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E-COMMERCE



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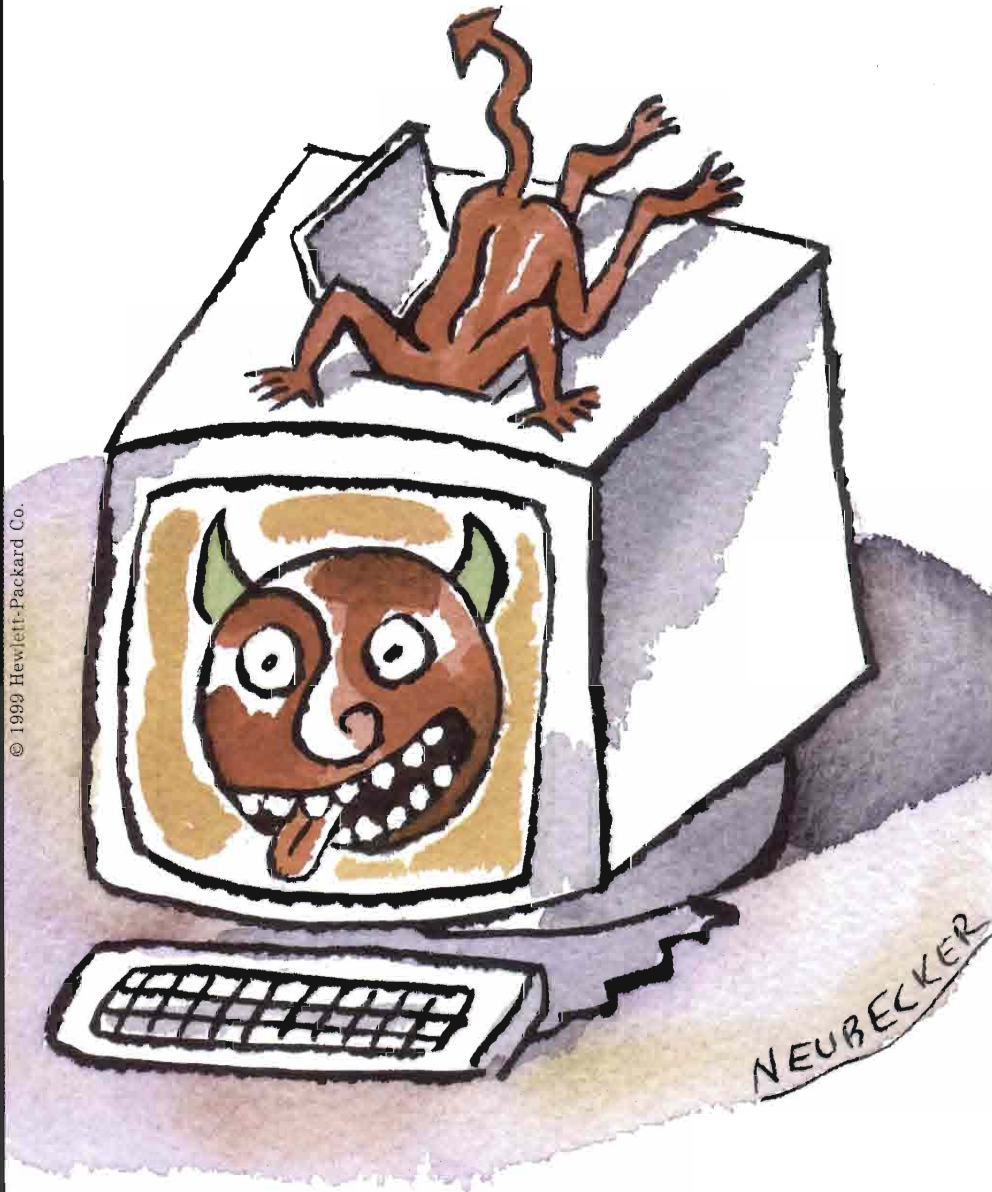
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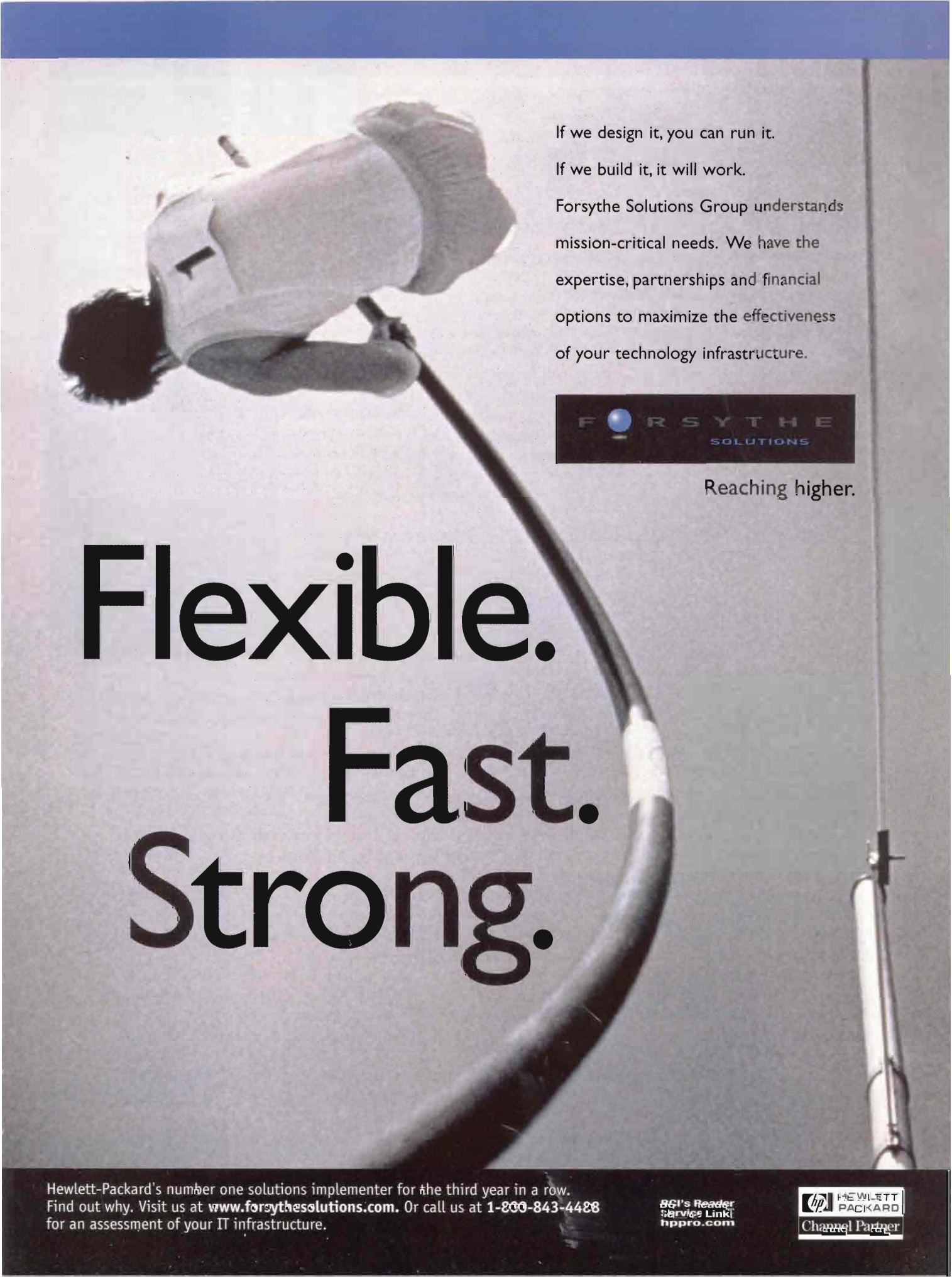
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E-li's Coming

I hope your millennium is off to a good start. If not, you can try again next year with those who believe the next century really starts then. Hey, why not? You don't often get a second chance in life. Second chances are even rarer in the e-commerce, e-business game. As IT managers, you're already familiar with the sport. That's where every vendor puts the letter "e" before as many nouns and adjectives as possible to convince you that their products are the end-all and "e"-all.

And if you buy the wrong e-technology from the wrong e-vendors, there's not a bigger game of chance around. Your odds are better in Las Vegas. And unlike the IT business, you know you're paying for the smoke and mirrors. So, if you haven't been ousted from your comfortable cubicle or dropped like a bad connection from the corporate payroll for not taking care of the Y2K problem, you'll want to improve your chances of sticking around one more year.

That's why in our first issue of 2000, you'll find several articles about — what else? — e-commerce. But take note we're talking business-to-business or b-to-b e-commerce here. On the way to \$1.3 trillion in revenues by 2003 (according to Forrester Research), b-to-b e-commerce makes the more visible business-to-consumer e-commerce numbers (\$108 billion by 2003) look like chump change. Not that there's anything wrong with that.

Nevertheless, the editorial staff of HP Professional has been burning the midnight nanoseconds on Internet time to bring you e-commerce the way we see it happening now — in real-time. That's why our feature story reports on vertical "trading communities" as HP refers to them. A trading community leverages supply chain management, ERP and data warehousing technologies. But once you do manage to get these technologies working together to make everyone happy, how do you keep them running at the 24x7 uptime required by the new rules of e-commerce? You need the assurance of a bulletproof system, says Mark McFadden, Contributing Editor, in his lead story. And if you're not satisfied with just thinking about the present, then let HP's Ulrich van der Meer tell you about the next big thing in e-commerce: Value Collaboration Networks.



With everyone's thoughts still on the shiny, bright new e-future, I thought it was only fair to take stock of my first-ever predictions from January 1999 issue. So, in case you don't still have a copy, here's the list:

When it comes to products and services, HP will continue to undermarket them. I think I was dead-on with this one. Although the marketing pace has definitely picked up since CEO Carly Fiorina took over the reins from Lew Platt, the impact still leaves a lot to be desired. And HP's current television campaign (with the voice over from Carly Fiorina) does more to reinforce the "stodgy" stereotype of HP Ways past, then create a new image of HP as an Internet startup company, its ostensible purpose.

HP's corporate culture will undergo a fundamental shift to centralization. Check. Fiorina has taken HP's organizational chart (which at any given time could be described as a script for a Chinese fire drill) and put four people in charge of the new HP Way. At Fall Comdex, Fiorina unveiled a new branding campaign with a new HP logo and a single unified message for HP's more than 100 sub-brands.

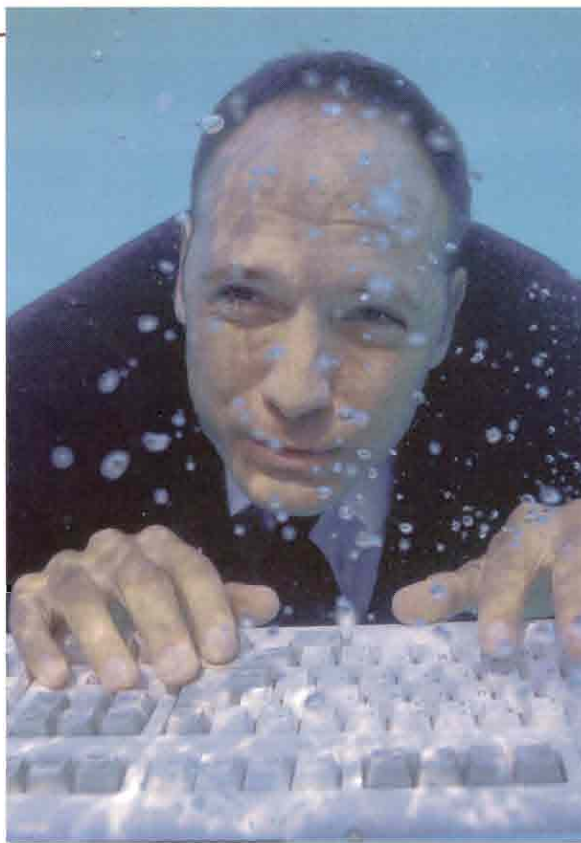
Merced (IA-64) will be a lukewarm winner for HP. The jury is still out on this one. Merced became Intel's Itanium this past year. And you should be aware that HP's newest HP 9000 L-class is Itanium-upgradeable. As the co-inventor of the IA-64 architecture, HP execs have claimed advantages to running HP-UX 11.0 on Itanium. But as of this writing, they haven't yet readily exploited any opportunities or, more importantly, clearly explained their advantages.

The HP 3000 will be the technological surprise of 1999. Surprise! The high-tech equivalent of the Energizer Bunny keeps on; you know the rest. And the HP 3000 has also proved to be a successful testing platform for many of HP's new E-services offerings.

I was skeptical about the HP/Agilent split. I didn't think it was likely. Nobody's perfect — ok? Still, I'm quitting while I'm ahead. It's just way too unpredictable out there. Anything can happen in the e-world of tomorrow. If I want to predict outcomes, I'll just fly to Vegas from now on.

A handwritten signature in black ink that reads "George A. Thompson".

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Rooting Out New Markets

Regarding Charles Hebert's Net Net column, "A Peek Into History," in *HP Professional* (November 1999), I believe Mr. Hebert has over simplified and confused two very important issues: Performance Management and Fault Management. I do agree that many of the enterprise reporting products on the market are too expensive, too hard to implement and are often "overkill." In addition, I agree that a separate polling engine should not be required to collect historical performance data. However, that is where our agreement ends.

To assume that there are no products on the market that fit these criteria is very shortsighted. I would like to point out that there are simple-to-use products for performance reporting that do leverage management systems like HP OpenView's Network Node Manger. They are easy to use and don't dramatically increase traffic on the network. One such product is CAP-TREND from Magnum Technologies. CAP-TREND is an easy-to-use Web-based product for capacity and trending of Networks, Systems and Resources that leverages existing frameworks.

Secondly, there is more to network performance reporting than just looking at historical data. In today's complex business world, the need to have "real time" performance reporting is becoming increasingly important. It's not good enough to know "the day after" that an important part of your business was not functioning at peak efficiency because their network performance was being impeded. Network managers now need to know more than if the network is "up or down," but rather, they need to know if it's functioning at the high level demanded by the users. Businesses are now becoming increasingly more dependent on complex networks for performing everyday business functions and they can't afford to have poor performance for even one hour. The circumstances may have changed, but the old saying still holds true: "Time is Money".

Further more, I was confused by the transition from the "need for historical performance reporting," to "how to create your own fault management reports." It's a very simplistic view to assume that all you need to do is interrogate the *trapd.log* files, output the data to a text report and call it fault management. True fault management is only effective if it's used in conjunction with real-time "root cause" correlation of down devices. Otherwise, the data is of little help to network managers. Magnum Technologies also offers an easy to use Web-based product called COORDINATOR that does real-time event correlation of networks and systems.

Finally, I believe that if you're going to report on a topic, or more importantly, recommend them to your clients, it's import to research what products are available in the market. And not just provide a "band-aid" solution. There are many new up-and-coming players, developing innovative tools for network and system management that are filling the voids left behind by many of the outdated products that are currently on the market.

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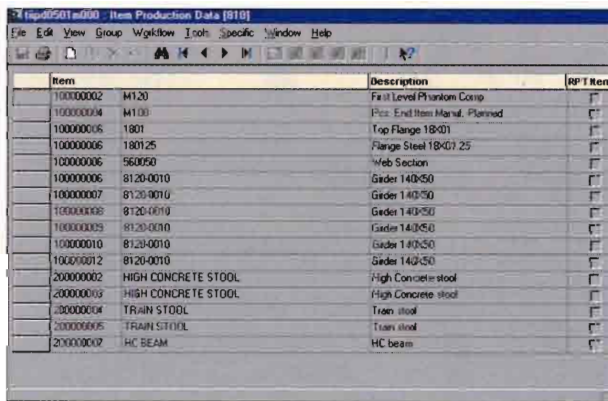
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The time of monolithic enterprise resource planning (ERP) systems is over, and enterprise application vendors are now scrambling to open up their proprietary systems and equip them for the age of e-business. Darrell Sprewell, director of strategic alliances with Baan, says that his company has shifted its focus to address e-business requirements in the Internet age.

"We are an enterprise company versus an ERP company. And when you tie that to the Web with Baan Enterprise Solutions Suite, we are talking more business-to-business today, with even the potential for providing Web-hosted products like supply chain management and front office applications," Sprewell explains.

The Baan Enterprise Solutions suite is composed of

several components, including version 5.0c of the company's flagship BaanERP, which Sprewell says has been redesigned to help streamline back office business processes. Other components in the Baan Enterprise Solutions suite include Baan E-Enterprise, a solution for electronic procurement, collaboration and selling; BaanSCS Planner 2.0 and Order Promising 2.0, a solution that assists organizations with operational planning and supply chain management; and BaanSCS Scheduler 6.3 and Demand Planner 2.5.9, a supply chain optimization solution.

According to Baan's Sprewell, the Baan Enterprise Solutions suite comprises a collection of applications that are closely integrated on several levels. This integration is provided by virtue of a new Extensible Markup Language (XML) framework — dubbed the Baan OpenWorld Integration Framework — that serves as a schematic "glue" among disparate business processes.

Because its XML schema lets it interface with XML schemas from any number of other systems, platforms and applications, the Baan OpenWorld Integration Framework facilitates interoperability between heterogeneous transaction processing,

order-entry and other back-end mission-critical systems.

"You've got a number of applications and functions that are going to bog the system down, and where HP systems come into play and the reason that we've done so well with them is because of their high performance and high optimization," Sprewell explains. "Our developers can see it and most importantly our customers can see it."

Dr. Katherine Jones, a senior market analyst with consultancy Aberdeen Group (www.aberdeen.com), says that its new Enterprise Solutions suite gives Baan a highly competitive entry in the burgeoning e-business space. "With Baan Enterprise Solutions, Baan has delivered on its promise of integrated solutions for the extended enterprise," Jones observes.

"With the breadth and maturity of the applications, and the comprehensive integration framework provided by Baan OpenWorld, Baan leads the way in delivering complete e-enabled solutions for front and back office fulfillment."

The Baan Enterprise Solutions suite is supported on versions 11.x and higher of HP-UX.

— Stephen Swoyer,
Contributing Author

Save Time And Data With HP 3000 Network Backup



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As the 1990s have drawn to a close, HP 3000 users have found themselves frozen-out of the latest and the greatest in client-server backup and restore technologies. For example, LAN-based storage solutions like IBM's ADSM — now Tivoli Storage Manager (TSM) — offers nearly unattended management. By implementing the new MPE/iX client, users of Roadrunner for MPE can now backup multiple HP 3000 machines over a network to a centralized Tivoli Storage Manager server.

At the same time, network administrators can take advantage of Tivoli Storage Manager's comprehensive scheduling and policy-based management capabilities to extend enterprise-wide archival policies to HP 3000 environments.

Roc Software's new client module, which is supported through its Roadrunner for MPE backup utility, is available with version 5.3 of the RoadRunner product.

HP 3000 users can take advantage of advanced TSM features such as volume set recovery and point-in-time restore. The MPE/iX client also enables HP 3000 systems to take advantage of the wide range of backup and archival devices supported by Tivoli Storage Manager, including automated tape libraries and other robotic devices. Using the MPE/iX client module for TSM in tandem with a company's Roadrunner backup product, administrators can also define policies to automatically migrate, expire, duplicate or retain backup and archival information.

Donna Garverick, systems programmer and lead MPE administrator with Longs Drug Stores (Walnut Creek, Calif.; www.longs.com) is currently evaluating the MPE/iX client module as a means to facilitate archival backup from several of her company's HP 3000 systems. "We're a multi-OS environment, we also have Unix, NT and MVS and these and all our other platforms use [Tivoli Storage Manager] to do their backup."

Garverick notes that the HP 3000's lack of native sup-

port for automation creates additional problems in the backup process. "It's labor intensive and it's not very cost-effective because you've got operators mounting tape and you've got tapes to buy."

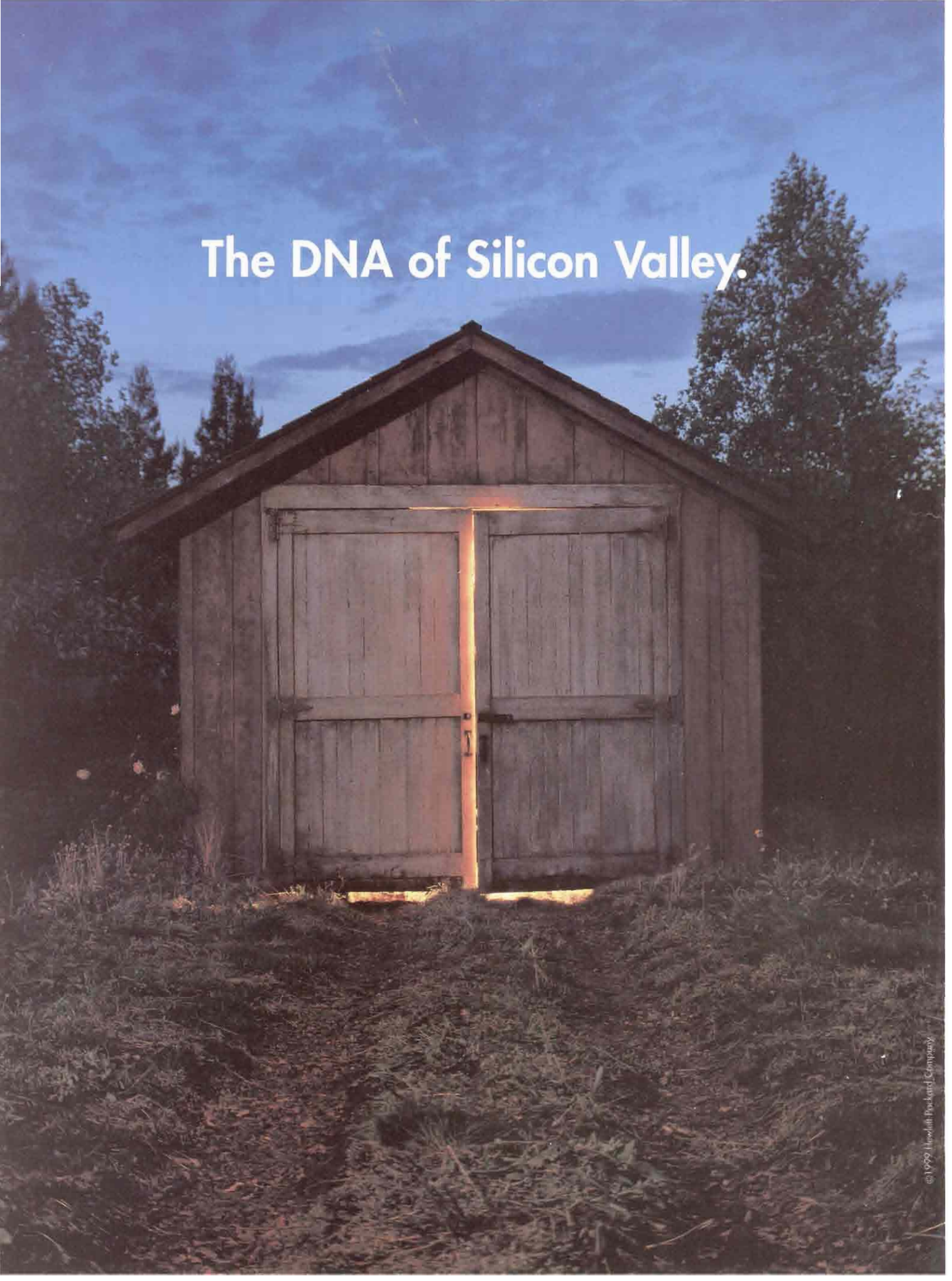
She says that the MPE/iX module for Roadrunner effectively solves this problem by providing near transparent interoperability with the Tivoli Storage Manager. "[TSM] gets this monkey off our back, so to speak. Our biggest MPE box has got 120GB hanging off of it. So, having the potential to backup over the network is very attractive."

According to Terry Tipton, storage development manager with Roc Software, "[Administrators] can incorporate HP 3000s into their overall enterprise backup and manage all of their data from under one package. Backup on the 3000 is different than in a lot of other environments because you've typically got separate devices, data. And you've got to manage the tapes manually because for the most part there's not a lot of support for automation on the 3000."

Pricing varies by system configuration. For example, client software for a HP 3000 Model 995/100, costs \$3,450.

— Stephen Swoyer,
Contributing Author

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Mark McFadden

"We've got a real problem here. Our competitors are scanning our site with robots looking for pricing information. Nobody else can get into the site," said the panicked caller. That was a real day-in-the-life of a data center manager for an online computer retailer. The dreaded phone call came at 2 a.m. on a snowy Midwestern morning in January.

The manager smartly and quickly ordered his networking staff to place a filter on the router so the snooping robot could no longer overwhelm the site. And once again, the site was open for business. "It happened in the middle of the night and there weren't that many customers affected," says the relieved manager. "We really dodged a bullet there." A lucky break. And a happy ending. But what about next time? Just how lucky do you feel today?

The e-commerce revolution has created a class of consumers who

expect to get what they want, when they want it — 24 hours a day, every day of the week. A study from Contingency Planning Research (CPR) of Livingston, N.J. demonstrates just how disastrous downtime can be. In a survey of business sectors with electronic commerce application requirements, CPR found that the financial impact of recent electronic commerce outages cost an airline reservation service \$90,000, a credit-card processing operation \$2.6 million and a stock-brokerage house \$6.5 million in losses.

PROOF POSITIVE

The number of companies with online, mission-critical applications is rapidly expanding — especially as companies embark on Internet-enabled e-commerce applications and expand their operations into the global economy. In addition, to meet the needs of those customers, companies embarking on

e-commerce projects will have to do more than simply put a database of available goods and services on a Web site. Today's competitive landscape demands that they "bulletproof" their e-commerce applications.

"For us, being bulletproof means three things," says Gail Ennis, Vice President for Market Development for eSolutions. "First, it means enabling transactions on the Internet in high volumes and in a scalable way. Next, it means linking diverse systems together instantly. Finally, it means that the commerce system is highly available."

eSolutions, a division of BEA, is partnering with HP to add bulletproofing technologies to HP's e-services. Leon Baranovsky, eSolutions Manager for Marketing says, "When you think of a successful online enterprise like Amazon, a couple of clicks by a customer turns into a torrent of transactions behind the scenes. There are entries made into the database for tracking purchasing habits, another set for order place-

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ment, yet another to other servers at the shipping centers.”

Even application veterans recognize the need for using transaction management to guide the complex process of interrelated transactions through a business process. “But what has changed since the days of CICS and IMS,” says Baranovsky, “is that the environment for transactions in electronic commerce is much more complex. Many more systems are involved and have to be connected. In the past, batched updates that ran overnight were ‘good enough’ — now, currency is critical: people expect updated information and transactions in realtime. If your company can’t provide it, your customers will find someone who can.”

BACK THROUGH THE MIDDLEWARE AND AROUND AGAIN

When a user makes a couple of mouse clicks and purchases an item online, those simple clicks are transformed into a cascade of behind-the-scenes actions. On servers throughout the network inventory databases, ERP systems, accounting and order processing systems must all combine to make the e-commerce transaction

seem transparent to the user. A new breed of middleware has emerged between the commerce server and traditional back-end databases to ensure that those transactions — and all their dependencies — are managed quickly and reliably. If the ability to support complex transactions on an array of platforms in diverse locations isn’t a big enough challenge, there’s also the problem of keeping all those servers available.

HIGH ACHIEVEMENT

“High-availability used to be thought of as a tool provided by the operating system,” says eSolutions’ Baranovsky. “Today we want it to be available at all levels of an e-commerce platform: operating system, NOS, and the electronic commerce applications. RAID may help me recover from disk problems, but we need a system that incorporates fault tolerance for the transaction and commerce parts of the system as well.”

Doesn’t it cost too much to make a bulletproof electronic commerce application available 24 hours a day, seven days a week? Instead of pursuing the Holy Grail of hardware-based fault-tolerance, many IT managers use

The financial impact of recent electronic commerce outages cost an airline reservation service \$90,000, a credit-card processing operation \$2.6 million and a stock-brokerage house \$6.5 million in losses.

systems on relatively inexpensive platforms. Dave Follett, CEO of GigaNet (Concord, Mass.), a company that engineers high-performance interconnection hardware for clustered systems agrees that this is an important trend. “Today, the percentage

cost of making a system highly available is low in terms of the total cost of the system.”

It’s clear that companies pursuing electronic commerce goals are going to have to bulletproof their applications to remain competitive — but how are they going to do it?

“Customers shouldn’t have to shop around for individual solutions to each of the bulletproofing requirements. That’s what I like about HP’s e-services approach: customers and organizations should get the advantages of a single, unified solution,” says Ennis.

Solutions that bring high reliability to the complex transactions of today’s e-commerce are essential. In an era where CEO’s can just look online to see which companies had embarrassing and costly online outages the previous day — and where your competitors are just a click or two away — it’s better to bite the availability bullet than to have a dead Web site. ♦

— Mark McFadden (mcfadden@21st-century-texts.com) is HP Professional’s Consulting Editor

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Raising the Performance of New Trading Communities



The Standish Group (Dennis, Mass.) research firm projected that 15,000 data warehouse projects with budgets greater than \$3 million were launched in 1999 at a cost of \$95 billion. With all these IT and solution investments, businesses are expected to transact over \$1.25 trillion in business-to-business sales. Currently, nearly 300 ventures have created Web-centric business models centered around vertical sectors, a number that is expected to double in the next year.

Possibly the biggest news to date comes from Ford and General Motors who've announced they're moving their entire multibillion dollar purchasing operations onto the Internet. They'll establish market sites that establish worldwide networks of business-to-business commercial portals. The sheer size of this initiative is stunning: Ford makes annual purchases of \$80 billion in components and materials from over 30,000 suppliers. Ford's extended supply chain has sales of about \$300 billion a year.

And that's just a small sampling of how seriously IT managers and their staffs are leveraging data warehouses, ostensibly the powerful technology behind the blending of Enterprise Resource Management (ERP) and Supply Chain Management (SCM) systems. Studies by Forrester Research (Boston, Mass.) show business-to-business e-commerce, surging from \$43 billion in 1999 to \$1.3 trillion in 2000.

"An example of how dramatically things are changing is HP's introduction of e-speak technology this past Fall that gives legs to dynamic brokering capabilities," noted HP's Lane Kato, Global Supply Chain Program Mgr. "It enables creation of modular services for the Net — agents can be constructed that "talk" to each other. They describe what they're capable of doing; and they can band together to complete a given, proactive task automatically."

In a trading community equipped with these agents, an e-service portal gains from greatly facilitated supply chain processes, from end-to-end. For example, when e-services can communicate with each other, the various rippling effects of a delay in delivering a component to manufacturing become significantly less problematic. Inventory levels are automatically reported. Meanwhile, agents set in motion a search for alternate suppliers who can quickly respond with product delivery.

At HP and elsewhere, enhancements that have special significance for trading communities are taking shape. ERP market leader SAP is shipping key components of its mySAP.com portal software, a Web front-end that provides both access and personalization to its ERP modules. In September, the company also unveiled the mySAP.com Web site, a public portal designed to connect business partners that aren't yet linked electronically.

Oracle recently unveiled Oracle Applications Release 11i, which links the vendor's existing Web-based ERP and procurement software with new Web supply chain, order management and self-service apps. The package, due out in the first quarter, will be tied to a new release of Oracle's customer relationship management tool, as well as to a newly operational portal that resembles mySAP.com.

And vendors such as Ariba, are developing Web-based technology to automate purchasing processes and provide services that weren't previously possible. This product reduces costs by removing the manual, paper-based elements inherent in today's purchasing systems, and using the power of the Internet, to link employees from their desktops directly with preferred suppliers. In partnership with HP, Ariba has created the Ariba Network, a business-to-business Internet service which connects buyers and sellers. These services allow large enterprises to manage all their operating resources, including capital equipment, services, maintenance, repair, and operating (MRO) supplies and travel expenses, in one comprehensive, integrated application.

Nowadays, trading communities are moving to incorporate suppliers, vendors, and distributors well beyond the confines of EDI without custom software applications that practically limited the number of users. Web technology will enable companies to link Customer Relationship Management (CRM) and customer service groups, tightly coupling e-commerce sales to the inventory and manufacturing processes.

While it's not limited to trading communities alone, Web technology already enables corporations to outsource database and applications hosting and management to suppliers and vendors who can do the job more cost-efficiently. "This is essentially a strategic move in the sense that IT departments become less of a cost-center which makes shareholders happy. HP's vision of e-services includes information as a utility, where users will access computing power on a pay-per-basis," says Kato.

IT managers can buy additional storage capacity as needed. And they can even outsource database hosting and management entirely. Again, the trend is to move areas of non-core competencies off-campus to suppliers and vendors who can host databases more efficiently, and most likely have more experience in providing extensive data security and backup measures. IT managers can also arrange for service level agreements that guarantee user response times and database availability.

One of the keys to strong trading communities is having

Bell Microproducts Raises The Performance Standard

In July 1999, Bell Microproducts became the first enterprise to adopt a new view of next-generation e-business trading communities, specifically for electronics distributors. Motivating the company was its unique place, serving both industrial and commercial distribution channels, even as channel margins dramatically shrink.

Bell Microproducts (San Jose, Calif.) is one of the nation's ten largest distributors of high-technology semiconductor, storage and computer products. The electronic components we sell originate with more than one hundred manufacturers. It's a considerable challenge to orchestrate processes supporting just-in-time inventory to our customers including industrial and commercial original equipment manufacturers, value-added resellers, systems integrators and resellers. This challenge shaped our requirements for an optimized trading community and consequently, the infrastructure that will be deployed in phases during the year.

We looked to leverage the HP and i2-based trading community platform to support a host of basic transactional capabilities needed for streamlining Bell Microproducts' purchasing and supply chain, (i.e. auctioning, buy/sell, automating RFPs to a large degree). Decision support tools will enhance company users' decision making prowess and support more effective forecasting and planning with customers for a variety of purposes such as coordinating deliveries from multiple component manufacturers.

But what happens during special events or circumstances? Our vision was that the trading community support both planned and unscheduled transactions. It's not unusual for our customers to request expedited delivery or even deliveries to multiple locations. But this is difficult for legacy SCM solutions to accommodate. The trading community solution we'll be using has the flexibility to handle these situations; it allows us to search for suppliers with delivery capacity or even to add new suppliers as needed for additional capacity.

What Bell Microproducts has learned and articulated throughout the organization, is that the strongest defense to competitive pressures, shrinking profit margins, and serving multiple channels effectively is to reduce the cost of buying, handling, and owning the product. By being first to adopt the HP and i2 intelligent trading community for electronics distributors, Bell Microproducts and the other community members are equipped to collaborate and exchange data through integration of i2's RHYTHM solutions on an HP infrastructure.

*Rob Watson
Bell Microproducts
Director of Internet Marketing*

high performance, scalable and easily manageable hardware and software to wire the communities together. To reward and win over site users with availability and responsiveness, trading portals will require 'five-nines' uptime (99.999%). HP supplements its trading community platforms with remote monitoring services and management tools such as HP OpenView to assure appropriate availability and support effective network, systems and applications performance management.

Significant progress made by electronics distributors model (see *Bell Microproducts sidebar*) what other trading communities will likely undertake. The HP/i2 partnership, which dates back to the early '90s, has largely succeeded with this particular trading community because it provides them, for the first time, with a complete set of tools generically required at each link along the supply chain (i.e., decision support, business process optimization, interactive planning and collaboration, order fulfillment, and tracking and reporting).

HP contributes additional network management and operational enablers such as HP's WebQoS, e-speak, Praesidium security and High-Availability and hosting services that make this trading community tick. Furthermore, HP e-speak will be used in the next-generation trading community to define and facilitate conversations between services and provide much more proactive operations and processes, automatically.

The process of establishing trading communities typically sheds greater light into the various process requirements of customer management. These include segmenting the market, identifying potential customers, attracting, profiling and acquiring customers, defining and executing the sale (either directly, or through indirect channels), delivering the product or service, retaining the cus-

tomers through superior after-sales service and maintenance programs and creating long-term up-selling and cross-selling opportunities.

Of these, which aspects or characteristics ensure the most functional, intelligent and truly advantageous trading communities and how does this relate to HP hardware and

Ford makes annual purchases of \$80 billion in components and materials from over 30,000 suppliers. Ford generates sales of about \$300 billion a year via its extended supply chain.

other elements of infrastructure? Generally, the maximum benefit from online trading portal services is gained when the infrastructure addresses the following:

- Provides users with convenient connections to associated marketplaces enabling rapid response throughout the buying and selling cycles as well as optimized planning and email/collaboration tools (which might ideally take advantage of hosted applications).
- Enhances customer services across entities, support customer "help-desk" services.
- Supports the exchange of complex data in multiple formats in real-time (complex objects, EDI, formatted email, secure HTML) from suppliers, enable supplier/vendor self-service.
- Provides links for company users into order, manufacturing and distribution information (demand/forecast plans, manufacturing/distribution plans and scheduling).
- Supports inventory processes with capabilities for outsourcing and even auctioning.

By leveraging ERP and SCM systems with new capabilities attuned to trading community processes, compa-

nies can automate and simplify many operational processes essential to performance, reliability, and security. HP and prominent solution partners are making a sweeping integration of back-office and front-office processes, and providing scalable, extensible platforms for these purposes that were hard to imagine just two years ago. Using Web technology on top of existing or next-generation ERP and SCM systems will truly empower trading portals that serve trading communities. ♦

Product Design/ Development Management	Product management improves within trading communities by automating acquisition of customer and inventory information. With automated, Web-based surveying and integration with inventory databases, partners in the community collaborate on planning; optimize designs and enhance resource scheduling. This leads to smarter scheduling of product launch and phase-out — capitalizing on the margins associated with early lifecycle stages while minimizing obsolescence costs and discounting during phase-out.
Supply Chain Management	Within a trading community, SCM becomes the comprehensive integration of sub-processes: Demand Planning, Supply Planning and Demand Fulfillment. This streamlines the exchange of information about the movement of goods between suppliers, manufacturers, distributors, retailers, customers and any other enterprise within the extended supply chain.
Customer Relationship Management	E-services available to trading communities supports more frequent use of customer management solutions leading to long-term, profitable relationships through increased customer intimacy. The trading portal itself can integrate a comprehensive, scalable solution that enables intelligent e-business and maximizes return on marketing, sales and customer support investments.

While trading communities are changing the Internet as a data pipeline, they've facilitated a more powerful, convenient architecture for managing business essentials.

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One Small Step for Networks...

One Giant Leap for Collaboration

Ulrich van der Meer

Business-to-business e-commerce will surpass \$1.3 trillion by the year 2003. Enroute to this record, trading communities will be established and portals oriented to vertical, industry-specific processes will continue to accelerate during the next two years.

So, when examining possible progressions from Enterprise Resource Planning (ERP) and Supply Chain Management (SCM), especially those involving more extensive e-commerce and e-services, it's not all that surprising to hear how relieved corporate IT groups are after they discover how well they are positioned for the future. It may take some time yet before the dust settles on business-to-business e-commerce. But the transformation and improvements beginning in the early '90s when client-server architectures first revolutionized materials planning and thereafter augmented ERP and extended SCM pales in comparison to what's next: The Value Collaboration Network (VCN).

A VCN is a Web-based opportunity to become much more customer-centric while operating more easily among a wider circle of partners with vested interests. VCNs will be characterized by more effective use of operating resources and allocations enabling VCN practitioners to serve customers better than competitors. In these loosely-coupled trading communities, trading partners enjoy themselves through a trading portal as needed, respond very quickly, and may even subsequently disband.

Throughout the supply chain, processes that currently rely on delay-prone human interactions (one user requesting data and another user making decisions), can be supplanted

with the VCN via the dynamic features of network devices that enable automated communications between them.

The net effect on e-commerce is dramatically streamlined manufacturing and distribution between trading partners. It paves a path for integrating product design and development that is truly customer-centric and allows companies to leverage the intellectual capital across multiple enterprises.

DESIGN-FOR-SUPPLY-CHAIN

Another critical piece of the puzzle is the need to ensure that a product is designed to maximize the efficiency of the supply chain. Or the "design-for-supply-chain" in HP terminology. Increasingly, success depends on the integration and effective coordination of all designers and suppliers across the supply chain. In this respect, a VCN makes this configure-to-order-environment much more cost-effective. This is a key role, missing from ERP and SCM, that VCNs will facilitate.

VCNs will be dependent on e-services (the combination of Web-based processes and transactions wrapped with dynamic agents and intelligent IT assets that equip companies to identify and capitalize on new revenue streams). "Soon, many business-to-business and business-to-consumer activities will be handled by a series of e-services locating one another, negotiating with one another and handling each other's requests," writes Patricia

Seybold in *Preparing for the E-services Revolution: Designing your Next-Generation E-Business*.

This should have the effect of making enterprises within a VCN exceptionally fast through their sales cycles, product development cycles, distribution channels and so on, far faster than was previously possible.

According to Seybold, "Competitors you know and many you've never heard of will be providing surprisingly flexible, low-cost, high-quality products and services by linking up in real-time with a startling number of new players, as well as with familiar players with new capabilities. To this, let's add that the processes between trading partners that she speaks of, will be highly automated.

The good news, especially for those invested in legacy systems, is that the road to a VCN and an assertive customer-centric e-services orientation leverages legacy enterprise resources and an open systems foundation of client-server architecture. Well-designed back office processes and a lean supply chain facilitate a company's progress into the next phase — collaborations among trading partners

using an Internet-based infrastructure as the pipeline connecting supply chain partners and customers. Key to a successful VCN is e-services which shape the way in which trading communities are established and function.

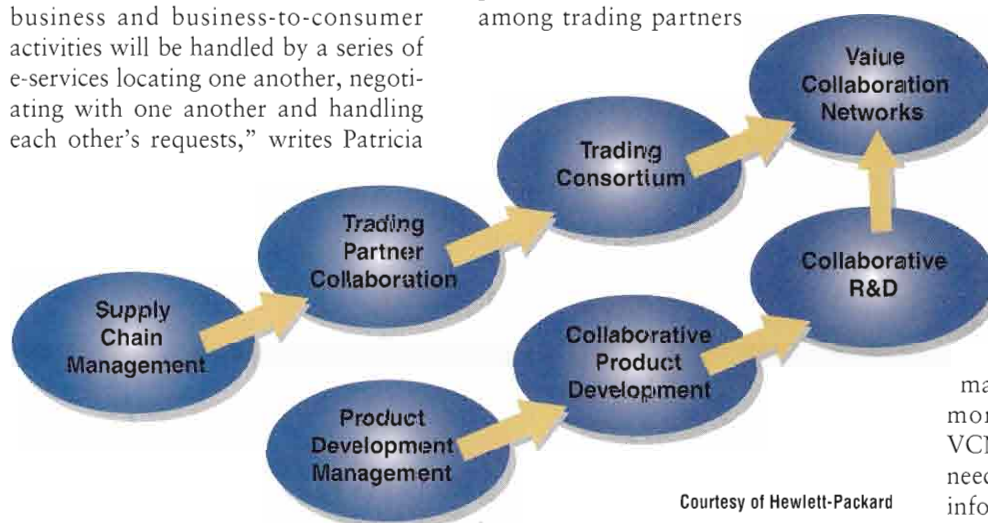
Success depends on the integration and effective coordination of all designers and suppliers across the supply chain. A VCN makes this configure-to-order-environment much more cost-effective. That's a key role missing from ERP and SCM solutions.

FINDING THE VALUE IN VALUE-ADD

E-services make the VCN less a domain of a select group of partners who've invested in integrating applications and sharing specific data and more of a trade-focused pavilion that welcomes new participants on an opportunistic basis. Executives for most corporations recognize that success in the next few years requires them to complement technically superior products with value-added services throughout the supply chain.

To that end, VCNs improve upon existing ERP and supply chain networks by literally revolutionizing communication. And, more importantly, collaboration between trading partners. For example, in successful VCNs, trading partners must operate in an environment of trust. The partners will have to share the data required for e-commerce transactions, criss-crossing many company boundaries. But in more developed and sophisticated VCNs, those same partners will also need to share sensitive product design information leading to superior quality adherence and shorter development cycles.

While industry-specific, application-specific, and company-specific Web portals as well as trading com-



Courtesy of Hewlett-Packard

The Value Collaboration Networks are uniquely appealing by their ability to support both product development and traditional manufacturing processes and communications in the environment. Significantly, developers and other components contributors to the end-product are coordinated from the very earliest stages of the development cycle.

munities collectively represent a giant transformation in the volume and type of information and services shared between trading partners, it's the incorporation of a product design and development pathway that leverages the full potential of VCNs (see Table 1).

EGGS-ACTIVELY!

A corporation's executives might look at their participation and the VCN-based mode of doing business as putting a whole lot of eggs into one basket. But with a VCN, IT managers will see the analogy and respond by providing enterprise servers, databases and disk farms on the network with availability on the order of 99.999%.

What if trading partners didn't actually have to go to the Web or portal intending to access data or a specific service? What if, instead, they were automatically alerted and prompted for their inputs or informed about relevant requirements?

In the "old days," partners had to "pull" data by making requests. Conversely, the "push" approach saves users' time and even launches actions that foster continuous processes and operations improvement in the supply chain. Simply put, this is the kind of forward thinking and slate of new opportunities the e-

services world can support.

"The most significant paradigm shift within HP's e-services vision will occur when these intelligent agents — hosted anywhere on the Internet — locate, moderate, negotiate and transact in response to a user request that may have occurred days or weeks ago at some remote location in cyberspace," reports the Aberdeen Group (Boston, Mass.). Dynamic brokering of services turns the Web into an open-services marketplace where e-services are composed, on-the-fly, to work on the user's request.

YOUR NEXT CONSULTATION

It almost goes without saying: underlying the sweeping advances that VCNs represent — there must be a high degree of assurance for IT managers that they're not recommending a risky new approach with untested technology. With the mission-critical services that VCNs require, the value of consulting services is elevated.

Furthermore, companies may also choose to outsource IT management entirely while contracting for service level assurance thereby effectively re-dedicating IT resources to enhancing the corporation's core competency.

In the end, the VCNs and e-services will certainly change the way business is done. It currently requires a significant investment of time and effort to blend a solution from a wide spectrum of solution component products and services in order to par-

What if trading partners didn't actually have to go to the Web or portal intending to access data or a specific service? What if, instead, they were automatically alerted and prompted for their inputs or informed about relevant requirements?

ticipate in a supply chain.

But the ante for even the smallest companies to conduct e-commerce in trading communities now, and VCNs a bit later in the new millennium, will become quite small. VCNs will truly herald in a new era of business where the customer is king. And only the agile will survive.

— Ulrich van der Meer is Global Manager, Extended Manufacturing Initiative for HP Consulting, a division of Hewlett-Packard's Customer Service and Support Group.

ERP/SCM	Trading Portals/e-Commerce	Value Collaboration Networks
Process Standardization & Supplier Management	Integrating the Entire Supply Chain	End-to-End Management & Optimization
Business Process Reengineering reduced process complexity	Expedites remote access to data needed to keep supply pipeline flowing and synchronized	Removes barriers to participation from new trading partners
Established consistent, uniform procedures and responsibilities	Greatly reduces the "initiation" into a trading partnership, i.e. solution cost, implementation, user training.	Supports near real-time monitoring and sharing of inventory status and automatic replenishment
Standardized connectivity between large trading partners	Reduces the cost of e-commerce transactions and IT overhead	Supports many automated, background processes that do not require human interaction
	Supports outsourcing of databases, applications hosting	Enables integration of product development processes and integration of both suppliers and customers with the design team
	Expand the breadth of trading partner collaboration	Intelligent agents operating across the network automatically connect buyers with best-price supplier
		Outsourcing network and server operation, maintenance, backup, etc. over the network reduces IT costs

Table 1 : Value Collaboration Networks provide progressive levels of benefit.

HP INITIATIVES: LINUX

HP Takes To The Open Road On Open Source

Linux, the flagship open source software, has moved quickly to the forefront of viable operating system choices for IS departments with a need to deploy cost-effective workgroup and departmental solutions such as e-mail, file-and-print and Web services. According to IDC, the Linux market share surged more than 200% in 1998. The phenomenal rise in the functionality and industry momentum for Linux is due to the fact that it's an open source technology.

The basic idea behind open source is very simple: When programmers on the Internet can read, redistribute, and modify the source for a piece of software, it evolves. People improve it, people adapt it and people fix the bugs. And this can happen at an astonishing speed, especially if one is used to the slow pace of conventional software development. Today, Linux already leverages the intelligence of a lot of smart people. Programmers are willing to add to the operating system's capabilities because they can use not only their work but the collective work of many others.

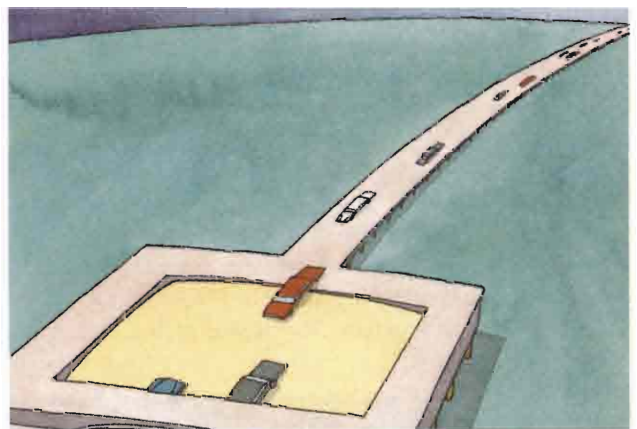
Open-source software is an idea whose time has finally come. For twenty years it has been building momentum in the technical cultures that built the Internet and the World Wide Web. Now it's breaking out into the commercial world and that's changing all the rules. It's ironic how

hardware and software vendors are capitalizing on this trend by talking about "open sourcing" their technologies. Sun Microsystems is the best example of companies declaring software available under an open source agreement, when in fact they are not.

Sun Microsystems talks about "community sourcing," according to Bill Joy, Sun's co-founder and chief scientist. Community sourcing means that Sun makes the source code for a product publicly available so that developers can download the code free of charge and make changes, but redistribution is controlled by Sun.

Sun's concept, however, falls short of open source, as popularized by the Linux community, where anyone can access the software and amend it, whether for development or commercial use. Sun's community license approach is in fact counter to the basic principles of the open source movement, in which software developers can leverage the investment of their work and bring a product to market which capitalizes their development investment.

Linux is already established as an operating system of choice in markets such as the Internet Service Provider market and the Electronic Commerce



application development market. And HP is moving forward with the most comprehensive Linux and open source strategy in the industry, covering its systems, software, services and peripherals business units.

HP is not new to the open-source arena. In fact, HP is celebrating the seventh anniversary of its collaboration with the University of Liverpool's HP-UX Porting Archive Center. Based in Liverpool, England, the center focuses on making open-source software more readily available to users of UNIX systems from HP. Today, there are more than 1,500 open-source tools and applications archived on the site and ten mirror sites worldwide. And HP has been open sourcing its HP-UX debugger since 1997. HP is also a sponsoring corporate member of Linux International and holds a seat on the Board of Directors.

SourceXchange.com is another example of HP's commitment to the open-source philosophy. SourceX-

Dirk Down

HP INITIATIVES: LINUX

change.com, a Web site for open-source development, improves the predictability of open-source development projects by paying developers for their work, simplifying the business relationship between sponsor and developer and providing quality control through a peer-review process.

HP's Linux initiatives abound. Examples include:

- HP announced that the final, supported product version of HP OpenMail 6.0 for Linux is now available. HP OpenMail won the best of show award at the Linux Expo in August 1999. HP intends to open-source key elements of the OpenMail graphical user interface.
- HP was the first enterprise computer vendor to offer 24X7 software support for all major Linux distributions.
- HP also unveiled an expanded portfolio of educational courses for Linux.
- All currently shipping HP Net-Servers are *certified* for Red Hat

Linux and can be ordered with factory-installed Linux through HP's Global Installation and Integration Operation.

- Current HP Kayak XA, XA-s and XU PC workstations have been optimized for Linux.
- HP is responding to substantial interest in Linux from the EDA market sector: The HP VISUALIZE PL450 and XL550 can be ordered with factory-installed Red Hat 6.0.
- HP has made the e-speak open source code available at www.e-speak.net.
- HP is pioneering a number of ground-breaking open source partnerships, including the Puffin Group's PA-RISC port (www.the-puffingroup.com) and the SourceXchange software development website (www.sourceXchange.com).
- HP is providing backing for an Internet site housing more than 1,500 open-source HP-UX tools.

- HP has contributed enhancements to the popular Squid open source proxy caching software. HP's enhancements to Squid help Web pages load faster and reduce traffic demand on external network links, leading to reduced operating costs — good news for service providers.

In addition, the core kernel and system optimization technologies that HP is providing for IA-64 are expected to become part of the Linux source tree. With HP playing one of the key roles, Linux's place as an OS of choice on future Intel-based platforms is assured.

HP is committed to creating an open marketplace for next-generation services where all developers can bring important, innovative services to the Web and participate in the new revenue streams they create. ♦

For more information on HP's Linux and Open Source go to www.hp.com/go/Linux

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Tapping The HP 3000 For E-Services

Managing The Cost Of Voice Telephone Accounting Through Outsourced Resources

Managing the automated accounting for voice telephone systems is often seen as a technology chore passed along to the computer operations people. According to most technology people, it lacks the pizzazz and technical challenges of high-speed data communications and WAN connectivity. Yet, despite its less than glamorous status to the IT organization, it's a very important function. Yet voice telephone systems are typically the third largest expense item in a company's operating portfolio, according to Alvina Nishimoto, an R&D program manager for HP. "With a good package, it's an area where companies can track departmental calling patterns, phone fraud and other possible abuses. Managing phone use can definitely help the bottom line."

WITH ONE VOICE

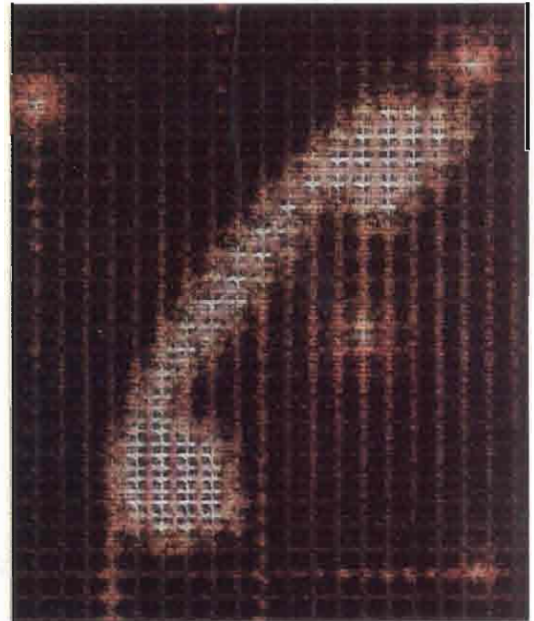
Most startup companies typically begin managing their costs for voice systems by connecting an in-house PC that often includes a dedicated proprietary package to the PBX. When the companies are small, overall costs are seen as most important to manage. But with growth and the emergence of distinct organizational functions, departmental

cost management becomes more important. Eventually, these companies outgrow the capabilities of the packages and begin to explore a more robust system. Despite demand and competition, today's market still does not offer an easy transition path from the relatively cheap PC platforms in this specialized area. Conversion can become a significant capital outlay for most firms.

DIAL UP TELENOMICS

An interesting alternative to a major hardware purchase is to free up the space, the dedicated operations staff hours and outsource the entire phone accounting function. While that may initially feel uncomfortable for some, those who worry about security or take comfort in being able to keep their hands on the hardware, the cost tradeoff and ROI make this approach very attractive. HP and Telenomics, an HP Channel Partner, have announced and are planning to roll out a service in February 2000 for the voice communication needs of medium- to large-sized businesses.

The application known as PWARE, runs on HP 3000 servers. The application is delivered over the Internet as a "pay as you go service." This idea



permits companies to focus their energy and resources on their business rather than to invest in the required hardware, storage and middleware. Because the service is hosted by HP, a company does not need to dedicate segments of its IT staff to maintaining the application, capacity planning or upgrading to the latest release of the PWARE application.

While the application is not a perfect fit for everyone, there are some indicators for gauging your firm's possible readiness:

- Your company has at least 1,000 phones or more.
- The PBX is about to be upgraded or replaced by a larger system.
- Your company has dispersed multiple offices around the state, across the nation and internationally.
- You have outgrown the capabilities of the current telephone usage tracking software package.

Bill Pike

- Managers ask for reports on telephone usage that cannot be easily fulfilled using the current package.
- Telephone usage is increasing and management would like to get a better handle on costs
- Your organization is being directed by senior management to find ways to reduce costs in all areas.

The lack of scalability is a fairly common area of concern for companies relying on PC systems or homegrown applications. Therefore, it's appropriate to address the subject when considering the application as an outsourced entity. "The minute a customer begins using the system, HP steps up and provides unlimited scalability allowing for exponential growth," says Bernard McIntosh, marketing program manager with HP. "HP's services data center, located in Boise

"The software is continually being improved and provides a good combination of cost effectiveness, reliability and interoperability."

[Idaho], can add HP 3000 platforms and related hardware to scale to demand without incurring end user cost."

APPS-ON-TAP

According to Rick Hupe, vice president of sales for Telenomics, "The software is continually being improved and provides a good combination of cost effectiveness, reliability and interoperability." PWARE capabilities include: Online telephone directories; telephone billing; call detail reporting; reporting through e-mail systems; the ability to track all calls such as

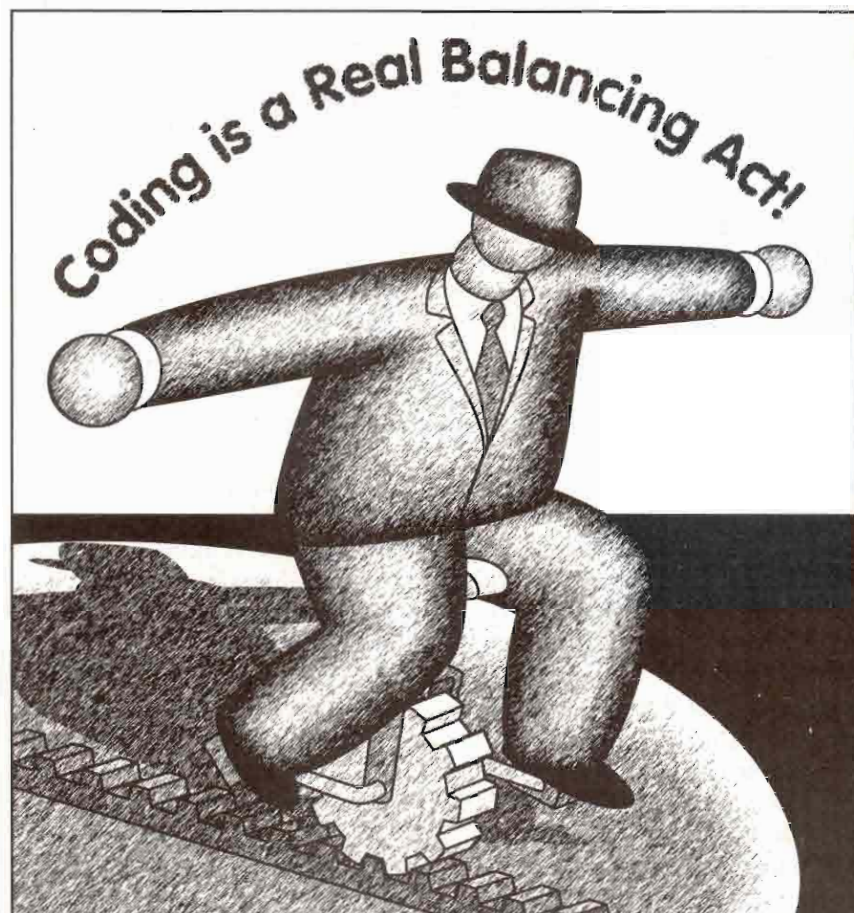
pirated calls and fraud detection.

The PWARE package is part of HP's e-services "apps-on-tap" program, which provides an alternative to the traditional justify/lease/purchase/maintain in-house hardware and software business model. Instead, customers are able to use a "transaction-based" business model.

HP and selected ISVs combine their expertise to provide a pay-per-use, transaction-based service. Industry trends indicate that transaction-based services are becoming increasingly attractive to IT management seeking to reduce IT ownership and management costs. ♦

— *Information on Telenomics and PWARE can be found at www.telenomics.com.*

For more information about HP's E-services go to www.hp.com.



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If At First, Then vi vi Again

It's always a shock to run into an old friend and find that some prominent personality quirk has disappeared. So, I was surprised when it happened to me. I met an old friend

last week. And after a short conversation, I was told that I had changed. The answer to my question as "to how?" went this way: "you haven't raved about the virtues of vi yet, and we've been talking for 10 minutes already".

Right. Ok.

Has it has been that long? Just for that, here are more vi tidbits...

Where do I start? How about some command filtering?

Typing the date into a file is a waste of time. If you are using vi to edit the file, you can easily insert the output of the date command with a command filter. Give it a try.

Open up vi, on a file, then move the cursor to an empty line, and while in command mode, type:

```
!!date
```

You should see the line the cursor is on change to contain the current date and time.

If that didn't happen, you were probably watching the bottom of the window and hit three exclamation marks, instead of two. The first exclamation mark *does not appear*, but the second one *does*. So if you hit three, you see only two. *You should see only one*.

The only problem with this technique is that the command output replaces the current line of text. That is why I said to go to an empty line.

We will get around that later.

If you want to insert the output of a command into the middle of a line, there is no simple solution. The easiest



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method is probably to insert a couple of carriage returns in the middle of the line, making it into three lines. Then perform the !! with the cursor on the middle (empty) line and use the J command to join the lines afterwards.

The reason the current line is replaced is that the !! command actually sends the current line to be filtered by the command.

Actually, the vi command is just !, and it accepts a movement command as an argument. As with most commands in vi, *if they repeated, it acts on the current line*. Therefore !! sends the current line to the command specified.

For example, d2w deletes two words, but dd deletes the current line. Similarly, !10w would send the next 10 words through a filter command, and !! sends the current line. In the !!date example above, the current line disappeared because the date command does not accept piped input data.

Let's try a command that does accept input to do true command filtering: Suppose we have a section of a file that looks like this:

```
1
2
3
4
```

If we put the cursor in vi on the 1, in command mode (hit <esc>), then issue the following key strokes:

```
!4!pr -t -2
```

The 4 lines (!4! or even !4j) would be cut from the file and piped to the pr command, which we told to format into 2 columns (-2), without trailers (-t), so we would end up with:

```
1 3
2 4
```

There are many uses for command filtering, which basically allows you to perform a command against selected lines of a file, rather than the entire file. For example, if we now wanted to take just these two lines of the file, and swap the order of the columns, just place the cursor on the first of the two lines, and issue:

```
!2jawk '{print $2,$1}'
```

If you mess up a command, the lines you sent to the command are deleted and an error message often replaces them. Don't panic! To get the lines back, issue the two key strokes :u for an ex undo command (vi is built on top of ex). The vi undo command (u) will not do it, only the ex undo (:u).

For another example, suppose you had a column of data in a spreadsheet-looking file that you wanted to remove. The UNIX command cut can remove either fields or character columns from a file. Because you can

use ! to send any number of lines from a file to any UNIX command, we have an obvious solution. Lets suppose we wanted to remove columns 20 through 28 from the entire file.

First place the cursor on the top line (1G is the vi command to move the cursor to the top line). Next, we need to issue the ! command and address the entire file. The vi command G will move the cursor to the last line of the file, thus: !G means send the entire file to a command. The cut command: cut -c1-19,29- will remove columns 20-28, so the whole key sequence would be:

```
1G!Gcut -c1-19,29-
```

Because any movement commands can be used following the !, you can use things like: !} to send one sentence; or !} to send from here to the end of this paragraph to a UNIX command. Note that you must send at least one line or the command will fail.

CROSSING BOUNDARIES

This means you must be careful when trying to send a number of words to a command. You must select enough words to cross a line boundary. Typically it is easier to work only with lines of text.

As we have mentioned, with vi there are both vi and ex commands available. ! is a vi command, but when you precede the ! with a colon, you are issuing an ex command (:!).

The :! command is similar to !, but instead of sending text to the command and inserting the output, it just runs the command and shows you the output. For example, the key strokes :!date makes the date appear, and instructs you to hit the return key to get back to the editor, leaving the file untouched.

The ex command :r accepts a file argument and inserts that file below the current line. The interesting part is that the file argument can be preceded by a !, which means that it's a command instead of a file to be read.

When you do that, the output of the command is inserted in the file below the current line. This means

that you do not have to issue the command from an empty line, like you would with the vi! command. For example:

That is one reason to use :r! instead of !.

A COMMAND PERFORMANCE

Another way to perform command filtering is to use the ex command !:, but to put a line address before the !. If you precede the ! with an address, the lines addressed are removed from the file, and sent through the command. For example:

```
:10!col -b
```

Would remove line 10 from the file, send it to the col -b command (which would remove any backspace characters) and the output is placed back into line 10 of the file.

You can use any line addresses that ex understands, such as ranges:

```
12,38!sort -n
```

The above key sequence would send lines 12 through 38 to the sort command for numerical ordering and place the result back into the file. We can also use line addressing symbols:

```
.,$!pr -i
```

This would send from the current line (.) to the end of the file (\$) to the pr command to have multiple spaces replaced with tab characters. You can also use searches as addresses:

```
12,/END/!grep -v '^#\'
```

Sends line 12 through the next occurrence of the string END (/END/) to the grep command, returning only those lines that do not (-v) begin with a # character (^#\'). Note that since # has special meaning to the ex editor (alternate filename), we had to escape it ('^#\') in the command.

I suppose we could have used the ex command :g for this task, but we'll save that for next time.

Right now, I feel a need to spout on about the virtues of vi. ♦



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Alpha Users Are Chipped Off

IN AUGUST, Compaq pulled the plug on Windows NT for the fabled Alpha microprocessor. Through a botched series of announcements, both Compaq and Microsoft

managed to alienate a series of users who were loyal supporters and performance-minded professionals. Here's what happened:

The 64-bit Alpha processor was introduced by Digital in 1993. Alpha's floating point processing performance has made it a real boon for scientific applications and its 64-bit and Very Large Memory Management capabilities made it a favorite for large scale database applications. Alpha supported Tru64 Unix, Windows NT, OpenVMS and Linux operating systems. In the past few years, the systems with the Alpha CPU and Tru64 Unix have made inroads at large e-commerce Web sites such as Amazon.com.

On August 20, 1999, shortly after the announcement of new Compaq 8-way ProLiant servers, Enrico Pesatori, senior vice president of Compaq's Enterprises Solutions and Services Group, released a memo to Compaq staffers. The memo announced that support for 32-bit Windows NT for Alpha would be discontinued. The memo specifically did not mention 64-bit Windows NT, not quite better known as Windows 2000. Nevertheless, many Compaq staffers believed that 64-bit development would continue.

At the time, that probably made a great deal of business sense: Compaq NT sales on Alpha were shrinking like a pair of bad jeans. From an estimated high of 15% in fiscal year 1997, NT share of Alpha server sales was approximately 2% in the fiscal year ending in 1999. These numbers

gave proof that the long-standing strategy which Compaq inherited from the acquisition of Digital Equipment — provide NT on Alpha to drive volume shipments of the Alpha processor — was not working.

While this precipitous drop in shipments was taking place, the costs to support NT on Alpha remained. Compaq ran a facility known as DEC-West in Bellevue, Washington near the Microsoft headquarters. DEC-West employed approximately 100 engineers dedicated to porting NT code to Alpha and provided such essentials as BIOS code for various Alpha processors and Fortran and C++ compiler support. Analysts place the cost of operating the facility at approximately \$1 million per year.

Given these two alarming numbers, the Compaq decision was not particularly surprising. What was surprising was the lack of planning and foresight. While the Pesatori memo said nothing about 64-bit NT on Alpha, it was widely believed that the 64-bit work would continue. This belief was based on the fact that 64-bit development for Windows 2000 at Microsoft was being done on Alpha systems. After all, Alpha was the only 64-bit system available. Most of Microsoft attempts to position NT as a worthy enterprise system centered on Alpha systems.

The much vaunted scalability



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events showing 1 terabyte MS SQL Server databases all ran on Alpha-based systems. Given the performance expectations of the first generation Intel/HP IA-64 CPUs (aka Merced aka Itanium), it seemed Alpha would be essential for Microsoft's high end Windows 2000 strategy. In fact, announcements in the middle of 1999 about 64-bit features such as the very large memory

always said they would be first available on Alpha.

Within a few days of the Compaq announcement, Microsoft announced it would discontinue support for all Windows products on Alpha. So, next time you see Bill Gates ask him "whatever happened to cross-platform development?" Supporting multiple platforms was supposed to enforce some discipline on software developers and make the OS code more high-level and less dependent on the quirks of individual CPUs.

When new processor technologies such as IA-64 were released, porting NT would be less of a problem because of this discipline. Remember when NT was first introduced? It was available for MIPS, PowerPC, Alpha and Intel processors. However, the development on processors other than Intel was always funded by — guess who? — the processor manufacturers. These manufacturers relied on the assumption of widespread NT popularity. When the sales never

materialized, they could no longer justify the dollars. The supported processor list shrunk: first MIPS, then PowerPC and now Alpha

I think Compaq thought Microsoft was somehow reliant on the Alpha for its enterprise aspirations. But when was the last time Microsoft ever given any indication of its willingness to "play nice." But you can add that to the list of grievances

the Justice Department has already noted. Getting Compaq to fund development for Alpha NT was a great strategy for Microsoft: it allowed them to grab the glory of high performance without the expense. And Compaq paid the price.

I find very little satisfaction in Compaq's announcement that it will take a \$50 to \$100 million dollar charge in the fourth quarter of 1999 to pay for customer moves to new systems. Additionally, another \$100

After Compaq came clean, a Microsoft press release announced support for all Windows products on Alpha was being discontinued. So, next time you see Bill Gates, ask him, "Whatever happened to cross-platform development?"

to \$150 million charge will accrue in the first quarter of 2000. Microsoft, true to form, has been silent on the matter.

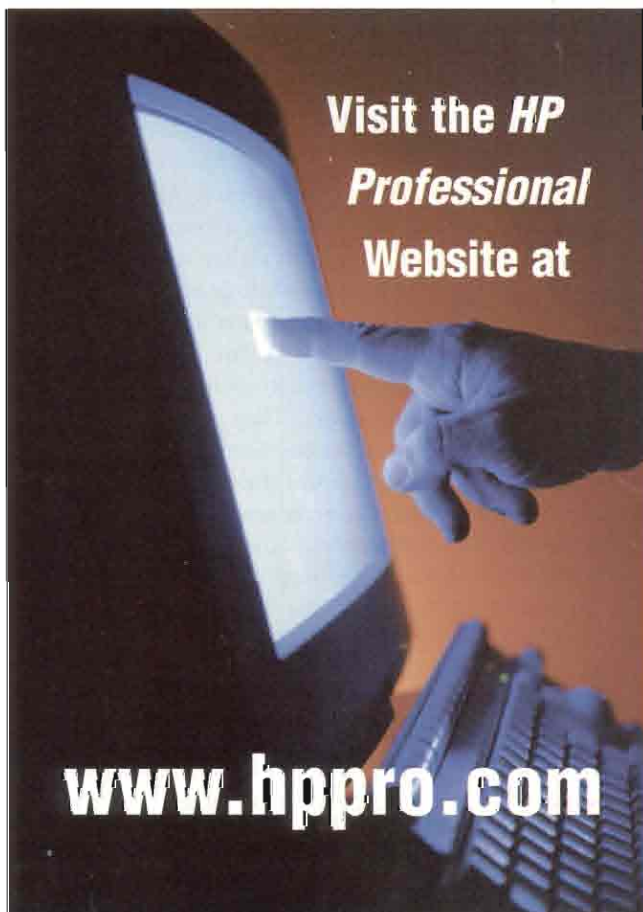
Of course, it's the users who get hurt. Compaq stumbled around for weeks after the Microsoft announcement trying to devise some strategy to placate its angry user base. It has finally agreed to offer users two options. If a user wants to stay with NT, they'll be offered a trade-in on Intel based ProLiant systems. The

value of the trade is tied to the age and speed of the Alpha system they're trading. If a user wants to stay on Alpha, they can get a license for Tru64 Unix or OpenVMS.

Neither solution is particularly satisfying because the value of NT and Alpha is performance. For users with large Exchange or SQL Server applications, Alpha was a great solution. While four and eight-way Intel servers can do the

job, they are much more expensive than Alpha systems. Particularly hurt are Alpha workstation users who relied on great floating point performance for graphics and scientific calculation applications. Even though AMD Athlon processors outperform Intel Pentium III processors in overall benchmarks, floating point is not significantly better. Users of Lightwave and similar products simply have no place to go.

So, where's the lesson in this tale? ♦



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New Management For The New Millennium

What should enterprise management in the new millennium look like?

Wouldn't it be nice if this software really did solve my problems? Why does it take so much work and time to implement most management software? None of this "so called" management software is very smart at managing.

I have been hearing these questions and statements from coworkers and customers for as long as I've been working in the enterprise management business. Don't get me wrong; things are getting better, but don't you think it's time for some new and different ideas? To coin a phrase, we need a new management philosophy.

I have been asking myself and others that question. And we've come up with some interesting ideas to share. Here is our wish list of new enterprise management products for the new millennium.

NETWORK MANAGEMENT APPLIANCES

The network appliance is the infamous "black box" for enterprise management. I have a favorite customer that has been asking for one of these for years. This intriguing device would hook to your network; and with no configuration, start reporting problems. The most important aspect of this machine would be self-learning.

As we have talked about this machine over the years, it has become apparent that other technologies are going to have to be perfected to make these appliances a reality.

So, as a thought-provoking exercise, some of those technologies are listed below:



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SELF-HEALING MANAGEMENT SYSTEMS

Where there is one black box another isn't far behind. Today we can build fault-tolerant solutions, but they can be expensive and complex. And they are by no means automatic to implement and configure.

It would be great to install your network "black box," then add

another one in another city and they would become "aware" of each other. The whole concept isn't just two systems backing each other up but an entire enterprise being "aware" of all its pieces and intelligently backing each other up. This would definitely be predicated on the next enhancement, the "NetBot."

INTELLIGENT AUTO DISCOVERY NETWORK ROBOTS

These "NetBots" would scurry around your network looking for anomalies and devices it has never seen before. These NetBots wouldn't just be for adding new devices but more importantly locating changes to devices and paths. Most discovery problems, even on current systems, aren't adding new devices but changing existing devices.

These NetBots used in conjunction with smart agents would truly turn into the "true authority" on your network. Today's auto discovery engines use the sledgehammer

approach to discovering your network. That was fine in the days of simple routers with a dozen interfaces and the most complicated thing you had to deal with was the occasional SNMP managed hub. Networks with switching fabric, ATM clouds and ultra-fast pipes are just waiting to take advantage for this technology.

SMART AGENTS

Not intelligent agents but agents with a little common sense. These agents would be so smart that they would distribute themselves and self-configure themselves according to what kind of system it installs itself on.

ARTIFICIAL INTELLIGENCE

Not so-called "Artificial Intelligence," but real intelligence. Artificial intelligence has been around for years in multi-billion dollar defense projects but this technology needs to evolve to into smarter, faster and cheaper products. This is the same paradigm Global Positioning Systems (GPS) have taken. They were once classified machines the size of a large desk and cost millions of dollars and guided aircraft carriers around the world.

Now they cost \$199 at amazon.com and are used to guide my rental car around the road construction in Boston. Real intelligence must be added at all levels of the model.

These are just a sampling of the new enterprise management ideas out there. Do you have anything to add? If so, please drop me an e-mail. ♦

— Charles Hebert is President of Southernview Technologies, Inc.

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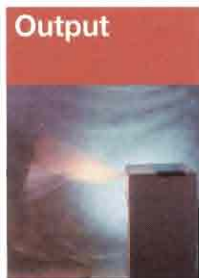
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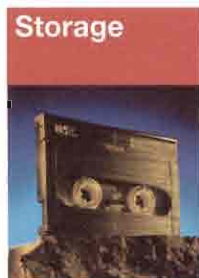
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A New Data Center Paradigm

Integrated Data Center. As the Millennium dawns, it's the new buzzword heard around corporate IT organizations. Simply stated, the term refers to the implementation of

centralized management strategies across distributed client-server computing environments to create a "virtual data center" environment.

This new paradigm leverages new technologies — embedded in new chipsets and server host hardware, designed into next generation operating systems and application software, manifested in evolving storage architectures, implemented on current network switches and routers, and facilitated by modern application, system, storage and network management tools — to provide the high-availability and high-integrity characteristics required by mission-critical business applications hosted on distributed platforms.

The concept of an Integrated Data Center picked up steam in the closing years of the 1990s, when by design or by default, companies began building ERP solutions and data warehouses with client-server technology or migrating legacy applications to distributed platforms to support mission-critical business functions. This, in turn, underscored the need for a reliable, highly-available distributed computing environment.

A major hurdle to establishing an integrated data center is the lack of time and corporate IT resources. That is, as IT goals are being realigned with overall business goals, most managers are focusing their staff's efforts on ongoing systems analysis and engineering. Few resources and little time are available

for building enhanced capabilities for infrastructure support and maintenance. In response, some IT organizations have sought out the support of their technology vendors.

Most are finding, however, that service and maintenance agreements do not fill the gap. In a modern heterogeneous computing environment, using IT product vendors to provide support services generally entails the management of multiple maintenance agreements, a difficult and costly proposition.

HOWDY PARTNER

Moreover, given the complex interrelationships between heterogeneous hosts, networks, and application software, companies using the vendor support option typically discover that, when a problem arises, no one vendor is willing to claim "ownership" of any problem at all.

What is needed is a support services partner -- a service provider that stands between the vendors and the company to deliver the benefits of a well-managed computing platform. Such an organization serves as an extension of the corporate IT department, typically providing both on- and off-site personnel to manage and operate the corporate computing platform as an integrated data center.

Given the increasing popularity

of the integrated data center paradigm, IT managers can expect a sharp increase in the number of vendors offering to provide this service.

The following considerations are useful in guiding an evaluation of competitive service offerings:

Does the candidate possess demonstrated expertise in supporting multi-vendor, multi-platform client/server technologies?

The service provider must be capable of understand-

ing the heterogeneous platform and the mission-critical services it supports in order to provide a *single-point-of-contact* in the resolution of any issues that arise.

Does the candidate have a core competency in the logistics involved in parts distribution and repair? Managing multiple vendors and their maintenance contracts requires expertise that few newcomers to the field possess.

Does the candidate possess a technical support organization that is capable of responding to the needs of the company's present and future IT environment? The support service provider will need to be a partner, involved in future planning as well as current operations. The successful candidate should



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The concept of an Integrated Data Center picked up steam in the past decade, when by design or by default, companies began building ERP solutions and data warehouses with client-server technology.

have experience in the systems development life cycle and should be prepared to aid customers in managing new systems rollouts for expeditious inclusion in the existing support infrastructure.

Does the candidate offer training and education services to provide users with the skill to maintain their own systems and software (current and future)?

Does the candidate offer consulting services to facilitate the smooth

deployment of new platforms and applications into the integrated data center environment? The partner should have a track record in performing needs assessment, design, implementation, migration, and operation of all existing and new platform components.

Can the candidate provide help desk operations, for internal end users and corporate end-customers, at acceptable and measurable service levels? The bottom line is that the support services partner chosen by a company

must be willing and capable to co-source the availability component of the corporate computing environment. The partner must be able to take a call or monitor an event, diagnose a problem, maintain effective working relationships with vendors to manage their response in accordance with acceptable service levels, and close out trouble tickets before they impact critical business operations.

Very few service providers possess all of the characteristics cited above. Moreover, there is neither a single strategy that will realize a virtual/integrated data center nor a set of defined procedures for operating one once established. Given these constraints, IT managers cannot expect to be able to outsource operations along traditional lines.

Only a partnership with a qualified support service provider will deliver the desired results. ♦

— Pat Kearney is the Vice President of Sales for Polaris Service, Inc.

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APPLICATION DEVELOPMENT

Bluestone Software Releases Visual-XML 1.1

Bluestone Software, Inc. announced the availability of Bluestone Visual-XML 1.1, a toolkit for building XML applications. Several key features include: the Transformation Engine that performs XML-to-XML document translations and DTD-to-DTD translations; Dynamic XSL Engine, a dynamic XSL engine using stylesheets to let companies distribute XML documents including Web phones, pagers, Palm Pilots, as well as PCs; ULF Console, a graphical interface to the Universal Listing Framework (ULF). As a Pure Java application, Bluestone Visual-XML runs on all Java Virtual Machines (JVMs) on virtually all platforms.

Bluestone Visual-XML 1.1 is now available through Bluestone, Intraware and Merisel for a suggested retail price of \$99 per seat.

Contact Bluestone Software Inc, Mount Laurel, NJ at (609) 727-4600

Cache Now Available With Red Hat Linux

InterSystems Corp. announced that Cache, post-relational database software is now available off-the-shelf with Red Hat Linux. Cache for Linux is included on the application CD shipping with Red Hat Linux 6.1. It offers ultra-fast SQL and object-enabled architecture and delivers time-to-market technology for scalable Web applications.

Contact InterSystems Corp., Cambridge, MA 1 (617) 621-0600

Contact Red Hat, Inc., Durham, NC at (800) 454-5502

IBSS Delivers Synapse EAI+

Integrated Business Systems & Services, Inc. announced the delivery of Synapse EAI+, its open Enterprise Modeling tool. IBSS' Enterprise Application Integration (EAI) tool provides companies with data mapping and message switching; and allows complete access to data from suppliers, distributors and customers across legacy, homegrown, or customized applications in addition to packaged front

and back office applications. Synapse EAI+ is operation system and database independent.

Software licensing starts at \$45,000 per site and includes two interfaces; additional interfaces are available at \$15,000 each. An enterprise license is \$1 million and includes an unlimited number of sites and interfaces.

Contact IBSS, Columbia, SC. IBSS at (800) 553-1038

Level 8 Systems Enhances Seer*HPS 5.4.1

Level 8 Systems announced the availability of Seer*HPS 5.4.1, a new and enhanced version of the company's Seer*HPS client-server application development environment. Important new features include Java eCommerce clients, EAI support, and a Windows 2000 user interface. The eCommerce enhancements give Seer*HPS the ability to generate Java Beans for thin-client applications and link them with business rules developed in the Seer*HPS environment and running on mainframes, UNIX, and AS/400 enterprise servers.

Seer*HPS 5.4.1 also offers an adapter for Level 8's Geneva Integrator enterprise application integration (EAI) product that will now enable Geneva Integrator to integrate Seer*HPS-generated applications with other third party applications. Contact Level 8 Systems, Cary, NC at 800-499-7337

StreamServe 2.3 Provides Support For XML

StreamServe 2.3 interfaces with SAP, Baan, Oracle, QAD and Intentia. Users will now be able to route business critical information from an enterprise application server directly to a customer, business partner or employee's cellular phone or pager using the Short Message Service protocol.

StreamServe 2.3 features XMLOUT, supporting Microsoft's BizTalk to enable businesses to choose the XML-based format, or schema, they want to use when sending information to its business partners. StreamServe 2.3 also contains a new module that enables IT managers to monitor StreamServe's document formatting and distribution processes from the Web.

The software is being sold indirectly through StreamServe's business partners and alliances and directly through StreamServe.

Contact StreamServe, Inc., Raleigh, NC at (919) 786-7300

Baan Unveils Baan Enterprise Solutions

The Baan Enterprise Solutions suite includes best in class software applications and leverages the new Baan OpenWorld Integration Framework: BaanERP 5.0c; Baan E-Enterprise for electronic procurement, collaboration and selling; BaanSCS Planner 2.0 and Order Promising 2.0 for operational planning and available; BaanSCS Scheduler 6.3 and Demand Planner 2.5.9; BaanFOS Sales 98.4; BaanBIS Data Navigator 2.5; and BaanDEM 5.2. The Baan Enterprise Solutions suite ties together business processes across multiple functional domains, enabling fulfillment within enterprise communities.

This integration is enabled by the Baan OpenWorld Integration Framework, which is based on eXtensible Markup Language (XML). Primary components of the Baan Enterprise Solutions suite and Baan OpenWorld Integration Framework are expected to become generally available during early 2000, with additional component releases in Q2, 2000.

Baan solutions are available through certified Baan reseller and systems integrator partners and ASP partners around the world, as well directly from Baan. Pricing information is available from Baan.

Contact Baan Company, Herndon, Virginia at (703) 471-8785

DATA WAREHOUSING

Mindmaker Introduces DataScope 3.0

Mindmaker, Inc. announced the release of DataScope 3.0 that allows managers, analysts, and scientists to easily understand hidden relationships in data and use the knowledge obtained to make more effective decisions. DataScope 3.0 provides hierarchical organization of data and drill-down technology allowing users to analyze data at different levels. The addition of the HTML export and HTTP server service make it possible for users to share information. The scheduled automatic re-import feature allows users to set up a self-running database watcher. DataScope will be distributed through OEM channels and partnerships with systems integrators and consulting companies and will be available in January 2000.

Contact Mindmaker, Inc., San Jose, CA at (408) 467-9200

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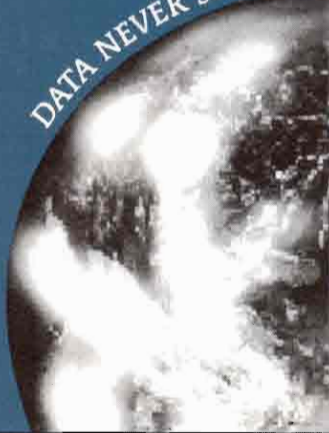
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IntegrationWare Inc. Announces IntraBlocks 3.0

IntraBlocks_3.0 integrates Web servers, databases, and search engines from Microsoft, Netscape, Oracle, and IBM. IntraBlocks works with Lotus Notes, Microsoft Exchange or other SMTP-compliant mail servers and offers single log-on access using both Microsoft Windows NT security domains and LDAP directory servers.

IntraBlocks can run on a single server or can be distributed across multiple servers to satisfy an entire enterprise. Users can easily access IntraBlocks within a corporate intranet or over the Internet through Application Service Providers (ASP).

IntraBlocks 3.0 is available directly from IntegrationWare and its partners. IntraBlocks 3.0 is licensed on a per user basis with pricing starting at \$24,000 for 100 users.

Contact IntegrationWare, Inc., Buffalo Grove, IL 847-777-2323

DISASTER RECOVERY AND SECURITY

Red Hat Linux 6.1 Companion CD Includes CRYPTOAdmin

CRYPTOCard is shipping its CRYPTOAdmin 4.0 authentication server with Red Hat Inc.'s (Durham, N.C.) Red Hat

Linux 6.1 application CD. CRYPTOKit, CRYPTOCard's toolkit, is included and has an API for embedding an automated software token that "pops up" to make strong authentication easy to use. Also included are five software tokens and licenses for five RB-1 hardware tokens, which must be requested before June 30, 2000. Additional tokens can be purchased by contacting CRYPTOCard. CRYPTOCard tokens do not expire and need only be deployed once.

A free upgrade to strong authentication for ten users to start is currently available. There is no annual license or maintenance fee for either CRYPTOAdmin 4.0 or for CRYPTOCard tokens.

Contact CRYPTOCard, Kanata, Ontario, Canada at (800) 307-7042

Effnet Sign Oem-Agreement With ERA

Effnet Group AB has signed an OEM-agreement with Ericsson Radio Systems (ERA) to deliver firewall solutions from the FTC-series to Ericsson Radio's IP-based local network solutions. Effnet's products are based on its IP-technology, known as the Lule-algorithm, which improves the efficiency of routing lookups and firewall filtering.

Contact Effnet Group, Boston, MA at (617) 834-6934

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APPLICATION DEVELOPMENT**HP's E-Speak Developer's Kit Now Available**

HP's E-speak open source code is now available over the Web at www.e-speak.net. The developer's kit includes core programming APIs, a programming tutorial, documentation and source code examples for the E-speak code. Beta versions of code and a developer's kit were given to attendees of the November E-services Developer's Conference.

HP is also developing a special, E-speak-based WAP developer's kit that will enable mobile devices to rapidly create and launch mobile E-services and have access to the broadest-available array of partners as the mobile market continues to expand. The kit is scheduled to be available, free, on CD-ROM and a downloadable version, in January 2000.

HP And BEA To Integrate HP Changengine

HP and BEA Systems, Inc. announced they have agreed to integrate HP Changengine, a business-process-management system, with the BEA eLink suite of Enterprise Application Integration (EAI) solutions. The integration is designed to provide out-of-the-box connectivity to Web and Java technology-based environments with minimal development, as well as highly scalable adapters that integrate IBM mainframe systems with other applications across SNA and TCP/IP environments.

url: www.hp.com/go/changengine.

SYSTEMS AND NETWORK MANAGEMENT**HP And Sun Integrate OpenView IT/Operations And Sun Management Center**

HP and Sun Microsystems, Inc. announced the integration of HP OpenView IT/Operations and Sun Management Center 2.1 (formerly Sun Enterprise SyMON). The integration capabilities are scheduled to be included with HP OpenView IT/Operations within the next 30 days. The integration capabilities will be incorporated into HP OpenView IT/Operations at no additional cost to the customer.

url: www.sun.com/sunmanagementcenter

OpenView ManageX Event Manager Bundled With NetServer L Series

HP announced that HP OpenView ManageX Event Manager is shipping with every HP NetServer L Series system. It is also integrated with HP TopTools to provide comprehensive management of hardware and systems management. HP OpenView ManageX Event Manager provides this distributed one-to-many management capability for Windows NT servers and NetWare servers.

HP OpenView ManageX Event Manager is available immediately from the HP NetServer Web site. It will also be on the HP NetServer Navigator CD-ROM shipped with every HP NetServer system.

url: www.hp.com/go/netserver

DESKTOPS**HP VISUALIZE P600C, P650C And P700C Personal Workstations**

The HP VISUALIZE P600C, P650C and P700C Personal Workstations use single or dual 600MHz, 650MHz or 700MHz Intel Pentium III CPUs with advanced transfer cache, 128MB to 768MB RAM, the Intel 440BX AGP chipset and a 100MHz front side bus; NFS Client and X-Server software; UNIX system command utilities and shell; up to 36GB internal disk, choice of CD, CD-RW or DVD; and HP TopTools 4.5, HP MaxiLife batteries and the HP UltraFlow cooling system.

The new HP VISUALIZE P-Class Personal Workstations are now available with estimated U.S. street prices beginning at \$2,600.

HANDHELDS**HP Jornada 690 Debuts**

The 133MHz HP Jornada 690 Handheld PC, an increased-capacity model of its Jornada 600 series of color Windows CE handheld PCs, contains 32MB of RAM, runs Windows CE Handheld PC Professional Edition software and displays up to 65,536 colors on a 6.5-inch screen. Also featured with the L1 pd. and 7.4-in.x3.7-in.x1.3-in. system, is a docking solution and eight-hour battery life.

The HP Jornada 690 Handheld PC, is now available for an estimated U.S. street price of \$999, is backed by a one-year limited warranty. The HP Jornada 680 will continue to be available for an estimated U.S. street price of \$899.

STORAGE**New HP DLT Autoloader 818**

HP introduced the HP DLT Autoloader 818, a new one-drive, eight-slot HP DLT Autoloader 818 that includes the new DLT 8000 series drives (up to 320GB native, depending on configuration) and faster sustained transfer rates (6MB/s native). This represents a 20 percent performance increase and 14 percent capacity increase over the HP DLT Autoloader 718. The HP SureStore DLT Autoloader 818 and HP SureStore E Autoloader 818 are available in standalone or rack-mount configurations and are compatible with leading HP-UX and NT server platforms.

Starting at \$10,920, the autoloaders are expected to be available through OEMs and HP's distribution channels worldwide.

url: www.automatedbackup.com/

Y2K**HP's Do-It-Yourself Y2K Kit**

HP has been shipping "do-it-yourself" Year 2000 kits to its HP Connect accredited resellers across Europe. The kits, which will be delivered in CD format, have been developed for HP Channel Partners to help support customers who have not yet taken all the steps to address their Y2K technology issues. The CD contains the option of 29 languages, including all major European languages, including Russian, Japanese and Polish. The kit has been available, free of charge, since November 1, 1999.

url: www.software.hp.com.

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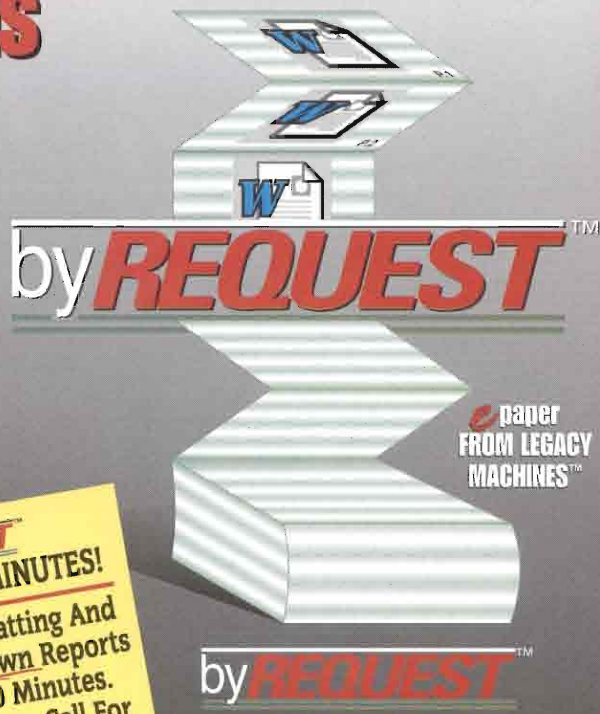
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