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MAY 1999

# Professional

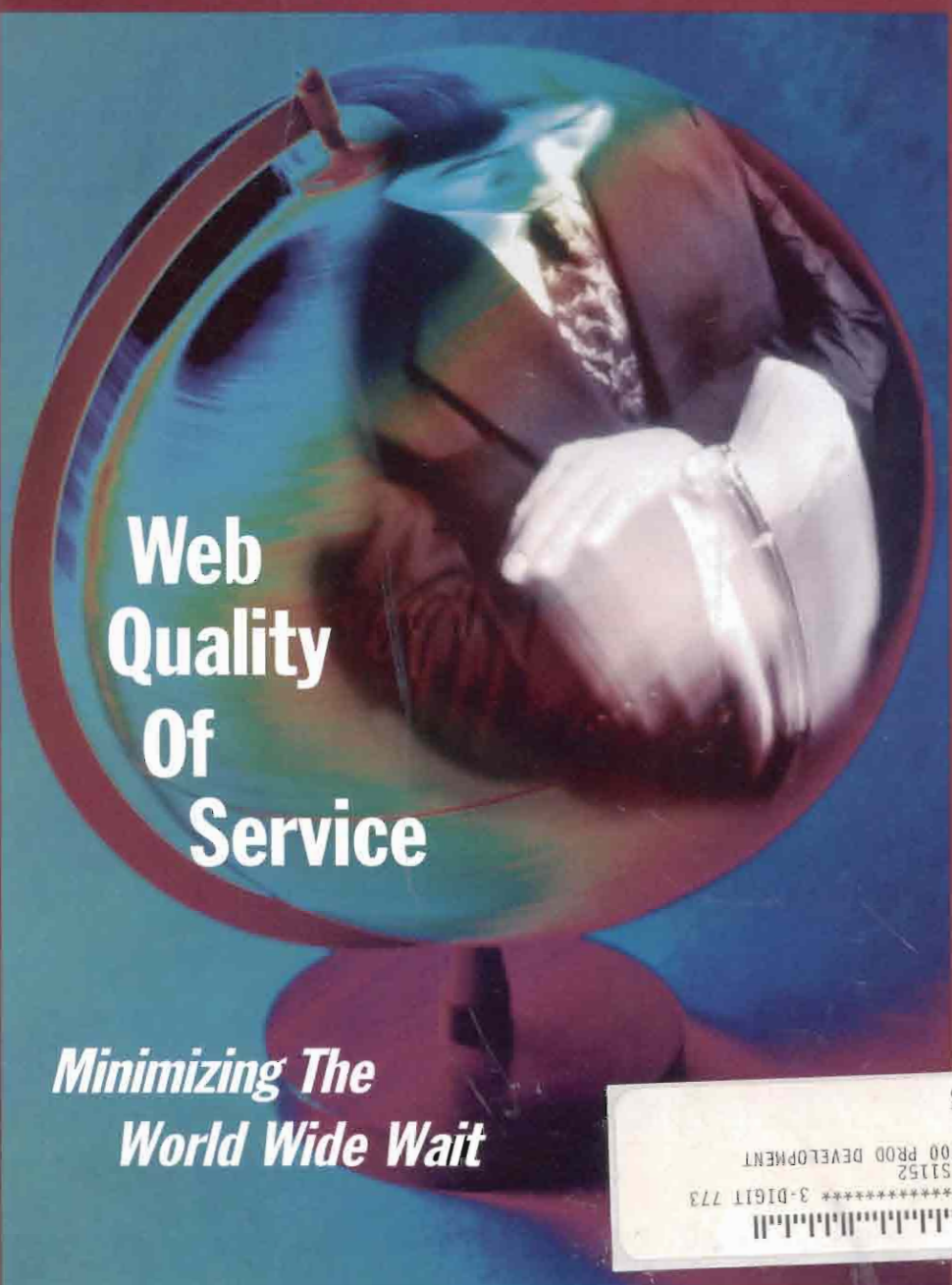
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E-COMMERCE/E-BUSINESS



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### Year 2000

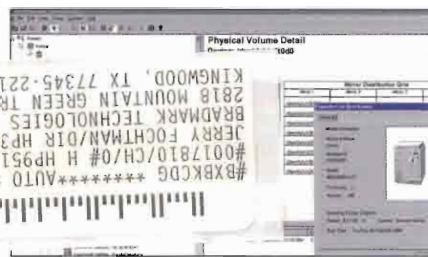
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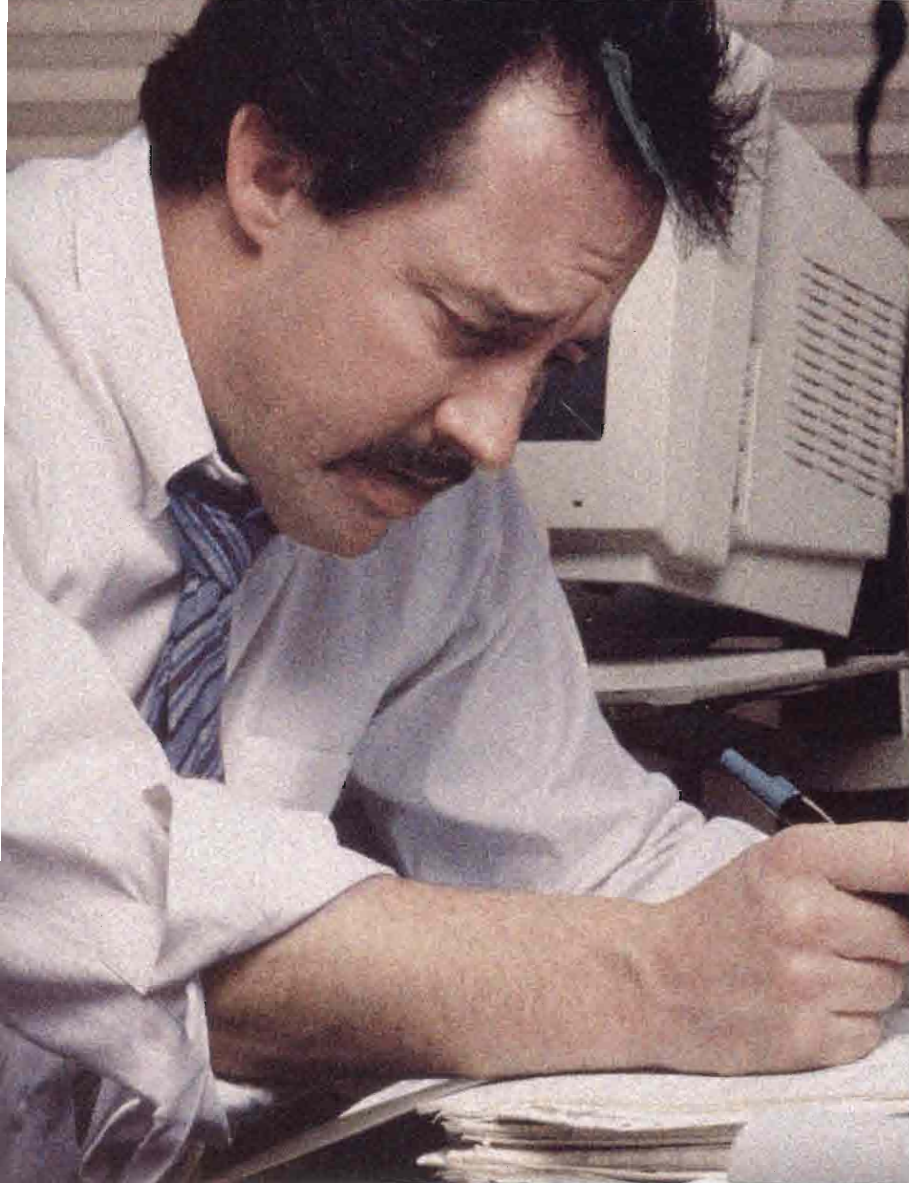
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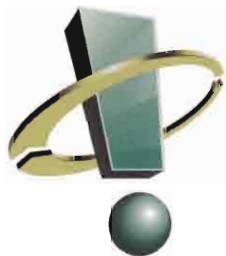




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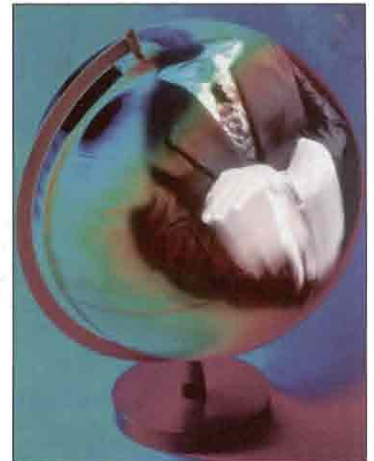
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# HP

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# At HP, Chapter 2 Is Job 1

I love it when an editorial comes together. And HP's \$150 million advertising roll out of its new E-services strategy during the past few months fits perfectly with our E-commerce theme this month. Like any new plan, however, it's long on concept, short on concrete details. And that's frustrating for a "detail guy" like myself who is always looking for some solid information to convey to you, our audience of 30,000 IT users, implementing various kinds of HP technologies.

If you've been reading (or listening) attentively, HP's new world of "E-services" begins "Chapter 2 of the Internet." According to HP's story, "it's a world in which people and businesses derive new value from the Internet by moving beyond Web-based access to information to a world in which a rich array of nimble, modular electronic services — E-services — are accessible by virtually anyone and any device."

Thoroughly perceived as having "advanced the royalties" to Sun Microsystems for writing the first Chapter of the Internet, HP intends to be a technology and thought leader in this new e-space (see my interview with Joe Beyers, General Manager of HP's Internet Business Unit on page 16 in this issue).

## LIFE ON THE STREETS

As a company, HP has made many contributions to our society and culture. For example, donating HP computer systems and services to the United Nations for sustainable development; supporting engineering programs in universities across the country; and of course, countless technological achievements to the computer, communications, and test and measurement industries. But HP pretty much remains an after-thought in the mindshare-at-large.

Unfortunately, attention spans, like RAM cycles, are measured in nanoseconds these days. And new paradigms in the IT business sprout like tasty mushrooms on the bottom of a fertile, forest floor. As evidence, I offer Bill Gates' *Business @ the Speed of Thought* (Warner Books, 1999). The subtitle: *Using A Digital Nervous System*, exposes his favorite paradigm. And according to Gates, the "digital nervous system" is all part of "the Web lifestyle," where the Web "will be used to pay your bills, manage your finances, communicate with your doctor, and conduct any business. Just as naturally, you'll carry one or more small devices ..." And, it will be "just as natural as picking up the phone." That's strikingly similar to what I hear HP executives depicting when talking about E-services. And that's all comparable with the concept of the "WebTone," an Internet dial tone, that Sun Microsystems executives are fond of describing.

Unfortunately, HP was politically corrected back in March by the Greater Baltimore Alliance — a business group in Baltimore, Maryland — who were rankled by these tag lines from HP's first series of E-services ads appearing in the *Wall Street Journal*, *The New York Times*, *USA Today* and the *San Jose Mercury-News*: "You're dying in Baltimore. Oddly, enough, you're killing them in Milwaukee." HP promptly apologized, "not intending to portray the [city] in a negative light." So, the question has to be asked: Can the usually born-to-be-mild HP, put together a "killer" advertising campaign that re-creates HP as a charismatic thought leader? Or will it end up dead on arrival?



E-business as  
e-usual?

George A. Thompson  
thompsonga@hpro.com

# Outside

THE BOX

Inside IT

## Why Do You Think They Call It Net-Work?

### Is A Single Login Enough?

In a recent report released by Aberdeen Group that followed users of NT 3.51 and 4.0, it found that “difficulties with scalability, robustness and administrative complexity” have prevented large-scale enterprises from full enterprise implementation of NT. The report pointed to one company that had to maintain one server for every four users and added, “all implementations used several servers dedicated to specific tasks such as e-mail and administration.”

One solution to these problems is to consolidate NT’s primary domain controller functions on top of

larger, enterprise-ready UNIX servers allowing authentication, file and print and directory services on one box.

#### SOLAR INTEGRATION

Sun Microsystems is taking the plunge into UNIX/NT interoperability with PC NetLink. John Shumaker, vice president and general manager for enterprise desktops says it will, “not only take market share from our traditional UNIX competitors but expand our workstation market,” and bring in more than \$30 billion in new business.

Originally announced as part of Sun’s Project Cascade last September,

PC NetLink makes use of AT&T’s *Advanced Server for UNIX (AS/U)* as its foundation. First conceived as an agreement between AT&T and Microsoft in March 1991, AS/U is not new technology. At one time or other AS/U has been used or endorsed by UNIX vendors attempting to provide NT/UNIX server consolidation.

“Our customers say they’re not going to swap out NT,” says Dave Douglas, director of technology and architecture in Sun’s CTO organization. “Our task was to find a way to implement a thin layer on top of Solaris.” So, given the need to connect to NT to provide a

single login and Sun’s less than amicable relationship with Microsoft, Douglas says the only way to legally license it was to ink a deal with AT&T, which was already contracted with Microsoft through NT 4.0.

AS/U has a spotty track record. And there are skeptics. Count Roger Franklin, president of Syntax, Inc. (Federal Way, Wash.) as one. Syntax produces Total Access Server (TAS) 5.4 that enables UNIX boxes to share files and resources across Windows 3.x/95/98/NT, DOS, OS/2, NetWare, Macintosh and UNIX computers by creating a common file system.

“[PC NetLink] will carve out a part of the UNIX file system and create an NT file system,”

says Franklin. "It will be very difficult to share files with [other platforms]. The information should be as independent of the technology as possible." Syntax has had a long and successful relationship with Sun and Sun ships TAS with new Sun servers, a combination that Douglas says is not going to change anytime soon.

### AS/U LIKE IT

AS/U also has a reputation for scaling poorly. "We've done a lot of work to make it more multi-processor aware ... and tuning of the core for multi-threading," says Douglas.

In comparing products like TAS and PC NetLink, Douglas says that TAS fits well in UNIX shops that have PCs, while PC NetLink is appropriate for companies with Solaris servers in an NT infrastructure that want to simplify administration.

HP's *Advanced Server/9000* is an AS/U implementation. It's a product that, "we're still actively marketing and selling," says Patricia McHugh, HP's product marketing manager for middleware. "It lets administrators trained in NT manage under HP-UX just as they would under NT."

As to claims of AS/U's poor scalability, McHugh points to an array of 200 to 300 of HP's top enterprise customers in automobile, telecom, aerospace and manufacturing indus-

tries that all make use of *Advanced Server/9000*. "We're not just talking about one or two servers in these installations. And they continue to buy additional servers. If performance were poor that wouldn't be happening."

She points out that HP, in lab testing, has achieved 80% to 90% of native Windows NT performance, but adds, "It will never be native." In addition, after "three years of adding features only available in HP-UX," McHugh says that the latest release includes MC/ServiceGuard high-availability support, support for large files, SMB signing (a feature that supports mutual

authentication and message authentication) and browsing across subnets. And, a beta release with full 64-bit support for HP-UX 11 is scheduled for June.

### BEYOND NT

As to what lays beyond NT 4.0, after which AT&T's access to NT technology ends, Sun's Douglas says not to worry. In NT 5.0/2000, Microsoft is implementing a more standard interface and support for Kerberos for security. "Active Directory has a good LDAP interface [and] we'll be able to solve a lot more of the interoperability problems without licensing."

McHugh agrees with

Sun's assessment. But only in the short term. HP has a roadmap for improvements to *Advanced Server/9000* beyond NT 5.0/2000. McHugh is wary of Microsoft's intentions. Although NT 5.0/2000 will initially be more open to interoperability standards, "Knowing Microsoft, over time they may make changes that make it incompatible." And that separation will force HP to develop another product to offer file and print services. As to whether that product will be AS/U-based, McHugh was not forthcoming.

—Ken Deats,  
Associate Editor

## Another Route To Server Consolidation

Talk with Jim Spoerl, president of Effnet, Inc. (Wellesley, Mass.) and you'll realize that the growing trend in network consolidation will evolve into more than just providing a single login. Effnet's mission is "to help network managers reduce the complexity in their networks while lowering costs and increasing options." He says they do this with a new, proprietary routing algorithm that allows the combination of multiple functions such as routing and security on a single box and soon on a single PCI card.

"There is a growing resistance in the industry relative to the multiplication of specific-service boxes," says Spoerl. "Rather than separate boxes, we want to consolidate all the functions together."

Formed in 1997, Effnet sprang from the efforts of research scientists performing in a lab near the Arctic Circle at Lulea University of Technology in Sweden. There, they discovered a way to dramatically improve the efficiency of router table lookups, which resulted in the foundation of the Effnet algorithm. Spoerl explains that most performance gains realized in overall router performance are directly attributable to faster hardware while the theory behind the table lookups has not changed in several decades.

Effnet's initial product offerings include the *FTC 500FR* integrated firewall and IP router, which is based on Effnet's filtering technology implemented on industry-standard hardware and the *FTC 1000R* IP router, which is capable of forwarding 1,000,000 IP packets per second. But, to hear Spoerl talk, it's Effnet's upcoming *Aurora* product that, he thinks, will shed new light on methods of network consolidation.

Just demonstrated at CeBIT '99 in Hanover Germany, the *Aurora* is the first of Effnet's new *Northern Lights* series of multifunction gigabit router and security solutions for NT and UNIX servers. Spoerl explains that, traditionally, the features offered by the *Northern Lights* series have required three or more dedicated boxes. But the *Aurora* will assemble all the firewall and routing features on a single PCI card, with almost one gigabit performance.

Spoerl says to look for the *Aurora* to be available in the "next few months," and, while he could not give a specific price, it will probably be offered in a configuration that provides four ports per box, at "about \$1,000 per port." He added that future releases of the *Northern Lights* series will include firewall filtering, secure VPNs, QoS and client-server applications on a single multifunction network card.

—K.D.

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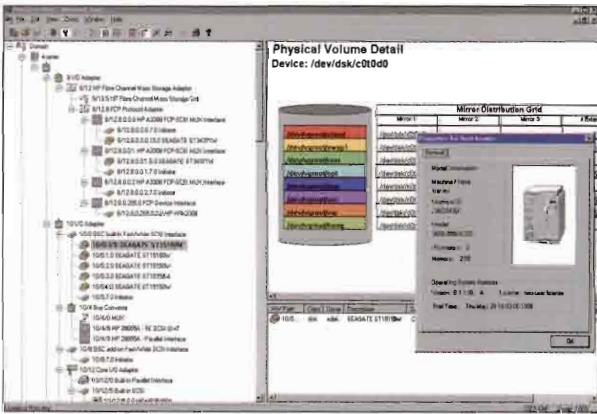
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## A New View Into LVM



### BACK BAY VIEW 1.4

- ▶ Graphical, interactive tool for visualizing and reporting on the LVM and hardware configurations of HP-UX systems.
- ▶ Provides a centralized collection of system configuration information organized into a hierarchical tree.
- ▶ Agent is priced from \$300 to \$500 per server. The viewer is free.
- ▶ Agent supports HP-UX 10.x, 11.0; Viewer supports HP-UX 10.x, 11.0, Windows 95/NT 4.0.

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**M**anaging HP's Logical Volume Manager (LVM) product in HP-UX environments with large data stores of several terabytes of data is difficult enough without taking into account the actual hardware systems on which logical and physical volumes reside.

According to Scott Riley, president of Back Bay Software (Costa Mesa, Calif.), LVM administration is compounded by the complexity of the hardware in HP-UX environments; and by the LVM's non-intuitive, non-GUI approach. "Knowing who's using what data and how things are laid out with nothing but a text-based report can be very scary."

Back Bay View 1.4 is a graphical interactive tool that provides a visual repre-

sentation of the contents of the LVM, along with reporting functionality specific to both the LVM and HP-UX system hardware configurations.

Riley says that Back Bay View enhances the LVM by providing a centralized collection of system configuration information organized into a hierarchical tree view, similar to that of the Windows 95/NT Explorer.

"Both for LVM and for the hardware discovery, it uses standard HP-UX system commands, so it's compatible with HP-UX 10.x and 11. We combine it in a way in which you can make sense of the information graphically."

Back Bay View consists of two components: Back Bay View agent for HP-UX 10.x or 11.x, which monitors the system configurations; and Back Bay Viewer, which runs on Windows 95/NT or HP-UX and presents administrators with a tree of hierarchical system information.

This is added value, Riley says, as expanding storage needs make it difficult for HP-UX administrators and DBAs to keep track of their storage — even with tools such as the LVM. "In many shops you see DBAs and sysadmins writing down on paper how things are done,

and as soon as they've done that somebody comes along and makes changes. And they do it all over again."

Back Bay View has cured the LVM woes for Blue Cross of California (Woodland Hills, Calif.), which has several terabytes of storage subsystems. Prior to deploying Back Bay View, Blue Cross DBAs and HP-UX administrators couldn't determine the exact complexity of their storage and hardware subsystems. Not any more, says Robert Fusco, a DBA with Blue Cross California.

"The first thing I need to do is to be able to balance my load and object placement and Back Bay gives me the opportunity to examine everything from the controller down to the physical disk and all portions of data placement." He also extols Back Bay View's "pinpoint accuracy" in LVM and hardware representation.

"HP doesn't really supply anything that provides this kind of detail. The stuff we get from HP and other third-party vendors really just doesn't go to the level of detail that Back Bay View provides."

*Stephen Swoyer,  
Contributing Author*

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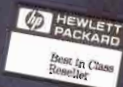


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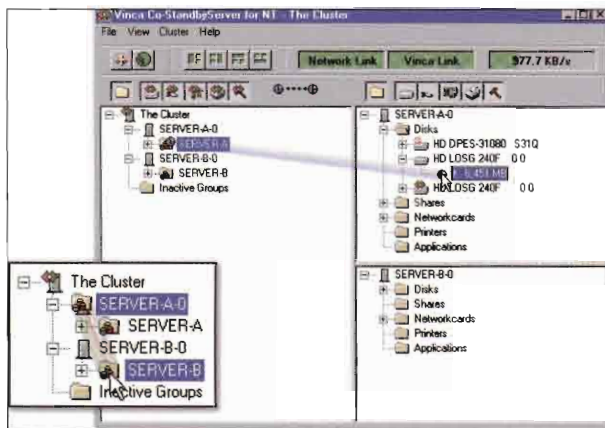
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- ▶ Requires Windows NT Server 4.0 with Service Pack 3 or later.
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For or nearly 100 years, ChoicePoint Inc. (Atlanta, Ga.) has been a leading provider of risk-management information to the insurance industry. When the company realized how much was at risk if one of its mission-critical servers crashed, it immediately went looking for a solution. It found Co-StandbyServer for Windows NT, a server-clustering solution for Windows NT-based networks from Vinca Corp. (Orem, Utah).

Co-StandbyServer continuously synchronizes data, including files, directories, IP addresses, printers and shares between a pair of NT servers. If one of the servers fails, the other picks up the slack immediately. This entire failover process is completed within seconds. Most users don't realize that

the failure even occurred.

Co-StandbyServer is built on a shared-nothing architecture, which has two primary benefits. First, it allows each server to store a separate copy of the clustered resources and maintain its own Windows NT registry database. Because a shared-nothing architecture preserves two copies of each file, the likelihood of losing access to mission-critical data is minimized.

Second, it fosters a hardware-independent environment, which is one of the primary features that led ChoicePoint Inc. to choose Co-StandbyServer.

"I didn't want a shared-drive system because that was way too expensive," says Penny Hansen, the Lotus Notes administrator for ChoicePoint Inc. "We didn't want to have to buy special hardware because we had already purchased hardware. The Co-StandbyServer looked like the best solution."

Any Windows NT Server 4.0-based computer with two standard network cards (recommended configuration) can be incorporated into a Co-StandbyServer cluster. The two computers in the cluster are members of the same domain and are connected to the LAN backbone as well as to a sepa-

rate, dedicated network segment.

A TCP/IP-based disk-mirroring engine synchronizes data using the dedicated network segment to transport the mirrored traffic, leaving the LAN connection available to handle other network needs.

On the front-end of Co-StandbyServer is a GUI cluster management console. The console supports drag-and-drop cluster management and allows network administrators to organize the server resources in user-defined Failover Groups. The value of the GUI is not lost on ChoicePoint Inc.'s Hansen. "One of the things that's really nice about it is that it's pretty easy to use," she says, "and that's a big deal."

Hansen says that she doesn't have any complaints about Co-StandbyServer. She notes that when she implemented the software in September, 1998, she encountered a small glitch while trying to get the IP address to work properly. When she called Vinca Corp. to report the problem, they sent her a solution immediately. "They fixed that."

Jeff Dodd,  
Contributing Author

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# Whom Do You Trust In A Virtual World?

## Building A Secure Extranet Using A Virtual Private Network.

SHARING BUSINESS processes and data with external partners calls for a rethinking of security policies. Like granting access to the brick-and-mortar compound, building a virtual private network requires knowing what needs to be protected, from whom and how to choose the right security force.

### Ken Deats

**H**P has been emphasizing the concept of the "virtual corporation" as a way of extending business processes and data outside the firewall. "Our vision is securing the virtual corporation," says Bill Sudlow, HP's senior director of Product Planning and Development. "How we do that depends on the type of solution that's needed."

Sudlow explains that the virtual corporation takes one of three different forms: end-to-edge; edge-to-edge; and remote access. The end-to-edge format takes place in a collaborative environment where the external part-

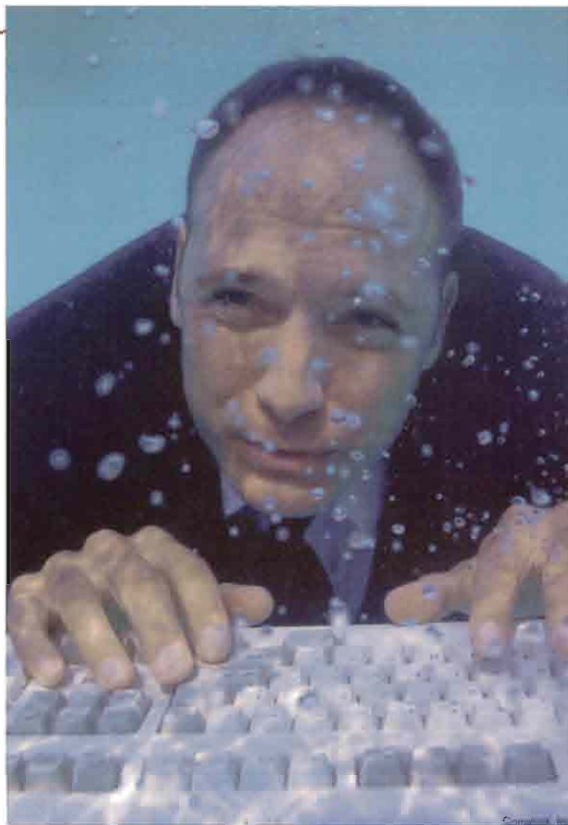


ners are trusted to access certain, specific resources within the corporate firewall. In this scenario, security is based on the individual desktop. "We want to know it's you coming in," says Sudlow. Here, he adds, an extranet virtual private network (VPN) combined with HP's VirtualVault trusted Web server is a secure communications method.


The best example of an edge-to-edge network, according to Sudlow, is a branch office where the connection is nothing more than a pipe between two edge-points and the security layer doesn't care about the user. "We'd want everybody to have access," he

adds. The open style of an edge-to-edge format is very well suited for using Internet Protocol Security (IPSec) which was designed to provide security between multiple firewalls and routers.

Realizing that this "virtuality" changes how business is conducted means that security constraints must be re-defined. So, HP's Praesidium Partners program has selected to partner with industry leaders in the field of Internet security. For example, Aventail Corporation (Seattle, Wash.) provides extranet/VPN technology through its Aventail *ExtraNet Center* (formerly Aventail VPN) and Aventail



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*Connect* (formerly Aventail AutoSOCKS). Both are based on the Internet Engineering Task Force (IETF) Socks v5 security protocol standard. Socks v5 supports multiple authentication and encryption methods, includes detailed access controls, active content filtering, monitoring and logging for internal and external networks.

"They provide a common authentication environment for TCP/IP applications, integrate with a variety of authentication types including digital signatures, smart cards and token

technologies and we can back into many legacy protocols," says Jude O'Reilley, Aventail's product marketing manager. "We assume maximum heterogeneity. Your business partners shouldn't be burdened with your security infrastructure."

#### **Socks And SECS**

Sudlow explains that the biggest difference between Aventail's Socks-based VPNs and IPSec-based security can be found in what goes on at the user's desktop. Because IPSec is not part of the operating system, changes

must be made to the Internet protocol stack, which can cause compatibility issues with existing applications on a partner's desktop. With the VPN, an application is loaded to the desktop with no modifications to the stack. By extension, the VPN works with any firewall without reconfiguration.

In addition, says Sudlow, Aventail's VPN provides user-based authentication and access control, where IPSec is machine-to-machine. "We can know who the user is and what applications and systems they're trying to access," he says. "Take HP. We may be dealing with over 400 partners. We can't let them all in to the network unattended."

Underscoring Sudlow's comments, O'Reilley adds that, secure Internet technology aside, a VPN should also be a good-will marketing tool. "It provides connectivity to high-value customers and partners. Companies know how much in revenue they collect from each. In that respect, setting up a VPN should be faced as a customer service and not as a security problem. Access for internal users is the security problem."

Most of Aventail's competition doesn't necessarily see it that way because, for the most part, they've implemented a "Web-only approach. This assumes the customer will front-end its resources with HTML," according to O'Reilley. "But, there's a valuable resource sitting in the mainframe. You can't ignore it."

#### **Why VPN?**

As far as O'Reilley is concerned, VPNs fall into four categories: managing change such as those that occur through mergers and acquisitions; managing external providers especially those required for mission-critical applications such as Y2K remediation; automating demand and supply-chains beyond EDI; and mastering co-optation where a partner may also be a competitor.

The security needs of these categories may be as far reaching as providing access via e-mail or the Web to technicians before any infrastructure

### **WHEREFORE ART THOU? IT'S COSTING US MONEY.**

HP estimates it can cost an organization \$500 to \$1,000 annually to support individual remote users. Claiming it will solve a lot of problems for companies that are geographically dispersed and help reduce the cost of supporting remote e-mail users while simplifying access, HP has combined OpenMail, in the form of *OpenMail Anywhere* (OMA) client software, with HP's Praesidium *VirtualVault 3.5* trusted Web platform. OMA is the standard browser mail client for OpenMail 6.0.

"On top of the laptop, there's the dial-up network to the POP, authentication to the network [in the form of a token], telecomm charges and management of the token," says Al Morgan, HP's OpenMail Anywhere product marketing manager in Communications Software Operations. "It's much more expensive than basic e-mail." Morgan expects that OpenMail Anywhere combined with *VirtualVault* will cut those yearly costs by as much as 75%. OMA users access a Secure Sockets Layer (SSL)-secured url from any browser. The browser accesses OpenMail Web client software located on a *VirtualVault* server. *VirtualVault* acts as a proxy client and binds the user to the mail server.

Taking in the bigger picture, Julie Rockwell, HP's product marketing manager for the Internet Security Division, compiled a comparison of standard dial-up costs vs. OMA for a 5,000-user company providing remote access to its employees. Her conclusion: "A...company...will save around 80% on one-time investment costs by using [OMA]. A non-Internet solution would cost \$1.5 million to set up while OMA would cost less than \$300,000. Both numbers do not include implementation or consulting costs." In addition, because OMA works with any SSL-based browser, e-mail access can be provided for users of Win CE-based palmtop systems. Once logged in, the client is presented with a "Hotmail, Yahoo Mail-type of interface."

-K.D.



integration actually takes place, to installing a common way to manage access for all external users without firewall changes, to sharing TCP/IP-based resources between multiple corporate layers. For example, a preferred Aventail client is a well-known electronic manufacturing firm that bought an equity position in a third-party supplier of storage technology that was incorporated into its final product.

Engineers from both firms found the need to perform lots of front-end negotiation on technical topics such as form factor, cost and design specifications, while high-level managers needed to cooperate on financial issues. Under those circumstances, an Aventail VPN maintains the security policy for a T.120-standard data conferencing whiteboard application; the engineers share specifications and

design ideas while the management shares ERP and financial planning applications and data. "It's the same technology providing the policy management for both parts of the corporation," says O'Reilly.

As VPNs continue to gain favor, O'Reilly thinks that the focus on extranet management of providing security for users and resources will separate itself from network level encryption technology. That will take the form of more CORBA support for object-oriented techniques for basic authentication and encryption, which will include the ability to store and share policies on LDAP directories.

Aventail will also focus on integrating the VPN with applications such as help desk that would supply causal analysis and deploy data collection agents. Finally, look for Aventail to build "a box you can

drop on your network that gives you instant extranet," says O'Reilly.

Templates and pre-defined solutions are much on the mind of HP's future Praesidium offerings as well. Sudlow points to the recent success of implementing a real-time, 3-D, CAD process for Siemen's KWU, a nuclear power technology leader for nearly 50 years. The most efficient way to support Siemen's far-flung team of engineers was to create a virtual reality design review process, accessed via a VPN and protected by VirtualVault.

So, Sudlow says customers ought to look for a "virtual R&D" template that combines VirtualVault, a VPN and engineering processes into one solution. At the end of the day, says Sudlow, the question to ask is: "What are your assets worth to you?" ♦

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## A CONVERSATION WITH JOE BEYERS

*General Manager of the Internet Business Unit*

George A. Thompson

MARCH 9, 1999 MAY HAVE just been another day in your life. Perhaps you celebrated a birthday or anniversary. Or, you may have finally gotten that “big promotion” with the “big office.” But at HP, that date rings out as a “major milestone” in the company’s history. “For the first time we’ve pulled together all of our key software and solutions activities around the Internet into one integrated organization,” says Joe Beyers. As General Manager of that newly created “one integrated organization” — HP’s Internet Business Unit (IBU) — he’s responsible for establishing HP as a leading innovator in a brave new world of “E-services.”

“E-services is our view of the evolution of the Internet as it moves into what we call Chapter 2 of the Internet. Our intent is to drive forward aggressively to achieve leadership in this E-services-centric world. We will do this by driving our strategy [with] our key partners by bringing to bear this technology which we call ‘Freemont.’” Beyers and his IBU troops have three overall objectives: 1. Grow a very large software solutions, appliance and e-services business; 2. Impact and grow HP’s value chain revenue; 3. Establish HP in a premier position as a leading Internet innovator.

Like any statement of technical direction and strategy — it sure sounds good. To flesh out what it all means for HP’s partners and customers, George Thompson, Editor-in-Chief of *HP Professional* spoke with Joe Beyers about HP’s efforts to become a big-time Internet wheeler and dealer.

*Editor’s Note: In early April, as this issue was going to press, HP’s E-services division announced a \$100 million investment in BEA Systems. The two companies have integrated HP Praesidium’s VirtualVault with BEA’s WebLogic Server and BEA TUXEDO. Through the integration of these products, customers build secure Java-based Web applications that act as an application server within the VirtualVault environment.*

*HP also announced ChaiAppliance Plug-and-Play, a new software product that is expected to help advance HP’s goal of making transparent connectivity of appliances a reality.*

**HP Pro:** Can you describe all the parts of HP that were brought together for the IBU?

**Beyers:** The IBU [now] consists of the VeriFone organization, which was acquired by HP [in 1997] and had been acting as an independent subsidiary, and didn’t have a lot of strategic linkages to [HP]. My previous organization which was the Internet Software Business Unit [the ISBU; formed about 14 months ago] started several software businesses and the Internet Application Server Division [IASD], which was developing such software as Web QoS and driving many Internet partnerships as well. We pulled all this together in this one organization. This is really important because when we had a lot of frag-

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mented parts, it was difficult to have an integrated strategy and to move our position forward.

**HP Pro:** How does that all translate into better products and services for HP customers?

**Beysers:** We have full value-chain responsibility across HP for driving HP's strategy around supply-chain solutions and customer interactive solutions. We also have strategic leadership for our security strategy across the company, in addition to the security products. And we have responsibility for driving these overall e-services across the entire company.

**HP Pro:** In the past, you've described your strategy as bi-modal. Does that still apply now?

**Beysers:** Yes. When you look at the software components in the organization our objective is to achieve category leadership in those areas. And that means we'll drive those software areas aggressively in capabilities and pervasiveness. And that means across multiple platforms and multiple SI partners.

But in addition, we're taking those elements and putting them together into these end-to-end business solutions that solve a broader business

problem and with a set of services to deploy those into the market place.

Bi-modal is the concept of running [a] software business and also being what I call an anchor-tenant of these end-to-end business solutions that will have our software products and third-party software products in them as well.

**HP Pro:** Can you give some examples of what you mean?

**Beysers:** We have already announced OEM relationships with two security companies: with Accent for firewalls and Aventail for VPN products. We've also announced relationships with Arriba, a provider of procurement software and networks. The joint relationship with them converts that into an e-procurement service. We also announced Vialink that is also a procurement portal service for retailers and distributors. And we announced an equity investment in



## HP'S IBU: THE BUSINESS OF E-BUSINESS

HP's new Internet Business Unit (IBU), led by Joe Beysers, consists of five divisions:

- **E-Services Division** provides the software infrastructure to enable e-business solutions and services, including the software environment that spans from servers to clients to appliances.
- **Internet Security Division** is responsible for providing software products that enable end-to-end security of e-business solutions.
- **VeriFone Division** develops Internet software and appliances that enable secure financial transactions.
- **E-Commerce Division** develops software that enhances e-commerce and customer-relationship management solutions.
- **E-Business Solutions Division** develops e-business solutions that are replicated within vertical industries or selected horizontal segments. Examples include e-banking, manufacturing, business-to-business e-commerce vertical solutions as well as horizontal solutions in security and management.

SI, an Internet banking supplier, for outsourcing services for banks. And we announced a joint venture in Japan to create e-business solutions for the Japanese market with Hitachi and Mirenenbeni.

**HP Pro:** I've heard a lot about the information utility model. Does that still apply?

**Beysers:** We've developed a crisper articulation of what that means. And that's what E-services is. To put this in context, Joel Birnbaum has been philosophizing around this concept of information utility for over a decade. That concept is becoming a reality today. It's the underpinnings of this e-services world.

**HP Pro:** So, the term "information utility" has been generally replaced with E-services?

**Beysers:** Yes. That's correct.

**HP Pro:** What do you hope to accomplish with your \$150 million E-services advertising campaign?

**Beysers:** We're starting the process of educating the world about the emergence of this E-services concept. And it's resonating very, very well. People see this emerging as we do. It's been very well received. [The campaign] will become more explicit over time about what E-services means and explaining HP's role. And then it will branch out to other media types.

**HP Pro:** Whom are you targeting at this juncture?

**Beysers:** It's a pretty broad business and consumer educational thrust. It's more of an awareness campaign at this stage.

**HP Pro:** Maybe it will help our readers, and me too, if you can put it in some kind of competitive context. Do you see your campaign as similar to or competing with IBM in terms of the way they presented their role in e-business?

**Beysers:** IBM really is pushing and promoting in today's e-business and e-commerce world. And that's what their ad campaign and their business thrust is all about. We are strengthening our capabilities in that space as

well; but we are also moving aggressively to the next wave — of E-services. We truly are a technology leader and thought leader in this space.

**HP Pro:** What's your sense of people being able to grasp the E-services concept, which is really a new paradigm, at this point?

**Beyers:** I think there was some concern about whether that would be a problem. But we are finding that people are grasping it. They understand what that means, they see the early indication of it.

**HP Pro:** I think many people will be skeptical about HP's marketing plans.

**Beyers:** You should think of March 9 as the death of HP's stealth marketing program.

**HP Pro:** Another term you've used — correct me if I'm wrong — is virtual corporation. How does the virtual corporation fit into the E-services world?

**Beyers:** The term virtual corporation was how I was characterizing the kind of e-business and e-commerce solutions that we were creating with our current software capabilities.

Think of a customer's front office interface, which links into their back office, which links into their demand and supply-chain partners. Customers interacting with the front office result in actions in the back office, which results in actions with your partners and your supply chain.

While the virtual corporation was a concept to describe how these solutions are linked together in a transparent way, we are using E-services as a higher level umbrella.

**HP Pro:** From what I understand, Lew Platt wants HP to become a major software company or at least be recognized as a major software player. But I think it's difficult for those most familiar with HP to think of the company as such.

**Beyers:** You should think of this [E-services thrust] as the meat behind HP becoming a software and solutions provider.

## MINDING YOUR OWN BUSINESS WITH HP'S CHANGENGINE

Changengine is perhaps the least well-known product in HP's IBU software portfolio. For example, version 3.0, released this past December, is now available. Initially developed behind the doors at HP Labs (Palo Alto, Calif.), Changengine was launched in commercial form in July 1998 and known as Changengine 2.0 Admin Edition. "It was focused primarily at the operational or administrative level where many organizations were looking to reduce costs, increase efficiencies, increase internal and external customer satisfaction," says Dave Hinman, general manager for the Changengine Operation. "The 3.0 version is a huge leap. We get a chance to tie into applications inside the enterprise. Instead of being able to do integration at the client level, we can do integration at the server-application level."

Changengine is best described as a technology that automates business processes across applications, organizations, business partners and customers. "We're moving [Changengine] into the line of business world where in any enterprise there could be up to 70 specific line of business processes that are critical to the success of the company.

"We're working with partners to verticalize [solutions]." For example, one company, is creating a "business process library that [will] contain up to 46 different pre-canned HR processes [e.g., hiring, firing, background checks, drug testing, etc.]. And we are looking to do that in other areas." He also mentions a product called *Tia* from Document Access (Rotterdam, Netherlands) that's geared towards the property and casualty side of the insurance industry.

From an IT perspective, Changengine "provides an environment that helps to externalize the business logic that, in the past, has been embedded in applications; pulls them out, creates an abstraction and stores them in process design maps. As your business changes, you can make changes to those abstracted process maps without having to recode your applications." For example, Shell Expro (Aberdeen, Scotland) uses Changengine to model and track engineering change orders in designing offshore oil platforms in the North Sea.

"It's also critically involved in providing a way of connecting across the Internet," emphasizes Hinman. For example, GE Information Services (Gaithersburg, Md.) built a retail supply-chain management extranet for Tesco (Cheshunt, Hertfordshire, U.K.) with Changengine called the *GE Trading Information Exchange (GE TIE)*. GE TIE is an example of another favorite HP E-services concept: the virtual corporation. "We provide an environment from the supplier to the customer through the front and back office environment. And that is where application integration is essential."

**HP Pro:** What company keeps you up at night?

**Beyers:** Some company that isn't even

on our radar screen. HP's biggest threat is probably a company that doesn't exist today. ♦

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# Stupid

IF E-COMMERCE IS TO FLOURISH ON THE Web and deliver on its promise for customers and vendors — both outside and inside an organization — there needs to be a mechanism to ensure that what happened to Anwar Murbarat doesn't happen to you, or to me, or to anyone. Ever. In Murbarat's case, rather than prowling the local brick-and-mortar dealerships trying to buy 20 new cars for his new cab company in Chicago, he tried Web shopping. After a few searches and inquiries he found an auto wholesaling market in Atlanta with a great deal. So far, so good!

As he started to execute the order for the 20 cabs, the auto dealer's Web site slowed down so much that he got tired of waiting for a response. Frustrated, he tried again the next day. Again, his efforts met with the same response. Finally, Murbarat called the dealer (whom he would not identify) and discovered that the Web site, overwhelmed with queries about Chevy Malibus (a staple vehicle in the taxi trade), had lost his order in the

online chaos. Annoyed by this kind of poor service, he took his business — and tens of thousands of dollars — elsewhere.

#### **SURF AND SHOP STOP**

But what disappointed surfers and e-shoppers like Murbarat don't realize (nor should they) is that the Web or what's behind the Web — the packet switching foundation upon which the Internet rests — is a first-come, first served technology. Unfortunately, most real-world business models are hardly so egalitarian: We reward frequent flyers with special deals, impor-

*Mark McFadden*

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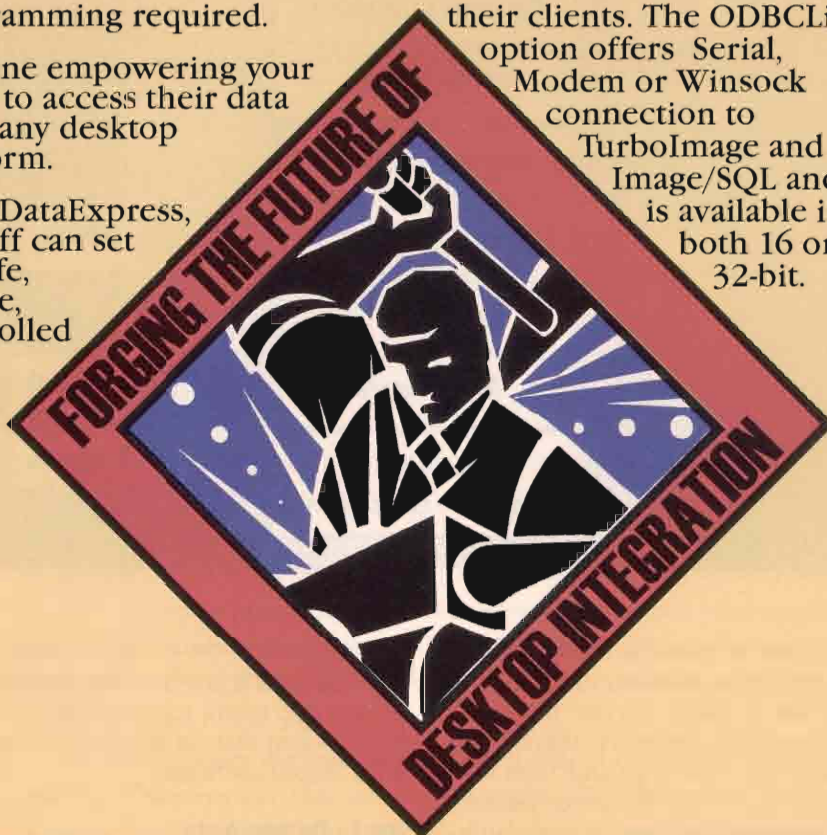
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cized E\*Trade outages back in February of this year, "The expectation is for real time."

"Internet Service Providers are building out plenty of bandwidth. [But] when users converge on a single server, the server becomes the bottleneck, not the network," says Jim Zepp, HP's product manager for HP Quality of Service Technology. "Server latency [the time an Internet

between customers and service providers, ensure that packets can be classified for different levels of service on a "hop-by-hop" basis.

Differentiated services and server latency are at the core of HP's Web Quality of Service (WebQoS) software. First introduced in May 1998 (and first implemented in HP's infrastructure for the 1998 World Cup Games), WebQoS 2.0 (introduced in March 1999), is server-based software that fits at the TCP/IP socket level and provides access and performance priorities via the *Request Controller*. A separate component, called the *Resource Controller*, sits above the OS layer, occupies a level below a company's middleware software and manages the resources allocated to the Web server.

"We're monitoring based on service objectives configured through the management system and you can [allocate] how much of your resources are going to whatever applications and which have what priority," explains Zepp. Interestingly, he stresses, "We can set the type of 'service bit' on request that comes out."

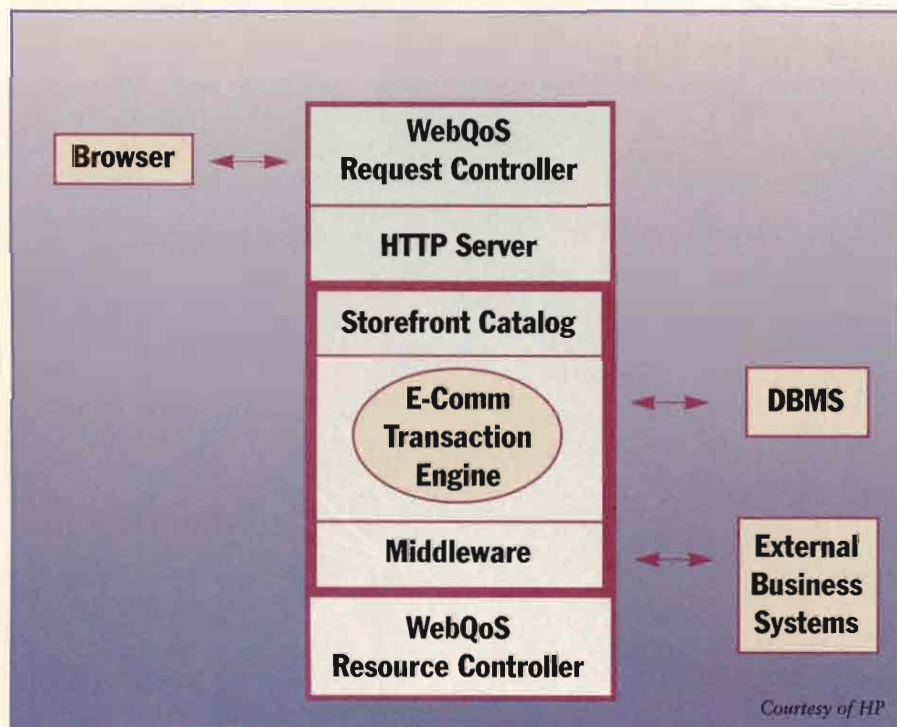
According to a recent analysis by the Giga Information Group (Cambridge, Mass.), one U.S.-based manufacturing corporation was recently set to upgrade its high speed communications lines at several of its remote sites suffering from Internet traffic congestion. By prioritizing Web-based traffic instead, the company was able to postpone the costs of the upgrade and immediately recover the costs of the QoS implementation.

It's similar says Zepp, to a car pool lane. "You're reserving capacity for customers who have two people or more in the car."

HP WebQoS software provides new services which are built with the Internet enhancements in HP-UX 11.0 in mind, but it works with 10.20 as well. And although HP's WebQoS 2.0 was designed to be Web-server independent, Zepp emphasizes that, "We've focused our development efforts on integrating Netscape's Enterprise Server [3.5] because that's what most ISVs are sitting on top of today."

It's not just about internal cost

## HP WebQoS: An Electronic Commerce Solution



know that in practice, some employees are more equal than others.

When a Web server is overwhelmed with requests, increasing transmission speeds to and from the server doesn't help the server process the requests. In fact, it may only "serve" to make matters worse. As the weakest link in the Web, if the Web server is overloaded, improvements in the other links do not matter.

But if the Internet's democratic model doesn't fit, how can businesses ensure that established, real-world relationships are reflected on their Web sites. Or in the words of Lisa Nash, writing for the *San Jose Mercury News* about the well-publi-

packet goes into the server and comes out] is so much greater than network latency [the round trip response time for a packet] that we think the server is the biggest challenge."

### VIVE LA DIFFERENTIATED

By providing "differentiated services," Internet software and routing equipment can effectively mark IP packets with special flags that provide for different levels of service. Just like a "priority stamp" on a mail package is an indication to give the package special handling, marking packets requires bilateral agreements between those marking the packets and those forwarding the packets. These agreements, resulting in better service



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## REVIVING THE CLASS SYSTEM

HP's WebQoS software (now bundled with HP's new N-class servers) makes three major changes in the way you can view services on the Web:

### THE CREATION OF CLASSES OF USERS

Separating users into classes reflects the fact that, either inside or outside an organization, not all customers are equal. Providing a mechanism to identify different classes of users — and then provide customized levels of service for those customers — can mean the difference between satisfied customers and client contempt.

Classes of service, for instance, might divide the audience into tiers of customers: some getting high-quality, assured service, others receiving preferential service and the remainder getting best effort services. Another example is differentiating buyers vs. shoppers at an e-commerce site. Once a user has put an item into their shopping cart, they could be directed to URLs that provide enhanced services or better performance. According to Stan Schatt, Analyst at the Giga Information Group, "Using this scheme, the best customers can receive an even higher level of priority."

### THE CREATION OF DIFFERENTIATED SERVICES

Something Mr. Murbarat would appreciate, is this approach to differentiate the services offered by a Web server rather than the treatment for individual users. For instance, users simply browsing back issues of the company newsletter would get a very basic level of service, users of an order entry system would get a higher level of service and executives drilling through ERP systems might get an even higher level of service.

The ability to change the performance characteristics of individual services makes it possible to have scarce system resources flow from one service to another as business needs change. A Web-based hotel checkout system could be given priority from 6 a.m. until noon and then the priority resources could be transferred to the hotel's registration systems.

### MANAGE PEAKS IN UTILIZATION

Peak Usage Management provides the ability to guarantee that existing activity on a Web server is not compromised and that new users are not admitted to a site before there are resources available to serve them.

Many Web sites know that they will experience spikes in utilization, but it's inefficient to over provision for those spikes. One example is the sudden stock slide in October 1997. As the market began to tumble downward online brokers started to have trouble keeping up with demand on their Web servers. Their customers cursed the network that was causing worse financial havoc every minute, but it was the Web servers, not the network, that were the source of the problem.

— M.M.

savings. "Service classes for both users and applications will give CIOs new tools with which to manage network resources and an [electronic site's] new pricing models," according to recent studies from Zona Research (Redwood City, Calif.) "Both types of networks will need to be able to sell 'units of work' to different classes and prioritize and price such units appropriately based on user privilege, application priority and time of day."

### GOLD MEDAL STANDARDS

HP isn't the only vendor working to ensure availability for commercial Web sites. For the most recent Olympic Games IBM developed software that balanced workloads across a number of Web servers. At that time IBM concentrated on software that would help ensure that a group of Web sites could act together to serve exceptional and sudden increases in traffic. By dividing the workload among many servers, IBM made their site reliably available to Olympic fans.

IBM has improved on the technology, but unlike the separate focus on WebQoS by HP, IBM has added-on to their WebSphere product. Called *WebSphere Performance Pack*, it's available (for now) on a wider set of platforms than HP's approach: IBM's AIX, Sun Solaris and Windows NT.

Eventually, Internet standards evolving around QoS and Differentiated Services will allow organizations to give preferential treatment to their most important customers; meet service level agreements; establish and market classes of service; and eliminate bottlenecks due to overloading of key system resources.

By more effectively using current wide area network links and factoring a percentage increase in Web-based business many businesses could find a nearly immediate cost savings from implementing policy-based Quality of Service strategies. And it may be enough to get your Internet customers to experience your site in real time.

—Mark McFadden ([mcfadden@21st-century-texts.com](mailto:mcfadden@21st-century-texts.com)) is HP Professional's new Consulting Editor.

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# A Toast To Your Health

**You've done your  
Y2K homework,  
but are you ready  
to celebrate?**

BY NOW MANY ORGANIZATIONS have completed a Year 2000 remediation process and are ready to execute a critical second step: Quality Assurance. Whether checking to ensure that systems purporting to be compliant do make the grade or checking the success of a remediation process, the quality assurance step is critical. Besides bolstering overall corporate quality assurance and testing procedures and insuring against potential litigation over Y2K failures, a "health check" provides a safety net, demonstrating that an organization has done everything possible to ward off the "date of doom."

## **COBOL SNOWBALL**

Mainframe-driven IT divisions are well aware that their systems are not Y2K ready, but many with UNIX or Windows NT assume that their system is. It's a potentially dangerous assumption. They figure that they don't have a problem because both UNIX and Windows 2000 can recognize dates well into the 21st century. However, programmers using mainframe techniques learned in languages such as COBOL could be embedding two-digit dates in character strings.

The techniques for a readiness health check are similar to those of a normal remediation effort. The big difference? The system is, ostensibly, ready. The health check, however, assumes that *THE SYSTEM IS NOT READY* and sets out to find points where two-digit dates exist. The first step is to establish the number of programs or components that are date impacted. This is accomplished by scanning the source code to identify where dates are referenced. For Y2K remediated applications, this should be a scan independent of the initial effort and preferably with a different tool. Next, subject matter experts should be interviewed to identify which programs or components are most critical and which interface with other applications.

## **FOR THE GREATER GOOD**

A triage process is then initiated to determine the risks to the organization should a particular program or component fail. The team then prioritizes the review process starting with those programs that will cause the greatest disruption if failure occurs. Adherence to company programming standards and change control procedures is reviewed to establish a confidence level for the state of the source code. If a company has done very little testing, a stronger effort should be undertaken. With this additional effort, the health check helps to develop a more rigorous test environment to use on an ongoing basis.

Costs vary widely according to the scope of the check, which can range from a simple review of the remediation process and rescan of source code, to a thorough century testing effort to satisfy stockholders or regulatory entities. The health check provides an objective third-party opinion, as well as a testing process that can be leveraged in future scenarios. The level of testing and associated cost is to a great degree dictated by the industry; that is, the more regulation involved, the greater the requirement for an independent assessment.

"An ounce of prevention is worth a pound of cure," is a cliché that certainly applies to the Y2K Bug. The costs for a health check are insignificant when compared against the costs of enduring a lawsuit. Those who use the health check will find their efforts well rewarded in the next millennium.

—James Patterson, Y2K Product Director, IMI Systems (Melville N.Y.), served as a programmer/analyst, project manager and consultant, most recently focusing on Y2K challenges.

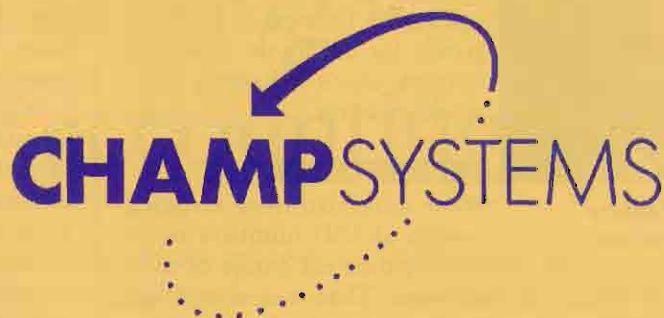
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*James Patterson*

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# Is Bigger HP-UX Better HP-UX?

JUST THE OTHER DAY, I saw a laptop advertised with a 19-inch LCD. I decided I didn't need it, because my lap is not that large. It's also becoming increasingly difficult to find

a disk smaller than 2GB, making it hard to service older machines.

Operating systems are getting "bigger" too. For starters, overall size is

way up, with most taking up hundreds of MBs. They're getting "wider" also, by going to 64-bit, so 128-bit hardware and operating systems can't be that far behind. The problem with all this is that the majority of systems don't need it. At least, not yet.

Starting in 1996 with 10.20, HP-UX began allowing larger users than in the past. Actually, it's the users Unique Identifier (UID) that got larger by supporting 32-bit User ID's instead of the previously supported 16-bit. For the binary impaired, that means we went from 64,000 to *two billion* possible UIDs.

For non-systems administrators, every login name on a system has a number assigned to it. This number, or UID, is stored with every file owned by the person using that login name. It's also used to identify which processes that user is running. Executing the `id` command will show the UID number assigned to your login as well as the group ID.

For a very few systems out there, this is a good thing. But in reality, how many people have over 64,000 users in the password file? At first glance, this appears to be yet another

useless improvement.

Take a closer look and you start to realize that UID numbers need not be consecutive. Prior to HP-UX 10.20, and currently at most sites, the UID number was assigned somewhat arbitrarily. The typical method was to find the next available number or possibly the lowest number available (unused). This made the UID purely for use by the operating system, since it had no real-world meaning.



**Fred Mallett**  
frederm@famece.com

## FREE RANGE CHECKING

Some administrators assigned ranges of UID numbers to be used by different groups of users or buildings. That was somewhat handy, because an administrator could determine some type of information about the user by looking at the UID. The command `ypmatch tedd passwd` (or `grep tedd /etc/passwd` on non-NIS systems) returns a colon delimited line of text, of which the third field is the UID.

There are some very large systems, with hundreds of thousands of users for whom the 32-bit UID is obviously useful. For the rest of us, the advantages are only apparent if we start using it. Here's an example that one of my customers has started using (after a little push).

This company, like many, assigns employee numbers that happen to be six digits long. Starting a few months ago, new users added use their employee number as the UID (you can even fit a social security number in a

32-bit UID). This makes for easy mapping of user name to number, but it also allows many programs to automatically determine the employee number.

This particular company now has an expense reporting program that looks at the users UID. If it's six digits long, it automatically fills in name/address/organization information by looking up the user in a database. If it's five digits or less, it prompts for the employee number.

It's possible to re-assign UIDs for existing users by making the change then doing some recursive `chown` commands on all the disks, but they haven't approached that issue yet.

Another interesting technique presented by HP engineer John Fenwick at Interworks '99's *HP-UX System Administration Conference*, was to use a person's phone number as the UID. I'm sure there are other mappings that make more sense in your environment.

## CONVERSION AVERSION

There are several things you must be aware of before running off and assigning UIDs beyond 65,534 in your network. The first is that all filesystems that will contain files owned by users with large UIDs must be converted to understand large UIDs. This is a minor issue when using High Performance File Systems (HFS) because they'll be converted automatically when any large UID owned file is created.

Here's an example of an HP-UX 10.20 system converting an HFS

filesystem on the fly:

```
$ fsadm /dev/vg00/lvol3 | grep large
file system supports : nolargefiles,
longfilenames
$ touch /tmp/big
$ chown 9913044 /tmp/big
$ fsadm /dev/vg00/lvol3 | grep large
file system supports : nolargefiles,
largeuids, longfilenames
```

Take note that the conversion was automatic. Also note that if you don't have patches installed, on the second `fsadm` you might have gotten the error "*The primary and alternate super blocks do not match.*" If you were to delete any large UID files, the next `fsck` will clear the `largeuids` flag, though it doesn't change the disk UID structures.

If you're using the Veritas File System (`VxFS`) instead of `HFS`, it must be version 3.0, which was shipped in HP-UX 10.20. If you have older filesystems mounted, you cannot have files owned by large UID users on those filesystems.

The second issue is that applications must be recompiled to understand large UIDs. HP-UX system commands (as of 10.20) have all been recompiled so they can translate large UIDs to usernames. If you have other applications or programs that try to convert a UID to a username, they'll have problems if they're not recompiled.

Another feature of magnitude that came about in 10.20 is support for larger file sizes. Release 10.10 could handle a filesystem of up to 128GB. In 10.20 you can amass a *single file* that large. This might seem like overkill until you realize that there are many RAID products that can be mounted as one very large filesystem. A scary thought is that the theoretical limit is a terabyte, but HP has only tested up to 128GB.

Large files are supported by the operating system, but remember that if you have applications that need direct access to large files, they must be recompiled (with the options of `-D FILE_OFFSET_BITS=64` or `-D LARGEFILE64_SOURCE` depending on how the code is written).

The filesystems where these larger files are stored must also be specific-

ly created, or changed for *largefile* support. The `newfs` command now has a `-o largefiles` option for both `HFS` and `VxFS`.

An existing filesystem can be changed to large file size support with the `fsadm` option `-o largefiles`. These large filesystems should be mounted with the `-o largefiles` option of the `mount` command.

In release 10.20, large files are only supported locally, not through `NFS`. HP-UX 10.3, a support release, shipped with `NFS Pv3`. That version of `NFS` is required to access these large files over the network.

*There are many more big things to discuss, especially with HP-UX 11. Let me know what interests you.*



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# Reinforcing The Renaissance



For most of this last decade of the 20th century, HP 9000 and HP NetServer users have benefited immeasurably from HP's technological investments and marketing initiatives. But loyal users of the HP 3000 — HP's first foray into computing — have been treated with what might politely be called benign neglect. Although the demand for HP 3000s isn't growing at the same double digit rates as HP's UNIX and NT markets, the HP 3000 market is doing quite well — thank you very much. In 1998, HP saw the first positive increase in HP 3000 sales since 1993.

Impressive enough to warrant this mention from Lew Platt in HP's 1998 annual report: "1998 marked the renaissance of the HP 3000." And to further allay any qualms and trepidation surrounding the future of the HP 3000 in the installed base, last year at HP World, HP announced that it would support the Intel Architecture (IA-64) for the HP 3000 platform.

More importantly, it illustrates how HP plans to incorporate and carry HP 3000 customers into its new E-services vision beyond the millennium. "We believe the Internet is and will be a very important medium for

conducting business in the future. And we would like HP 3000 customers to use Internet computing without having to change their existing infrastructure," says Ozlum Ozturk, product manager for Internet and interoperability technologies for HP's Commercial Systems Division (CSY). "We would like the 3000 to evolve into this Internet space."

Ozturk cites Open Skies, Inc. (Salt Lake City, Utah), a wholly-owned HP subsidiary, as one example of an existing HP 3000 Internet/e-business solution. Roy Breslawski and Jim Sartain, formerly with the CSY, are

now the marketing and R&D manager (respectively) for Open Skies (see "Coffee, Tea And The HP 3000" in the March 1999 edition of *HP Professional*). And this month, HP continues its revamping of the HP 3000, demonstrating a commitment to keep the platform competitive.

In early May, HP announced a new series of mid-range HP 3000 servers, support for the Apache Web server, a new autoRAID disk array, improved OpenView manageability, support for Sun's Java Database Connectivity (JDBC) and Netscape's Lightweight Directory Access Protocol (LDAP) and several other enhancements.

## HP 3000 989KS/x50

The new 989KS/x50 series of servers use a 240MHz PA-RISC 8200 CPU. HP expects a 25% performance increase over existing HP 3000 989KS platforms and 15% over the HP 3000's 997/800 systems. "Being successful in the Internet space requires high performance," notes Ozturk. Users must have MPE/iX 5.5 with Power Patch 6 or MPE/iX 6.0. Pricing for minimally configured sys-

A black and white photograph of a hand holding a champagne flute glass, partially filled with liquid. The hand is wearing a ring. The background is a blurred party scene with people and balloons. A large white oval is superimposed over the glass.

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## HP 3000 SOLUTIONS

tems is as follows: 989KS/150 — \$102,900; 989KS/250 — \$125,900; 989KS/450 — \$171,900; 989KS/650 — \$217,900.

### SUPPORT FOR APACHE WEB SERVER, JDBC AND LDAP

After two failed attempts to support third-party (OpenMarket and Netscape) Web server software on the HP 3000, the open source Apache Web Server is being ported to the HP 3000.

Support for the open source Apache Web Server (1.3.4) will be included in MPE/iX 6.0 Express 2 Release (expected this fall). Currently, Apache can be downloaded from HP's jazz server at [jazz.external.hp.com](http://jazz.external.hp.com). "We are getting some interesting requests for Apache," says Ozturk.

The Java Database Connectivity (JDBC) API (version 1.1.7) will be supported in MPE/iX 6.0 Express 1

Release. JDBC will allow access to data in Image/SQL (HP 3000) and Allbase/SQL (HP 9000) databases. "We are updating our Java releases based on Sun's release schedule," says Ozturk.


Netscape's Lightweight Directory Access Protocol (LDAP) client services will be supported (also expected this fall). LDAP allows an application's x.500 libraries or x.509 directories to be stored on other platforms.

### HP SECURE WEB CONSOLE

Already supported on the HP 9000, the *Secure Web Console* (\$590) provides secure access to multiple HP 3000 server consoles via the Web.

### AUTO RAID MODEL 12H

The new Model 12H (already supported on the HP 9000) stores up to 1.3TB in a two meter rack and is now



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## HP 3000 SOLUTIONS

supported on the HP 3000. Since it is an autoRAID technology, says Daren Connor, product manager for system management and high availability in CSY, "It gets the burden off the administrator in terms of managing the device." Noting the written guarantee of 99.95% uptime, "We have a high confidence in the device."

### HP 3000-SPECIFIC SCRIPTS INCLUDED WITH HP OPENVIEW IT/O

HP's OpenView IT/Operations 5.0 (available as a patch by the end of May) will come bundled with 20 ready-to-manage HP 3000 scripts "that are directly tailored to the key processes and functionality in managing a HP 3000 server — like database and volume management and backups," says Connor. "Before you had to write or hire someone to write a lot of scripts to accomplish the same kinds of functionality."

### DATA WAREHOUSING, MEMORY SUBSYSTEMS, BACKUP & FIBRE CHANNEL ENHANCEMENTS

According to Connor, the CSY is coming up with a solution (involving Omnidex) that, "allows you to populate a data warehouse out of an Image database then use various desktop access products to slice and dice the data. In the past, we only had a beta version, now we have a full solution."

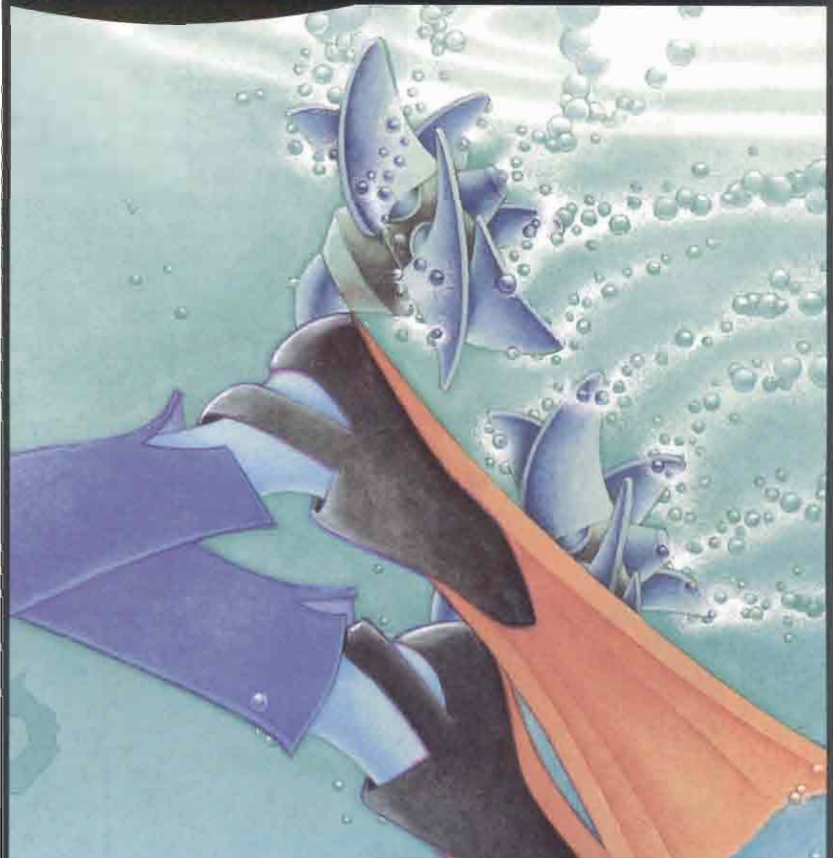
In the first half of the year 2000, HP 3000 99x servers (now limited to 3.75GB maximum RAM) will benefit from increased performance and lower cost per MB when memory subsystems capacities expand. Connor speculates that anywhere from 16GB to 32GB is possible. "We're waiting to decide to see where the exact limit will be."

And *TurboStore/iX*, in conjunction with the *Legato Storage Node* product, will support DLT-7000 tape arrays. And a "distance solution" using an outside-the-cabinet SCSI-to-FibreChannel bridge is in the works. "It's a bridging solution that we are getting from an outside vendor," says Connor. "It's a setup for native mode FibreChannel support." ♦

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**APPLICATIONS  
DEVELOPMENT**

**AutoPlay Menu Studio 2.0 Pro**

AutoPlay Menu Studio 2.0 Professional Edition is a visual development tool for creating multimedia CD-ROM AutoPlay menus for Windows 95/98 and NT.

It contains the Template Gallery, then lets you customize using the drag-and-drop development environment. AutoPlay Menu Studio now supports multi-page menus, both 8 and 24 bit color, true multilingual support, AVI video, serial numbers and passwords, variables, conditions, custom fonts and cursors and a complete sound and graphics library. It's available

for \$195 with no runtime royalties.

Contact Indigo Rose Corporation, Winnipeg, MB, Can. at (800) 665-9668.

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**SAM Password Synchronization**

SAM/PS operates from a server and detects changes in user passwords then uses secure communications to automatically propagate the new password to all systems enterprise-wide that the user is associated with. SAM/PS is available for OS/390, Windows NT, UNIX, Novell NetWare, and OS/400 platforms and is fully compatible with security software such as RACF, CA-ACF2, CA-Top Secret, and Windows NT security.

SAM/PS allows management to enforce enterprise-wide security policies through password harmonization, a feature that controls password standards enterprise-wide.

Contact Schumann Security Software, Inc., Laurel, MD at (301) 483-8807.

**E-COMMERCE**

**Thomas A. Edison  
Commerce Server**

The Thomas A. Edison Commerce Server includes a Pentium II 350MHz system, 256MB SDRAM, 13GB of storage, a HP T-5000 tape back-up system, 36X CD-ROM, 10Base-T PCI Ethernet card, 15-inch monitor, 4MB-video card, and Windows NT 4.0 server (5-user). It's bundled with Emrys Solutions (Dallas, TX) software customized to support a commerce site capable of handling up to 300 simultaneous users. The Emrys software combines a customized Internet storefront design package with a Web-based, point-of-sale package, which generates transactions directly to its integrated database. It includes a design wizard and sells for \$9,995.

Contact Thomas A. Edison, Inc., Amarillo, TX at (877) 823-7253.

**MESSAGING AND E-MAIL**

**MELIA (Microsoft Exchange  
Log Import Agent)**

MELIA tracks all e-mail sent and delivered through MS Exchange, enforces compliance with corporate policies, sorts e-mail for billing purposes, maintains internal security and monitors volume. It tracks e-mail to and from competitors to ensure that secrets are not being misappropriated and can track messages to and from terminated employees. It can also monitor e-mail from known SPAM and hacker addresses to help protect against viruses and other threats and also to track e-mail for selected employees working on proprietary projects.

Contact MicroData Group, Topsfield, MA at (800) 924-8167.

**E-mail Archiving Bundled  
With CD Jukeboxes**

JVC's CD Library Systems bundled with xVault Inc.'s xVmail software can create, maintain and archive e-mail messages. It is in compliance with NARA 94-04, 98-02 and DoD 5015.2 publications and standards regarding the management and storage of electronic records.

JVC's CD Library comes in 100-, 200- and 600-disc capacities and provides high-capacity CD recording, labeling, storage and retrieval. Features include 50-disc removable magazines; 32x CD-ROM readers, 4x recorders; color CD label printer; up to three separate SCSI buses; and LCD front display panel. JVC's CD

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SURETY (shoor'e-lee), n. 1. Sureness; certainty. 2. Security against loss or damage. 3. One who makes himself responsible for another. Syn. Assurance, commitment, bond, earnest, guarantee, pledge, security.

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Library Systems bundled with xVmail software starts with the 100-disc-capacity model at \$35,000.

Contact JVC Professional Computer Products Division, Cypress, CA at (714)-816-6500.

**NETWORK INTEGRATION**

**NICs for HP-UX**

Phobos Corporation announced that it will begin shipping a complete family of Ethernet PCI NICs HP-UX.

Pricing is as follows.

- P100H 10/100 NIC with RJ-45 interface \$209.00
- P100FX 100 MB NIC with ST, SC or VF-45 \$215.00
- P430 Quadport 10/100 NIC with RJ45 \$695.00
- P430FX Quadport 10/100 NIC with ST, SC or VF -45 \$995.00
- P1000 Gigabit NIC with ST, SC or VF-45 \$1,695.00

Contact Phobos Corporation, Salt Lake City, UT at (801) 474-9200.

**PRINTERS**

**SNA Print Server For CIP**

OpenConnect's SNA Print Server for CIP is a centralized print server that uses a Cisco Channel Interface Processor (CIP) or Channel Port Adapter (CPA) to provide centralized management for distributed mainframe printing.

It's a standards-based solution which distributes mainframe information to any LAN-attached printer in the enterprise, supports up to 1,500 print sessions simultaneously, is RFC 1646 compliant and interfaces with Cisco's standards-compliant TN3270 server software.

Contact OpenConnect Systems, Inc., Dallas, TX at (972) 484-5200.

**STORAGE**

**MTI And Caldera Integrate Linux And RAID**

MTI Technology Corp. and Caldera Systems Inc. have announced the integration of Linux into an enterprise RAID storage solution. MTI's Gladiator RAID subsystem, Infinity 1630 tape library and Caldera Systems' OpenLinux 1.3 have been combined to provide an enterprise server/storage solution for businesses of any size. Product availability is expected in the second half of this year.

The built-in Infinity 1630 automated tape library provides "hands off" backup and restore using DLTtape technology.

Contact MTI Technology Corp., Anaheim, CA at (800) 999-9MTI.

**SYSTEM AND NETWORK MANAGEMENT**

**Netcool/NT Service Monitors**

Netcool/NT Service Monitors are modular data collectors for monitoring distributed Microsoft Windows NT-based resources and applications. It captures realtime performance, availability, status, log and security data about NT-based resources. Netcool/NT Service Monitors run with other Netcool applications, allowing operators in a central Network Operations Center to: monitor CPU, memory and disk usage of distributed NT systems; interrogate system logs for application status and security information; and track changes to specific files.

Contact Micromuse Inc., San Francisco, CA at (415) 538-9090. ♦



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### E-COMMERCE

#### New WebQoS

HP's new WebQoS (Quality of Service) 2.0 (now integrated with Netscape Enterprise Server Software 3.6) provides new technologies that protect HP-UX-based Web-sites and application performance, and optimize use of server resources. It lets businesses identify and prioritize Web-site visitors to ensure that priority transactions, such as purchasing, take precedence over general browsing. WebQoS on HP-UX 10.20 and 11 enhances Netscape Enterprise Server 3.6 with performance protection and user and service prioritization.

url: [www.hp.com/go/webqos](http://www.hp.com/go/webqos)

### STORAGE

#### CD-RW Portable Drives

HP's new CD-RW offerings include:

HP CD-Writer Plus M820e — a slimline, mobile CD-RW external SCSI drive, reads data at up to 20X transfer speed and writes up to 4X transfer speed, 5 inches by 6.5 inches and less than 1 inch thick.

HP CD-Writer Plus 8200i — an internal rewritable IDE drive, reads data at up to 24X transfer speed and writes at up to 4X transfer speed.

HP CD-Writer Plus 7500 series — internal and external drives that write data at up to 2X transfer speed, the internal reads data at up to 24X transfer speed, the external reads data at up to 6X transfer speed.

url: [www.hp.com/storage/cdwriter](http://www.hp.com/storage/cdwriter)

### TELECOMMUNICATIONS

#### Voice And Data Integration

HP announced two new communications solutions based on Nortel Networks Voice product portfolio. The HP Business Communications Server, targeted at small- to medium-sized businesses and branch offices, integrates communications components from Nortel Networks and business applications into a single Windows NT server. The HP Business Messaging Server, targeted at medium- to large-sized businesses, delivers unified messaging by integrating Nortel Network's CallPilot with leading e-mail servers, such as Microsoft Exchange.

url: [www.hp.com/telecom](http://www.hp.com/telecom)

### NEW FROM OPENVIEW FORUM

#### Support For Windows 2000

OpenView ManageX 4.1 supports both Windows 2000 Beta 3 and the Windows Management Instrumentation and ManageX event-management technology will ship on the Windows 2000 Beta 3 CD. HP OmniBack II provides support for NT File System 5.0 and Windows 2000 Distributed Services (Active Directory, Certificate and File Replication services). Network Node Manager can manage Windows 2000-based systems through its discovery and mapping of network devices. The Desktop Administrator will provide enterprise desktop-manage-

ment services for the Windows 2000 environment and help for rapid deployment of Windows 2000.

#### Response Time Workbench

Response Time Workbench provides a way to monitor true application response time and availability as measured from an end-user's perspective. Measurement data can be used by other OpenView products for reporting, availability, performance and service management.

#### PolicyXpert 1.0

Based on the IETF's Common Open Policy Service, PolicyXpert 1.0 assures QoS for critical applications and servers. Policies can configure prioritized classes of service, committed access rates, packet marking and the ReSerVation Protocol.

#### Enhanced IT Service Management

OpenView IT Service Management provides integrated e-mail, computer telephony and service navigation. It's now possible to configure IT/Operations 5.0 through OpenView's ITSM GUI to manage the infrastructure from multiple perspectives. And service calls can now be registered through e-mail.

#### New OpenView Desktop Administrator

OpenView Desktop Administrator 5.0 includes: smart-agent technology for automatic installation of all agents and managers; an SQL relational database (Solid Information Technology's Embedded Engine) is now included and support for Microsoft SQL Server has been added; subscription service technology that lets workers select and receive software upgrades they need; and snapshot distribution that lets operators customize scripts with a drag-and-drop interface.

#### Extended Support

Expanded support programs target channel partners, system integrators and customers. Four new services have been added: OpenView Channel Support provides quicker access to high-end technical support and is tailored to specific certified OpenView channel partners; implementation support services for authorized OpenView channel partners cover areas such as architecture and design review, product or technology consulting and quick escalation to product R&D teams; ready-to-run solution services include pre-packaged implementation services for HP channel partners; and custom enterprise services are a combination of in-person and electronic services which will be available in 2000.

#### OpenView Enterprisewide From Desktop To Mainframe

HP and Sterling Software formed an alliance to extend IT/Operations, ServiceNavigator and Network Node Manager to the mainframe. HP will resell Sterling's SOLVE:Operations products that provide integrated OS/390 and AS/400 management from OpenView. The alliance will deliver a solution for managing distributed systems and mainframes from a single OpenView console.

url: [www.openview.hp.com](http://www.openview.hp.com)

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