then how to configure **syslog** to store or forward all these messages to where we want them to go.

There are four system calls that control the sending of system log messages from within code. **openlog()**, is used to initialize the log file (if needed) and to set defaults used by the **syslog()** call. **setlogmask()** is used to set what levels of logging are passed onto the system log. **setlogmask()** is usually used in a large complex program, where there are many places that can send messages. This is used to control which ones are actually allowed to be sent. And the **closelog()** call is rather obvious, as it cleans up at the end of a routine or the program itself. This leaves the real target of this discussion, the **syslog()** call.

The **syslog()** call is used to send the actual messages to the **syslog** daemon. You supply arguments to this call that set the priority level, the facility and the actual message. The message is sort of a **printf()** like format with variable parameters following the string. We can see this below. Here is an **openlog()** call:

```
openlog("MyLM", LOG_PID|LOG_CONS|LOG_NOWAIT, LOG_LOCAL2);
```

To dissect this, the **openlog()** call sets the string **MyLM** to be prepended to every message logged. This is typically the name of the program or subsystem

that this code is in — the fictitious "My License Manager" program in this particular example. Next is a "choose this-or-that option" type of list. There are four options, and we decided to use three of them here, thus they are all logical choices

together with the | symbol. In

order (left to right), these three options say to include the process ID number, write to the console if **syslogd** is not accepting messages, and not to wait on child forks before sending messages. The option not used here is **LOG_NDELAY**, which forces the connection to **syslogd**. Typically the connection is only made if a **syslog()** call executes.

The last argument (**LOG_LOCAL2**) is optional, and sets the default facility used in **syslog()** calls if they do not provide their own facility argument. As listed in the last column, the facility is used to categorize messages in **syslog**.

The facilities available to the system calls are:

LOG_KERN For messages generated by the kernel. We cannot generate these.

LOG_USER Default for any user processes.

LOG_MAIL The mail system.

LOG_DAEMON System dae-

mons, but many application writers consider their daemons as system daemons (like in our example).

LOG_AUTH The login type programs.

LOG_LPR The lp system.

LOG_LOCAL0 thru **LOG_LOCAL7** These are for our own use. We can assign different numbers to be handled differently. For example, I might have **local 0** configured to write to the entire admin staff, but messages from facility **local1** only notifies me.

```
if ( BadThing == 1 ){
    syslog(LOG_ERR, "Cannot write to current: %m lockfile.", LockFile);
}
```

Typically, the **syslog()** call would be executed from inside some loop, as an event handler, or after we tried to perform an action that might fail. Here, we see it executed if the **BadThing** variable somehow got set to **1**. This call has three arguments. The first, **LOG_ERR**, is the level.

Remember that the **setlogmask()** call might have this message level masked to not be sent, but in our example, we never called **setlogmask()**, so it will be sent. We will see later that **syslogd** might also be configured to either accept or ignore this level. The levels were listed in the last issue. To see them online, read the `usr/include/syslog.h` file.

The next argument is the actual string to be logged. If you follow convention, this will be cryptic — and useless. In the example above, we ignored that convention and tried to be helpful to the troubleshooter. Note that this string is similar to those supplied to **printf()**. You can have variables inserted into the message by putting a **%m** in

the string, then list the variables, one per %m after the string. In the above example, we want the contents of the variable **LockFile** to be printed in the message string.

In the example above, we did not specify a facility, so the default set with **openlog()** was used. If we wanted to include it in the **syslog** call, we would give it a choice of level, like this:

```
syslog(LOG_NOTICE|LOG_DAEMON,"cache file is big: %m",C_Size) message is to be directed.
```

Although more details are in the man page, a programming reference manual might be of more help.

Now we know how to send all these system messages to the **syslog** daemon, but what happens when they get there? That's up to us. And it turns out to be the easy part. Of course, that assumes that you understand that a messages "priority" consists of two parts, the facility and the "urgency" level of the message. It is these two selectors that we use to set up configurations for incoming messages.

First of all, remember that **syslogd** must be configured to run at boot time. If not, messages sent by scripts, programs

or the operating system will not get logged. When **syslogd** starts, it reads the /etc/syslog.conf file. This is the file we use to perform configurations.

The format of a line in the config file is:

```
Priority [TAB] Action
```

A priority can be a semicolon separated list. A priority has the format of:

```
Facility.Level
```

Some examples of priorities are:

```
*.emerg
mail,lpr,daemon.crit
```

Note that the * means any. So we are saying "Any facilities emergency level" messages in the first example, and "mail system, lp and daemon facilities at the critical level" in the second example. Remember that we can make this a list, so if we are going to assign the same "action" to both of these,

we might use this:

```
*.emerg:mail,lpr,daemon.crit
```

Also remember that a line specifying a priority level of **info** means that level and above. There is a special facility named **none** that can be used to turn things off. For example **mail.none** as a priority means no mail messages.

An action is the location where the message is to be directed. This can be written to a file, written to a user that is logged in, or forwarded to another host's **syslogd**.

To write to a file, just put the full pathname after the required tab character separator. To write to a user's console, just list the usernames, separated by commas. An * means all users. To forward to another host, use the format of @hostname where hostname could be a fully qualified domain name.

Here is the default file from HP-UX 10.2:

```
mail.debug /var/adm/syslog/mail.log
*.info:mail.none /var/adm/syslog/syslog.log
*.alert /dev/console
*.alert root
*.emerg *
```

From this, we can see that **mail debug** (the lowest) and above (meaning all) level messages are sent to a mail.log file, and all other **info** level and above messages are sent to the syslog.log file. All mail facility messages are excluded from the syslog.log file. Note that **alert** and above (**emerg** is the only level above **alert**) are sent to root's terminals if logged in. If you are the system admin, and often use an account other than root, you might want to add yourself to that list:

```
*.alert root,frederm
```

If there is another machine that someone who cares would probably be logged in at, you might forward messages to that machine also:

```
*.alert root,frederm
*.alert @central1
```

That machine would then alert root if logged in. It would show the sending

host. Beware if that machine is also forwarding, because you will get messages about the wrong host having problems.

If we wrote our own **syslog()** call into code that we developed, we can configure those messages separately. Taking the **syslog()** call from the example above, we could configure **syslogd** to store these messages to a special file:

```
local2.* /opt/myapp/logs/system.log
```

I could also keep messages from this code out of the system logs:

```
*.info:mail.none;local2.none /var/adm/syslog/syslog.log
```

Note that the configuration file uses the names from the header file like **LOG_LOCAL2**, removes the **LOG_** and then changes them all to lower case. Yes, it's simple, but annoying to keep straight. Remember: the shell **logger** command also uses these shortened lower case names. You do not have to stop syslog.d to get it to use your edited config file, just send it a **kill -1** and it will restart. A good way to do this is:

```
kill -1 `cat /etc/syslog.pid`
```

So, to wrap it all up: it might be nice to see what a message sent to **syslog** would look like. The example used in the code above might appear like this:

```
Sat Nov 2 11:07:26 CST 1996
swift MyLM[413]:Cannot write
to current: /var/lmlock/lock file.
```

Of course, it would have all been on one line, but you can see the timestamp, the sending host (**swift**), the string assigned to **openlog()** (**MyLM**), the process ID caused by the **LOG_PID** argument to **openlog()**, and finally the message string.

—Do you have a message about messages? Message Fred at frederm@aol.com.

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Windows NT: A Pain In Your Domain

Although it has been somewhat popular among UNIXphiles, Banyanites and Novellians to

characterize Microsoft as the “overly powerful” opposition, it’s clear there is a struggle going on between these four for marketshare in the enterprise NOS battlefield. In May, Cisco and Microsoft announced that Cisco will begin licensing Active Directory (a product we have been told to expect in the latter half of this year) from Microsoft for implementation on UNIX-based platforms.

It’s a “flanking move” by Microsoft to gain a partner that will help it capture a market where the company has met heavy resistance. This strategy will assuredly prove to be more advantageous to Microsoft’s reputation in the enterprise NOS department than it will be to Cisco’s. Cisco already has a proven record.

A key question to consider when deploying an enterprise NOS is: “What can it do for or to the company’s profit margin? If your company is considering NT, you may wish to reconsider — for now. In a full-scale enterprise arena, Microsoft’s implementation of domains to deploy their resources is at best short of the mark.

And if Active Directory is to be successful, it had better take up the slack in the enterprise resource distribution process that domain administration appears to create. Domains and trust relationships are hard enough to administer. I don’t know of many enterprise NT administrators/managers who are

bestowing thanks on Microsoft for its ability to make their job easier.

Ken Dymond, who has deployed over 70 NT servers in his capacity as an integrator for the United States Marine Corps, says “I have managed comparable size NT, Vines and NetWare 3.x and 4.1 networks, and the NT domain structure doesn’t and can’t compete with a true hierarchy-based naming/management system. The larger the NT

If Active Directory is to be successful, it had better take up the slack in the enterprise resource distribution process.

network, the more administrators you must use to properly manage the network — much, much more than NetWare and Vines.” In fact, the Gartner Group maintains that “the deficiencies of NT render it suitable only for technologically aggressive and IS resource-rich ERP users.”

NT starts off in smaller networks with workgroup modeling. A workgroup model is a peer-to-peer network and allows multiple networked nodes to create shares of file and print services. Password lists are administered locally by the individual creating the shares. Shares and security are decentralized — best applied in small networks that don’t

cross routed paths. Because NetBEUI is the workgroup model protocol of choice with Microsoft-based networks and it’s an unroutable protocol, scalability tends to end at the router.

So, to pass it across a gateway router interface, you have to use “IP helper-address” statements in your router configuration. You can pass NetBIOS NS and NetBIOS Datagram protocols, but that creates a bandwidth issue. Workgroups are a tad chatty, an attribute you don’t want to add to routed network paths if outbound bandwidth is a concern.

Currently, NT uses a “Browser Service” and the Multiple Universal Naming Convention Provider (MUP) to advertise and distribute network-shared resources. The browser service is a database of resources accessed from the local workgroup or domain. On boot-up, a workstation will send a request to a “master browser” for a list of “backup browsers,” from which it gathers a list of available resources.

In a domain, there can be a maximum of three master browsers (for workload distribution). The more resources available in a local domain that need to be tracked by those browsers and the more that list changes (for example, PCs going up and down), the tougher it is to get accurate pictures of what’s available.

The MUP is a standardized method by which resources are named and application layer requests are passed for service to a redirector in a networked PC. Because some of these resources are actually available from workstations themselves, it’s easy to see that Microsoft keeps one foot in the peer-to-peer model and one foot in a true

hierarchy-based client-server resource distribution model — a limiting factor when it comes to larger networks and enterprises. Although peer-to-peer networks can't be matched for rapid deployment and low startup cost in smaller networks, they just won't scale.

TRUST BUSTER

The domain model is a more complex, but a more secure fashion of distributing resources. There are basically four domain models which can be applied to an enterprise network: Single, Master, Multiple Master and the Complete Trust domain model. The defining attribute of all domain models is the trust relationship. A trust relationship is a connection between two domains where one domain allows authentication of users from another. The domain is said to be either trusting or trusted. Trusting domains are logical administrative groupings that allow remote trusted users to access their resources.

Under the single domain model, user account administration is simplified. There is a Primary Domain Controller (PDC) and as many Backup Domain Controllers (BDC) as are needed. But, it is admittedly by Microsoft not a model for large organizations and lacks scalability because of the workloads expected of the PDC.

Under the Master domain model, there are at least two domains, each retaining their own PDC, but all account information resides on the PDC of the Master domain. Global groups can be set up to reflect corporate division of personnel. And, a one-way trust must be set up, with the Master domain being the "Trusted Domain." Account administration is simple, because it's centrally located.

Resource distribution is somewhat more complicated than in the single domain, primarily because global groups are the only groups that can be accessed outside the domain in which they were created. Still, this model is overall a powerful method for the distribution of accounts and resources to a wide audience with the minimum administration curve under NT.

In the Multiple Master model (billed by Microsoft as the most scalable of all

the models), trust relationship management jumps considerably and gets worse with the addition of each new domain. It's at this point in the domain modeling process that users and administrators alike begin to see the issues that affect NT's resource distribution faults. Again, the model in this case is based primarily on distribution of people rather than resources, although one without the other renders both ineffective.

In a Complete Trust domain model, administrators may tend to wonder if Microsoft engineers liked even numbers or if they were out to lunch when the last few paragraphs on domain modeling hit the white paper. Trust relationships get way out of hand in larger organizations, and the word scalability shouldn't be used the same sentence.

Trust relationships in a Complete Trust domain model are calculated with the following formula: $n * (n-1)$. That is to say, an enterprise-minded organization of say 10 domains would require that 90 trust relationships be established. Add another domain and you just jumped to 110 trust relationships. Each requiring administration of its own. If for some reason the trust relationship is broken on either end, it must be completely removed and re-established at both ends.

The bottom line: NT doesn't scale to enterprise levels, primarily because of the heavy administration requirements of domains and trust relationships required between domains in order to distribute resources. Microsoft is, however, rapidly pushing the marketing envelope.

Although the Gartner Group notes that NT isn't particularly scalable now, they do predict that by the year 2000, NT will have captured 60 percent of the marketshare in the enterprise NOS market. And whether there's a need for them or not, NT applications are quickly arriving in the market. Although some those of us pine for the administrative challenges and rewards of a UNIX-based platform, the "point and click" generation has shown its numbers at our flank.

What NOS do you put your trust in for the future? Let Greg know at greg@webnology.com.

Would you like to continue to see articles on this topic?
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3 Ways to be a better host

1 *DataExpress*[™]

If your end users can't reach the data they need, then treat them to DataExpress. Host based data in PC file formats such as Excel, Lotus and Word Perfect Merge File. DataExpress can access TurboImage, Allbase and Oracle databases. Interfaces are available for PowerHouse[®] PDL/QSCHEMAC and OMNIDEX either directly or via the TPI interface. End user and production reporting were never so easy.

2 *ODBCLink*[™]

As an option to DataExpress, ODBCLink greatly enhances desktop access, by providing support for ODBC enabled applications such as Impromptu, MSAccess, Excel, and Visual Basic to name a few. In addition ODBCLink will provide access via a serial/modem connection or via Winsock. ODBCLink can access PowerHouse PDL dictionaries, TurboImage, Allbase, Oracle, KSAM and MPE files. If you are a Omnidex or Superdex site you will be pleased to know that ODBCLink provides access to the TPI interface. ODBCLink is available in both 16 and 32-bit.

3 *EDI Windows*[™]

Electronic Data Interchange (EDI) is bringing true automated efficiency to everyday task formerly done by hand. Successful businesses from all industries world wide are embracing EDI. *EDI Windows* enables the link from your HP3000, HP9000, DEC VAX, RS6000 and WindowsNT, to those all important customers and suppliers, for purchase orders, quotations, invoices and much more.



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CIRCLE 123 ON READER CARD

new Products

SOFTWARE

FacetCorp Offers FacetWin

FacetCorp announced that FacetWin now enables the seamless integration of Windows 95 and Windows NT clients with HP-UX 9.x- and 10.x-based servers. FacetWin includes an all-in-one feature set that allows users of Windows 95 and Windows NT clients to transparently access and use the UNIX-based network resources. Other features include networked modem access for PC users, an e-mail POP3 server and remote computing support which provides complete network functionality to users connected via modem.

Contact FacetCorp, 4031 W. Plano Pkwy., Plano, TX 75093; (800) 235-9901; info@facetcorp.com; www.facetcorp.com.

Circle 391 on reader card

Borealis Ships Arsenal 3.0

Borealis Technology Corp. announced the availability of Arsenal 3.0, an enterprise-level sales force automation application that can adapt to the changing needs of corporate sales organizations. Additional functionality or changes can be made without any "downtime," and received with the click of a mouse by a remote user. Arsenal features include complete contact and opportunity management, secure data and application synchronization, access to marketing encyclopedia information, joint calendar management, and full support for e-mail and Microsoft Office applications.

Arsenal Designer and Arsenal Client run on Windows 95 or Macintosh System 7 operating systems. Arsenal Server supports

Oracle databases running on HP-UX and Microsoft SQL Server databases running on Windows NT. Oracle on HP-UX supports the HP 9000/800 family and Oracle 7.x. Pricing ranges from \$1,600 to \$2,600 per user.

Contact Borealis Technology Corp., 4070 Silver Sage Dr., Carson City, NV 89701; (888) 4-ARSENAL; info@brls.com; www.brsl.com.

Circle 389 on reader card

SENSE8 Unveils WorldToolkit Release 7

SENSE8 Corp. announced the availability of its cross-platform graphics library — WorldToolkit Release 7. WorldToolkit is designed to provide application developers with an advanced visual simulation development system for creating 3D/VR applications for the training, manufacturing, simulation, edutainment and government markets. WorldToolkit contains an object-oriented library with more than 1,000 high-level functions for configuring, interacting with and controlling real-time simulations, input/output and GUI management.

WorldToolkit is available for Windows 95, Windows NT, Irix, Solaris and Alpha-based systems.

Contact SENSE8 Corp., 100 Shoreline Hwy., Ste. 282, Mill Valley, CA 94941; (415) 331-6318; info@sense8.com; www.sense8.com.

Circle 367 on reader card

Ultimus Introduces Workflow Professional

Ultimus introduced the Ultimus Workflow Professional program designed to help consultants demonstrate and develop sophisti-

cated intranet/Internet-based workflow automation solutions for their clients. Under the new program, Ultimus provides the consultant free workflow development and product training, free Ultimus workflow automation software and technical support, and a free listing on the Ultimus Web site. The program will enable independent consultants to provide the design and development services associated with Ultimus installations.

The Ultimus Workflow Suite enables corporate users to graphically design, test, simulate, implement, monitor and measure any administrative workflow process.

Contact Ultimus, 4915 Waters Edge Dr., Ste. 135, Raleigh NC 27606; (919) 233-7331; info@ultimus1.com; www.ultimus1.com.

Circle 366 on reader card

Cygnus Solutions Releases Source-Navigator 3.3.1

Cygnus Solutions announced Source-Navigator 3.3.1, a multiplatform, multilanguage, graphical source code browsing and editing tool. Source-Navigator allows visualization of existing, large-scale software projects in C, C++, Java, Tcl and FORTRAN without requiring changes to developers' methodologies or software management systems.

Cygnus also announced Source-Navigator Lite, a size-limited version of Source-Navigator 3.3.1 for the single developer that offers full functionality on projects featuring up to 50,000 lines of code.

Source-Navigator operates on UNIX and Windows NT platforms, Solaris 2.3 and higher, IBM AIX 4.1, HP-UX 10.10, RedHat Linux, Irix 5.3, 6.2 and Windows NT. Pricing for the source code tool starts at \$3,000.

Contact Cygnus Solutions, 1325 Chesapeake Terrace, Sunnyvale, CA 94089; (408) 542-9600; info@cygnus.com; www.cygnus.com.

Circle 365 on reader card

CrossWind Provides CyberScheduler

CrossWind Technologies Inc. announced its new Web-based calendaring and scheduling product, CyberScheduler. With CyberScheduler, organizations can deploy a comprehensive calendaring and scheduling solution on corporate intranets that includes Internet access for remote employees.

CyberScheduler provides a graphical browser-driven interface that can be used enterprise-wide in conjunction with multi-

platform Synchronize client software for Windows, Macintosh, Motif and ASCII. CyberScheduler supports any commercially available http server such as Apache or Netscape Enterprise Server.

Contact CrossWind Technologies Inc., 1505 Ocean St., Ste. 1, Santa Cruz, CA 95060; (408) 469-1780; www.crosswind.com.

Circle 364 on reader card

Empress RDBMS 6.10 Available

Empress Software released Empress RDBMS 6.10, which enhanced its BLOB handling performance for multimedia data, enabled the use of Empress Report Writer on the Internet, added a JDBC/ODBC Bridge Interface and provided a microsecond timestamp data type.

Empress RDBMS 6.10 is available as a developer's toolkit which also includes an HTML toolkit, ODBC Server and Client, and Dynamic SQL. The Empress RDBMS runs on Windows NT, Windows 95, Linux, Solaris for Intel, Sun Solaris, HP-UX, IBM AIX, Digital UNIX, Silicon Graphics Irix, SCO, QNX and Lynx. Pricing for the Empress RDBMS 6.10

developer's toolkit starts at \$1,000 for two users on Windows NT, \$5,600 for typical workstations and \$22,400 for midrange servers.

Contact Empress Software, 6401 Golden Triangle Dr., Greenbelt, MD, 20770; (301) 220-1919; sales@empress.com; www.empress.com.

Circle 388 on reader card

NeTegrity Inc. Ships Authentication Server

NeTegrity Inc. announced the SiteMinder Authentication Server, an open, standards-based security server to provide centralized verification of the identities of people accessing corporate networks and applications across an enterprise. Through its Web-based interface and underlying architecture, it supports multiple authentication schemes and tokens, and the security solution provides a single point of user identification for communications servers and firewalls.

The SiteMinder Authentication Server is the first phase of NeTegrity's set of integrated enterprise network security management tools. Pricing begins at \$2,995 for a 50-user license.

Contact NeTegrity Inc., 245 Winter St., Waltham, MA 02154; (617) 890-1700; sales@netegrity.com; www.netegrity.com.

Circle 387 on reader card

CPL Systems Releases Scrambler/NT

CPL Systems announced Scrambler/NT, an alerting system for Windows NT which ensures that monitoring is never disabled, even if the Windows NT server were to crash or have a power cut.

The network is monitored by pinging a list of IP addresses which can be any device or host on the network with a valid address. The "environment" is monitored by sensors which connect to the Scrambler Alert Server. This allows mains, temperature, flood and smoke to be constantly monitored at pre-set levels.

Mixed platform networks are supported and software is available to link Scrambler/NT to UNIX hosts, HP 3000, OpenVMS, AS/400, VME and other mainframes.

Contact CPL Systems, 309 Morris Ave., Spring Lake, NJ 07762; (908) 974-8484; cplsystems@compuserve.com.

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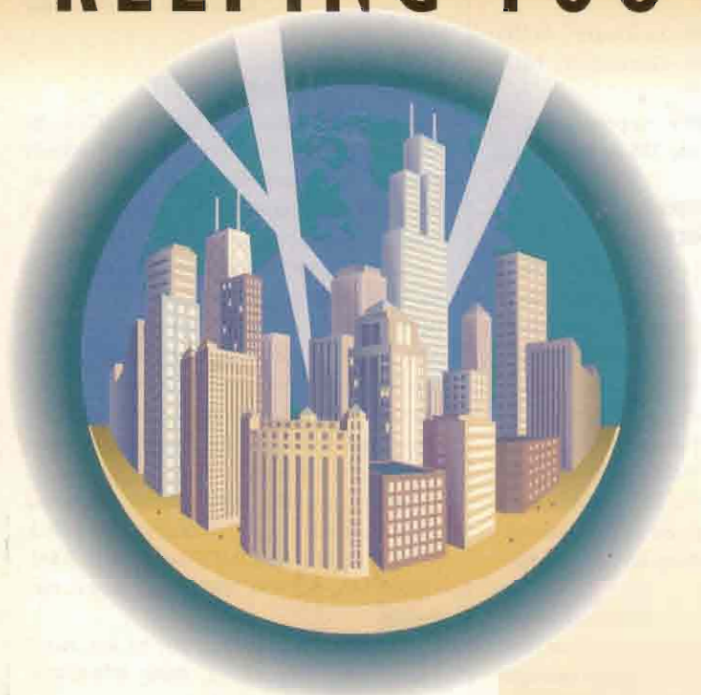
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Shomiti Systems Introduces Encompass

Shomiti Systems Inc. introduced Encompass, a family of products that supports multiple full-duplex 100Mbps Ethernet while also providing management for 10Mbps Ethernet as well as 4/16Mbps Token Ring.

Surveyor is a software package that delivers a full-featured protocol analyzer plus an RMON 2-compatible probe for any Windows 95 or Windows NT 4.0 system. Explorer is a self contained 10/100 Ethernet analyzer + monitor "pod" that can be used as a portable troubleshooting tool or rack-mounted to provide constant real-time analysis and RMON 2-compatible monitoring of critical networks. Version 2 Century Media Modules are adapters for PCs that deliver line-rate and real-time analysis and monitoring of 10/100 Ethernet networks.

Voyager is a family of multiport, line-rate 10/100 Ethernet probes that deliver complete RMON 2-compatible monitoring. Century Tap is a family of wiring devices that allows other Encompass products to plug into and view 10/100 Ethernet full-duplex traffic on critical switch-to-switch and switch-to-server connections.

Surveyor software and Century Media Module 2 cost \$995 and \$7,495, respectively. Explorer costs \$9,995 and Voyager Probes will be available soon. Century Tap, Century 12-Tap and Century Media Module 1 cost \$395, \$3,995 and \$4,495, respectively.

Contact Shomiti Systems, 1800 Beering Dr., San Jose, CA 95110; (888) SHOMITI; info@shomiti.com; www.shomiti.com.

Circle 384 on reader card

Century Software Announces TERM Professional For Windows

Century Software Inc. announced TERM Professional for Windows. The upgrade supports all Windows platforms. TERM Professional includes Wyse 60, SCO ANSI, VT 320, as well as 3270 and 5250 emulations for IBM mainframe and midrange systems. It also provides PC-to-UNIX and NT-to-UNIX file sharing by including NFS Client and Server support.

TERM Professional also includes Century's ICONect technology that allows for complete encapsulation of all access parameters into a single icon, which then can be executed with a single click of a mouse from the desktop. In addition, Century's scripting language, TERM Script, can be used to develop entire communications applications.

TERM Professional is available for \$149 per user. TinyTERM provides UNIX terminal emulation including Wyse 60, SCO ANSI and VT emulation for remote, async and network access to UNIX servers. It also includes a scripting language and is available for \$79 per user. TinyTERM Plus includes the UNIX terminal emulations described above as well as printer sharing, file transfer and a full TCP/IP implementation. TinyTERM Plus is available for \$99 per user.

Contact Century Software Inc., 5284 S. Commerce Dr., Ste. C-134, Salt Lake City, UT 84107; (800) 877-3088; sales@censoft.com; www.censoft.com.

Circle 383 on reader card

Brio Technology Releases Brio Enterprise 5.0

Brio Technology Inc. announced Brio Enterprise 5.0. Key features include: support for UNIX servers, the addition of OLAP data sources such as Arbor Essbase, a programmable user interface for building custom front-ends to Brio Enterprise applications, enhanced analytic tools in the distributed OLAP engine and better metadata management and integration tools.

Contact Brio Technology Inc., 3950 Fabian Way, Ste. 200, Palo Alto, CA 94303; (415) 856-8000; info@brio.com; www.brio.com.

Circle 382 on reader card

Pilot Provides Secure Road Warrior

Pilot Network Services Inc. announced the addition of its Secure Road Warrior service, which enables telecommuters to connect their laptops to internal corporate networks with high security via any dial-up or direct Internet connection in the world. Secure Road Warrior supports any TCP/IP-based application and offers the combination of remote data encryption and authentication, and dynamic network protection in a single integrated service.

Instead of dialing an in-house modem directly, Secure Road Warrior enables traveling employees to connect to their corporate network through the Internet and via a Pilot Secure Network Service Center.

Contact Pilot Network Services Inc., 1080 Marina Village Pkwy., Alameda, CA 94501; (888) 40-PILOT; info@pilot.net; www.pilot.net.

Circle 381 on reader card

Lawson Software Creates LOGAN

Lawson Software announced LOGAN (Lawson Open Graphical Application

Navigator), a browser-based tool that provides information access, drill-around, and query and graphical reporting capabilities fed from the dynamic metadata in OLTP systems.

LOGAN provides dynamic access to information in Lawson or non-Lawson applications via a Web browser interface. LOGAN also is a useful toolset for developing Web-based input forms, Java applets, Web-based spreadsheets, reports, charts and graphs.

Contact Lawson Software, 1300 Godward St., Minneapolis, MN 55413; (800) 477-1357; www.lawson.com.

Circle 380 on reader card

InterSystems Launches Open M/WebLink TP

InterSystems Corp. introduced OpenM/WebLink TP database connectivity software that enables developers building Web-based transaction processing applications to maintain state on the Web. The product builds upon Open M/WebLink, a high-performance link between Web browsers and applications built on the Open M database and rapid application development environment.

Open M/WebLink TP is available as an add-on option for most implementations of Open M. Multiconnection licenses cost \$225 per connection, and a single-connection license is available at no charge.

Open M/WebLink TP runs on Windows NT, Windows 95, and major UNIX platforms including HP-UX, IBM RS/6000, Silicon Graphics, SCO Open Server, Sun Microsystems Solaris and Digital Alpha.

Contact InterSystems Corp., One Memorial Dr., Cambridge, MA 02142; (617) 621-0600; www.intersys.com.

Circle 369 on reader card

LMT Delivers EXPO/Econometrics

Leading Market Technologies Inc. (LMT) announced the availability of EXPO/Econometrics, an add-on module to LMT's EXPO analytics and decision support platform. The new EXPO/Econometrics module adds a full collection of econometric tests, model estimation and forecasting techniques that can be used for improved forecasting accuracy. The EXPO/Econometric module provides a full set of econometric tests, transformation functions, correlations and estimation techniques.

The EXPO/Econometrics module is priced at \$3,995 and is available on Windows 95, Windows NT and all major

UNIX platforms, including HP-UX, Sun, IBM AIX and OSF/1.

Contact LMT, One Kendall Square, Bldg. 100, Cambridge, MA 02139; (617) 494-4747; www.lmt-expo.com.

Circle 379 on reader card

BRU 2000 Adds Year 2000 Compliance

Enhanced Software Technologies Inc. announced availability of its new BRU 2000 backup and restore utility for UNIX-based systems and networks. BRU 2000 offers year 2000-compliant network backup capabilities for UNIX systems along with support for backups of Windows, Windows NT and Macintosh systems.

BRU 2000 also accepts four-digit date fields and intelligently handles two-digit date fields. It works with all types of backup devices, including floppies, streaming tape, 9-track, 4mm DAT, 8mm Exabyte, DLT and disk-based files.

BRU 2000 is available for IBM AIX, HP-UX 10.x, Digital UNIX, Sun Solaris SPARC, SunOS 4.x, Sun Solaris x86, SCO Open Server, SCO UnixWare, Linux x86, BSDI, FreeBSD and Interactive UNIX 3.2.4.1. BRU 2000 costs \$299 to \$1,299. The BRU 2000-PE (Personal Edition) version costs \$89, available for select (PC-UNIX) platforms.

Contact Enhanced Software Technologies Inc., 5016 S. Ash Ave., Tempe, AZ 85282; (602) 820-0042; info@estinc.com; www.estinc.com.

Circle 378 on reader card

CrossZ Software Provides QueryObject System

CrossZ Software announced an agreement with HP to provide QueryObject System on HP servers running HP-UX. With QueryObject System on HP servers, organizations can create dozens of data marts in a single day and distribute them to business managers enterprise-wide — using desktops, laptops and the existing IT infrastructure.

Modules include: QueryObject DBA, the QueryObject ReadyFile, QueryObject Designer, QueryObjects, QueryObject Open and QueryObject KeyBack.

Contact CrossZ Software, 60 Charles Lindbergh Blvd., Mitchell Field, NY 11553; (800) 522-6302; www.crossz.com.

Circle 377 on reader card

Silverlake Announces AIRSOURCE

Silverlake Communications Inc. provided HP with AIRSOURCE for use with the HP Remote Assistant, an intelligent remote

management solution.

HP Remote Assistant can send a wireless message when a hardware problem occurs. With AIRSOURCE technology integrated into the firmware, it now supports the Telocator Alphanumeric Protocol (TAP), which can send an alphanumeric message directly to the administrator.

Contact Silverlake Communications Inc., P.O. Box 9075, Calabass, CA 91372; (818) 224-5630; info@silverlake2000.com; www.silverlake2000.com.

Circle 379 on reader card

HP-UX Version Available For QualixHA+

Qualix Group Inc. announced the availability of HP-UX and IBM AIX/6000 versions of QualixHA+, a high-availability software solution for UNIX-based distributed computing systems. It features advanced clustering technology that provides applications-oriented monitoring and recovery for clusters of up to eight servers. In addition, they feature integrated modules that permit monitoring of specific database and critical application environments.

Contact Qualix Group Inc., 190 S. Norfolk, Ste. 224, San Mateo, CA 94403; (415) 572-0200; info@qualix.com; www.qualix.com.

Circle 375 on reader card

HARDWARE

Central Data Produces EtherLite Port Servers

Central Data Corp. announced that its EL-16 EtherLite Port Servers have been selected and implemented by HP's manufacturing group to automate the testing of their 9000 series workstations.

The EL-16 provides 16 asynchronous serial ports to an Ethernet TCP/IP network. Unlike traditional terminal servers, the EtherLite Port Servers provide real ports that aren't weighed down by complex network protocols. A single TCP/IP session carries traffic for all the EtherLite's ports, with speeds up to 115Kbaud. Surge protection is provided on all serial lines for reliability, and full modem control and hardware/software flow control ensure data

New From HP

HP SoftBench OpenStudio — HP introduced HP SoftBench OpenStudio, a development environment that allows software engineers to co-develop

C++ applications for Windows NT, Windows 95 and HP-UX systems. HP OpenStudio is part of the HP Colliance Program.

Developers can write Microsoft Visual C++ applications for Windows-based clients and HP-UX servers in a single development environment.

In addition, OpenStudio offers: the ability to perform simultaneous debugging sessions for HP-UX and Windows in two side-by-side views; the ability to create single-source-stream applications for HP-UX and Windows through a pull-down menu option that allows developers to build source code for different target machines; and the ability to develop or maintain existing HP-UX applications from a PC.

OpenStudio is configured in two parts: client and server. The client works with Visual C++ Version 5.0, which is part of the Visual Studio family. Visual Studio is Microsoft's 32-bit application development tool for Windows 95 and Windows NT. The server includes the HP-UX C and C++ compilers and the runtime system of HP's implementation of CORBA.

Price is \$999.

One-Step Scan-To-Web System — HP and Adobe Systems Inc. announced a one-step scan-to-Web system which consists of an HP Network ScanJet 5 Scanner, Adobe Acrobat Capture 2.0 software and Microsoft Index Server 1.1. It provides an easy way to deliver scanned documents directly to commercial intranets and the Internet.

The Network ScanJet 5 serves as an on-ramp to an intranet or the Internet, by making it easy for workgroups to convert paper information into electronic form. Adobe Acrobat Capture 2.0 then converts the electronic documents into the Portable Document Format (PDF), a searchable, Web-ready file format that preserves the formatting of the original document. Microsoft Index Server 1.1, a search engine integrated with Microsoft Internet Information Server 3.0, continually monitors file server locations for documents waiting to be distributed.

For more information, contact your local HP sales office or call (800) 533-1333.

integrity. Combined with Central Data's Software Update Service, users can easily stay up-to-date with the newest versions of both firmware and software. In addition to the EL-16, eight and 32 port EtherLite models are also available.

Price is \$1,295.

Contact Central Data, 1602 Newton Dr., Champaign, IL 61821; (217) 359-8010; sales@cd.com; www.cd.com.

Circle 374 on reader card

Breece Hill Unveils Q4.30!

Breece Hill Technologies announced a scalable extension to their Q2.15! tape library with a new model that doubles the capacity and performance of the current product.

The new Q4.30! contains up to four DLT drives and 30 cartridges (using two Q2.15! libraries), resulting in more than 2.1TB of capacity, scalable to four independent DLT drives and a data transfer rate of more than 2.4GBpm when configured with DLT 7000 drives and data compression. The new model also is available with DLT 4000 drives.

Contact Breece Hill Technologies Inc., 6287 Arapahoe Ave., Boulder, CO 80303; (303) 449-2673; breecehill@breecehill.com; www.breecehill.com.

Circle 363 on reader card

Panasonic Adds New Monitors

Panasonic Computer Peripheral Co. added two models to its PanaSync color monitor line. Replacing the E15 and S17, the E50 and S70 offer improved, high-resolution refresh rates; super-fine dot pitch; and an intuitive, icon-based, on-screen menu that lets users digitally control the monitor's display.

Both monitors are VESA DDC 1/2B-compatible and use the VESA DDC standard that allows the monitor to inform the host of its capabilities, including plug and play. Anti-glare, anti-reflection and anti-static characteristics are ensured by Panasonic's improved AGRAS coat that virtually eliminates screen reflection, static and dust.

Price for the E50 is \$299, and the S70 costs \$599.

Contact Panasonic, Two Panasonic Way, Secaucus, NJ 07094; (800) PANASYS; www.panasonic.com/alive.

Circle 362 on reader card

Promis Introduces AE Module

Promis Systems Corp. Ltd. introduced the latest member of its suite of Promis manufacturing execution system applications — the Advanced Equipment Module (AEM). The new module provides users with control of the manufacturing environment by offering equipment setup, tracking, reporting and maintenance.

The new module takes advantage of the Sematech CIM application framework by providing users with the ability to assign multiple capabilities to equipment units for greater flexibility. Users also can manage multichambered equipment and cluster tools for detailed production control.

Contact Promis Systems Corp., 6 Trafalgar Square, Nashua, NH 03063; (603) 886-1230; www.promis.com.

Circle 361 on reader card

nStor Supports Ultra S2S RAID

nStor Corp. Inc. announced its SCSI Accessed Fault-Tolerant Enclosure (SAFE-TE) compliant Ultra SCSI-to-SCSI (S2S) RAID controller for its CR8e subsystem. The Ultra S2S RAID controller provides

Ultra SCSI performance (40MBps) across several operating system and hardware platforms, including HP, Silicon Graphics, Sun Microsystems, Novell NetWare, SCO, Windows NT and OS/2.

The backplane-attached Ultra S2S RAID controller features an Intel i960 RISC 32-bit, 33MHz microprocessor, up to 128MB of cache memory, three Ultra/Wide SCSI channels (one to the host and two to the disk drives), and supports burst data transfer rates of up to 40MBps across each channel. Support is available for single-ended or differential hosts, and the controller supports RAID levels, 0, 1, 5 and 0+1.

Contact nStor Corp., 450 Technology Park, Lake Mary, FL 32746; (407) 829-3500; sales@nstor.com; www.nstor.com.

Circle 359 on reader card

U.S. Robotics Introduces x2 PC Cards

U.S. Robotics announced its first x2 PC Cards for notebook computers and handheld computing devices. The new Megahertz XJ1560 gives mobile users access to the Internet, corporate intranets

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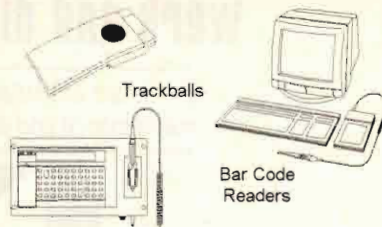


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The price of the new Megahertz XJ1560 is \$269. The software upgrades for the XJ1336, CC1336 and SP1336 are \$60.

Contact U.S. Robotics, 6600 Sillica Way, Gilroy, CA 95020; (800) LAPTOPS; salesinfo@ulhz.com; www.usr.com.

Circle 373 on reader card

Rexam Graphics Launches Magic

Rexam Graphics announced the addition of a new line of specialty coated substrates developed to optimize image performance for the HP DesignJet 2500CP and DesignJet 2000CP color ink jet printers. The Magic media for these printers includes: two matte presentation grade papers, low-glare photobase paper and a high-gloss photobase paper.

The two matte papers are available in 150-foot and 100-foot roll lengths, and cost \$54 and \$79, respectively. The two photobase media are packaged in 100-foot roll

lengths at \$270.

Contact Rexam Graphics, 28 Gaylord St., South Hadley, MA 01075; (800) 628-8604; www.rexamgraphics.com.

Circle 371 on reader card

XCD Unveils Pony Print Server

XCD Inc. announced a triple protocol print server, the Pony Print Server, an ultra-compact device for connecting virtually any kind of printer to an Ethernet network. It supports 10BaseT unshielded twisted pair Ethernet and connects directly to a Centronics or IEEE 1284 Bitronics-compatible parallel port. It includes a diagnostic LED plus a push-button switch that can be used for printing a test page or resetting the print server back to the factory defaults.

Price is \$195.

Contact XCD Inc., 3002 Dow Ave., #110, Tustin, CA 92780; (714) 573-7055; sales@xcd.com; www.xcd.com.

Circle 370 on reader card

QMS Enhances QMS 2060

QMS Inc. announced an alliance with Nation-Wide Plastics Inc. to enable the QMS 2060 Print System to produce large-format, full-bleed, high-resolution offset printing masters directly from the laser printer.

QMS 2060 owners can use Pronto-Plates, one-sided or two-sided polyester printing plates, to produce offset print masters that guarantee print runs of up to 5,000 impressions.

The 2060 family is priced at \$2,999 for

the QMS 2060 BX, \$3,399 for the QMS 2060 GX, \$4,899 for the QMS 2060 ImageServer and \$5,999 for the 2060 EX. The QMS 2060 FX-1 and QMS 2060 FX-2 are priced at \$5,199 and \$6,999, respectively.

Contact QMS Inc., One Magnum Pass, Mobile, AL 36618; (800) 523-2696; info@qms.com; www.qms.com.

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Biscom Announces FAXCOM 5000/NT, 6000/NT

Biscom announced the FAXCOM 5000/NT and 6000/NT large-scale enterprise-level fax servers, which are multichannel enterprise fax servers that ship as complete, ready-to-run solutions. Both the 5000/NT and 6000/NT include software that runs as a native Windows NT service, managed/monitored/configured with familiar Windows NT administration utilities, such as the control panel service applet, event viewer and performance monitor. They also provide auto-routing (via Direct Inward Dialing), E & M, SNMP trap alarming, paging and remote diagnostic capabilities. Additionally, Biscom's support staff can dial in to provide remote diagnostics.

Biscom's FAXCOM 5000/NT and 6000/NT offer: T1 connectivity, least-cost routing, auto-routing to users and printers, integration with network management products like HP OpenView and context-sensitive online documentation.

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On The Fast Track



Tani Haque
CEO
SQL Software

Organizations seeking to implement process configuration management (CM) successfully will have to devise a strategic approach, which carefully factors people, resources, processes and tools into the equation of developing software. Enterprises which take this path can expect improved quality, increased software reuse rates and lower maintenance costs.

Here is one possible approach on how the sequence of events associated with a successful CM implementation might unfold:

Conduct A Comprehensive Analysis And Design Of Your Technical Requirements — For instance, requisites to be taken into consideration by the development team may include contractual requirements and necessary adherence to many standards such as ISO 9000 and defense standards.

Document The Process — For example, such processes could indicate the sequence of events in developing software and the different hats team members will wear throughout the lifecycle. Such an approach allows the close inspection of the way an application develops and how to improve its processes according to its findings. For instance, while documenting its development processes, an organization may find that some of these steps are redundant and eliminate them altogether. This way, the organization can streamline its approach to developing software, thereby enhancing the effectiveness of the whole team.

Conduct Research On The CM Tools — CM is now one of the hottest issues in software engineering, so finding information will not be a problem. Conducting a search over the Internet is one place to start. To get the search under way, the user can just type some keywords such as configuration management, change management and version control. For those who want to shorten the evaluation process, the December 1996 Report on CM

tools by Ovum (www.ovum.com; London, United Kingdom and Burlington, Mass.) analyzes and compares the latest CM products in the marketplace.

The criteria to look for in a worthwhile CM product include:

- whether or not the product works in a client-server environment to accommodate platform growth
- flexibility to allow users to incorporate development processes into the product
- the smooth integration of the process management, version management and change management functions required for effective development
- it should support all facets of concurrent and parallel development in a heterogeneous, globally distributed environment

These days, it is also a good idea to pick a Process CM tool, which provides the means to telecommuting users to conduct development from remote locations including customer sites, the Internet and home.

Train The Development Team — Many organizations currently offer classroom materials and multimedia tools to get the users up to speed. These cookie cutters also can be customized according to the specific needs of the organization. Make sure you include end users and systems administrators.

With a clear understanding of the tasks ahead, the software development team can establish the above parameters at the onset of a project to guide them. With such a strategy, the proper deployment of company resources is efficient and choice of development tools are easy, thus paving the way to productive process CM implementations.

—Tani Haque is CEO of SQL Software (Vienna, Va.). He can be reached at info@sql.com.

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As the HP 3000 eases on down the road, George Stachnik, the CSY's Chief of Customer Communications, provides a glimpse of what users can expect in the next few years.

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Constructing Another Future

Yes, it's true. The death of the HP 3000 has been greatly exaggerated. Find out why.

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Spalding Sports Bats 3000

Manufacturing, financial, order entry and warehousing applications remain a safe call on HP 3000 servers.

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Yesterday Seems So Far Away

The past becomes present again as the HP 3000 celebrates its 25th anniversary.

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It's Still Going . . .

The Secret To Success For The HP 3000

George Stachnik

In technological time, where one year seems like yesterday and five years like a lifetime, a system that celebrates a quarter of a century of longevity has to be considered an antique. But the HP 3000, which celebrates 25 years of supporting customers' businesses, is anything but ready for the Computer Museum.

But just how has the HP 3000 stayed competitive when other midrange systems

are heading for the scrap heap?

Part of the the answer begins with the fact that no HP 3000-based R&D project or marketing program can go forward without the direct participation of customers in the design, implementation and testing of the product or program. The result? Products that are constantly designed to meet a customer's changing needs.

HP began inviting their HP 3000 customers to become an integral part of the R&D and marketing activities years ago.

The tactical side of involving customers in the R&D process was one of the biggest challenges in making this new way of doing business work. HP's Commercial Systems Division (CSY — the home of the HP 3000) set up seven solution teams made up of HP engineers, HP 3000 customers and Channel Partners. These teams have identified and prioritized the technologies customers need, and then sought out appropriate solutions.

Today, HP 3000 customers are focused on HP's strategy, which the CSY calls "user-centric computing" — implementing solutions that best meet the business and application needs of end users. Most customers generally choose one of the following computing strategies to meet their objectives:

- Concentrate and grow critical applications on the HP 3000.
- Integrate HP 3000 technologies with solutions on HP-UX and Windows NT.
- Implement new solutions on new computing platforms.

Many HP 3000 customers have recently expressed a need to interoperate with Windows NT.

By continuing to offer HP 3000s that take advantage of future generations of PA-RISC, HP is providing vertical growth opportunities to customers. For example, the HP 3000/979KS and the 99x line of servers are based on the new 180MHz PA-8000 processor. Over the next five years, HP 3000s will take advantage of the future PA-RISC processors, including the PA-8500 and others.

If the performance needs exceed the availability of the top-of-the-line HP 3000 Corporate Business Server, HP will offer opportunities for horizontal growth on the platform. HP engineers are working with HP 3000 partners to enhance technologies that will allow customers to split their applications across several HP 3000s. This not only increases performance exponentially in many cases, but also increases the availability of that application. The combination of HP's vertical and horizontal growth solutions will continue to meet customers' changing performance needs well into the future.

A DATE WITH DESTINY

With the realization that this is an enormous concern to customers, HP is investing considerable time and resources to ensure the MPE/iX will be Year 2000-safe by the end of 1997. In line with HP's focus on business challenges and maintaining the high availability of MPE/iX, HP is addressing the IT issues surrounding the Year

2000. How will customers ensure that their systems are Year 2000-safe? How will they continue to run their businesses as they have for the last 25 years?

Patches to version 5.5 of MPE/iX will soon be made available which address the operating system issues relating to the year 2000. HP also is working with application providers to identify potential issues related to their applications.



In addition, HP is helping customers extend the functionality of their HP 3000 applications by connecting them to the Internet. Working with large application providers, HP is also developing the interfaces needed to Web-enable applications running on the HP 3000.

WINDOWS OF OPPORTUNITY

Most HP 3000 customers are integrating existing HP 3000 solutions with

new solutions and technologies on other computing platforms. In the past, HP focused on making coexistence with UNIX a priority, because that was what customers needed. However, many HP 3000 customers have recently expressed a need to interoperate with Windows NT as well.

The technologies developed for MPE/HP-UX interoperability also make it easy to interoperate with Windows NT. This year, customers expect announcements regarding technologies to integrate MPE with Windows NT.

To enable 32-bit applications access to IMAGE data, HP is working with M.B. Foster & Associates (Chesterville, Ontario) to bring 32-bit ODBC to the HP 3000. HP will be making announcements this year in

the area of database interoperability between IMAGE and other leading relational databases. Other enhancements will be in the areas of system management and networking. During 1997, high-speed 100Mb LANs will be available on the HP 3000.

Even with all the investments planned for the HP 3000, users eventually may need a business-critical application that is unavailable on the system. Last year, realizing that some customers would need to move to new environments such as HP-UX, HP implemented an

investment protection program to allow customers to convert their existing HP 3000 hardware and software to HP-UX solutions. This program will evolve in the future to incorporate Windows NT. The entire HP 3000 team is continuing to strive to supply its customers with solutions that make them successful.

— George Stachnik is chief of customer communications with HP's Commercial Systems Division.

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So make the decision to call 1-303-889-4500 for more information on SFD. After all, one good decision leads to another.

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CIRCLE 114 ON READER CARD



Many Robust Returns

Birket Foster

In the beginning, the HP 3000 was part of a whole group of minicomputers trying to take over the mainframe space. Born as a lab project that was almost canceled, the HP 3000's future is, in fact, much better today than it was 25 years ago. Later, it became an island with just 75,000 active, but dedicated, customers who knew what they needed. As the tides of computing ebbed and flowed, the HP 3000 has remained a significant presence.

Earlier this year, HP's Computer Systems Division (CSY), responsible for the HP 3000, laid out a five-year plan for the HP 3000. Many companies have chosen the HP 3000 for their computing platform because of its reliability for mission-critical computing. HP's Web pages recently presented an article on the improved reliability of NT indicating a 96 percent uptime, but that's still a long way from the more than 99.9 percent uptime consistently achieved with the HP 3000. This is a critical requirement of companies whose business success depends on 24x7 availability of worry-free computing.

From the new features being added to the OS through the planned hardware upgrades, the HP 3000 has many major enhancements. The big challenge that the HP 3000 market has is to make sure the existing installed base receives the education required to take advantage of the investment protection the CSY has delivered. Also, as technologies evolve, the skills of the technical people need to be kept up to date. The HP 3000 has had a continuing stream of improvements in database, networking and operating system technology.

IMAGE IS EVERYTHING

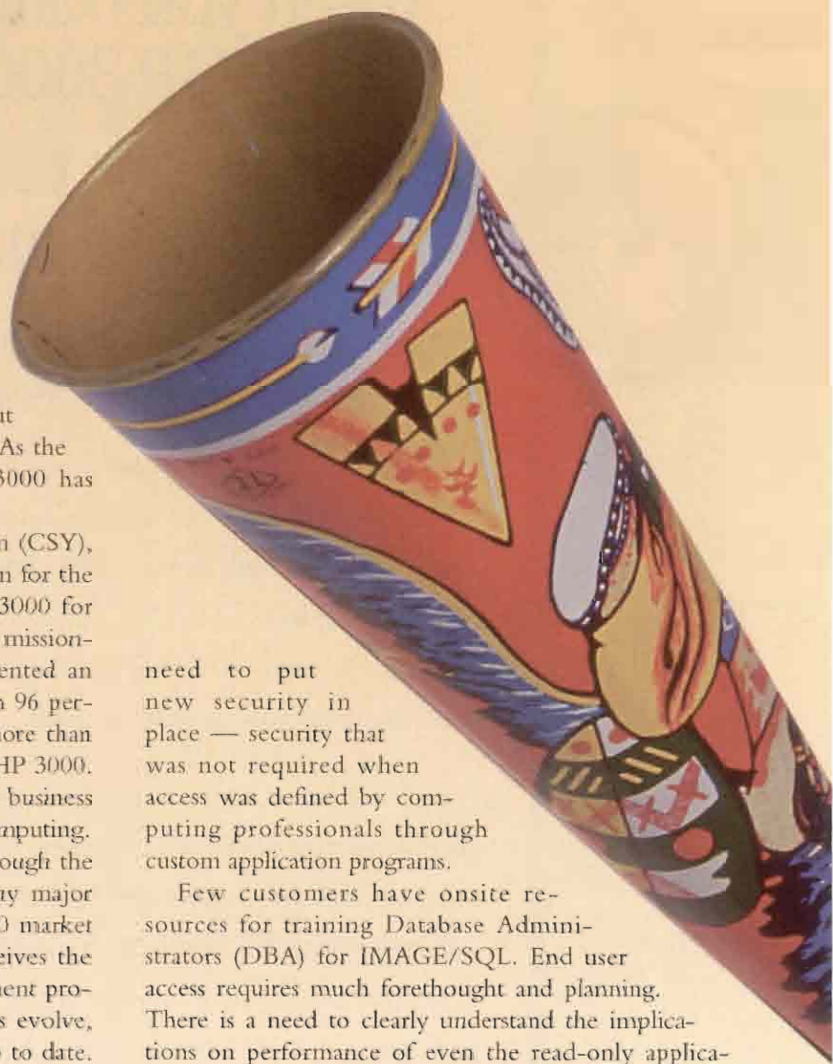
Unfortunately, many sites have not kept pace with the technology being delivered. For example, there are few who are really in tune with the differences between the two 100MB LAN offerings scheduled for imminent release. Another example: HP will be including ODBCLink/SE (part of Express 3 scheduled for later this year) as part of the IMAGE/SQL and ALLBASE/SQL that enables ODBC access to these databases. The major feature is the ability to use 32-bit applications from an HP ODBC driver for the first time. To prepare for ODBC applications, organizations will

need to put new security in place — security that was not required when access was defined by computing professionals through custom application programs.

Few customers have onsite resources for training Database Administrators (DBA) for IMAGE/SQL. End user access requires much forethought and planning. There is a need to clearly understand the implications on performance of even the read-only applications. If updates are planned, the DBA should learn how the stored procedures and triggers can be used to enforce the business rules. Most auditors would pale at the prospects of end users being allowed unrestricted update access from popular client-server tools like Microsoft Access and Powerbuilder.

Even well publicized features such as POSIX interfaces or "Critical Item Update" for IMAGE/SQL are not well understood by the marketplace as a whole. Much of the time of the computing professional has been drawn to the systems that needed continual care and feeding — the PCs and LANs — and away from the reliable HP 3000 workhorse. When the resources of a site are being invested, the benefits provided by that investment need to be examined.

continued on page S-11



The Year 2000

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HP 3000 Suits Spalding Sports To A Tee

Spalding pursues marketshare with an IT system that aids data storage/integration and Internet use.

At Spalding Sports Worldwide, steady growth through increased sales and corporate acquisitions has placed great demands on the company's information technology. To meet present and future needs for storing a growing amount of data, using new applications, integrating data from acquisitions and making it available globally, and using the Internet, Spalding has made the HP 3000 server its strategic platform.

Spalding, a privately-held company based in Chicopee, Mass., manufactures sporting goods such as Top Flite golf balls and golf clubs, Etonic golf and athletic shoes, Dudley softballs and bats, soccer balls and NBA basketballs. For the company, which markets its products internationally, information technology is crucial to success. The company conscientiously uses information technology to contribute to the corporate objective of increasing marketshare.

The company relies on its IT system to store increasing volumes of data, incorporate information systems from acquired companies worldwide, integrate new applications on several different platforms, use paperless reporting and harness the Internet as an information and sales tool.

Spalding's IT environment includes manufacturing, financials, order entry and warehousing applications on HP 3000 servers; Internet and imaging

applications on HP-UX servers; and HP networking and system management to integrate all applications. This combination has provided Spalding with a single cost-effective solution that can meet its five-year IT growth projections — with maximum benefit to end users. For the future, the company is considering new applications for its Windows NT systems.

Spalding's MIS department in Chicopee directs activities for all the company's IT groups and the businesses they support worldwide. Three HP 3000 computers run mission-critical manufacturing, order entry and warehousing applications. All applications are networked and accessible to 700 personal computers in Chicopee as well as in Gloversville, N.Y.; Reno, Nev.; and Toronto, Ontario. Facilities in Europe and along the Pacific Rim connect to Chicopee via e-mail for financial applications that provide consolidated databases. The Spalding salesforce communicates with Chicopee via dial-in laptops.

EXPANSION TEAMS

Growth is the top issue for Spalding and its MIS staff. "We are acquiring a new company, usually in the range of \$50 million to \$100 million gross sales, every year," says Bard White, Spalding's chief information officer and worldwide director of MIS. "These companies have made substantial IT investments

themselves. We have to integrate them into the Spalding way of doing business, which means making their environment part of ours."

Spalding relentlessly seeks to grow marketshare. "The sporting goods market is very competitive," reveals White. "But in golf, for example, the number of rounds played is pretty much flat. That means the only way we can grow that business is to take marketshare. And that's where new products come in. You always need something new, which is why our R&D effort is extremely strong. You also need on-time product delivery and good customer service. MIS must support these efforts."

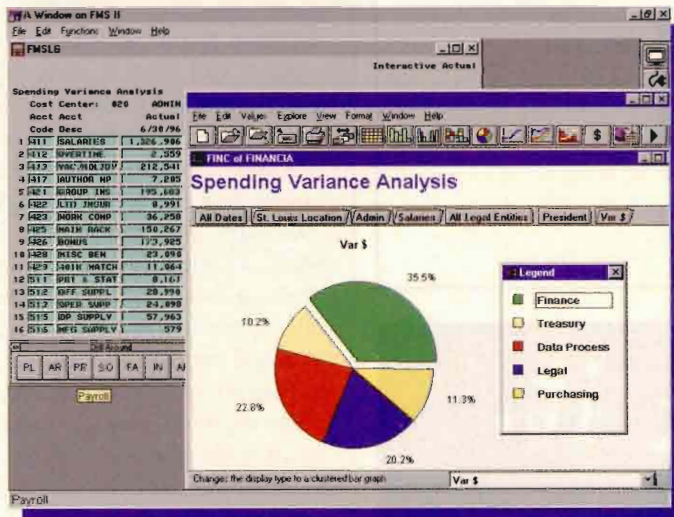
As Spalding's marketshare grows, MIS must increase IT performance and capacity to accommodate more users and a rich variety of applications. The ability to consolidate data is also required. For example, Spalding's Etonic unit uses an AS/400. "Our challenge is to move that information to Spalding and integrate it with brand new applications running on different HP 3000s," White says.

A CLEAR FIELD OF PLAY

According to White, imaging is another important IT tool for Spalding. "By using imaging technology, we've been able to cut our time to market with new products by six months, which is 50 percent faster than before. HP

Do you think you have to leave your HP 3000 to get a client/server accounting system?

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IN sites has helped us do that with new IT concepts and infrastructure networks." Spalding consults with HP personnel as it continues to develop and refine its information technology and develop strategies for integrating data and integrating databases and platforms.

Spalding uses the Internet, which White calls "the future of selling," as a prime medium for transmitting images and data to field personnel at low cost. Spalding selected a non-IMAGE database for this application, but White wants to integrate that data with existing IMAGE data for more accurate reporting and forecasting without paper. "We print virtually no reports anymore. Instead, people log on to our intranet and look at their reports — something that Spalding decision makers are doing worldwide," White says.

Finally, Spalding plans to link applications designed for different platforms. "We have our critical applications on MPE, a couple on UNIX, and we're thinking about NT applications as well. HP NetServers run NT, which opens us to all sorts of applications without having to worry where they reside. Their ability to help us integrate platforms with new tools lets us put our focus on our business, not our technology," says White.

INCHES TO THE GOAL LINE

White looks to the HP 3000 as a long-term strategic tool for Spalding's growth. The company intends to expand applications across several of the machines, running applications horizontally across two or three linked CPUs when the applications have grown too large for a single computer.

Spalding has a well-defined five-year IT growth plan. According to White, "Our IT plan is centered on the HP 3000 as our platform for several basic reasons. It's stable and there's a variety of products for it." Just as important, the HP 3000 is growing in terms of speed, accommodating larger volumes of data, and integrating both applications and databases horizontally."

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HP Professional

continued from page S-6

Management needs to be made aware that the HP 3000 has rolled forward from 16- to 32-bit technology and is now, with the PA-8000 chips, using 64-bit technology. Software written for the HP 3000 has been upward-compatible



A program written in 1972 would run on the next HP 3000 off the assembly line.

through all of these changes. HP went to great lengths to protect the investment of customers by providing full, upward compatibility for software written for the HP 3000, so applications would run on the next version of the operating system with *no* changes required. In fact, a program written in 1972 would continue to run on the next HP 3000 off the assembly line, even with all the changes to the integrated operating system, database and networking. Compare that fact with running a PC product on a Microsoft operating system on the next Intel chip!

THE WINTEL OF MY DISCONTENT

The economics of the Wintel market may look appealing until a company realizes that the typical sale is going to be made through channels that are doing fulfillment. This requires a vendor to build a big enough infrastructure to provide orders that the channel can fulfill. That infrastructure includes marketing and service programs.

For an operating system platform to keep pace, the applications also must continue to evolve. Here is the greatest challenge for HP's CSY division — how to explain to application vendors that the HP 3000, while not in the mass market of the Wintel arena, is a market of very reliable servers with a loyal customer base who really appreciate the effort HP puts into investment protection.

The HP 3000 market is a great place to have a group of customers that are more focused on applications pro-

viding solutions than the technology to deliver those same solutions. For those that care about technology, the CSY puts more than enough "rubber on the road" to meet the standards and requirements of the application developers. A large infrastructure is not required to sell the products and an application vendor can partner with some of the distributor authorized resellers (DAR) to get more exposure. The challenge is to persuade the application companies that the POSIX environment enables the adaptation of code written for "open" systems to the HP 3000 — in fact, it does that today.

Using the technology of the HP 3000 and a rigorous development environment, the building of applications for the HP 3000 and the HP 9000 (and even other UNIX platforms) is possible. The challenge for the CSY in the next few years is to make sure that users understand what they have; and keeping both the users and the application developers informed of the changes being made. The hardware side of the HP 3000 and the strategy for moving to 64 bits have ensured that the future prospects for growth are excellent.

—Birket Foster is founder of M. B. Foster Associates (Chesterville, Ontario).

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Sterling's Silver Lining

Charlie Simpson

In an exclusive pre-HP World interview, Harry Sterling, general manager of HP's Commercial Systems Division, briefed *HP Professional* editors on the latest from the HP 3000 Division. Sterling was reluctant to pre-release any specific product announcements; however, he assures users that enhancements will come concerning "horizontal growth" and interoperability.

HP Pro: What are some of the biggest concerns today for HP 3000 users?

Sterling: The concerns are typical to the issues everyone experiences. At the top of the list is the Year 2000 problem.

The real problem comes when the IT manager needs to understand the critical business drivers within their own organizations, and making sure the IT strategies meet those needs.

The IT managers are becoming more business managers than technology managers. And the ones who will make it are the managers who are tuned into the business issues.

HP Pro: Are HP 3000 users really prepared for the Year 2000?

Sterling: All customers are aware of the crisis; however, they are in various stages of preparation. Because all the 3,000 VARs are certified, the majority of the user base is in the planning, if not implementation stage.

HP Pro: Is Windows NT on the HP 3000 horizon?

Sterling: HP has completed a lot of work in MPE-to-UNIX integration and much of that work is 'leverageable' in MPE-to-NT integration. However, we won't have specifics to announce until September. So we do have a head start. For example, we have gateways available on Oracle.

And today, we have a much stronger understanding of how users implement NT, for example, as Web servers. We are seeing a lot of refreshing going on with VARs.

HP Pro: Will there be a 35th anniversary party for the HP 3000?

Sterling: Absolutely. Certainly yes! If there are customers still using HP 3000s and purchasing support contracts, then HP will be here to support them. I mean, there are still MPE 5 customers out there and we haven't shipped that hardware in 10 years. I'm sure the same thing will be true for MPE/iX.

So that's what Harry Sterling thinks.

What do you think? Fill out the survey below and fax it back to us at (215) 643-4827 or send it to:

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Fort Washington, PA 19034.

25 MORE YEARS?

1. How long have you used an HP 3000?
 1-5 years 6-10 years 11-15 years 16-20 years 21-25 years
2. How many HP 3000s do you have installed? _____
3. In addition to MPE/iX, what operating systems are in your enterprise?
 HP-UX OS/400 Windows NT Digital UNIX Sun Solaris Other
4. Does HP's current HP 3000 strategy have you:
 Thrilled Worried Perplexed Angry Didn't know they still had one.
5. Have you or do you plan to migrate some or all of your MPE/iX applications? Yes No
- 5a. If yes, to which platforms?
 HP 9000 IBM PC LAN Digital UNIX Sun Solaris Other
6. What role do you think the HP 3000 will play in your enterprise in the next 5 years? Mission critical Supportive None
7. Are you and your HP 3000 ready for the year 2000? Yes No
8. Will you upgrade your HP 3000 in the next 6 months? Yes No
- 8a. If yes, to what? Another HP 3000 HP 9000 Other
9. Will you buy a new HP 3000? Yes No
10. When was the last time you purchased a new HP 3000? _____

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Seems Like Yesterday

A Quick Look At A Long Life

Deborah Thwaites

In 1997, HP will celebrate worldwide the 25th anniversary of its HP 3000 computer. In an industry that moves forward at an ever increasing pace, things today are very different from when the first HP 3000 was introduced in 1972.

The roots of the HP 3000 go back to 1968 when the Omega project (the HP 3000's codename) was in development. Back then, had the project gone ahead, the Omega would have been the world's first 32-bit computer. However, the scope of the project meant a departure from the basic principles of HP. So with some controversy, it was cancelled.

Not to be deterred and unbeknownst to management, a few of the Omega enthusiasts continued working on the project. This eventually came to light and the project was revived and renamed Alpha.

In May 1972, HP introduced its first general purpose computer — the HP 3000A — a sophisticated, low-cost, 16-bit machine with up to two processors and a maximum of 128KB memory. Its cost was around \$250,000.

Later on, the second version of the HP 3000 appeared on the market with a new look and a new operating system. By 1977, HP was producing about 100 machines per month in the United States. Between 1972 and 1986, there was a total of eight different series produced, all CISC machines. In 1986, with the HP 3000/900 Indigo, the production switched over to RISC architecture. By this time, the cost of a machine was down to around \$60,000.

In 1979, the European production of the HP 3000 moved to Germany, to help the United States keep up with worldwide demand. The HP 3000/44

was the first machine to come off the German production line. It was available in four different colors — teak, sunshine yellow, brick red and, of course, HP grey!

Since then, the HP 3000 has evolved into a small, neat business server that hardly resembles the original system.

WHO USES IT?

HP 3000 customers are very diverse. Originally, the most common customers included universities, insurance companies and the automobile industry. Today, the HP 3000 is found in manufacturing, mail order, car tire companies and airline ticketing, to mention but a few. Currently there are more than 70,000 machines installed worldwide, 20,000 of which are situated in Europe.

Without a doubt, the HP 3000 is a proven, stable, robust machine with near legendary reliability. Such a distinctive contribution to the computer industry deserves an extraordinary celebration. Therefore, HP is sponsoring "The European HP 3000 25th Anniversary Party." It will take place on September 24th, 1997 at 7 p.m., in the Perkins Park Entertainment Complex in Stuttgart, Germany.

For more detailed information, send an e-mail to hp3000_party@hp.com or a fax to 49 7031 14 16 98.

— Deborah Thwaites, Installed Base Customer Communications, Computer Systems Organization, Europe.

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Our Barcode Tool Kit (BTK) is a "plug and play" package which includes HP3000 software, Intermec bar code hardware, and a full year of unlimited telephone support.

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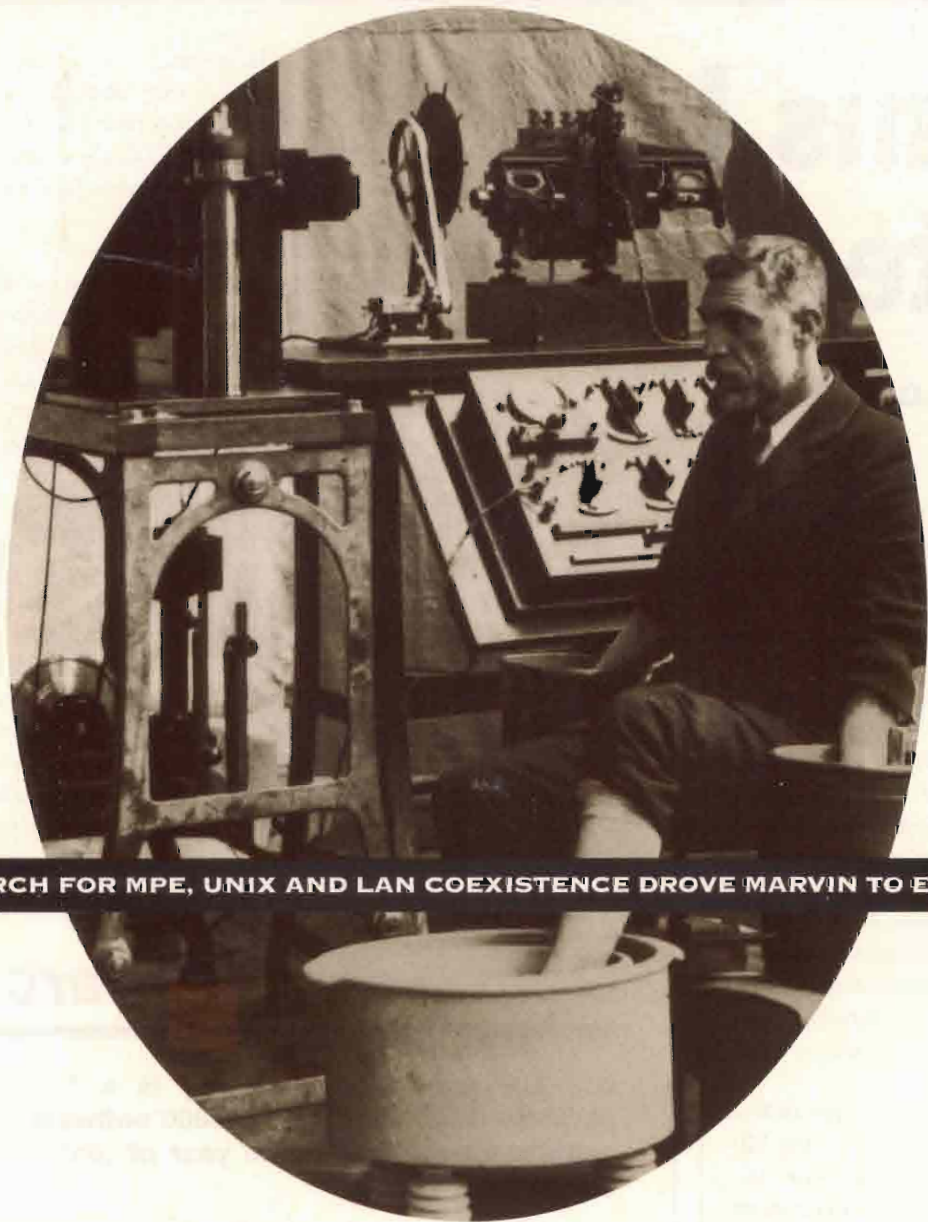
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HP 3000 SOLUTIONS

Adager Corp.

Adager announced a millennium date-oriented kit for IMAGE/3000, TurboIMAGE and IMAGE/SQL databases. Adager versions beginning with 19960726 offer the functionality to examine and change date-oriented formats and values that cannot go beyond the 20th century. Adager handles ASCII as well as binary date-oriented values in a variety of formats.

Contact Adager Corp., The Adager Way, Sun Valley, ID 83353; (800) 533-7346; info@adager.com; www.adager.com.

Circle 355 on reader card

Dennis and Schwab Inc.

Dennis and Schwab Inc. introduced the DCI/3000 On-line Bar Code Transaction Pathway for the HP 3000 which supports INTERMEC wired and RF network devices, and TRAKKER portable bar code transaction managers. Through DCI's API, user-written application programs have access to the DCI-controlled bar code devices via simple read and write subroutine calls. The DCI Processor interacts with application programs written in COBOL, C, Pascal, FORTRAN and SPL. And, the DCI program can be user-installed using the installation tape and documentation provided.

Prices range from \$2,500 to \$7,000, depending on the processor.

Contact Dennis and Schwab Inc., 505 E. First St., Ste. B, Tustin, CA 92680; (714) 505-1270; www.dsiweb.com.

Circle 354 on reader card

Diamond Optimum Systems

Diamond Optimum Systems and Adager Corp. announced a joint program that addresses the year 2000 problem for the HP 3000. The Adager/Diamond Program focuses on information located in the IMAGE DBMS, and software that uses this database information.

The solution combines Adager (for exam-

ining and converting database date-oriented information and structural formats) and Documentation/3000 with D-Day/2000 (for examining and converting software).

Contact Diamond Optimum Systems Inc., 22801 Ventura Blvd., Woodland Hills, CA 91364; (800) 362-8271; info@diamondos.com; www.diamondos.com.

Circle 399 on reader card

Distribution Resources Co.

Distribution Resource Co. (DRC) announced SFD (System for Distributors).

SFD was designed to help distribution companies manage the flow of goods. It works with the HP 3000 series of computers and has many options for integrating your internal business functions.

SFD uses the HP IMAGE database management system, connected to PCs, workstations and other subsystems in your company.

Contact DRC, 5340 S. Quebec St., Ste. 300, Englewood, CO 80111; (303) 889-4500; info@distributionresources.com; www.drcdnvr.com.

Circle 309 on reader card

E-Mail Inc.

E-Mail Inc. released its new MIME version of SMTP-X/3000. Users of HP Open Desk and E-Mail Inc.'s One-Stop Mail can send and receive binary attachments as Mime Base64 encoded messages. The SMTP gateway also can be used as a link between any HP 3000 and HP 9000 machine, running Open Mail or using UNIX Mail.

Any HP 3000 running MPE 5.5 or compatible can use this gateway for \$999, which includes an unlimited license for a master machine.

QED - Year 2000 Compliant MRP II Software for the HP3000

The QED software is completely modular, written in **COBOL '85**, and uses HP's **Image** and **Vplus** forms handler.

Originally designed to complement MM/3000, QED has evolved to a comprehensive set of modules with powerful integration features to interface into your current application software.

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Circle 400 on reader card

Interactive Software Systems

Interactive Software Systems Inc. introduced Safari InfoTOOLS, a suite of information access, management and connectivity tools designed to provide two-tier desktop products with three-tier capabilities. The Safari ODBC Driver allows any ODBC-compliant tool or application to access the consolidation, connectivity and processing power of the Safari Server's three-tier architecture.

Also introduced was the SafariNT ODBC Interface. Through an NT server, it provides universal connectivity to any ODBC-compliant data environment, including Safari Servers on remote systems operating on dissimilar platforms and operating systems.

Using these products in tandem, end users have simultaneous access from any ODBC-compliant desktop tool to multiple data sources in MPE, UNIX, VMS, IBM and Windows environments.

Contact Interactive Software Systems, 7175 W. Jefferson Ave., Denver, CO 80235; (303) 987-1001; www.intersw.com.

Circle 357 on reader card

Legato Systems Inc.

Legato Systems Inc. announced the availability of a NetWorker client for the PARISC, MPE/iX-based HP 3000 Business Server and plans to provide a storage node module that allows users to automate and integrate their backup, restore and archive operations with those of the enterprise.

The client module has been licensed by HP, and extends the capabilities of HP's TurboSTORE/iX storage management product, allowing HP 3000 data to be backed up over the network to any NetWorker server and its attached tape library devices. This same NetWorker server also can be used to protect all other platforms in the enterprise.

Contact Legato Systems Inc., 3210 Porter Dr., Palo Alto, CA 94304; (415) 812-6000; www.legato.com

Circle 356 on reader card

MiniSoft Inc.

MiniSoft announced ODBC/32, a new 32-bit ODBC driver that provides direct access to IMAGE and Turbo IMAGE databases without having to use ALLBASE or IMAGE/SQL. Additionally, ODBC/32

runs on all versions of MPE/iX that are running TCP/IP.

Also announced was Javelin, a Java terminal emulator that runs on HP 3000 and HP 9000 applications over the Internet and intranet. Javelin uses Java applets to support any HP or Digital legacy application requiring HP 700/9x or DEC VT320 terminal emulation.

Contact MiniSoft Inc., 312 Maple Ave., Snohomish, WA 98290; (800) 682-0200; sales@minisoft.com; www.minisoft.com.

Circle 397 on reader card

Mitchell Humphrey & Co.

Mitchell Humphrey & Co. announced the latest release of FMS PA, its project accounting system, which operates on HP 3000, Windows NT and UNIX platforms. Enhancements include a 60-character account string that can be broken down into user-defined segments such as project, subproject, task, employee and customer.

Contact Mitchell Humphrey & Co., 11720 Borman Dr., St. Louis, MO 63146; (800) 237-0028;

mhmarket@mhco-fms.com;

www.mhco-fms.com.

Circle 358 on reader card

ORBiT Group International

ORBiT Group International offered to upgrade Unison RoadRunner users to advanced versions of ORBiT's BACKUP+/iX for MPE or BACKUP/9000 for UNIX. This allows users to upgrade — with or without the Pro Module — to BACKUP+/iX with ORBiT's Zero Down Time (ZDT) option, which provides complete online backup.

Contact ORBiT Group International, 102 Washington Ave., Point Richmond, CA 94801; (510) 215-9000;

salesus@orbisw.com; www.orbisw.com.

Circle 396 on reader card

Robelle Consulting Ltd.

Robelle Consulting Ltd. announced SmartDate, which consists of a set of routines that manipulates and calculates dates. These routines are callable from common 3GLs, such as COBOL, Pascal and C. SmartDate routines provide a consistent method to convert dates between many different formats (over two dozen) and to perform calculations, such as finding the number of days between two dates.

Also announced was Qedit for Windows (QWIN). QWIN consists of two parts: a Windows editing client and an MPE/iX or HP-UX editing server. QWIN can edit files on your MPE/iX HP 3000,

HP 9000, PC network or your local PC.

Contact Robelle Consulting Ltd., Unit 201, 15399 - 102 A Ave., Surrey, BC V3R 7K1; (888) ROBELLE; info@robelle.com; www.robelle.com.

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Software & Management Associates

Software & Management Associates announced that Opcon/xps, an enterprise-wide Windows NT-based job scheduling system, is now available for operations on HP 3000 and HP 9000 MPE/iX systems. Users can automatically schedule, coordinate and operate all routine and ad-hoc processes across heterogeneous networks.

It supports HP 3000 and HP 9000 with MPE/iX, IBM AS/400, and Unisys A Series and 2200. It also provides support for Windows NT, UNIX (all flavors), Digital VMS and OpenVMS (Alpha) NT and OS/2.

Contact Software & Management Associates, 15600 John F. Kennedy Blvd., Ste. 710, Houston, TX 77032;

(281) 442-4882; sma@smainc.com;

www.smainc.com.

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SolutionSoft Systems Inc.

SolutionSoft Systems Inc. announced the integration of its Compression Storage Manager (CSM) product with MPE/iX, resulting in seamless interoperation between the online archiving package and the HP 3000 operating system.

CSM/MPE integration is available for MPE/iX 5.0 and 5.5 via the MPEJXA2 patch from HP and is being incorporated into the MPE/iX 6.0 code base.

Contact SolutionSoft, 2350 Mission College Blvd., Ste. 715, Santa Clara, CA 95054; (888) 884-7337;

info@solution-soft.com;

www.solution-soft.com.

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WRQ

WRQ introduces Reflection Suite for HP, which delivers high-speed access to the entire line of HP 3000 and HP 9000 hosts over NS/VT and TCP/IP. The Suite provides fully-integrated intranet/Internet applications for connections across your enterprise. Also, the Suite has multiple manageability tools resulting in easier deployment, faster troubleshooting and more IS control.

Contact WRQ, 1500 Dexter Ave. N, Seattle, WA 98109; (800) 872-2820; info@wrq.com; www.wrq.com.

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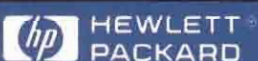
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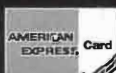
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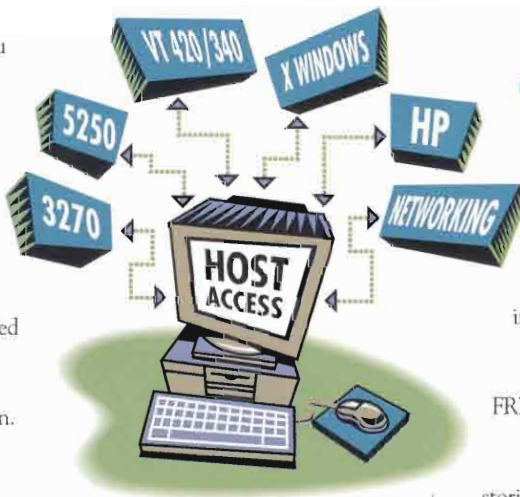
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