THE MAGAZINE FOR HEWLETT-PACKARD ENTERPRISE COMPUTING

# HP Professional

DECEMBER 1996

## HP's Q4 Numbers

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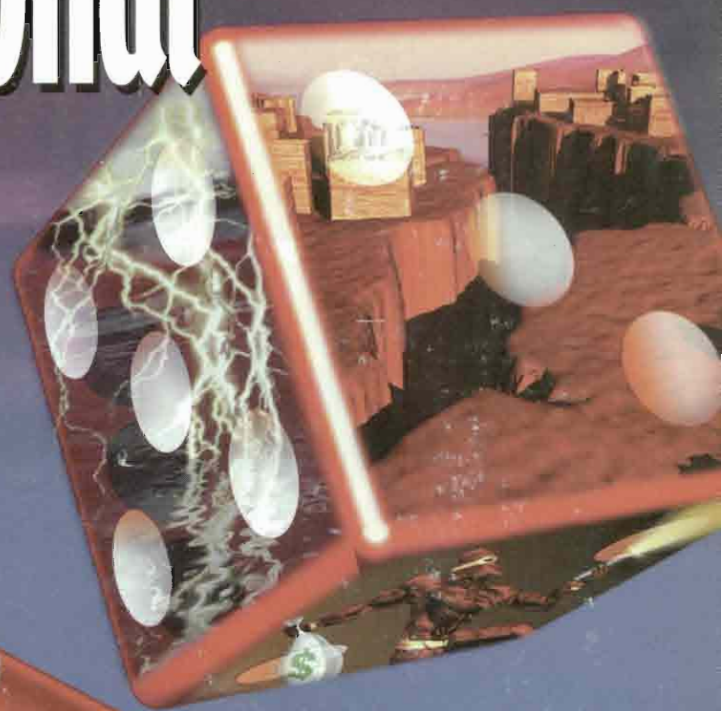

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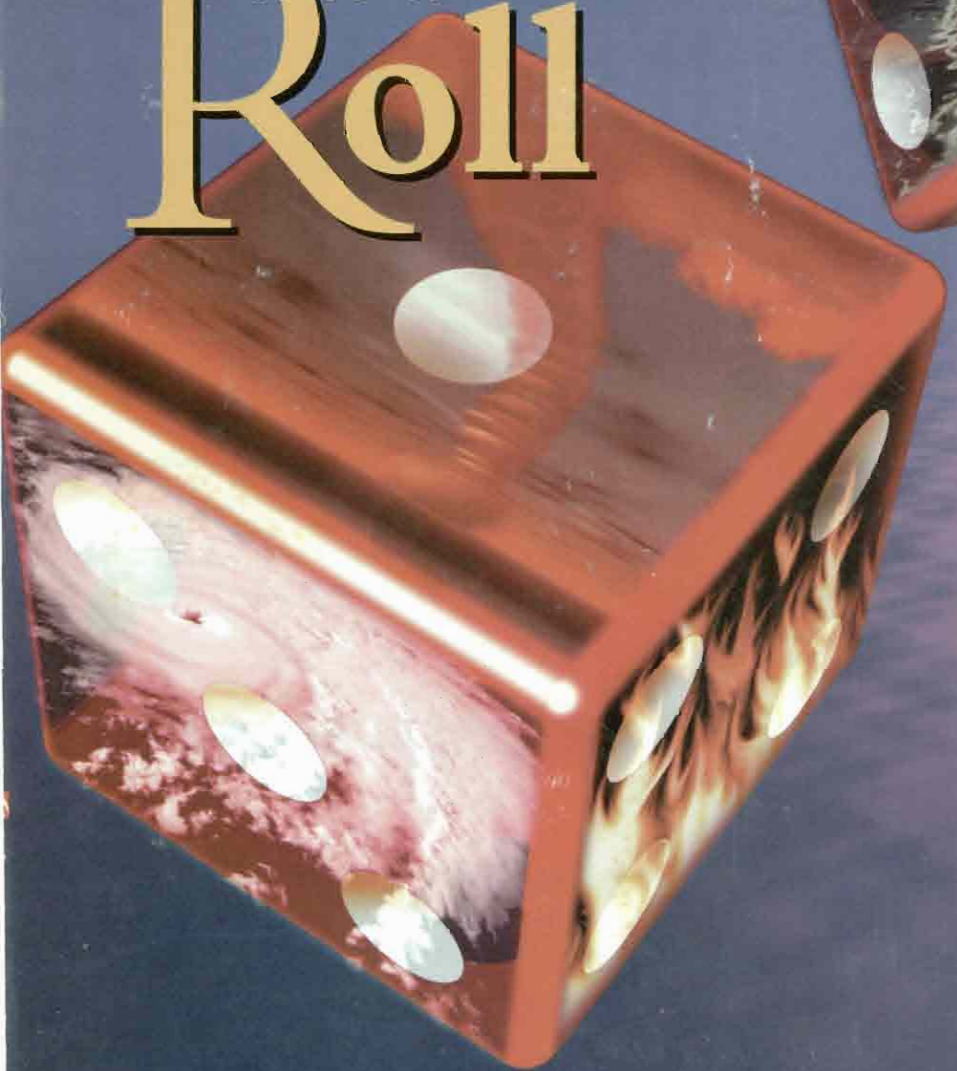

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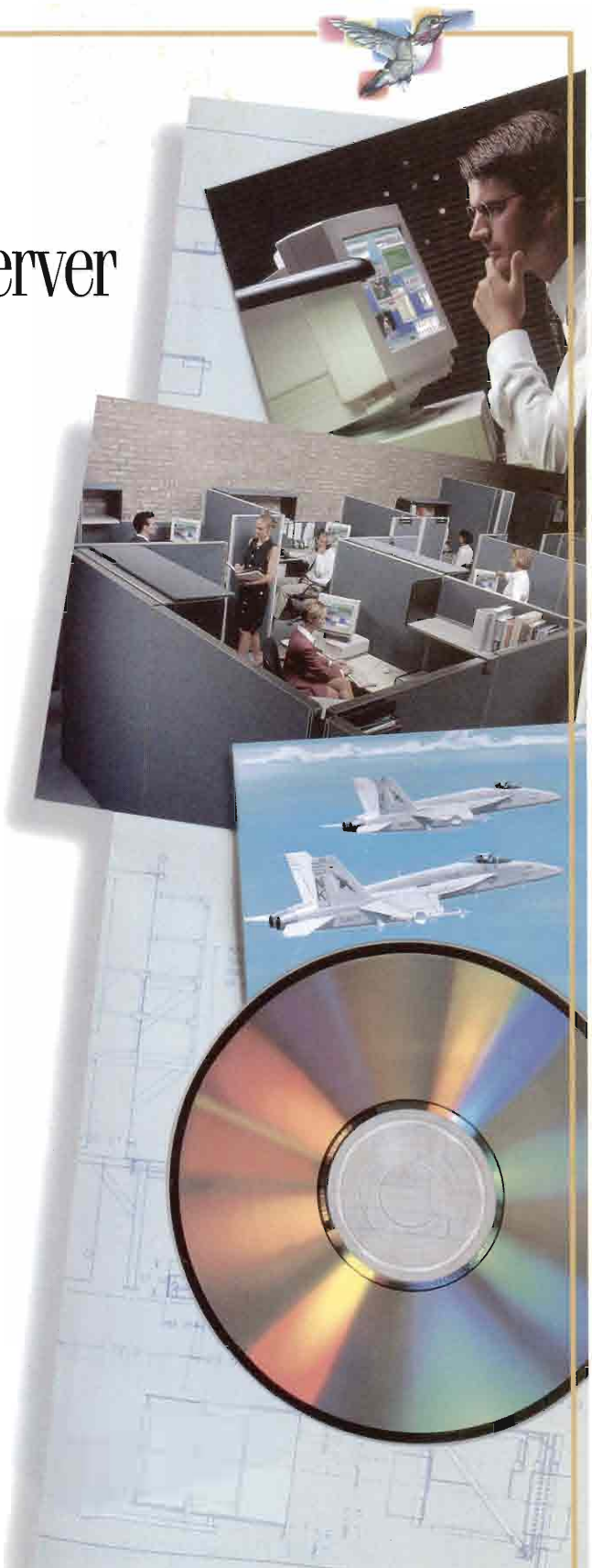

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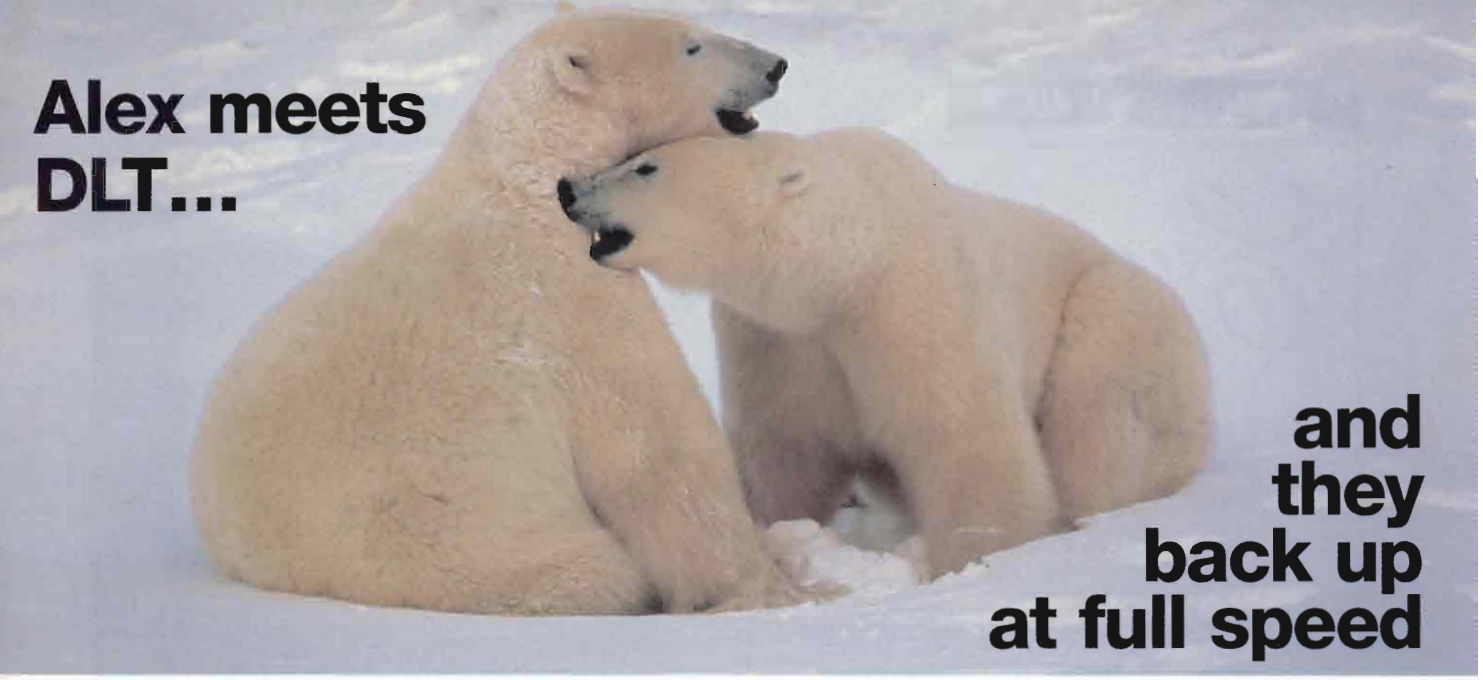

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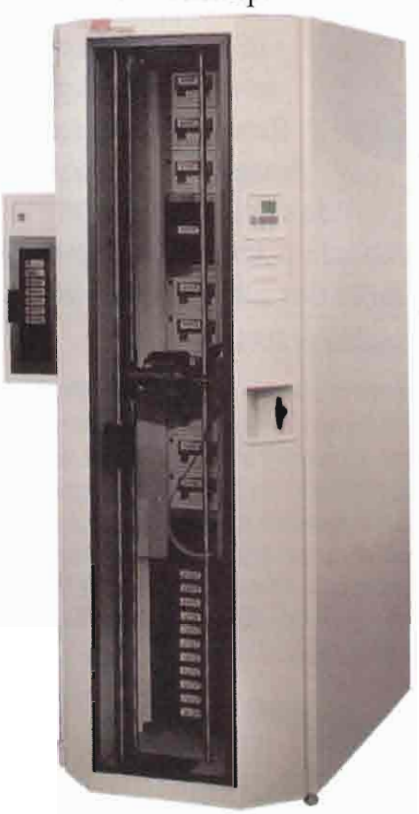

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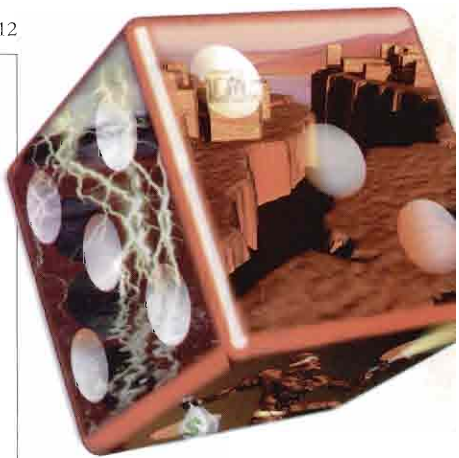


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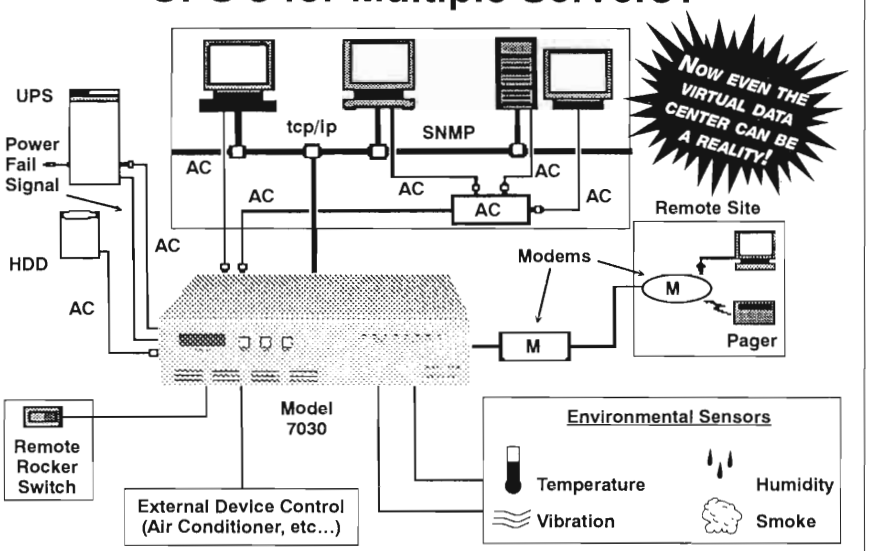


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**HP PROFESSIONAL** ISSN 0896-145X is published monthly by Cardinal Business Media Inc., 1300 Virginia Dr. Ste. 400, Fort Washington, PA 19034. Subscriptions are complimentary for qualified U.S. and Canadian sites. For reprints, contact Reprint Management Services, 505 E. Airport Rd., Lancaster, PA 17601; (717) 560-2001, FAX (717) 560-2063. Periodicals postage paid at Fort Washington, PA 19034, and additional mailing offices. **US** POSTMASTER: Send all correspondence and address changes to HP PROFESSIONAL, P.O. Box 3053, Northbrook, IL 60065. COPYRIGHT © 1996 by Cardinal Business Media Inc. **CANADIAN** POSTMASTER: Send all correspondence and address changes to Cardinal Business Media, C/O N.L., P.O. Box 44, RPO Rockwood Mall, Mississauga, ON L4Z 9Z9. All rights reserved. No part of this publication may be reproduced in any form without written permission from the publisher. All submitted manuscripts, photographs and/or artwork are sent to Cardinal Business Media, Inc. at the sole risk of the sender. Neither Cardinal Business Media, Inc. nor HP PROFESSIONAL magazine is responsible for any loss or damage. HP PROFESSIONAL is an independent journal not affiliated with Hewlett-Packard Company. HP and Hewlett-Packard are registered trademarks and HP PROFESSIONAL is a trademark of Hewlett-Packard Company. Third class enclosure in this version of HP Professional.

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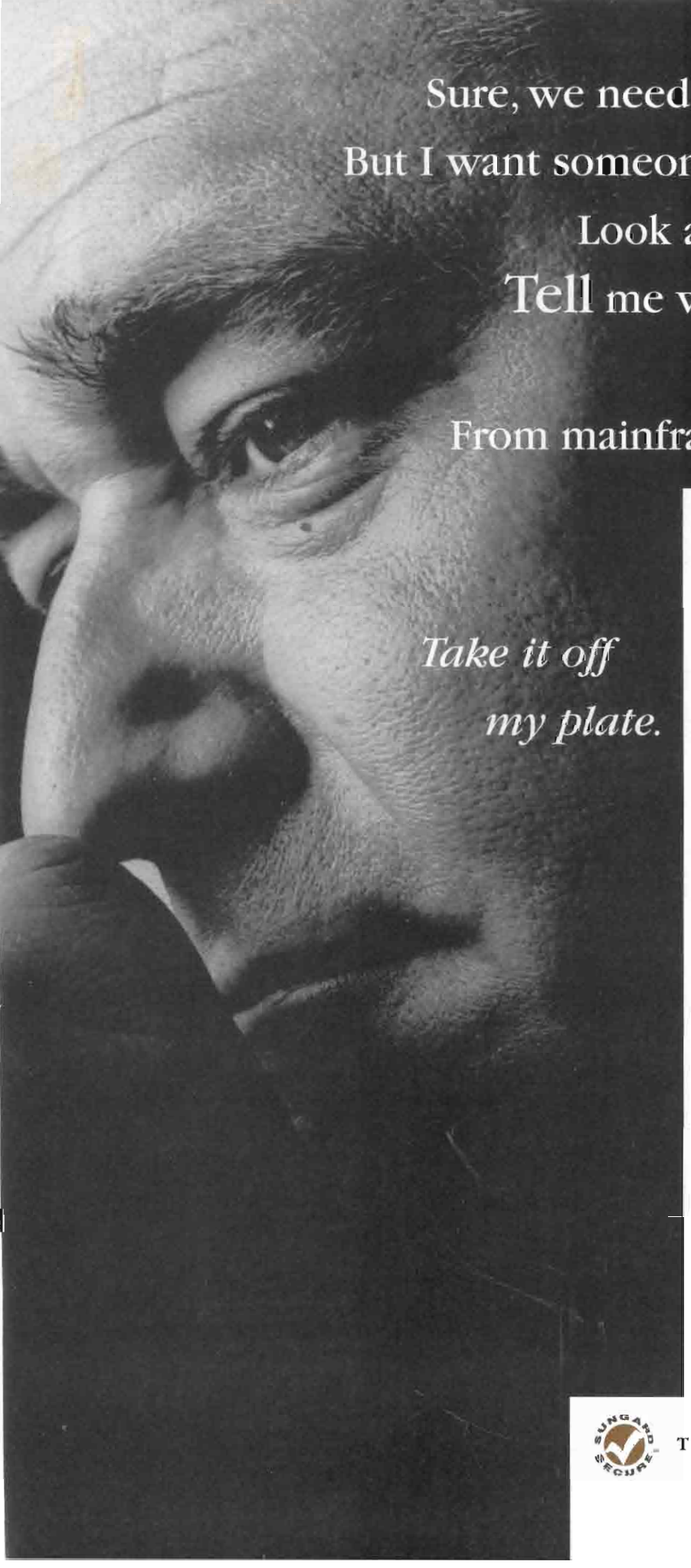

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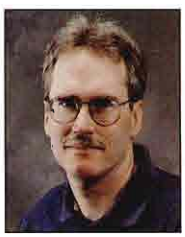

**George Thompson**
*Senior Editor*

When a book starts out with the grandiose claim that it will help me "weather the winds of technological change that are transforming the business world," my editorial spider sense starts tingling. Does the world really need another self-conscious, self-help-me-too management book? The answer, of course, is an emphatic no. But when HP's CEO Lew Platt is one of the book's featured managers, it's certainly worth a look. And perhaps a read.

So it is with *Business Wisdom Of The Electronic Elite: 34 Winning Management Strategies From The CEOs at Microsoft, Compaq, Sun, Hewlett-Packard and Other Top Companies* (Times Business, 1996). Written by Geoffrey James, a high-tech management consultant, the 254-page book will strike a responsive cord with both managers and the managed. Most interesting for *HP Professional* readers is a case study comparing the organizational structures of HP and Digital. According to James, the difference between HP's rise and Digital's decline over the past several years can be attributed to HP's decentralized management structure.

In fact, James leans heavily on interviews with Platt, who is "the elder statesman in the group" James has assembled and called the "Electronic Elite." Long-time users and partners of HP hardware and software will knowingly approve of HP's creed in print: *To provide products and services of the highest quality and the greatest possible value to our customers, thereby gaining and holding their respect and loyalty.* Newbies to HP can get a better understanding of the company by reading about HP's five underlying organizational values. Platt, however, simply sums up most of what the book is about this way: "Dave [Packard] and Bill [Hewlett] always emphasized that, as a manager, I work on what needs to be accomplished and leave it up to individuals to figure out *how* to accomplish it. That's management by objectives, long before it was even called that."

Other members of James' Electronic upper echelon include wunderkinds Bill Gates (Microsoft), Michael Dell (Dell Computers) and Scott McNealy (Sun Microsystems). You'll also find management insights from Carol Bartz (Autodesk), William Campbell (Intuit), Frank Ingari (Shiva Corp.), Ed McKraken (Silicon Graphics) and Eckhard Pfeiffer (Compaq Computer).

But don't think that the "E-elite" have all the answers. Former Novell CEO (and also formerly general manager of HP's Personal Information Products Group) Bob Frankenberg also made James' first string. Yet, Frankenberg cut himself loose from the Novell culture, resigning this past August. Although no one faulted Frankenberg, his collegiate style of managing (no doubt learned from his stay at HP) was apparently not the medicine that was needed for Novell.

The book does have one serious flaw. The obligatory history of the computer industry. If you've been around long enough to be in the managerial ranks, you'll have already "discovered" that "the old minicomputers and mainframes were cumbersome, complex devices." And if you're new to the computer biz, ask someone with a longer and much better historical perspective than James can offer on the growth of new PC programs in the early '80s: "excellent word processing, spreadsheet and database programs flooded the market."

Nevertheless, everyone can learn something. Managers will get some valuable insights gleaned by James from some of the best managers running the best managed and "well-cultured" companies in the computer industry. On the other hand, Information Age employees can take heart and hope that these management styles will soon become the norm, and not just exceptions.

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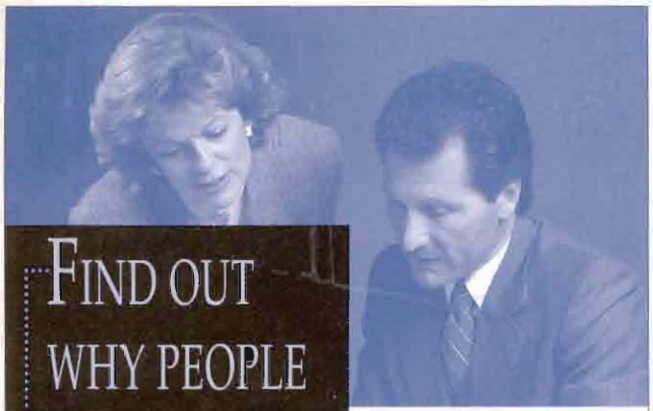

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# LETTERS

## QUIT PUSHING

I just finished reading [Charlie Simpson's] editorial in the October 1996 issue. You can pick any of the reasons that you mentioned for why the loyal, sometimes fanatical, HP 3000 users are the way they are. It really does not matter.

The bottom line is what is the best way to serve the needs of the entity which you are in charge of serving?

Your own quote says it all: "All they want is a good reliable system." I have been able to work with MPE, MPE/iX, UNIX and NT. My experience tells me that MPE/iX is years ahead of any other. I prefer UNIX, but MPE/iX is moving toward a more open system and it is starting to change my preference.

**"What I see is many people in this industry pushing technology — and not solutions."**

On page 12, the Notable Quotable from Harry Sterling says "Don't get hung up on technology." I agree. I get hung up on open systems and systems that are reliable. NT is not open and it's not even stable. Just this morning, a corrupt DLL file is causing me to rebuild my machine. I have never had to waste time rebuilding an MPE box during my 15 years of work with the operating system. Last Friday, our HP-UX box needed to be rebooted during the afternoon, disrupting many workers. These are all reliability issues.

What I see is many people in this industry pushing technology — and not solutions. This includes Mr. Sterling. We in the HP community should be upset when we are being pushed off to other systems that cannot give the same level of service that we are used to.

I also use the car analogy for operating systems. If NT was your car, you would sell it because it stalls out all the time while you're driving it and no one can fix it. And UNIX is the Viper, it shows well, works most of the time and it's fun to drive fast. I drive an old pickup truck. It's MPE. Every time I need it, it starts and it gets me where I want to go.

*Paul T. Jackniess III*
*IT Lead Analyst, 3M Corp.*

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*All letters and e-mail are subject to publication. Letters may be edited.*

# INDUSTRY WATCH

George A. Thompson

## ON THE ROAD TO E-COMMERCE

Last month, HP took one step closer to making electronic commerce safe for businesses and users. On November 18, at the National Press Club in Washington, D.C., HP announced a government-approved encryption framework that removes a significant barrier to transmitting secured Internet-based business and communications transactions worldwide.

Called the International Cryptography Framework (ICF), it is designed for any current or future cryptographic algorithms. In other words, users can select the encryption and levels of security according to personal requirements or governmental regulations.

ICF is already a component of HP's Praesidium — its enterprise security architecture. HP also plans to market ICF (in addition to licensing) in many of its products like smart cards. HP's products using a so-called ICF cryptography unit will provide a tamper-resistant element for protected cryptographic services. And those products will neither be restricted from nor controlled for export to most destinations. In fact, the ICF is the only U.S.-government export-approved encryption framework that will control international data security and integrity, and that has liberal export and government clearances. ICF is supported by the U.S. as well as the British and French governments.

Although HP did not want to divulge any new product plans at the press conference, customers can expect ICF-based units to be included in HP Domain and HP 9000 Enterprise Servers, as well as HP Net Servers during 1997.

Intel is planning to manufacture and distribute HP ICF-based cryptographic hardware. And Microsoft's export-approved CyrptoAPI supports ICF. Gemplus and Informix are working with HP to develop the ImagineCard, a smart-card infrastructure that is integrated with the ICF technology.

HP believes that the ICF is the world's most important and innovative breakthrough in making electronic commerce more pervasive. Speaking at the press conference, Lew Platt said that the new ICF technology is supported by governments around the world. "So, we expect that [ICF] will be widespread quickly. We are talking about weeks and months. Not years."

AT PRESS

## HP Posts Mixed Results For Q4

In mid-November, HP reported a 15 percent increase in orders ($10.0 billion) and a 12 percent growth in revenue ($4.7 billion) for the last quarter of fiscal 1996 (which ended October 31). However, HP also reported a 4 percent decline in net earnings. But that wasn't enough to drag down HP's numbers for the entire 1996 fiscal year; net earnings increased 6 percent on revenue growth of 22 percent. And full-year earnings increased 14 percent before the effects of the company's exit from disk mechanism manufacturing and related operating losses in that business.

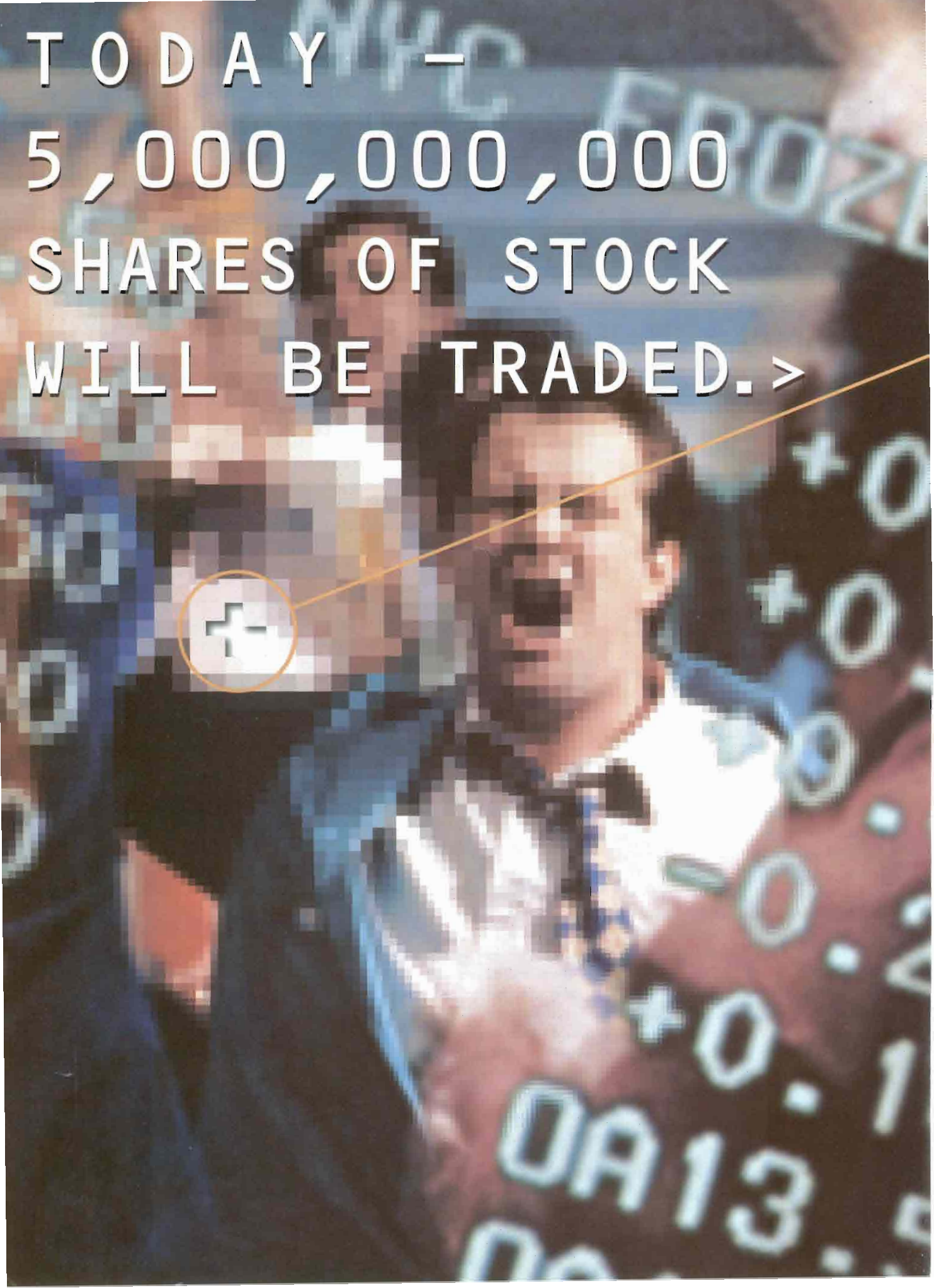
During the last quarter, U.S. orders grew 10 percent to $4.7 billion, while orders from outside the United States increased 20 percent to $5.3 billion. For HP's computer business, orders increased 20 percent and totaled $8.2 billion. According to HP's early estimates, HP 9000 servers posted a healthy increase. HP NetServers and Vectra PCs also posted excellent order increases as did HP's PC-networking products and its Pavilion home PCs. The weakest order growth was shown by HP 9000 workstations and mobile PCs. Demand for consulting and educational services was strong, and orders for onsite hardware support and multivendor support also increased. Orders for fiscal 1996 were $38.9 billion, an increase of 19 percent over last year.

For the quarter, net revenue in the United States was $4.7 billion, an increase of 10 percent over last year's fourth quarter, while net revenue from outside the United States rose 14 percent to $5.4 billion. For entire fiscal 1996, HP added an additional $6.9 billion to its net revenue ($38.4 billion), an increase of 22 percent over last year. Net revenue in the United States was $17.0 billion, an increase of 22 percent over the previous year, while net revenue from outside the United States increased 22 percent to $21.4 billion. Net earnings totaled $2.6 billion for the year, an increase of 6 percent over last year. Net earnings per share totaled $2.46, an increase of 6 percent over the $2.31 (restated to reflect the July 1996 2-for-1 stock split) earned in fiscal 1995. Overall, not a bad finish for the 1995 *Forbes Magazine* "Performer the Year" when HP increased its revenues by $6 billion and earnings per share rose 51 percent.

Although Lew Platt, HP's CEO, indicated that inventory management was a continuing problem, it "will remain a high priority in the months ahead." Nevertheless, Platt commented that "we've made progress on inventory issues, and most of the profit impact of our decision to exit disk mechanism manufacturing is now behind us. Our businesses are fundamentally strong, and we are well-positioned to succeed."

## HP 3000 GETS A PA-8000 BOOST

Delivering on a promise made at August's HP World, HP introduced new HP 3000 servers using its PA-8000 CPU. The new 979KS series, using up to four 180 MHz PA-8000 CPUs — the 979KS/100 (one-way), 979KS/200 (two-way), 979KS/300 (three-way) and 979KS/400 (four-way) — includes increased memory (3.75GB) and backup capacity (integrated 12GB to 24GB DDS-3 DAT drive). A new standalone backup option — the DLT 400 — provides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5,000,000,000
SHARES OF STOCK
WILL BE TRADED.>

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20GB to 40GB of digital linear tape for high-end backup solutions. And like all HP systems introduced during the last two years, it's upgradeable to future PA-8xxx processors.

| Upgrade Path | Cost |
|---|---|
| 969KS/x20 to 979KS | $8,000 |
| 959KS to 969KS/x20 | $7,000 |
| 939KS to 969KS | $22,000 |

In fact, all members of the 9x9KS server line now include the increased memory and backup peripheral options. And "all the hardware clocks are Year 2000 ready," says Daren Connor, HP 3000 product manager. However, Connor strongly recommends that *all HP 3000 servers using the PA-8000 CPU use a dedicated 20 amp circuit*. Only 15 amps were required previously.

New configuration pricing starts at $104,134 for a 979/100 with an eight-user license for IMAGE/SQL and MPE/iX 5.5, 128MB RAM, 2GB disk, 650MB CD-ROM, 4GB DDS DAT and system console. The PA-8000 requires MPE/iX 5.5.

It's also been HP's habit to guard against the proliferation of systems, consequently as of December 1, *the 939KS and 959KS have been discontinued*. However, HP will continue to sell 959 processor upgrade boards for another year, according to Connor. The new 979KS, orderable since November 1, have already been shipping to some customers. Also available on December 1, are enhanced entry-level 9x8 systems with no change in pricing. They now include a 2GB disk drive and a 4GB to 8GB DDS tape drive; the DDS-3 tape is available as an option.

## DON'T LOOK BACK

Sure, go ahead. Ignore the Year 2000 problem. The clock is ticking. But when the next millennium rolls around, "faulty computers may leave foods rotting on the warehouse dock, endanger nuclear plant safety measures and disable the financial world." Do you really want that on *your conscience*?

That's the stern warning from Dick Lefkon, co-author of *Year 2000: Best Practices for Y2K Millenium Computing*. Lefkon says: "I've always opened each programming course by suggesting that after Thanksgiving 1999 my students buy a lot of canned foods and go camping for a couple of months." Lefkon spoke at the "Millennium Computing Crisis" conference held in New York City on December 6 and 7.

## ORACLE GOES FOR HP

With HP as the leading platform for Oracle solutions, it's not that surprising to learn that Oracle Corp. has recently chosen the HP 9000 platform to run its worldwide 24x7 customer support system with 2,500 front-line support analysts. Oracle has replaced its existing legacy system with seven high-performance HP 9000 T-class Enterprise Servers running HP-UX and Oracle7, networked to 34 HP G-class application servers in various locations around the world.

### Top 5 Causes Of Data Loss

| Cause | % Of All Occurrences |
|---|---|
| Hardware or System Malfunction | 44 |
| Human Error | 32 |
| Software Program Malfunction | 14 |
| Viruses | 7 |
| Natural Disasters | 3 |

**BREAKDOWN BY CATEGORY**

**Hardware or System Malfunction**
- Electrical Failure 50%
- Head Crash against Media 30%
- Controller Failure/Other 20%

**Human Error**
- MIS/Administration Errors 28%
- Accidental Deletion 27%
- Incorrect Configuration Parameters 24%
- Reinstall over good data 15%
- Trauma caused by drop or fall 6%

**Software Program Malfunction**
- Damage from hard disk diagnostics 45%
- Failed Backups 25%
- Conflicts among software apps 20%
- Other 10%

**Natural Disasters**
- Floods 59%
- Lightning 27%
- Fires 12%
- Earthquakes/Hurricanes 2%

*Data based on data recovery tasks assigned to Ontrack in 1996.*
*Source: Ontrack/Data Recovery, 1996.*

## FINALLY, PRINTER MANAGEMENT MADE EASY?

When HP, in its guise as the market leading printer company, unveils a printing strategy, it pays to at least listen. In November, HP introduced HP Web JetAdmin, an intranet-based version of its JetAdmin series of printer management solutions. Web JetAdmin offers a way to manage all HP and non-HP printers connected to a network via an HP JetDirect print server. Web JetAdmin supports more than 70 HP printers, and any printer connected to an HP JetDirect EX print server. HP also offers Dynamic Host Configuration Protocol (DHCP) support for JetDirect print server cards.

Web JetAdmin is part of HP's *Operation Camouflage*. Announced in 1995, Operation Camouflage is HP's strategic initiative to simplify network printing by directly integrating printer management functionality into users' computing environments. HP has worked closely with vendors (in particular, IBM, Microsoft and Novell) to develop and integrate printer management software into the most widely used computing platforms. For example, HP recently announced JetAdmin for Windows NT and JetAdmin for OS/2 Warp server. JetAdmin is also available for Windows NT with support for version 4.0 and 3.51, as well as for IBM OS/2 LAN Server and Warp Server. And, HP offers continued support for Windows 95, HP-UX, Solaris and SunOS. Users can download new versions from HP's Web site (www.hp.com).

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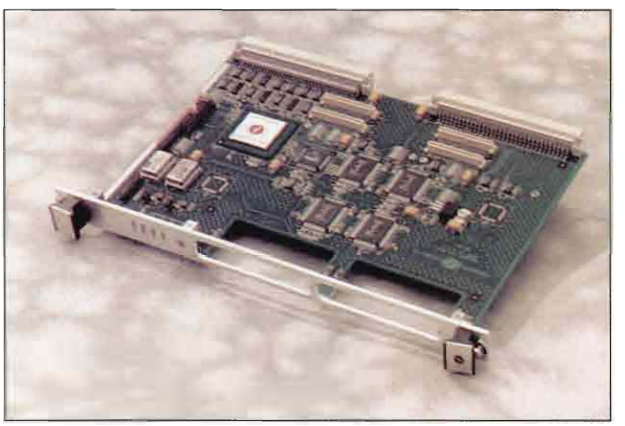
# Interphase Adapts To I/O Issues



## 6200 VME-TO-PMC ADAPTER

- Has a PCI-to-VME64 interface and two standard PMC slots
- Provides full VMEbus controller functionality with multilevel arbitration modes
- Price for a single unit is $1,395

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tel: (214) 654-5000
fax: (214) 654-5500
fastnet@iphase.com
www.iphase.com

**CIRCLE 352 ON READER CARD**

For many systems integrators and developers, increasing performance and optimizing I/O for their embedded applications is of major concern. Interphase Corp. (Dallas, Texas) provides a solution with the 6200 VME Baseboard, which enables industry-standard PCI Mezzanine Cards (PMC) to be used for a wide variety of I/O expansion in VME-based systems.

The 6200 baseboard is a 6U VME design with a PCI-to-VME64 interface and two standard PMC slots.

In order to maximize bandwidth utilization, the 6200 uses built-in FIFOs for write-posting the data transfer between the PCI bus and VMEbus.

In addition, the 6200 offers block transfer capability and implements a full suite of VMEbus address and data transfer modes including D64. And because the 6200 provides full VMEbus controller functionality with multilevel arbitration modes, a systems developer has the maximum level of design flexibility in designing their applications.

The 6200 accommodates two IEEE P1386.1-compliant PMC modules, giving systems developers access to a whole new generation of low cost and readily available specialized I/O. Interphase offers a number of plug-in PMC modules that address a variety of LAN and mass storage I/O.

The 4515 PMC ATM Adapter provides full duplex 155Mbps SONET OC-3 connectivity with media options for multimode fiber, single mode fiber and Category 5 copper UTP wiring.

The 4511 PMC FDDI Adapter provides 100Mbps FDDI connectivity with media options for multimode fiber and Category 5 copper UTP wiring.

The 4524 PMC 100BaseT Adapter provides 802.3u 100BaseT connectivity with full auto-negotiation capabilities to select full- or half-duplex for 100Mb or 10Mb connections, and supports both TX (Category 5 UTP copper cable) and T4 (4-pair Category 3 UTP copper cable).

The 4522 PMC 100VG-AnyLAN Adapter provides 802.12 100VG-AnyLAN connectivity or 10BaseT CSMA-CD connectivity using a single RJ-45 Category 3 UTP copper cable connector.

And, the 4526 PMC Fibre Channel Adapter provides full-duplex Fibre Channel connectivity, supports Class 1, 2 and 3 Services, and supports 1062.531 and 266 Mbaud link speeds.

To assist system integrators with the implementation of 6200-based solutions, the product includes an optional software development kit (SDK) providing sample UNIX drivers, software development documentation and telephone support from the Interphase Technical Support Department.

The Interphase 6200 VME Baseboard sells in single unit quantities for $1,395.

*—Deborah Schwartz, Associate Editor*

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# New Dot Matrix Versatility

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Daily reports. Weekly reports. Monthly reports. There are reports dealing with all aspects of running a successful business: sales, work shifts, etc. When Kinko's Inc. (Ventura, Calif.) implemented a new "point-of-sales" system for its 850 stores, it was clear that a large volume of paperwork would be generated. Kinko's needed an easy-to-use printer for employees, and one that was also durable and reliable; employees at each store must maintain the printer themselves.

Kinko's already provides laser printers for their customers, why not just use them to print the necessary reports? Gene Miller, then computer services product manager for Kinko's Operation Department, explains, "We have a lot of internal reports that must be printed. Because this type of printing typically ties up a printer for quite a while, we don't want to inconvenience the customer by printing our own long reports on the laser printers. Also, these reports don't require the fine resolution or plain paper capabilities of a laser printer."

The solution: the Forms Printers 2300 Plus series dot matrix form printers from Lexmark Inc. (Lexington, Ky.). The 2300 Plus is a family of four enhanced 9- and 24-pin dot matrix printers (available in narrow- and wide-carriage versions) that offer a virtually straight paper path, eliminating the possibility of jams. And the new 2300 Plus series is also speedy; the 9-pin models print up to 350 characters-per-second (cps), and the 24-pin models print up to 300 cps.

Says Miller, "The low price [estimated to start at $338], makes it just right for our needs. Each store typically prints 20 to 30 pages of reports daily, so we don't want a printer with a high cost of ownership."

Kinko's launched its point-of-sales system with IBM dot matrix printers three years ago. "Today," says Miller, "we're using the Lexmark Forms Printers 2300 Plus series in all stores. [It's] perfect for our point-of-sales system."

Versatility is the 2300 Plus series' strong point. The highlight is the exclusive Tractor 2, a dual-tractor option that allows customers to load different forms simultaneously and switch between them with the touch of a button; the 9-pin models can print six-part forms. There's also a front-load feed for cut sheets and a bottom feed path to handle continuous forms right out of the carton.

The 2300 Plus series can also print on labels, postcards, and envelopes, and the printers come with built-in support for seven commonly used bar code fonts, including POSTNET, certified by the U.S. Postal Service. And for those users of the previous 2300 line of printers, a bonus: 2300 Plus ribbons are compatible with the earlier 2300 series.

The new series comes with built-in IBM and Epson emulators, making the 2300 Plus printers compatible with many popular software programs. The printers can also connect to network systems via Lexmark's MarkNet XLe print servers.

*— David Acord, Contributing Author*

# Thinking about DLT?

**Think again!** We know that many of you are thinking about DLT tape libraries. But recent advances in 8mm technology and a library made by StraightLine—might make you want to think again.

| | StraightLine | StraightLine | ATL | ADIC |
|---|---|---|---|---|
| Model | SL-850 | SL-8150 | ACL 4/52 | Scalar |
| Drive format | 8mm* | 8mm* | DLT 4000 | DLT 4000 |
| Number of tapes in library | **50** | **150** | 52 | 52 |
| Tape drawer(s) | **Yes** | **Yes** | No | No |
| Removable tape boxes | **Yes** | **Yes** | No | No |
| Sustained transfer rate (native) | **3MB/sec** | **3MB/sec** | 1.5MB/sec | 1.5MB/sec |
| Total capacity (native) | 1.25TB | 3.75TB | 1.04TB | 1.04TB |
| Bar code reader | Yes | Yes | Yes/6-digit | Yes |
| Number of drives | 4 or 5 | 4 or 5 | 4 | 4 |
| Head life (hours) | **>20,000**** | **>20,000**** | 10,000 | 10,000 |
| Media uses (passes) | 20,000 | 20,000 | 15,000 | 15,000 |
| Drive MTBF (hours) | **200,000** | **200,000** | 80,000 | 80,000 |
| Library list price | **$43,995** | **$61,995** | $65,000 | $65,000 |

* Exabyte's recommended 8mm tape—Exatape 170M Advanced Metal Evaporated tape
Sony's recommended 8mm tape—SDX-T3N 170M Advanced Metal Evaporated tape
** Exabyte Mammoth head life—20,000 hours
Sony AIT SDX-300 head life—30,000 hours

Led by Exabyte and Sony, 8mm technology has taken a giant step forward in performance and capacity—3MB per second data transfer rate and up to 25GB per tape in native mode. With built-in compression, it's even better. And that's not all.

**Reliability —** DLT, once the leader in reliability, has been surpassed here, too. StraightLine took the best in 8mm drive technology and engineered a library with mainframe-class robotics—aerospace structural frame and optical sensing of mechanical movement. It's a powerful combination of reliability and performance at a really competitive price.

**Easy to maintain —** It can be expensive to replace DLT library drives. They have special tape ejection motors and a modified handle, and you can only get them from the library manufacturer. If you ever need to replace a drive in a StraightLine library, just remove four wing nuts, unplug the drive, and pop in an off-the-shelf replacement.

**Built with the operator in mind —** With seven years of experience manufacturing tape libraries, StraightLine knows how to make one that's operator friendly. Unique tape drawers slide tapes out of the machine to the user. There's no reaching in and around the robotics. It takes only seconds to exchange one tape or all the tapes, which are loaded in convenient tape boxes.

**Industry standards —** StraightLine libraries are compatible with all standard systems and software—Sun, HP-UX, IBM RS/6000, Sequent, NT, DEC; Novell, LAN Manager; Arcada, Legato, ArcServe and many others.

**If you're thinking about a tape library,** think about 8mm. Then call StraightLine—the leader in 8mm tape libraries. Now that's good thinking!

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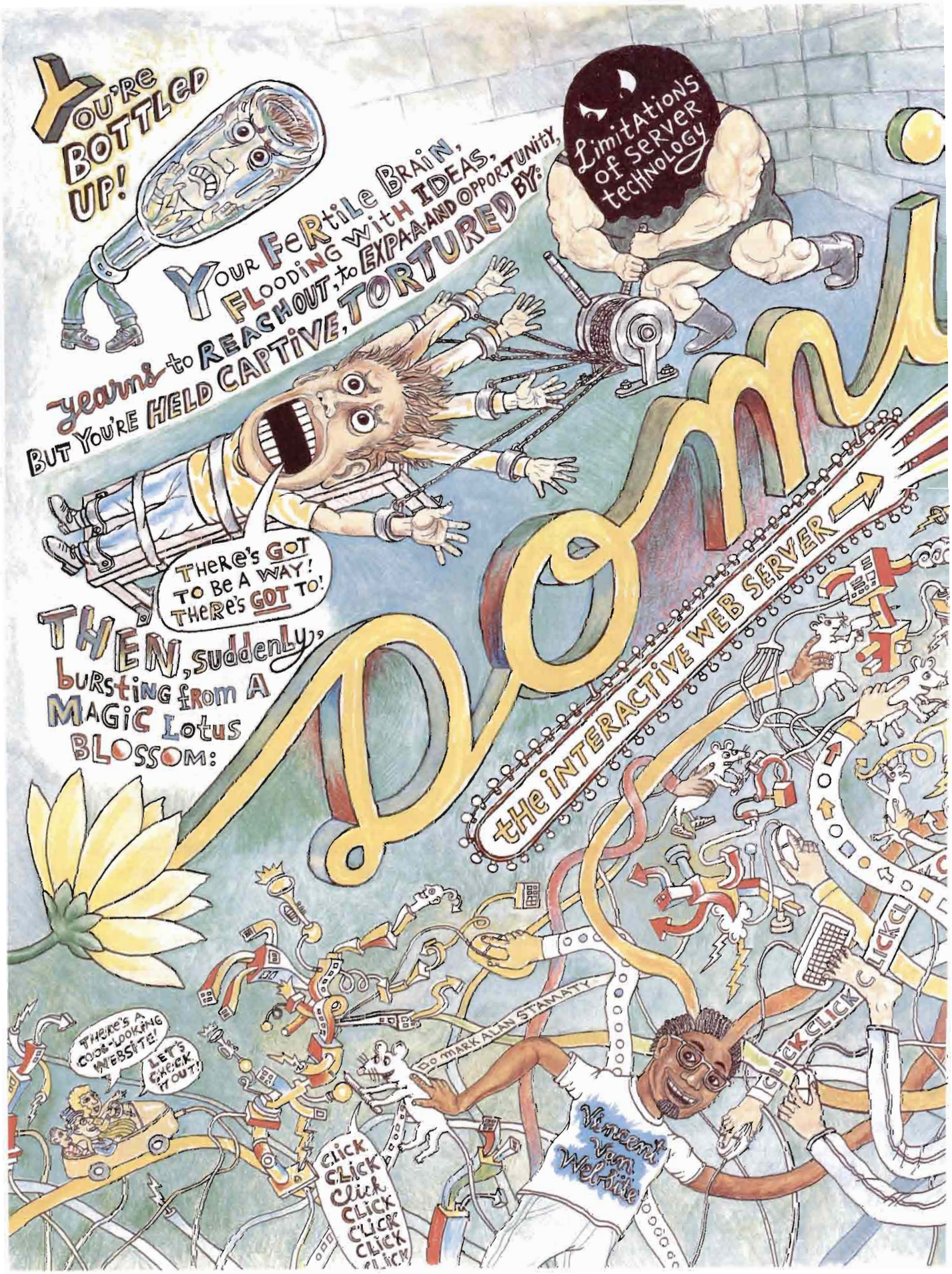
You're bottled up!
Your fertile brain, flooding with ideas, yearns to reachout, to expaa and opportunity, but you're held captive, tortured by:
Limitations of server technology
There's got to be a way! There's got to!
Then, suddenly, bursting from a magic lotus blossom:
Domi
the interactive web server
There's a cool-looking website!
Let's check it out!
Click Click Click Click Click Click Click
Vincent Van Website
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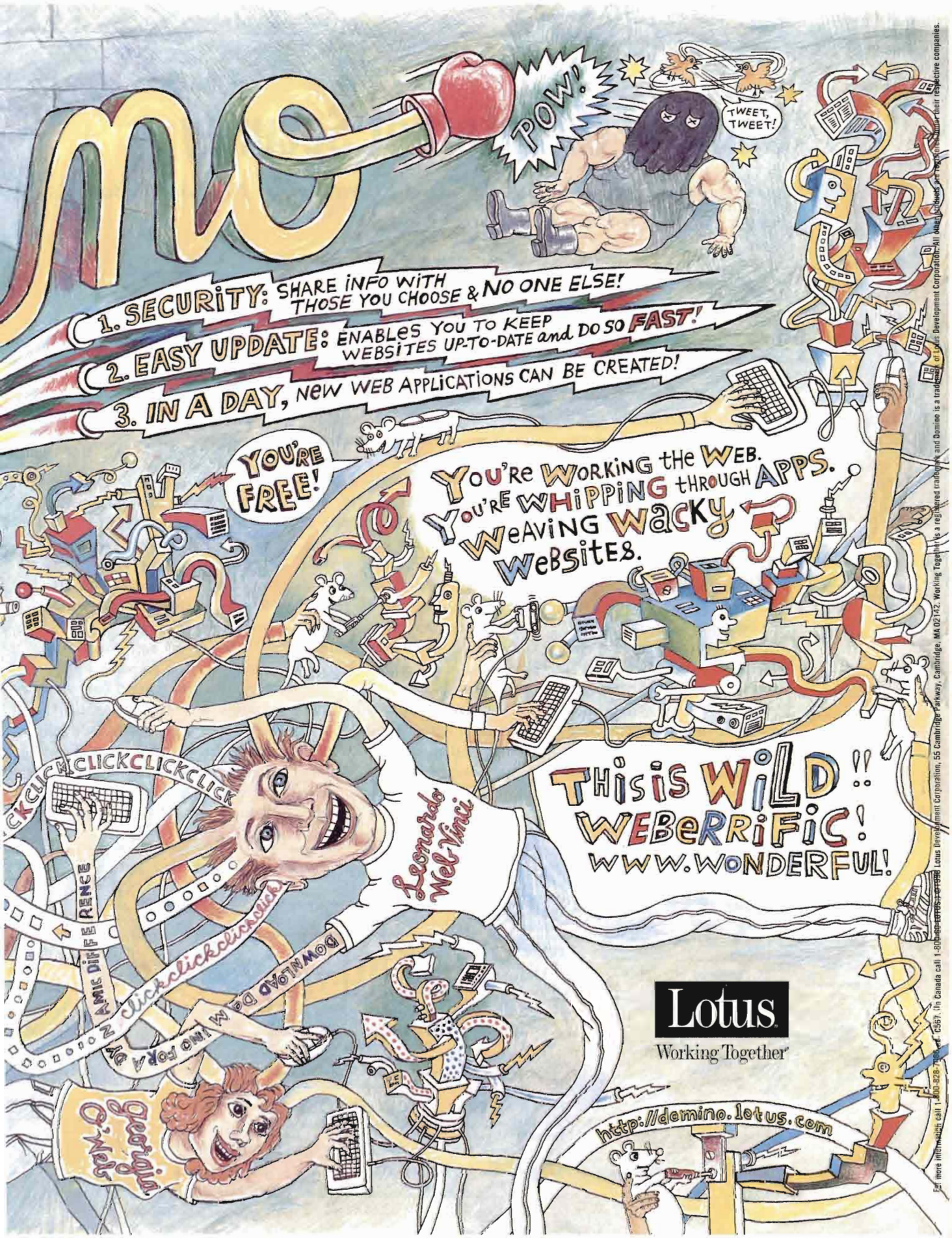
Click Click Click Click




CIRCLE 135 ON READER CARD

IN sites

Case Study Solutions

# Banking On Internet Security

*Five Paces Inc. And HP Secure Huntington National Bank's Assets For Online Banking.*

*Steve Berlin*

When it comes to banks, people expect the security of a vault, an alarm and a security guard to protect their cash and valuables. But with the advent of online banking and electronic transactions, these security systems just don't exist.

Instead, new specialized solutions are being implemented, with Five Paces Inc. (Atlanta, Ga.) and HP joining together to help make Huntington National Bank's (Columbus, Ohio) new Web Bank a safe place to conduct electronic financial business.

The solutions, Virtual Bank Manager (VBM) and Virtual Vault, were originally developed by Five Paces for Huntington, a regional holding bank with assets in excess of $20 billion. The bank is actually an equity partner in the growing software company, which set it up to be the second bank to use this technology. The first was Security First Network Bank (SFNB), the world's first Internet bank, which owns Five Paces.

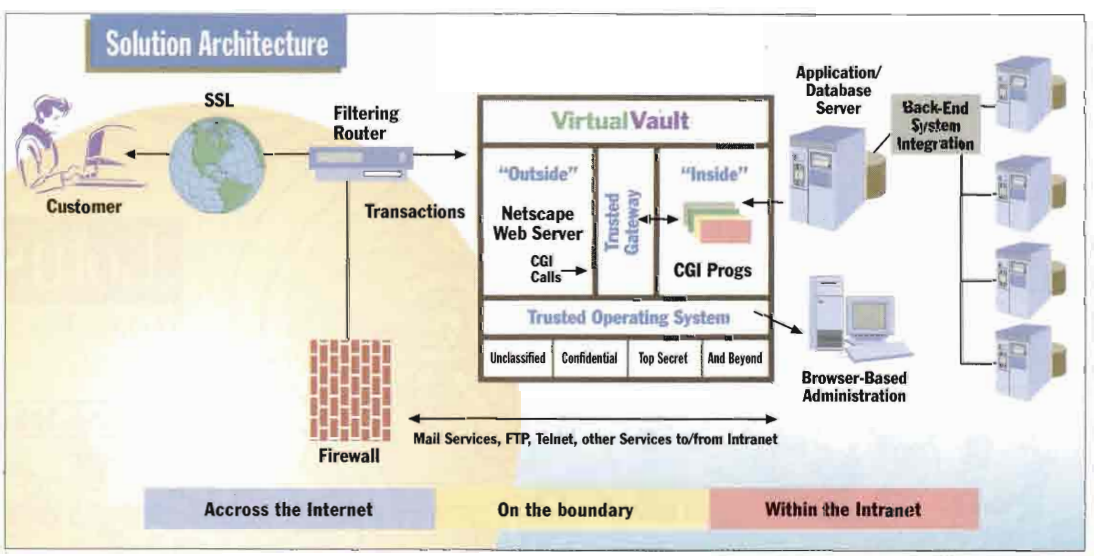
Carey Serif, the Huntington's vice president of advanced technologies, says it took the bank about six months from the time they got the software until their own customization was done to get the system running. He says one reason his bank was one of the first to use the software was because of its relationship with Five Paces. "We certainly have it up and running and we're still babysitting the software, and expect to for several more months," Serif says. "This is brand new software."

The bank had to adapt the software for use by current customers and to facilitate its own bill paying systems. Each customer is issued their own password once they go through the account set-up process.

"This is extremely leading edge," explains Darryl J. Landreneau, Five Paces' relationship manager for the project. "This is all a new process. Basically, we're writing the book. It's a quality product, and the upgrades are seamless to the customer."

According to Kim Humphries, Five Paces' public relations director, VBM was designed to run on HP boxes. VBM sits atop the Virtual Vault security solution (formerly Secure Web Platform) which was then sold to HP.

VBM gives customers 24x7 access to their accounts via the bank's home page. The program's Web page gives banks control over the product and can be updated in-house without having to send customers new software. The interface serves as a front end for existing client-



server applications and integrates existing bank offerings such as demand deposit accounts and bill payment.

Its encryption technologies are set up to protect data and ensure privacy as it travels over open networks, and firewalls and filtering routers limit access from external networks. The B-1 operating system provides access controls that create virtual lockboxes for each customer. This means it meets the U.S. National Computer Security Center criteria for B-1 level security — the highest attainable security level for commercial information systems. It is, in fact, used by the U.S. Department of Defense to safeguard certain military information.

Virtual Vault is a barrier between the bank applications and the "outside world," says Roger Goulart, HP Internet Security Planner. "It uses a normal Web browser," he explains. "As for (customer) authentication, the bank can have its own application (i.e. an account number and password). In the future, digital certificates will be available for user authentication. It's more secure than traditional vaults because it has B-1 level technology."

The operating system is on an HP system, which allows the user to compartmentalize the box, he says. Virtual Vault provides a trusted gateway between internal applications and external access. With the B-1 technology, everything on the system is registered and tracked. Goulart further explains that if the vendor owns, they do not need to load the entire application — they can pick and choose what they want to use.

What impressed Bernie Hirsch, HP Solutions Architect for Virtual Financial Services, was the relatively short period of time it took to deliver Internet banking to Huntington customers.

"This has been a very big learning process," says Hirsch. "One of the big concepts in Web-based banking is that the Huntington doesn't have to be in the software business. They can just add on the server side. For example, [SFNB] just added credit card and other services. To me, that's the most revolutionary thing about this model. [Huntington] can very quickly evolve [to add] new products and services."

He adds that there are two areas the parties documented but have not yet implemented. One is integration of the bank's center with the Internet bank, which will open up e-mail and "other possibilities." The other is architecture for offline transaction processing.

*—Steve Berlin,*
*Contributing Author*

## For More Information

- **HP financial services solutions — www.hp.com/go/fsi**
- **Five Paces — www.fivepaces.com**
- **Huntington National Bank — www.huntington.com**
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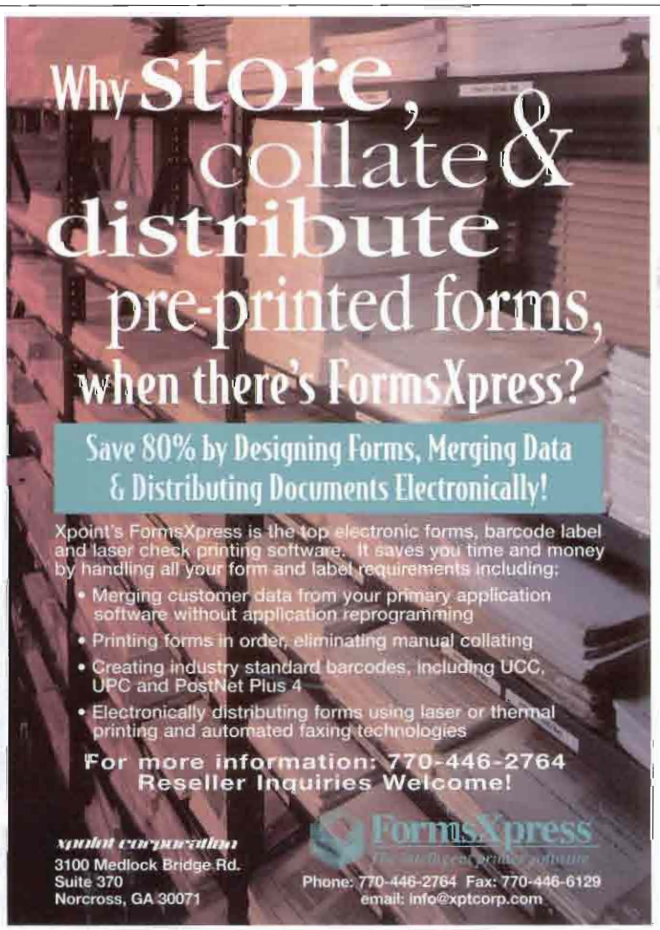


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IN sites

Case Study Solutions

# Break Into The Mold

*Hitchiner Manufacturing Casts A Strong Future With Mitchell Humphrey & Co.'s FMS II.*

*Joe Wright*

For nearly five decades, technological innovation has been the key to success for the privately-held Hitchiner Manufacturing (Milford, N.H.). In fact, they produce castings in over 160 different alloys for a broad spectrum of markets including automotive, golf, military and aerospace — making them the world's leading supplier of investment castings to industry.

Investment casting, also referred to as the precision casting process or "lost wax" method, involves producing wax replicas of a desired casting. These replicas, called patterns, are injection molded in metal dies. A pattern must be manufactured for each casting to be produced. The patterns are attached to a central wax stick, or sprue, to form a casting cluster.

After some initial pre-dips, which thoroughly clean the wax, the assemblies are immersed, or "invested," into a liquid ceramic slurry, and then into a bed of extremely fine sand to form a shell. After the shell is completely dry, the wax is melted out in a high pressure steam autoclave, leaving a hollow void within the mold, which exactly matches the shape of the assembly. Prior to casting, the shells are fired in an oven where intense heat burns out any remaining wax residue and prepares the mold for the molten metal.

Hitchiner employs 2,300 people worldwide, including 1,600 in the United States, and boasts a clientele of many large corporations such as General Motors, BMW, Callaway Golf and General Electric. And in 1993, Hitchiner achieved ISO 9001 certification.

"When I came to Hitchiner two years ago, we had a patchwork of non-integrated systems. We had one vendor for AP, one for GL, one for AR and so on," says Douglas Place, Hitchiner's director of corporate accounting.

Hitchiner looked at several products from companies such as Sotas International (Haverhill, Mass.), DBAI (Cleveland, Ohio) and Multiview (Wilburn, Mass.), among others, but decided on Mitchell Humphrey & Co.'s (MH&Co.; St. Louis, Mo.) Financial Management Systems (FMS II) solution for two main reasons: it was the only product that had all five modules they needed (i.e., general ledger, accounts payable, purchasing, inventory and fixed assets); and at that time, it was the only product that had a direct interface to Excel and Lotus spreadsheets. Hitchiner started the implementation of FMS II in the last quarter of 1994, and has since further demonstrated its commitment to the product by installing the additional modules.

"FMS II met my main objectives for a new system — complete integration, ease-of-navigation, and the capability to run reports and access data without needing to bog down MIS with requests," continues Place. "I believe Accounting should be responsible for tracking, entering and reporting on all of our financial data without requiring special programming assistance."

In October 1994, Hitchiner implemented FMS II running on a customized HP 3000 Series 987 running MPE/iX. There also is an additional HP 3000

Hitchiner's Ferrous Division Plant (Milford, N.H.)

being used as a development machine. MH&Co. systems installed at Hitchiner include General Ledger, Accounts Payable, Budgeting and Forecasting, Report Writer, FMS-EXEC, Automatic Transactions, CPR Element Maintenance, Information Gateway and Output Selector. Purchasing, Inventory and Fixed Assets are in the early stages of implementation.

According to Place, implementing new systems is difficult and the FMS II implementation was not without its share of challenges. "We did have some indexing problems," explains Place, "but they weren't anything major and we were able to work through them rather quickly." Place notes that if there were doubts among the users about the new systems, those concerns have now faded. "Our users saw the results and were able to dismiss the heartache of change," continues Place. For example, the Accounting department is now able to close their books at the end of a month in 4.5 days instead of 9.5 days. They are also able to operate more independently of the MIS department by preparing all of their own ad hoc and production quality reports. "What's more," says Place, "we can now run our flexible budget reports on an as-needed basis as opposed to waiting until the closing process is finished."

FMS II has allowed the department to integrate their systems with PC-based applications and third-party systems. For example, Hitchiner uses M.B. Foster Associates Ltd.'s (Chesterville, Ontario) DataExpress for their shop floor reporting and work-in-progress reporting. "FMS II integrates extremely well with this system," comments Place. "Again, because of FMS II's account structure and alternate roll-ups, we are able to generate reports from data stored in both systems."

FMS-EXEC is another example of how well FMS II can integrate with other applications to meet an organization's unique needs. Because the Accounting department is comprised of several strong users of Lotus 1-2-3, FMS-EXEC is used extensively. This PC-based system allows users to import and export financial reporting, budgeting and analysis information in their FMS II systems. According to Place, FMS-EXEC was a strong selling point for FMS II. "We found Mitchell Humphrey & Co. to be a very progressive company with a strong commitment to providing new and better tools," he says.

As Hitchiner Manufacturing continues their remarkable growth and success, MH&Co.'s FMS will meet their needs. "We need the flexibility to cope with our growth and change. FMS II's growth-oriented architecture provides us with that flexibility," concludes Place.

Mitchell Humphrey & Co. is located at 11720 Borman Dr., St. Louis, MO 63146; (800) 237-0028; mhandco@crl.com.

*—Joe Wright, Contributing Author*


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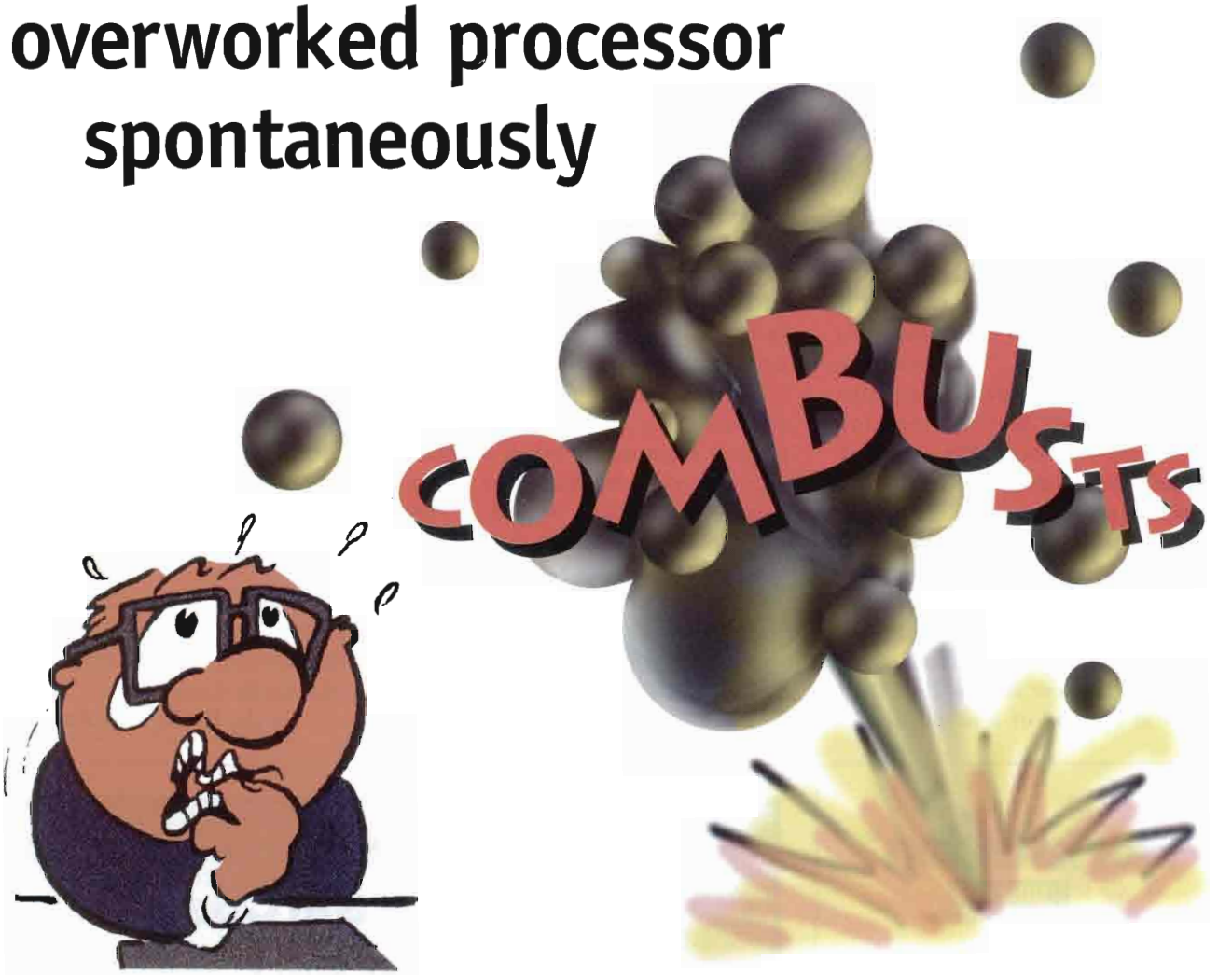


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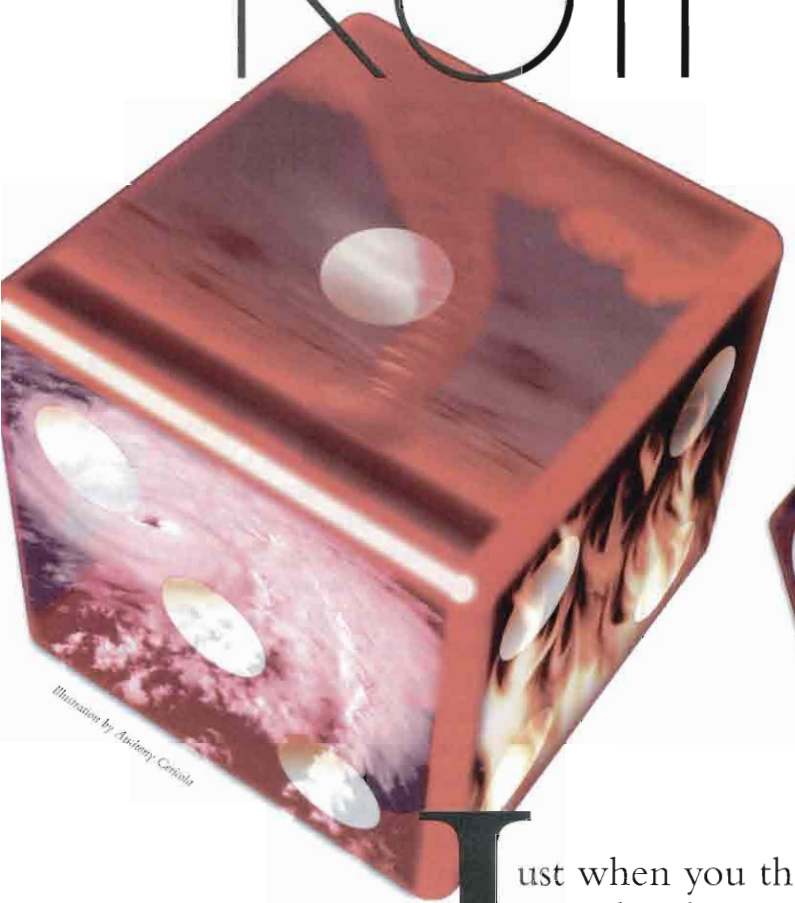
# A Roll Of The Dice

## DON'T CRAP OUT ON DISASTER RECOVERY PLANNING



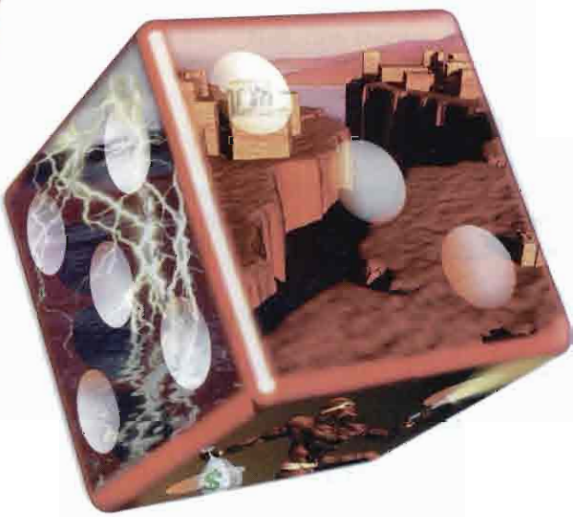


Illustration by Anthony Cericola

Just when you thought it was safe to go into the data center, along comes the distributed computing enterprise.

Jon William Toigo

Bruce Hamilton understands the problem. He managed the AT&T GIS Protect-It Crisis Management Center (Rochelle Park, N.J.) for four years before being reassigned to build client-server disaster recovery solutions within AT&T itself. "There has been a rapid migration to client-server within many companies, including AT&T. The client-server environment has been built in many organizations virtually overnight and without consideration for disaster recovery requirements."

Belinda Wilson, senior technical consultant within HP's Professional Services Organization (PSO) agrees and underscores the problem, "Distributed computing has been widely adopted and has added a layer of complexity to disaster recovery that wasn't there before." Both Hamilton and Wilson agree that the new architecture of information systems has created two immediate issues for disaster recovery (DR) planners. One is security. The other is data backup.

According to Hamilton, "The major exposure in most distributed enterprises is data backup. A distributed environment generally lacks the centralized discipline of an MVS environment for scheduling, performing and verifying that backups of critical data are performed routinely and removed offsite for safe storage."

"How do you emphasize the need for security and backup to end users?" Wilson states the concern many DR Planners put to her. "I find that end users in many companies are often reluctant to participate in programs unless there is a corporate policy on what IT will do and what the user will do. Setting corporate policies is often one of the starting points of disaster recovery planning for a distributed enterprise."

Increased concern over data backups and security are, to some observers, the expected side effects of migrating mainframe legacy applications to distributed platforms. Ford Tamer, Dazel Corp.'s (Austin, Texas) director of product marketing, points out that many client-server deployments turn into disasters because management infrastructure capabilities common to the mainframe world have not been provided in the design of the distributed environment.

Susan Wagner, segment manager for client-server recovery within IBM's Business Recovery Services (IBM BRS; Richmond, Va.) organization, agrees with this assessment. "We have a model for business protection that breaks the process into five phases. In the ideal world, the first phase is Business Continuity Planning. That is basically an effort to build business recovery [infrastructure] into the design of client-server distributed systems. This includes providing fault tolerance and other protections into the network itself."

Says Wagner, "In an ideal world, we would all start at the beginning of the Business Protection Model, looking at business functions rather than technology. We would consider disaster recovery knowledge and experience as we design, benchmark, prototype and deploy client-server solutions. Following this, we would move on to the next phase — risk management. Risk management consists of disaster avoidance, education and business recovery strategies. This includes defining appropriate security, including an anti-virus software solution, and formulating a data backup strategy."

According to many DR planning consultants, such efforts should constitute the majority of disaster recovery expenditures. Disaster avoidance seeks to minimize the likelihood of preventable disaster potentials by deploying appropriate power and surge protection, fire alarming and suppression, water detection and physical security capabilities. Additionally, planners need to consider alternative sources for power and voice/data communications should a primary source become unavailable.

## WHAT IT COSTS

**The following results represent the range of the financial impact which would result from a one-hour or more outage in different businesses.**

| BUSINESS | HOURLY FINANCIAL IMPACT |
|---|---|
| 900 Number Services | $54,000-$70,000 |
| Airline Reservation Centers | $67,000-$112,000 |
| ATM Service Fees | $12,000-$17,000 |
| Brokerage (Retail) | $5.6-$7.3 million |
| Catalog Sales Centers (Large Retailers) | $60,000-$120,000 |
| Cellular (new) Service Activation | $38,000-$44,000 |
| Credit Card Sales Authorizations | $2.2-$3.1 million |
| Home Shopping Channels | $87,500-$140,000 |
| Infomercial 800 Number Promotions | $175,000-224,000 |
| Online Network Connect Fees | $23,500-$27,000 |
| Package Shipping Service Requests | $24,500-$32,000 |
| Pay-Per-View Services | $67,500-$233,000 |
| Telephone Ticket Sales | $56,000-$82,000 |

*Source: Contingency Planning Research Inc.'s annual Disaster Impact Research*

## Enterprise Backup

Like disaster avoidance capabilities, planners need to invest in a solid backup strategy, Wagner and others agree. "Existing backup strategies need to be evaluated for their currency and synchronization. Companies often have no enterprisewide backup strategy. That's a shame considering the products that are available, as well as new technologies for mirroring, vaulting and shadowing that ensure data is preserved and available."

Data recovery is key to effective business resumption, observers agree. In the world of distributed computing, as with mainframe computing, systems and networks can be replaced in a timely way. Many distributed systems are available off-the-shelf or on a quick-ship basis. Risk managers know that special insurance coverage can be obtained to offset the costs of these acquisitions. However, no insurance policy can be obtained to offset the cost of lost data.

As suggested by Wagner, a wide array of data backup and restore options exist to support distributed environments (see "Protection Outside Of The Glass House" sidebar). These products remove responsibilities for data backup from local users, leveraging a central IT staff.

## The Definition Of Recovery

Avoiding preventable disasters can eliminate the preponderance of the risks that companies face because of business interruptions. Yet, Wagner points out that many planners continue to ignore these activities and prefer "to jump right into acquiring recovery capabilities."

Wagner recommends that the selection of recovery capabilities should be proceeded by an impact analysis and recovery strategy analysis.

## PROTECTION OUTSIDE OF THE GLASS HOUSE

With roughly half of corporate data — approaching 1.6 TB by some estimates — now stored on systems located outside of the glass house, many companies are sensing their exposure to potentially catastrophic data loss. The explanation, according to some observers, is the one-tape rule. Once the volume of data requiring backup exceeds the storage capacity of a single tape cartridge, the frequency of tape backups drops dramatically. Employees must stay at the office after the work day has ended, initiate the backup, wait for the first tape to be written, then insert a new tape or series of tapes required for the rest of the backup.

IBM, Network Systems Corp. (Minneapolis, Minn.), Legato Systems Inc. (Palo Alto, Calif.) and Sterling Software (Dallas, Texas) offer solutions to accommodate "recentralization of storage management." According to Joe Daleo, Network Systems Corp.'s product manager, "Recentralization leverages the company's existing investment in expensive mainframe storage hardware and software as well as a trained cadre of IS operators who can monitor storage management tasks, take immediate action if errors occur and ensure that the tasks are complete."

Using the mainframe as an enterprise storage management repository raises issues in the minds of many observers. Ed Cooper, corporate director of strategic communications for Legato Systems, wonders exactly how mainframes can be efficiently used, "[Vendors with mainframe-centric solutions] represent their solution as wholly integrated. Data from the distributed enterprise must become part of the mainframe storage management infrastructure. That doesn't exist today."

Lisa Haut, product marketing manager for storage management software products with IBM's Storage Systems Division (San Jose, Calif.), concedes this point, explaining that IBM's ADSTAR Distributed Storage Manager (ADSM), provides the system-managed storage functionality of IBM's Data Facility Storage Management Subsystem (DFSMS), across distributed platforms.

Network System Corp.'s Daleo concludes, "Many mainframe-centered strategies do not integrate the distributed data with the MVS data. To do so would require translating the distributed data into the catalog format used by MVS. Instead, what most vendors mean when they say they use the mainframe as a repository is that the datasets from the distributed platforms are placed in a container on the mainframe and this container is managed like an anonymous data set on the mainframe."

These solutions may migrate to a recentralization of physical storage as well as storage management. IBM believes that this fact should encourage the acquisition of ADSM. Legato's Cooper prefers a solution whose architecture can remain constant regardless of network improvements — "a three-tier approach to enterprise storage management." For now a consensus has formed around the three-tier model. This is not to say that all solutions are identical. There are a diversity of product discriminators and a host of additional issues that need to be considered before an enterprise backup and restore strategy is selected and deployed.

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Distributed computing has changed the nature of disaster recovery from a management point of view. In a traditional DR planning project, the recovery of the data center and provisions for the reconnection of users to mainframe resources was central to strategy development. With decentralization, business units are required to play a greater role in defining what resources are critical to their operations. "This approach may identify some critical resources and applications, but it requires the DR planner to develop the skills of a linkage manager who can look at the enterprise as a whole, identify interdependencies that may not be apparent to business unit planners and provide for the recovery of the entire enterprise," says Wagner.

Once this "enterprise study" has been completed, the planner is ready to consider recovery capabilities, "In this phase, planners need to answer the questions, 'What can I do for myself?' and 'What can be done for me?' Too many requests for proposals come to backup vendors in which hardware requirements are listed, but no provisions for business recovery are included. Planners need to identify system, network and workgroup requirements."

System recovery options for decentralized environments span the same spectrum as mainframe recovery options. At one end of the spectrum are laissez-faire strategies in which the company plans to weather a disaster then replace a decentralized processor with one acquired off-the-shelf. Presumably, this strategy works if host systems are readily available and require minimal reconfiguration. A somewhat more predictable variant of this strategy is the "hot ship" strategy in which the company contracts with the equipment vendor or a reseller to replace damaged hardware with a replacement retained in stock or storage within a specified period of time.

Both of the strategies identified above are difficult to test and are considered less reliable than strategies calling for a hot site or hot backup. With a hot site strategy, the company subscribes to a vendor facility that has required host equipment already installed. A monthly or annual fee is paid to keep the subscription current and many vendors charge an additional disaster declaration fee to take possession of the site in an emergency.

Several equipment vendors offer disaster recovery hot sites for their own equipment, including Wang and HP. Digital divested itself of a similar service in 1996, selling its equipment and service contracts to a well-established disaster recovery hot site vendor, SunGard Recovery Services (Wayne, Pa.). SunGard offers hot site services to Digital users from its Philadelphia, Pa. and Atlanta, Ga. megacenters.

Most hot sites offer testing time as part of their contracts. In addition to obtaining adequate test time, it is important for planners to obtain information from the vendor about the number of subscribers assigned to the hot site equipment to avoid contracting for an over-subscribed facility. It also is important to ensure that the facility is not overly-subscribed to by other companies in the same geographical area.

Another reliable strategy is that of a hot backup. While many companies cannot afford to field duplicate servers, no strategy offers the kind of reliability that can be obtained from an installed spare. For companies deciding to use hot backups for critical servers, it is essential that these servers not be co-located to one another. Ideally, backup servers should be dispersed around the enterprise to protect them from a regional disaster.

To obtain management support for hot backups, several considerations may be useful. First, not every function or capability of the production server may need to be replicated in the hot backup device. Often a disaster recovery scenario will provide for the restoration of only critical applications operated by a much smaller contingent of users than in a normal production environment. It may be possible to scale down hot backup servers accordingly to reduce their acquisition cost.

Moreover, some companies are able to afford additional servers when dual uses can be persuasively demonstrated by DR planners. For example, a hot backup may be able to find dual use as an enterprise storage management server or as a mirror to another critical server in the network. IBM's Wagner offers a caution to those considering this strategy, "We find that duplicate uses of hot standbys sometimes take over the host so that it isn't available. It

### Hourly Cost Calculation

**First calculate an average hours value in your organization:**

| | | |
|---|---|---|
| Annual gross revenues ÷ 2000 hours = Hourly Contribution: | | 1 |
| Hourly Contribution ÷ Number of Employees = Average Hourly Employee Contribution: | | 2 |

### Data Loss Calculation

| | | |
|---|---|---|
| Hours required to replace lost data | | 3 |
| Times Average Hourly Employee Contribution *(Line 2)* | x | 4 |
| TOTAL | = | 5 |

### Employee Downtime Calculation

| | | |
|---|---|---|
| Hours the system is down | | 6 |
| Times Hourly Contribution *(Line 1)* | x | 7 |
| TOTAL | = | 8 |

### Special Costs

**First calculate an average sales/customer value in your organization:**

| | | |
|---|---|---|
| Annual gross revenues ÷ Number of Sales = Avg. Sale | | 9 |
| Annual gross revenues ÷ Number of Customers = Average Customer Value | | 10 |

### Sales Loss Calculation

| | | |
|---|---|---|
| Estimate lost sales | | 11 |
| Times Average Sale *(Line 9)* | x | 12 |
| TOTAL | = | 13 |

### Image Loss Calculation

| | | |
|---|---|---|
| Estimated lost customers | | 14 |
| Times Average Customer Value *(Line 10)* | x | 15 |
| TOTAL | = | 16 |

### Total Costs

| | |
|---|---|
| Data Loss *(Line 5)* | + |
| Employee Downtime Loss *(Line 8)* | + |
| Sales Loss *(Line 13)* | + |
| Image Loss *(Line 16)* | + |

TOTAL COST PER HOUR OF NETWORK DOWNTIME=

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## BUILDING RECOVERY INTO SAP R/3 IMPLEMENTATION PLANS

**When Kennametal Inc. (Latrobe, Pa.) decided to streamline business processes throughout its worldwide enterprise by investing in SAP R/3, they did so understanding the paramount importance of disaster recovery planning. Kennametal is a $1 billion marketer, manufacturer and distributor of a broad range of tools and supplies for the metalworking, mining and highway construction industries. According to Ray Davis, Kennametal's consultant for Information Resources, having access to expertise, in general, is a critical issue to address early in the process in terms of personnel and detailed documentation. "To ensure that we are not caught short of expertise during a disaster, we implemented an extensive cross-training program that not only includes the retraining of mainframe personnel on UNIX systems, but also includes cross training by function — volume management, operating systems and SAP application. You never know who will be physically available at the time of a disaster."**

**Kennametal went live with SAP in July 1996, and immediately began its aggressive recovery testing schedule with tests in September and November. With eight tests scheduled over their three-year recovery plan, Kennametal is serious about meeting the challenges of constant technological change in a manner that ensures disaster recovery plans are in step with the application's implementation. The need to interface their legacy and UNIX systems during the transition means the Kennametal staff must remain current in their knowledge of both platforms. "Redundancy of expertise is just as important as network and data redundancies," says Davis, "and, fortunately, our staff has been receptive to this learning challenge."**

**Davis says that the vendor evaluation and selection process should be started six months prior to and concluded three months prior to "going live." This would allow sufficient time for contract negotiations and schedule details to be finalized. "The dynamic nature of the technology involved in implementing SAP makes it necessary to negotiate a recovery contract that provides flexibility in terms of both technology evolution and expansion, and cost." Adding to the complexity of the matter is the issue of capacity planning in a UNIX environment. Establish a vision for disaster recovery early in the process and create a disaster recovery team that includes decision makers in hardware, network and applications support from the beginning.**

**In summary, determine that you are teaming with a vendor that is flexible and interested in growing and investing with you both in terms of technology and expertise, and be prepared to test as you go. To augment effectiveness and ensure a successful SAP recovery, integrate a proven strategy into the SAP implementation methodology; incorporate the necessary flexibility into recovery and backup plans to meet changing business and technical requirements; and effect a plan that provides integrated end-to-end recovery from the desktop to the database. — *Rich Frank is vice president of market management for Comdisco Disaster Recovery Services (Rosemont, Ill.).***

is also important to ensure that the hot standby is kept up to date with the same drivers as the server it will replace to ensure non-stop operation."

### Networks Too

DR planners must also provide for network recovery. In planning for the emergency recovery of WANs, knowing the location of the key client-server hosts (for example, the hot site location) and the location of a user recovery facility may simplify the effort.

"Workgroup recovery entails more than desk, chair and phone," Wagner argues, "The planner also needs to provide for connectivity, access to data and phones." Logistical considerations can be handled expeditiously if the end user recovery location is predefined.

As with systems recovery, end user recovery options run the gamut from finding available space on the fly to contracting with a vendor offering a workgroup backup site to maintaining a separate corporate facility as a hot standby. AT&T's Hamilton offers the Protect-It Crisis Management Center as an example of a commercial workgroup recovery center, "It is a 200-seat facility with Intel 486 workstations and full voice and data communications readiness. Data networks and voice traffic can be rerouted to the site in under one minute and that is guaranteed by redundant links through Bell Atlantic and AT&T. Customers can even place a hot standby server — their own equipment — at the facility on an on-going basis."

Given the logistical difficulty in relocating workers too far from their normal work environment, Hamilton concedes that the maximum distance that any commercial workgroup recovery site should be from the normal production environment is approximately 60 miles.

Wagner agrees, but suggests that a new alternative to a mass end user relocation may become more feasible in the near future. DR planners explore the possible use of a mobile recovery scenario in which a network restora-

tion site is identified as part of the plan and end users work from home until disaster conditions have subsided.

## Write It All Down

With provisions made for system, network and end user recovery, procedures for implementing these strategies need to be documented, personnel needs to be trained and strategies need to be tested. This is the final phase of the IBM Business Protection Model.

Most agree that these activities are critical to the effective implementation of the plan if it should be necessary and provide an all-important vehicle for ensuring that the disaster recovery capability keeps pace with the changing needs of the distributed enterprise.

To the extent that strategies have provided defined resources and facilities, it is possible to rehearse the actual progress of a recovery effort. Where specific provisions have not been made, plan testing must do its best to identify potential flaws in the plan through carefully guided scenario discussions. Whatever the testing method used, the results of the test should be carefully documented for audit and lessons learned should be integrated into the planning document.

One consultant pointed out that the additional capabilities brought about through disaster recovery planning at a client site were cost-justified by improvements in the efficiency of normal operations at the company. "We were able to show a $4 payback for every $1 spent on disaster recovery."

Enterprise computing has helped to refocus the disaster recovery planner's attention from recovery of hardware to the restoration of entire business functions. That alone, many argue, is at least one improvement brought about by decentralized systems.

*—Jon William Toigo is an independent writer and consultant specializing in network security and disaster recovery. He can be reached at* jtoigo@intnet.net
www.intnet.net/public/dolphin.

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## WHAT DOES IT COST YOU WHEN A COMPUTER FREEZES, LOSES DATA OR CRASHES?

A recent study projected the cost of such interruptions at more than $4 billion annually, with the annual lost productivity of workers estimated at 37 million hours. The major cause of costly breaks in computer services is power disturbances. A typical computer and network system may experience anywhere from 92 to more than 120 power disturbances a month. In fact, there are 344 potentially damaging power glitches in a typical electric line leading to a computer or network.

Although external forces like the weather and power utilities play a part, the most common source of power problems are right on your own premises. Studies have shown the majority of all power disturbances are caused by building equipment, including printers, copiers, microwave ovens and particularly by industrial or process equipment such as arc welders and large electrical motors. In an older structure, chances are the wiring is not designed to handle large amounts of electrical or networked equipment.

It's no wonder that AC power-related problems have been estimated to cost U.S. companies more than $26 billion annually in lost time and revenue. Almost half the corporations in a recent U.S. survey estimated their downtime costs due to power problems at $1,000 per hour or more. Nine percent of them estimated downtime costs of roughly $50,000 per hour.

Devices should be connected to equipment that conditions and filters line power, as well as provides continuous, computer-grade power. Surge protectors, voltage regulators, line conditioners and filters will provide some level of utility power conditioning, but none will protect against all kinds of power disturbances, nor will they protect your data should a brownout or blackout shut down your computer or electronic equipment.

In configuring the most cost-effective and reliable means of protection, you must consider all of your computerized needs against a range of available applications, including an uninterruptible power supply (UPS) technology, control software, load size and battery time. Among the most popular types of UPS devices are: online, line-interactive and stand-by.

Online protection provides the highest level of network protection, and conditioning. In an online UPS, conditioned power is supplied to attached devices all of the time, and is often the best choice to protect critical applications — those systems that can't be "down."

Line-interactive protection provides highly effective power conditioning plus UPS backup. This is particularly applicable in areas where power outages are rare, but where there are frequent power fluctuations.

Stand-by protection provides a cost-effective choice for small, non-critical standalone applications. This type of UPS typically powers the load from the utility input when available, but switches to the inverter (supplied by the battery) when the utility fails.

Facility-wide protection is designed to provide conditioned power instantly to the continually shifting levels of power demand common to most facility-wide systems. They also can help with power factor correction, a welcome balance against the rising rate of most facility utility bills.

Because today's complex computing and networking systems are so crucial to business operations, businesses demand an uninterruptible flow of power to today's equipment needs. Networks can't afford to be down, and network managers will find that UPSs are an important tool in keeping their systems up and running. *—Andrew Wert is manager of pruduct marketing at Liebert Corp. (Columbus, Ohio), a supplier of UPS solutions.*

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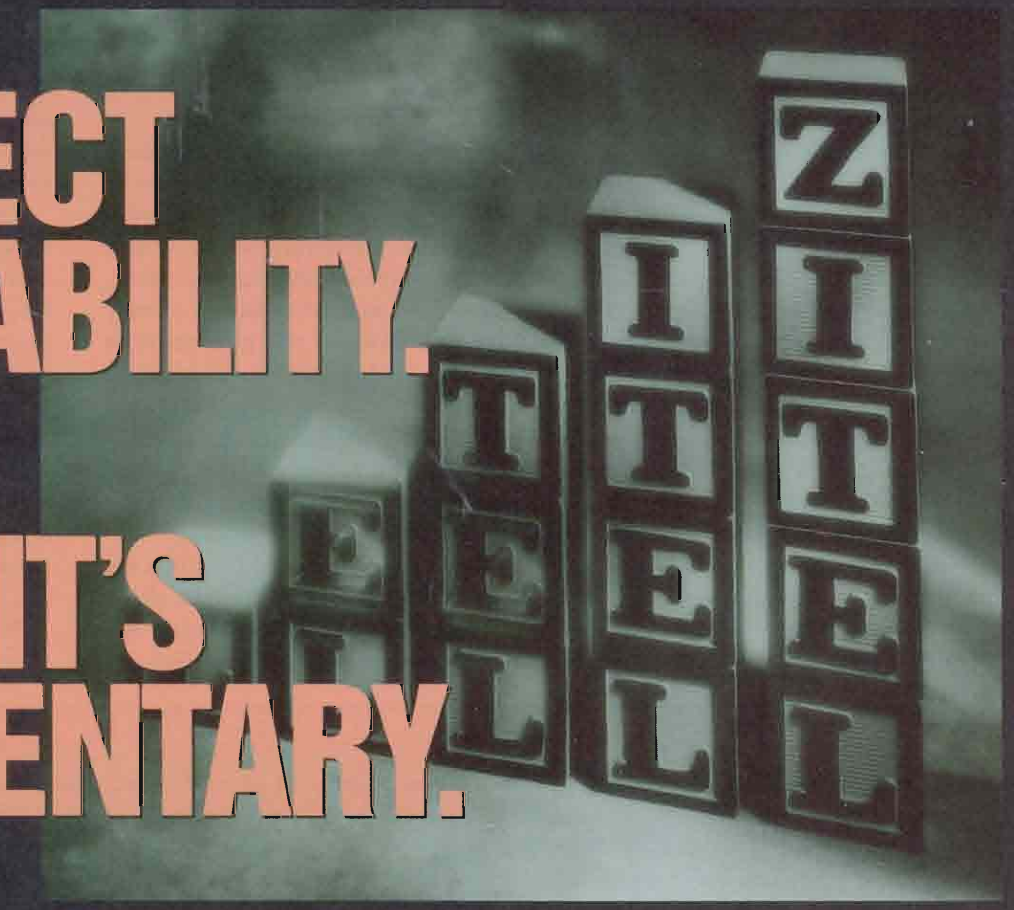


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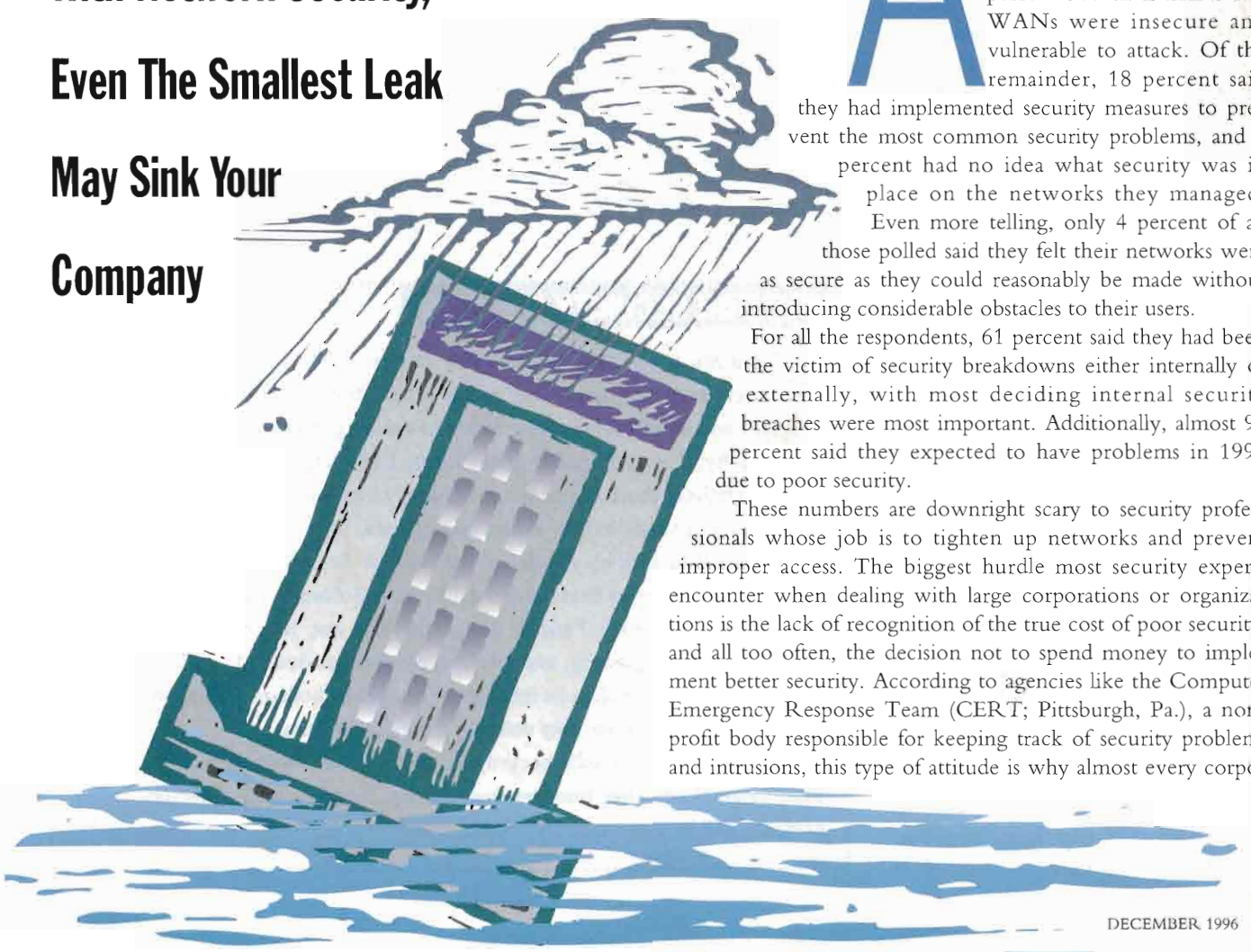
# Batten Down The HATCHES

By Tim Parker

## With Network Security, Even The Smallest Leak May Sink Your Company



According to a survey of UNIX network managers and administrators conducted at last year's UNIX Expo, 73 percent said their LANs and WANs were insecure and vulnerable to attack. Of the remainder, 18 percent said they had implemented security measures to prevent the most common security problems, and 9 percent had no idea what security was in place on the networks they managed. Even more telling, only 4 percent of all those polled said they felt their networks were as secure as they could reasonably be made without introducing considerable obstacles to their users.

For all the respondents, 61 percent said they had been the victim of security breakdowns either internally or externally, with most deciding internal security breaches were most important. Additionally, almost 90 percent said they expected to have problems in 1997 due to poor security.

These numbers are downright scary to security professionals whose job is to tighten up networks and prevent improper access. The biggest hurdle most security experts encounter when dealing with large corporations or organizations is the lack of recognition of the true cost of poor security, and all too often, the decision not to spend money to implement better security. According to agencies like the Computer Emergency Response Team (CERT; Pittsburgh, Pa.), a nonprofit body responsible for keeping track of security problems and intrusions, this type of attitude is why almost every corpo-

ration is due for an eye-opening experience. To be factored into the costs of not having an adequate security system are: recovery costs of deleted or damaged files and file systems; loss of proprietary information either through industrial espionage (which is much more prevalent than most administrators imagine) or accidental dissemination of information; and the lost time spent recovering from intrusion.

A UNIX system by its very nature is open, with many holes in its own security system that many unscrupulous people are knowledgeable enough to take advantage of. Commonly accessible "holes" that most hackers are aware of are in standard utilities like **finger**, **uucp**, **sendmail** and **su**. But, security breaches are not always from the "hacker" accessing the networks from outside. There is an even higher incidence of trespassing — by employees who are either curious or trying to manipulate information for their own good — into files, directories and machines that should be off-limits. Blocking outside access to a network is not enough; the security has to cover all aspects of the network and its users. Unfortunately, doing that is not easy.

## Over The River And Through A Firewall

The exact extent of computer crime and security breakdowns is difficult to measure. There are headlines in newspapers and magazines that highlight the odd, spectacular intrusion or system damage. For example, the well-publicized hack of the CIA's Web page, where hackers broke into the system and heavily modified the HTML source for the site, including painting a swastika and derogatory comments over the home page. What is very difficult to measure, however, is the cost of all the undetected or covered-up intrusions. Security experts often quote figures in excess of billions of dollars a year.

Buttoning up your network or internetwork is not especially difficult, but it does require a knowledgeable person or team to get the process rolling, and to ensure it is done completely. There's no point in taking security half-heartedly. If you manage to close off a few aspects of UNIX vulnerabilities (the holes mentioned earlier, as well as poor user account maintenance and remote system access), hackers will simply work on other methods.

Closing all the holes is almost impossible, but a well-implemented security system will make the task of breaking in so difficult that all but the most determined (who also need many hours of access) will give up. Proper tracking and logging can help trace back to the guilty parties, especially when intrusion is from inside the network.

Security costs money to implement, both in time and in specialized hardware and software. A survey published by the Yankee Group (Boston, Mass.) of 400 security professionals at large corporations and organizations shows that the focus in 1996 has been on Internet-related products, with investments in security equipment and procedures increasing almost 25 percent over last year. While the focus on the Internet is because of the popular media attention and high visibility of the Web, many security experts are concerned that this will lead to a one-sided security setup.

Closing off the Internet with firewalls and authorization systems may prevent access from the Internet in almost all cases, but there are still hundreds of modems and network dial-up connections that are wide open on most networks. A false sense of security is bound to lead to problems when security breaches are detected, often at the expense of the security experts hired to close off access.

How much is being spent on security? According to one study from the Gallup Organization (Princeton, N.J.), Fortune 500 companies reported $1.83 million was spent on networks and network software in 1995. Security hardware and software (including devices such as gateways and firewalls) accounted for 22 percent of that amount. To many security experts, this amount, while significant, is much too low. Security software itself for Fortune 500 companies should eat up the entire dollar amount spent last year, yet only one-fifth was actually spent. To protect all those large systems, millions more have to be invested. According to a survey of MIS managers conducted at UNIX Expo, most feel that at least 25 percent of their budgets for the coming year should be invested in security products, especially for companies with high visibility on the Web.

### WRITE ON SECURITY POLICIES

**If you are a medium- or large-size company, you should have your own security policy. A security policy establishes, in writing, the steps the company and its employees must follow to ensure good computer and information security. A security policy doesn't have to be large and full of legalese; it can be relatively short and concise if properly developed. Writing a solid security policy is usually left to expert consultants, which can be expensive. An alternative is to pick up a copy of *Information Security Policies Made Easy*, fifth edition by Charles Cresson Wood (Baseline Software, 1996).**

***Information Security Policies Made Easy*** **lays out, in simple format, each section of a security policy, and provides excellent advice and wording for your policy. An available disk even includes all the policy boilerplates, allowing generation of a complete security policy in a matter of hours.**

**If you don't have a solid security policy, get one. You'll be legally covered when internal breaches from employees occur, and, hopefully, everyone in the company will be more security aware.** ***—TP***

Computer security newsletters like *Computer Fraud & Security* (Elsevier Science, www.elsevier.com — $449/year) try to highlight the problems and offer overviews of new security products. The security market is very competitive, and there are many hollow claims. TPCI Labs (Ottawa, Ontario) recently tested several big-dollar commercial Solaris and Windows NT security products and found almost one-quarter had fatal flaws. Curiously, the testers learned about some of the problems from Usenet newsgroups. This kind of information dissemination can totally defeat many security systems.

## Damn The Torpedoes

How can you protect your networks? Start by deciding who is going to implement the security lockdown. Usually, this is one of many tasks a workgroup manager or system administrator has to perform, but security over a network has to be implemented across the board, not just on small workgroups or single workstations. Security is usually an important enough task that dedicated personnel should be assigned to the task, especially in larger companies. Give those people the power to make whatever changes they need to button up your system. If necessary, grant the budget to purchase the software and hardware to get the best level of security you can afford.

When you have people dedicated to security, make sure they learn their stuff. Appointing UNIX experts means they will have no trouble moving around the UNIX network. However, most people are not aware of the plethora of holes UNIX introduces.

**Education is important.**

This doesn't mean specialty courses, either. There are dozens of books on computer security available in the corner bookstore, and some of them are excellent. For example, *Practical UNIX and Internet Security, Second Edition* by Simson Garfinkel and Gene Spafford (O'Reilly & Associates, 1996) is probably the single most valuable source of security information readily available. That book, combined with others such as N. Derek Arnold's *UNIX Security: A Practical Tutorial* (McGraw Hill, 1993) and Rik Farrow's *UNIX System Security: How To Protect Your Data and Prevent Intruders* (Addison-Wesley, 1991), will let security personnel close up most of the UNIX holes that hackers (internally and externally) know how to exploit.

**Monitor the newsgroups and important Web sites.**

You should get started with the HP security checklists and notes maintained on two sites:

- mother.cc.ut.edu/kathyw/hp.security.html
- wwwcn.cern.ch/dci/security/hpsec.html.

Both of these sites, maintained by administrators with a lot of HP workstation experience, include lists of well-known security holes in HP operating systems and how to patch them. You should regularly use a search engine such as Digital's AltaVista (www.altavista.digital.com) and search on the keywords "security + HP."

**Block off Internet access.**

This can be done by investing in either dedicated hardware or software that can sit on your gateway. This isn't necessarily a big budget item. Some excellent security packages sell for around $1,000 and will effectively block almost all unwanted access through the Internet gateway. If you have more than one gateway, make sure they are all blocked even if you think they are not known to the outside world.

**Close off access through regular modems, fax modems and dedicated remote access servers supporting dial-in networking.**

Most remote access servers come with the proper software to limit access, and many operating systems such as UNIX and Windows NT allow a high degree of security when properly set up. For HP users, there are several security products available, including local access security packages such as Entrust from Nortel (Bramalea, Ontario), and Web site packages like WebStalker from Haystack Labs (Austin, Texas). The security software market has blossomed with the popularity of the Web, and at least a dozen high-end security packages for HP workstations and servers are available. Again, a search of Web sites through an engine like AltaVista will give you an up-to-date list.

**Secure user logins.**

The biggest hole in security systems are user logins. Take the time to make sure users have secure, strong passwords and logins. Remove old logins and accounts immediately. And when a person leaves the company make sure their account is deleted. Implement a regular check of dial-in logs and access to sensitive information. Trends do develop, and you can often find leaks within a company by checking when and how often users access sensitive information.

**Use UNIX security to its fullest.**

Some companies are lax about setting permissions, and it's not unusual to find accounting packages that anyone in the company can read. Set up groups properly, and use the user-group-other permission blocks to limit access. Software on a server is especially vulnerable, so make sure it's properly set for access rights.

You don't have to spend millions of dollars to check intruders. Simple methods, consistently applied, are often enough to thwart all but the most determined hacker. But big or small, you have to take the threat seriously. You don't want to be the next headline. *—Tim Parker is the author of* TCP/IP Unleashed, *published by Sams. He can be reached at* tparker@tpci.com.

### LET YOUR FINGERS DO THE WALKING

**The National Computer Center (NCC; Manchester, United Kingdom) has a new checklist called "30 Essential Actions for Information Security" which is available free of charge. For a copy of the booklet, call NCC (in the United States) at (703) 476-2269 or check www.ncc.co.uk.**

**The Computer Emergency Response Team (CERT; Pittsburgh, Pa.) also has many useful security files for download at www.cert.org.**

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Mark McFadden

# Six Deadly Trends

**The New Year always provides an opportunity to look ahead. So, although my crystal ball is** cloudy, to say the least, here's a list of six deadly trends to think about for 1997.

### 1. Deny Me Three Times

At a time when the Internet is poised to act as the glue for worldwide networks for commerce, research, industry and education, the Internet's user community will learn a new and frightening meaning for a familiar acronym: DOS. This time, a DOS (Denial Of Service) attack will refer to the most troubling development in Internet security since the virus. In early 1997, the trade press will be full of lurid descriptions of corporate computers crashing due to unavailable services rather than from attacks on the stored information. As effective security, as well as filtering and protocol technologies become adopted later in the year, DOS attacks will only be an issue for the unprepared.

### 2. Starve Me Out Of House And Bandwidth

While new technologies like cable modems, 56Kbps analog modems and ADSL technologies will bring greater bandwidth to homes and small offices in 1997, bandwidth will still be unable to keep up with demand. Desktop OSes will come to rely on persistent connections to the Internet to function in workgroups. Multimedia, videoconferencing, and streaming audio and video will become more popular until users find that the benefits of the new technologies don't make up for glacial response times. Home and small business users will see this problem emerge in the early part of 1997, but large companies and global organizations have a response ready for the problem.

### 3. A Little Privacy, Please

Private Internet Interconnects, not intranets, but private interconnections between various networks, will become prevalent in 1997. Already a fact of life at the highest levels of the Internet, the private Internet will attempt to solve quality of service issues. Large cooperating corporations and institutions will pay for private, mutual connections that allow their Internet traffic to flow on circuits that are not shared with the general Internet. This way, as traffic grows on the Internet and end-to-end service suffers, large companies will be able to take matters into their own hands and preserve quality service.

### 4. OpenView And The Big Bad Wolves

HP's OpenView will continue, with IBM's NetView, to dominate the enterprise network administration market. But the wolves are at the door. Many system administrators want network management tools that are not confined to specific workstations. Others want to take advantage of Internet standard tools, such as Java and Web browsers, to provide the interface and key components of the network management infrastructure. As smaller vendors bring a variety of Web- and Java-based SNMP interface tools to the market, expect HP to respond with new offerings that combine OpenView's comprehensive approach to network management with the ease-of-use and prevalence of the Web.

### 5. I Got The Whole Wide Web In The Palm Of My Hand

As you read this, the marketers are gearing up to make one more push for Personal Digital Assistants (PDAs) and hand-held devices. Now, with fresh support from behemoth Microsoft and new technologies like wireless/mobile PC Card form factor modems, PDAs will finally become a routine feature of the information technology landscape. With IP mobility supported by Internet Service Providers by the end of the year, the follow-on to HP's popular OmniGO organizers will bring the Internet to the palm of your hand.

### 6. Doomsayers Will Predict The End Of The Internet

And they'll be wrong again. Bandwidth, growth and security concerns will dominate the discussions of the Internet. While DOS attacks and temporary outages on public networks will once again make the headlines (and cause the pundits to worry that the sky is falling), the fact remains that the Internet is approaching the reliability of the telephone network on a timetable 10 times as fast. Some collapse . . . some future! Happy New Year!

*—What are your predictions for the New Year? Let Mark know at* 73740.1101@compuserve.com.

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Fred Mallett

# You'll Shoot Your Eye Out, Kid!

**Maybe it's the Christmas spirit. But recently, I felt like precocious, nine-year-old Ralphie Parker,**

the main character in the movie *A Christmas Story*. Ralphie eventually gets his most desired toy: a "Genuine Red Ryder Carbine Action Two Hundred Shot Lightning Loader Range Model Air Rifle" (a BB gun for those of you not familiar with the Jean Shepherd novel or movie). In my case, all I wanted was to be able to spend the weekend playing with a new administration product: HP Distributed Print Services (HP DPS), bundled with HP-UX 10.20.

Well, it started when I was hoping for a product like the print manager which came with the now defunct Domain/OS operating system. And it turns out that the HP Distributed Print Services supplies all the functionality of that old print manager, with dozens of additional commands, capabilities and, unnecessarily, complexities. Some sites will use all the capabilities, and that's great. But you don't get a whole lot of administrative benefit over the typical LP environment unless you are running under a DCE cell. Many of my sites do not run DCE. And they had no need to — until now?

## A COMPASS IN THE STOCK...

The DPS user command set supplies 16 commands following along the lines of the **LP** command set. It seems to me that having one command per function was good in the days of 16K of main memory; but now, come on, give us options to the same command. Looking deeper, it turns out that there really is only one command: **/opt/pd/lbin/pdcoinmand**, but there are 17 links to it from /opt/pd/bin. **pdconyftand** has no man page, so you are stuck using the 17 different commands, which all take several similar options to define the job, and printer object you want to act on. It could and should have been simpler.

The HP DPS environment can support enterprisewide printing needs, and even allow enterprisewide single point administration of printers (when run in a CDE cell). For large sites, this is great, and worth looking into. But let's think a minute: how often does the typical user really need to print to a printer halfway around the world?

Not often, but I suppose it is nice to know you can. OK, I'm finished ranting. So, let's take a look at the product. First, I'll go over HP DPS capabilities, then I'll talk about the terminology, and finally I'll provide an overview of the HP DPS components.

**Compatibility with LP:**

First, and most important, users do not have to use the new HP DPS commands. If you use the "normal" printing commands (**lp** or CDE's **dtlp**) and choose a destination of an HP DPS printer, it will be queued into the HP DPS environment.

**Configurable printing problem notification:**

This is a good thing. You can set up for a particular user/operator to be notified when certain conditions occur, like a printer out of paper, a queue getting above a threshold or printer failure.

**Better queue control:**

There are commands to move print job priority, stop and resume printing. Some of these commands are the same as the LP commands, some extend the capabilities of LP.

**You get single point administration of printers, queues and servers over the entire distributed printing environment.**

When HP DPS is implemented using DCE there are some serious advantages.

Now you get single point administration of printers, queues and servers over the entire distributed printing environment, which can cross DCE cells. (Think of how many trees are at your disposal). Printing Security (who can kill or save a tree) is controlled by the DCE Security Service, and thus is very configurable. You can control who has access to which functions of which printers and servers.

## ...AND THIS THING THAT PRINTS IN IT.

This is a client-server environment, so a host must be set up as a DPS client (running **pdclientd**) before it can issue DPS commands, such as print requests and managing print services. A DPS

server, which can be broken down into two parts — a supervisor and a spooler, handles client requests and returns results. The supervisor controls one or more physical printers, and every host with a printer physically attached must be a supervisor. Any supervisor can control a network printer. The spooler controls the queue and advertises logical printers.

How many you have depends on disk space and print job sizes. A user sends jobs to logical printers. Then, the spooler takes that job, enters it into a queue and maps it to a physical printer. This allows for configuration of logical printers that contain the type of printing allowed, based on capabilities of the physical printer. This also allows security based on logical printers; In other words, a set of printing options and a physical printer device to print to, rather than just a physical printer. It also allows advertising of multiple logical names for one printer, or one logical name for a whole room of physical printers (a class of printers). A special type of printer, is the "LP Gateway printer." This is what allows printing to another host when DCE is not in use (that condition is called the DPS Basic Environment).

## OH, FUUUUDGE

After loading the software, you can use SAM. Or, you can manually start things, however, it might already be loaded; A default load of 10.20 includes the DPS. Otherwise, you can select which parts you want loaded, from 5MB to 12MB.

We don't have a DCE cell, so I got off to a bad start. Therefore, I was shooting for the basic environment. SAM is not smart enough to start the **rpcd** if it needs it, and reports a bogus error. So after being led astray by the documentation telling me that just running **/opt/pd/bin/pdstartclient** was enough, I looked in var/opt/pd/pdclientd/startup.log, and found an "RPC daemon communications failure" message. This told me that the **rpcd** must be running, which also implies that a global location broker (**glbd**) must be running.

After running **/opt/dce/sbin/rpcd** and starting an ncs global location broker, I was able to start a client, and setup the machine as a server. If I had a DCE cell, this wouldn't have been necessary. Eventually I ended up starting one to see how this all worked under DCE. You can use the documentation (*HP Distributed Print Service Administration Guide*) for the gory details. I had no other problems, except for those fixed by patches. Get them from www.us.external.hp.com. There were two needed when I wrote this, but there may be more by the time you read this.

**I was disappointed to find that my trusty HP LaserJet II was not a supplied printer model.**

The basic steps are: start the client daemon, then start a spooler, a queue and a supervisor. Next, configure physical and logical printers. There are so many possibilities here it will take some planning, which is covered in the documentation.

## FRAGILE

Besides the above, I was disappointed to find that my trusty HP LaserJet II was not a supplied printer model. It was also rather a pain to remember the names of things as I set them up. Under the model of "object-oriented printing" as implemented, everything must have a different name. I typically call the printer on a host, the same name as the host, and the queue directory the same name as the printer. But I had to choose a unique name for the physical printer, the logical printer, the queue, the supervisor and the spooler. That's five different names to set up one printer.

Here's another interesting point: the documentation has a chart of how much swap space is needed for running spoolers. It's always double memory size (for example, 128MB swap for a 64MB memory host) and grows substantially with the numbers of print requests expected at a time. The table says this is total swap required, not just for DPS. I don't understand how they can list a table of how much swap I need without knowing what other applications this machine will be running.

## CHRISTMAS MORNING

This is most easily done under SAM, but the DPS supplies commands to perform all the functions that SAM gives you, for adding, configuring and changing the DPS environment. Remember that there are many more configuration possibilities than LP had. When running under the extended DPS environment (in a DCE cell), you can perform any administration function from and DPS client in the network. That's a great feature!

In the basic environment, you can only control printers (objects) that are configured into the client you are running on. SAM's printing section now has two upper level groups, one for LP and one for DPS. I started out wanting a more distributed printing administration environment. I ended with complexity. I now have a DCE cell, and am running the **pdclientd** program on all hosts, as well as having a supervisor on two hosts and a couple queue's, and one spooler program running the network.

I can't seem to remember all the programs yet, so I have been using SAM to administer the printers. Now I have an interminable amount of waiting on a 715-33 with a minuscule 48MB of main memory. So, as it turns out, Ralphie Parker and I have more in common than just coveting a particular toy for Christmas. He went out and successfully fired his brand new BB gun on Christmas Day. But not before he got hit in his eye glasses with an accidental ricochet. I, on the other hand, went out and shot myself in the foot (which isn't easy to do with software). But at least I still have 20/20 vision.

*Be careful what you wish for; Fred's having second thoughts. How about you? Send your second and third thoughts to* frederm@aol.com.

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# new Products

## SOFTWARE

### Onion Peel Software Releases NDC

Onion Peel Software announced Network Data Collector (NDC), an intelligent data collection and reporting system for HP OpenView. Production and ad-hoc reports are now available without programming, scripts or complex administration. Users can publish Web pages of network information to the user community, and reduce network traffic and disk space requirements by using the advanced data collector built into NDC.

It also provides: an advanced data collector; a tab/folder metaphor user interface; MIB search expression filtering; complex expressions; batch collection and reporting; Web-based reporting; online preview; and ASCII text export.

Contact Onion Peel Software, 4208 Six Forks Rd., Ste. 246, Raleigh, NC 27609; (919) 571-7910; sales@ops.com; www.ops.com

*Circle 400 on reader card*

### AccountMate Provides Visual AccountMate C/S

AccountMate Software Corp. released Visual AccountMate C/S, a 32-bit, Windows NT-based, client-server financial management system. Enhanced features include: table browser, access logs, multicurrency capability, importing invoice data and copy/look-up.

Pricing for Visual AccountMate C/S is $3,995 per module, including the required System Manager. Source code is an additional $3,995 per module. Additional five-user blocks are available for $2,495.

Contact AccountMate Software Corp., 20 Sunnyside Ave., Mill Valley, CA 94941; (800) 877-8896; info@accountmate.com; www.accountmate.com.

*Circle 396 on reader card*

### PictureTalk Inc. Collaborates With HP

PictureTalk Inc. and HP announced a strategic alliance to jointly market an enterprise Web-based conferencing solution based on PictureTalk's family of visual communication software products. HP and PictureTalk plan to jointly pursue corporate information multicast, customer service and support, and interactive training.

PictureTalk's visual communication products allow users to share any data on their screens including documents, graphs, spreadsheets and images with other users in real time on corporate intranets and the Internet. The client software, PictureTalk Communicator, is available on HP PC clients, other corporate PCs (Windows 3.x, Windows NT and Windows 95) and Macintosh System 7.x. The PictureTalk Conference Server is available for Windows NT and UNIX.

Contact PictureTalk Inc., 4234 Hacienda Dr., Ste. 200, Pleasanton, CA 94588; (510) 467-5300; info@picturetalk.com; www.picturetalk.com.

*Circle 397 on reader card*

### FirstFloor Inc. Offers InfoPilot

FirstFloor Inc. announced InfoPilot 1.0, an integrated solution for managing and distributing corporate data from a variety of sources. Corporate data, including Web and document-based information, can be assembled by dragging lists of URLs or links into user folders. These folders are automatically placed or "published" on the intranet server for client access. InfoPilot verifies URLs and reports any site changes.

The InfoPilot Intranet Server is available to run on Solaris 2.5 or Windows NT 3.51 or later. The client software is available for Macintosh System 7.5, Windows 3.1, Windows 95 and Windows NT, and requires 8MB of RAM and 5MB of disk space.

Price is $3,375 for the InfoPilot Starter Kit, which includes 25 InfoPilot Clients (any operating system), the InfoPilot Server and the InfoPilot Administrator.

Contact FirstFloor, 444 Castro St., Ste. 200, Mountain View, CA 94041; (415) 968-1101; lobby@firstfloor.com; www.firstfloor.com.

*Circle 395 on reader card*

### Vital Inc. Releases Trudger

Vital Inc. introduced Trudger, a dynamic multiplatform Internet Web agent that makes Web surfing possible without a live connection. Trudger allows users to build personalized intranets by configuring Trudger to control the type of content /files to download, number of links to traverse, Web sites to avoid, time to spend downloading and amount of disk space to use.

Trudger is available on HP-UX, Windows 95, Windows NT, UnixWare, Sun Solaris/SunOS (SPARC, Intel), IBM RS/6000 AIX, SGI, SCO, BSD, Linux, Digital Alpha and LynxOS. Price is $59.99 for all platforms.

Contact Vital Inc., 4109 Candlewyck Dr., Plano, TX 75034; (214) 491-6907; info@vital.com; www.vital.com.

*Circle 394 on reader card*

### Tally Systems' CentaMeter 2.7 Includes LSAPI Support

Tally Systems Corp. announced a new version of its software license management tool, CentaMeter 2.7, which adds extensive software license metering and monitoring capabilities to Novell NetWare 4.11 and IntranetWare.

NetWare and IntranetWare contain Novell's License Server Application Programming Interface (LSAPI) technology. CentaMeter 2.7 tracks LSAPI-enabled applications and reports on data maintained within the NetWare Licensing Service (NLS) transaction database.

Contact Tally Systems Corp., P.O. Box 70, Hanover, NH 03755; (800) 262-3877; information@tallysys.com; www.tallysys.com.

*Circle 389 on reader card*

### ICS Ships BX PRO

Integrated Computer Solutions (ICS) announced Builder Xcessory PRO (BX PRO), an integrated product suite. BX PRO supports Java and C/C++ development. BX PRO enables cross-platform

# READER INFORMATION

### CONCORDE TECHNOLOGIES
***Circle 232***

Concorde Technologies, Inc., *"The Hewlett-Packard Experts"* is an HP Channel Partner and Value Added Reseller of HP and third-party products for the HP 9000. Concorde's line of products includes HP 9000 systems, application software, CD-ROM solutions, RAM memory, mass storage peripherals and accessories. For the best prices, availability, warranty and support,

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IEM offers affordable solutions for the HP environment, specializing in the hardware, software and service to ensure successful backups. Backup hardware products include DLT, 4mm and 8mm tape drives, autofeeders and libraries, and QIC tape drives. Many IEM products are available with an HP-IB or SCSI interface for HP 1000, 3000 and 9000 computers. Service options include training at our headquarters in the Colorado Rocky Mountains, on-site training and installation, 24 x 7 service, next-day replacement service and depot repair service. **For the latest information, visit us at http://www.iem.com, call (970) 221-3005 or (800) 321-4671, or send E-mail to info@iem.com.**

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**For more information visit us on the World Wide Web: http://www.texasisa.com, E-mail: info@texasisa.com, or call (713) 493-5746, (800) 361-2258.**

### WRQ
***Circle 263***

Makers of Reflection Series Software. HP terminal emulation for PCs and Macintoshes.

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applications to be built in Java or with an optional software development kit, and allows applications built in C/C++ to be deployed to Windows-based systems. It consists of: Builder Xcessory; ViewKit ObjectPak, a C++ reuse framework; and EnhancementPak, a library of 27 reusable components including business graphs and user interface controls.

Supported UNIX platforms include HP, Sun, IBM, Digital and SGI. A floating license with one year of support is $6,495.

Contact ICS, 201 Broadway, Cambridge, MA 02139; (617) 621-0060; www.ics.com.

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## HCL James Martin Offers TSRM 6.5

HCL James Martin Inc. announced TSRM 6.5, an enhanced version of its systems redevelopment and Year 2000 methodology, featuring additional mission-critical tools to help organizations meet conversion deadlines for the millennium change.

TSRM (The Systems Redevelopment Methodology) 6.5 provides data management; library management; environmental analysis; date reset; interactive testing for COBOL; PL/I and Assembler; COBOL 370 migration; and application staging.

Contact HCL James Martin Inc., 3050 Chain Bridge Rd., Ste. 400, Fairfax, VA 20030; (888) GET-TSRM; info@hcl-jmi.com; www.hcl-jmi.com.

*Circle 392 on reader card*

## ImageNet Inc. Releases CANE

ImageNet Inc. released CANE, a suite of Windows NT-based software tools that network designers, system integrators, network managers, product vendors and LAN consultants use to design, analyze and simulate new and existing computer networks. Its analysis and verification capabilities alert users to design errors, invalid configurations, missing components and faulty connections.

CANE's Network Device Library consists of a database of more than 7,500 vendor-specific and generic network devices. Also, there are optional add-on modules that customize CANE for specific network design and enhancement needs.

CANE costs $7,950. Optional add-on modules are priced separately.

Contact ImageNet Inc., 70 Walnut St., Wellesley, MA 02181; (617) 239-8197; info@imagenet.co.il; www.imagenet-cane.com.

*Circle 387 on reader card*

## AXXiON-Authenticate 1.3 Simplifies Security Management

OpenVision Technologies Inc. announced AXXiON-Authenticate 1.3, its network security application which uses DES encryption. In combination with the new Windows console, AXXiON-Authenticate 1.3 improves administrator productivity through an improved installation process. It also provides administrators with reduced sign-on capabilities when accessing multiple UNIX and Windows NT systems.

AXXiON-Authenticate 1.3 is available on most UNIX platforms and Intel-based Windows NT systems. Pricing starts at $4,700.

Contact OpenVision Technologies Inc., 7133 Koll Center Pkwy., Pleasanton, CA 94566: (800) 223-OPEN; ov-info@cam.ov.com; www.ov.com.

*Circle 384 on reader card*

## New From HP

**HP DeskJet 1600CN Printer —** HP announced the HP DeskJet 1600CN color printer. The new printer provides affordable network printing for customers who need out-of-the-box connectivity and do not require the PostScript or extra memory offered with the DeskJet 1600CM.

It ships with an HP JetDirect internal print server card and HP JetAdmin printer management software. It also ships standard with two paper input trays. Advanced software drivers let users switch between the two trays automatically.

Price is $1,699.

**Customer Contact Manager 3.5 —** HP announced the release of Customer Contact Manager (CCM), HP's middleware for managing teleservicing centers and other customer service operations.

CCM 3.5 is one of many products and services comprising HP Smart ContAct, a comprehensive program that helps institutions manage customer relationships for enhanced sales and profitability.

CCM is integrated with several providers of telephone switches and independent-voice-response (IVR) units. The new switches include Nortel Meridian, Nortel Central Office DMS100, AT&T for ISDN Link, AT&T for LAN Link, Ericsson MD110 and Siemens Hi Com300. IVR vendors that are integrating CCM 3.5 include Brite, AT&T Conversant, Dolphin, Intervoice, Periphonics and Voicetek.

**HP Ergo 1600 —** HP announced the HP Ergo 1600 21-inch display monitor for high-performance PC users. It incorporates the industry's latest high-technology features, such as a 20-inch viewable image, 1280 x 1024 resolution at 85 Hz refresh rate and a 0.25mm superfine dot pitch, which provides sharper images. The HP Ergo 1600 display comes with a three-year parts and labor warranty. Price is $1,899.

**Vectra VE PCs —** HP announced Pentium processor-based HP Vectra VE PCs. The HP Vectra VE PC includes 1GB of hard disk capacity on all models; a 64-bit graphics engine; safety off, which prevents users from turning off the PC when unsaved data could be lost; and dynamic video allocation, which lets users switch from 1MB to 2MB of video memory when using high-resolution graphic applications.

| Model | Pentium Processor | Package | Hard Drive (MB) | RAM (MB) | Price |
|---|---|---|---|---|---|
| HP Vectra VE 5/100 | 100 MHz | Desktop | 1,000 | 8 | $1,109 |
| | 100 MHz | Desktop | 1,000 | 16 | $1,253 |
| HP Vectra VE 5/120 | 120 MHz | Desktop | 1,000 | 8 | $1,145 |
| | 120 MHz | Desktop | 1,000 | 16 | $1,289 |
| HP Vectra VE 5/133 | 133 MHz | Desktop | 1,000 | 8 | $1,333 |
| | 133 MHz | Desktop | 1,000 | 16 | $1,477 |

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

## HP Joins Forces With Micro Focus

Micro Focus announced a relationship with HP whereby the two companies will develop and market a suite of COBOL products for the UNIX platform. Both companies will provide a common base product with customized features that will meet their development needs.

Micro Focus' products allow application developers to manage and extend their enterprise applications for client-server computing, legacy solutions and Year 2000 assessment and implementation.

Contact Micro Focus, 2465 E. Bayshore Rd., Palo Alto, CA 94303; (415) 856-4161; www.microfocus.com.

*Circle 382 on reader card*

## WyndMail Empowers HP 100LX/200LX Palmtops

Wynd Communications announced WyndMail 2.0, a fully-featured wireless e-mail solution for HP's 100LX and 200LX palmtop computers. It is a wireless e-mail service, and includes send/receive, carbon copy, blind carbon copy and forward. In addition, the service offers the ability to send faxes, send text-to-speech messages to any telephone, and receive speech-to-text messages from any telephone. WyndMail requires at least a 1MB 100LX or 200LX, with 92K free built-in memory, plus a wireless modem.

WyndMail's standard service plan for the HP 100LX/200LX palmtops, including wireless modem rental, software and service, costs $69.90 per month. This includes 200 message units (one message unit equals 150 characters). For existing WyndMail customers, modem rental is $39.95 per month, regardless of platform, on a month-to-month agreement. WyndMail 2.0 software is downloadable from Wynd's Web site or on disk, both at no charge, and is available on flash card for $39.95.

Contact Wynd Communications Corp., 4251 S. Higuera, Bldg. 800, San Luis Obispo, CA 93401; (800) 549-9800; info@wynd.net; www.wynd.com.

*Circle 378 on reader card*

## Unidata Develops ORDBMS With HP

Unidata Inc. announced that HP will cooperate with Unidata Advanced Technologies' development of an Object-Relational Database Management System (ORDBMS) for use as part of HP's Worldwide Channel Partner Program. Unidata developers will use HP 9000 Enterprise Servers for development and testing of Unidata's ORDBMS technology. Also, Unidata will deliver their ORDBMS on HP-UX.

The ORDBMS will be used for Web-enabled business applications and object-based OLTP environments, providing a rich support environment for legacy, relational and next-generation data and applications.

Contact Unidata Inc., 1099 18th St., Ste. 2200, Denver, CO 80202; (303) 294-0800; unidata@unidata.com; www.unidata.com.

*Circle 383 on reader card*

## PageTech Releases PCLTook SDK V4.3

Page Technology Marketing Inc. (PageTech) released V4.3 of its PCLTool SDK, a dynamic link library (.DLL) that converts HP PCL 4 and 5 print files composed of text, linedraw, raster data, download/resident bitmap (.PCX, .TIF) or vector (.WMF) format files with metrically matching TrueType fonts for those used in the PCL file.

It provides a full-text search of multi-page PCL print files. And, with up to three text strings, it can generate a hit list of all the pages found, with accuracy percentages, across multiple print files in a directory.

Contact PageTech, 10671 Roselle St., Ste. 100, San Diego, CA 92121; (619) 658-0191; pagetech@tfb.com; www.tfb.com/pagetech.

*Circle 380 on reader card*

## N.E.T. Announces Telaxian Shield

Network Engineering Technologies Inc. (N.E.T.) announced Telaxian Shield, a firewall system capable of mirroring the organizational and geographical structure of an entire enterprise. It provides a system of fully secure, interoperating firewalls for protecting distributed intranets and Internet connections across the enterprise.

Telaxian Shield manages and resolves "run-time" details such as cross-firewall destination address and port, user authentication and protocol translation. It also includes enhanced logging and auditing features such as real-time monitoring, log-in attempt logs, service use logs, failed service logs and statistical analysis.

Prices range from $7,995 to $11,995, depending on configuration.

Contact N.E.T., 1714 Ringwood Ave., San Jose, CA 95131; (408) 453-7500; info@fireants.com; www.fireants.com.

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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.

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CIRCLE 155 ON READER CARD

## Tracer Technologies Offers MagnaVault For HP-UX 10

Tracer Technologies announced MagnaVault for HP-UX 10, an optical storage management software for optical and CD-ROM standalone, arrays and juke-boxes.

MagnaVault for HP-UX 10 turns HP 9000 systems into powerful servers for a full range of optical mass storage technologies and media. It includes device drivers, juke-box management and file system enhance-ment software, and offers transparent user access and simplified configuration and administrations of the server.

Contact Tracer Technologies, 702 Russell Ave., Ste. 450, Gaithersburg, MD 20877; (800) 872-2370; www.tracertech.com.

*Circle 381 on reader card*

## BMC Software Services Supplies Reflection 1, 2 & 4

BMC Software Services announced the latest version of WRQ's Reflection 1, 2 and 4. These terminal emulation products offer PC-host connectivity for HP, Digital and UNIX computer systems. Reflection 1, 2 and 4 are available for Windows 3.x, as well as a combined Windows 95/Windows NT version. The 16-bit and 32-bit versions are available.

Version 5.2 of Reflection 1, 2 and 4 enables system managers to preconfigure the installation setup for their enterprise networks. As an option, system managers can further simplify the process by using Microsoft's SMS (System Management Server) to install Reflection on multiple desktops from a network server, again com-pletely unattended. SOCKS firewall sup-port is included. Support for MAPI is also new in version 5.2.

Contact BMC Software Services, 2101 CityWest Blvd., Houston, TX 77042; (800) 841-2031; www.bmc.com

*Circle 377 on reader card*

## Worldtalk Incorporates Trend Micro's InterScan

Worldtalk Corp. and Trend Micro Inc. announced a technology agreement where Trend's InterScan VirusWall technology will be integrated with Worldtalk's NetJunction products for HP-UX and Windows NT.

NetJunction products allow organiza-tions to secure e-mail traffic within the cor-poration, as well as to and from the Internet. Worldtalk's integration of Trend's InterScan VirusWall technology will enable organizations to centrally manage virus scanning policies on a per-user basis for all messaging networks throughout the enter-prise.

Contact Worldtalk Corp., 5155 Old Ironsides Dr., Santa Clara, CA 95054; (408) 567-1500; sales@worldtalk.com; www.worldtalk.com.

*Circle 376 on reader card*

## HARDWARE

## Network Systems Releases BorderGuard 3.1

Network Systems introduced a new version of its BorderGuard security device for Ethernet LANs. The BorderGuard 3.1 device secures traffic between departmental or branch office Ethernet LANs and the Internet or other public networks. The fil-tering software prevents potentially harmful data traffic from spreading throughout the network, restricts access to certain hosts and allows for the logical segmentation of users into closed workgroups not accessible by non-authorized personnel and outsiders.

Contact Network Systems, 7600 Boone Ave., N, Minneapolis, MN 55428; (800) 424-4888; www.network.com.

*Circle 375 on reader card*

## AMI Unveils BIOS Technology

American Megatrends Inc. (AMI) unveiled BIOS technology that enables Iomega Corp.'s Zip drive as a full 100MB drive A: under current versions of Windows 95, Windows NT and DOS 7.0. In addition, computer users will be able to boot to dif-ferent operating systems simply by inserting different Zip disks.

Contact AMI, 6145-F Northbelt Pkwy., Norcross, GA 30071; (800) 828-9264; www.megatrends.com.

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## NetManage, AT&T Wireless Deliver Chameleon ATX

NetManage announced that its products are approved for use with AT&T's Cellular Digital Packet Data (CDPD), called AT&T Wireless Packet Data Service. Further, this capability is fully integrated into the Chameleon ATX host access product fami-ly which includes ChameleonNFS/X and Chameleon HostLink. This enables users to wirelessly connect to host data, access e-mail and manage data via their laptop computers with the capabilities of NetManage's Chameleon.

ChameleonNFS/X costs $400. Chamel-eon HostLink costs $400. Both are available for Windows, Windows 95 and Windows NT.

AT&T Wireless Packet Data Service charges customers for each kilobyte of data they send or receive over the CDPD net-work. Customers can choose from one of five service plans characterized by a base monthly fee and a monthly kilobyte allowance. The five service plans range from $22 per month with a 200KB allowance (11 cents per kilobyte), to $145 per month with a 4,000KB allowance (3.6 cents per kilobyte). Each plan also has a one-time activation fee of $45 per user.

Contact NetManage Inc., 10725 N. De Anza Blvd., Cupertino, CA 95014; (408) 973-7171; info@netmanage.com; www.netmanage.com.

*Circle 371 on reader card*

## Panasonic Introduces PanaSync S15

Panasonic Computer Peripheral Company (PCPC) introduced a 15-inch monitor to its PanaSync line — the PanaSync S15. It features easy-to-reach, front-mounted digi-tal controls that operate seven functions. Users can control horizontal and vertical position and size, contrast, brightness and power. Color matching is achieved by indi-

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vidually adjusting the red and blue signals; green remains fixed. Also, the S15 is Energy Star-compliant, incorporating a four-mode VESA DPMS power management function.

It includes seven preset timing modes and frequency ranges of 30-67 KHz horizontal (multimode) and 50-120 Hz vertical. The S15 is a DDC 1/2B-compatible monitor that uses VESA DDC (Data Display Channel) standard. An autoswitching Universal Power Supply accepts current from 90-264 volts at 50 or 60 Hz. The S15 costs $359.

Contact PCPC, Two Panasonic Way, Secacus, NJ 07094; (800) 742-8086; www.panasonic.com.

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## HP 9000s Support StorageTek RedWood

StorageTek announced that HP-UX PA-RISC-based HP 9000 servers now support StorageTek's RedWood tape cartridge and library product family.

HP supports attachment to the StorageTek transports and libraries through its HP OpenView OmniBack II application.

The StorageTek RedWood SD-3 Helical Cartridge Subsystem combines high-performance and ultra-high capacity in a single storage and retrieval solution. RedWood cartridges are available in 25GB and 50GB.

Contact StorageTek, 2270 S. 88th St., Louisville, CO 80026; (303) 673-5020; www.storagetek.com.

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## VDSI, TriNet Services Debut Internet AccessKey

VASCO Data Security Inc. (VDSI) and TriNet Services Inc. announced the Internet AccessKey, a solution that limits access to proprietary information on the Web by combining a Java applet and a hardware device that reads a flashing bar code off the computer screen. It currently works with the Netscape Commerce Server, Netscape FastTrak Server and the Netscape Enterprise Server.

Pricing starts at $999 for 10 AccessKeys and the Java applet.

Contact VASCO Corp., 1919 S. Highland Ave., Lombard, IL 60148; (708) 932-8844; info@vdsi.com; www.vdsi.com.

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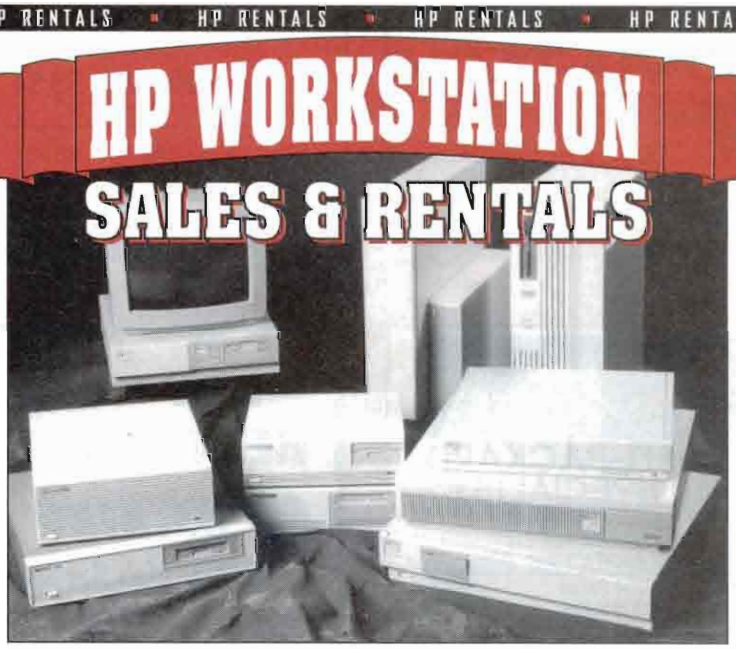

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# Move IT On Up

**Brenda Vathauer**
Marketing Manager for HP's Operations Services Division

While companies have been busy identifying their core competencies, IT groups have been busy concentrating their computing resources on new strategic initiatives. IT organizations have found that they must relinquish their day-to-day operational activities to others. According to consulting firm Ernst & Young, the IT value chain spans activities from IT operations to those enabling business opportunities. Ideally, as IT organizations focus more on activities that feed the success of the business and less on operational issues, the organization moves up the value chain and increases its value to the parent company. Ernst & Young's value chain model shows that as the IT organization becomes more aligned with business goals, IT managers must:

- Identify and support corporate business opportunities.
- Create an IT architecture and direction for the IT organization.
- Develop IT solutions that support change management.

These three IT initiatives, at the top of the value chain, possess the greatest business value. At the bottom is IT operations and support. So, for IT, moving up the value chain provides the most rewards; funding for special IT projects and initiatives may become accessible or even available; and CIOs and IT managers get a career boost. In other words, the IT value chain model requires IT managers to blend business and marketing skills into their functions, and recasts the CIO as a visionary for the company.

## BUT WAIT, THERE'S MORE

But what of the operational needs? They obviously can't be ignored. How about "selective outsourcing?" Compared to traditional "all or nothing" outsourcing deals, selective outsourcing is usually narrower in scope and usually doesn't require the transfer of people or assets. If the IT group must be downsized to meet business demands, selective outsourcing can help the IT organization continue to provide high-quality service to users. Selective outsourcing is a useful tool for gaining access to expertise and experience not available in-house, while combining the strengths of internal resources and external service providers to meet business objectives cost-effectively.

But that's easier said than done. As you move up in the value chain, you must use your computing resources with an eye on the bottom line and obtain the greatest payback to the corporation. In the best of all possible worlds, in-house IT staff members keep the responsibility for activities requiring business knowledge, while external service providers support areas that demand technical and operational expertise.

## HERE'S HOW IT'S DONE

The IT organizations at Ford Motor Co. and SmithKline Beecham provide examples of how IT can move up the value chain using selective outsourcing.

At Ford, IT management outsourced much of the daily management of the company's intranet and associated servers as a way of improving design automation and establishing linkages between R&D and manufacturing. An outside vendor monitors and administers the network and systems, but Ford retains strategic ownership of the network.

SmithKline Beecham gained competitive advantage and saved 24 percent on network operating costs by outsourcing network management and global frame relay telecommunications. The IT group has retained responsibility for strategic activities such as planning, engineering and service management.

So, moving up the value chain provides many benefits for the IT group and the company as a whole. IT staff members typically find their work more interesting and challenging, and the IT organization earns a new level of respect within the corporation. But most importantly, the company makes swifter progress toward meeting its strategic objectives. — *Brenda Vathauer is the marketing manager for HP's Operations Services Division (Mountain View, Calif.), a division of HP's Worldwide Customer Support Operations.*

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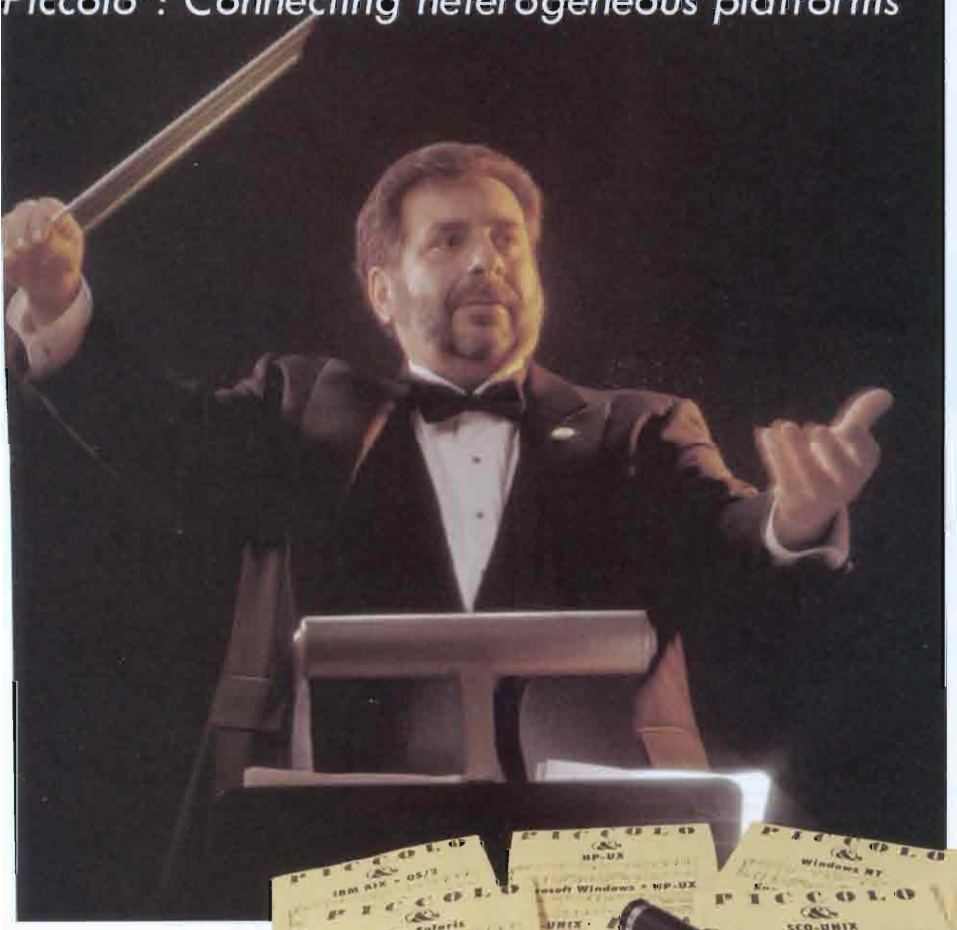

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