

TEST CENTER REVIEW
Digital PBX Switches
and IP Phones p24

Fast Roaming Standard
Coming to WLANs p17

TOM YAGER
Microsoft Suddenly
Serious About Unix p70



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*25
technologists
who are making
a difference
in 2004
p37*



25

Our third annual awards honor CTOs who are leading their companies — and the industry — to better times

BY HOWARD BALDWIN

IT'S NEVER EASY TO EVANGELIZE. DURING THE BOOM, THERE WAS TOO much noise. Since the boom, there has been too little money. So, to lead their organizations into better times, our 25 honorees had to get creative in 2003.

Fortunately, they're a creative group. Many of them speak explicitly about art and architecture, as well as the elegance that comes from a well-designed system. Still others exult that their job enables them to turn a conceptual drawing into concrete reality. The bridge from dream to deployment is not the only chasm they span.

These visionary technology leaders say they are fundamentally chartered with keeping one foot in the present and one foot in the future. These CTOs distinguished themselves in 2003 by driving initiatives that both influenced their companies internally and their industries externally. They've kept the engines of creativity humming so that they're poised to deliver new ideas and products just as their customers are beginning to invest again.



▶ CTO and co-founder
▶ KaVaDo
▶ kavado.com

Yuval Ben-Itzhak

To survive the economic downturn, KaVaDo CTO and co-founder Yuval Ben-Itzhak focused on designing security software that provides customers with an immediate payback. The Tel Aviv-based company's Web application scanner and firewall products proactively define acceptable behavior with respect to Web application use, rather than reactively target specific patterns and signatures that require continuous updates.

Ben-Itzhak conceived the software and participates in several standards groups, including Open Web Security Application Project's VulnXML Project Committee and OASIS's Web Application Security Technical Committee. "The people on the committees are competitors," he says, "but behind the scenes, we're trying to shape the market."

He notes that CTOs have to balance legacy and future applications. "The CTO needs to predict [growth patterns] in order to deliver the right vision at the right time," he says.

Tom Bishop

As 2003 closed, 40 corporate representatives from companies belonging to the Open Group — including Sony, Boeing, and Shell — elected Tom Bishop to lead an initiative to define standards for monitoring disparate hardware and software resources. It was an impressive honor, considering that EMC, Fujitsu, Hewlett-Packard, Hitachi, and IBM executives are part of the initiative, and one for which he is uniquely qualified, based on the previous standards efforts he's spearheaded for DMTF and Posix. Also, as CTO of VIEO, Bishop led the development of an automated infrastructure-management appliance that intuits the relationship between network devices and prioritizes resources among them.

Developing the VIEO 1000 AAIM requires Bishop to track everything from networking and application models to even the genetics of programming. "The biggest challenge is staying on top of all those technologies," he says.

Developing the VIEO 1000 AAIM requires Bishop to track everything from networking and application models to even the genetics of programming. "The biggest challenge is staying on top of all those technologies," he says.



▶ CTO
▶ VIEO
▶ www.vieo.com

'The hardest thing is making people understand that if you don't change an obsolete process and just add new technology, you get the same result.'

— Kimberly N. Ellison-Taylor, Prince George's County, Md.

Edouard Bugnion

As do most CTOs, Edouard Bugnion thinks a lot about architecture. But as chief architect and co-founder of VMware, he thinks more about the management of machines from a virtual standpoint. He shepherded the development of the company's 2003 release, VirtualCenter, which is designed to manage the machines that corporations will link into the grids of utility-based computing.

Thanks at least in part to Bugnion's contributions, storage vendor EMC bought VMware in December 2003. As a result, he's already started thinking about the convergence of virtual servers with virtual storage.



▶ Chief architect and co-founder
▶ VMware
▶ vmware.com

"The server world and the data world have been managed separately and physically," he explains. "Converging the two into a single, homogenous platform will give companies more flexibility and manageability."

Kimberly N. Ellison-Taylor

Prince George's County, the second largest county in Maryland, does not have the budget that Washington, D.C. has, but CTO Kimberly N. Ellison-Taylor has similar security concerns. "Our airports, waterways, and bridges are targets that could be used to get to the Capitol," she notes, adding that her jurisdiction has dealt with hurricanes and blackouts in the past year alone.

"Data is coming in from so many different avenues, but it has to translate to relevant information," she says. "How do you share data and make sure the right people get it?" She focused on data sharing and e-government during 2003, not only for her county's 26 municipalities but also in the broader region. She's active in the organization that brings together local and state IT directors. "We work as a team to understand the fiscal and administrative impact [of IT] to our respective counties," she says.



▶ CTO
▶ Prince George's County, Md.
▶ goprincegeorgescounty.com



▶ CTO and vice president of engineering
▶ Qualys
▶ qualys.com

Gerhard Eschelbeck

With connectivity comes vulnerability, a topic that preoccupies Gerhard Eschelbeck, CTO and vice president of engineering at Qualys, which uses Web services to provide on-demand security audits. In 2003, he conducted real-world

research on security problems, looking at impact and prevalence, and testified about his results before Congress in September. The FBI and the SANS Institute also consulted Eschelbeck in compiling their list of top 20 vulnerabilities, and more than 1,200 customers (including Hewlett-Packard and Mercedes-Benz) use Qualys' service.

But Eschelbeck, one of two CTOs to be named to our list twice, believes that the security industry has its work cut out for it. "The key is to define and implement standardized interfaces based on XML that can be adopted and supported by the security community at large," he says.

Joshua Fost

Joshua Fost faces a tremendous coordination challenge as the first CTO of Colliers International USA, an \$880-million consortium of 56 independently owned real-estate companies in 51 countries. Example: At the end of 2003, after a two-year campaign led by Fost and Marketing Vice President Karen L. Galvin, Colliers finally launched globally coordinated Web sites, featuring content appearing in 14 languages.

On the infrastructure side, he's coordinated a global directory that integrates the contact information from each company's e-mail servers, which may be running Exchange, Notes, Groupwise, or even outsourced e-mail applications. "My favorite thing is having a person come to me with a problem and then delivering something that's faster, cheaper, and easier to use than they ever imagined," Fost says.



▶ CTO
▶ Colliers International USA
▶ colliers.com

'I'm a huge technophile. Computers are as close as we can come to omnipotence.'

— Joshua Fost, Colliers International USA

Yogesh Gupta

CTO Yogesh Gupta thinks of Computer Associates as a giant toy chest. "We have so many building blocks of technology to build from," he says. But there's nothing playful about Gupta's work.

A conversation with the chief security officer of the Federal Aviation Administration, who wondered how to prioritize security alerts from multiple products, inspired Gupta to create — in less than a year — software that filters out duplicative and irrelevant alerts.



▶ CTO
▶ Computer Associates
▶ ca.com

And there are more products to come. Under Gupta's direction, Computer Associates has focused on internal R&D, spending \$650 million annually during the past three years. Whereas most companies spend 10 percent of revenues on R&D, CA spends 24 percent. "When you have that kind of commitment," Gupta says, "how can you not love your job?"

Raymond Karrenbauer

In 2003, CTO Raymond Karrenbauer brought plug-and-play to app dev and systems deployment at ING Group, the \$450 billion worldwide financial-services company. He created architectural diagrams — encompassing applications, hardware, networking, and integration — that focused on reusability and adaptability of both data and design. "Someone can look at the patterns in the component-based reference model and see how a Web application is deployed and just snap together the pieces," Karrenbauer says.

Because data is shared, ING will enjoy significant benefits in terms of data quality and business intelligence. The result, deployed across 27 lines of business in America and ready to go worldwide, gives ING the flexibility to be responsive to new business opportunities. Some competitors, he says, are working on similar concepts, but he and his company are the first to deploy it.



▶ CTO
▶ ING Group
▶ ing.com



▶ CTO
▶ QAD
▶ qad.com

Jim Kirkley

Because CTO Jim Kirkley believes in balance, he's concerned about the Internet's ecosystem being thrown out of whack by electronic pollution. "Spam and hackers are polluting our environment, and this could become a major problem for b-to-b integration," he says.

At QAD, which specializes in enterprise software for manufacturers around the world, Kirkley carries this desire for balance into the design of the company's supply-chain management applications. "Something is wrong if a design doesn't have symmetry," he says. It forces him to wonder, "Have we left out a component?"

In the past year, Kirkley has moved QAD solely to a hosted solution, and his efforts have also led the industry in terms of how supply-chain information is communicated between machines — that is, with or without human intervention — and how it is visualized and accessed by suppliers along the chain.

Srinivas Koushik

"Unlike other industries, we sell trust and information," says Srinivas Koushik, enterprise CTO and vice president of \$117 billion insurance company Nationwide, adding that its information has to be secure, private, and available at all times. "But also unlike other industries, we don't have anything close to the supply-chain efficiencies they have," he says.

Moving Nationwide toward that efficiency took up most of his time in 2003. The company implemented a state-of-the-art policy-management system, which allows its agents to sell and service policies online. The former is commonplace, Koushik says; the latter is not.

To keep Nationwide on the cutting edge, Koushik also is spearheading an effort to use Web services to streamline Nationwide's relationships with insurance agencies. This initiative would link third-party agency management software to his company's proprietary back end.



▶ Enterprise CTO and vice president
▶ Nationwide
▶ nationwide.com

'It's absurd to say IT doesn't matter. We are at the end of the beginning, rather than the beginning of the end.'

— Ashish Kumar, Avanade



▶ CTO
▶ Avanade
▶ avanade.com

Ashish Kumar

To Ashish Kumar, it's all about eating his own dog food. As CTO of Avanade, the joint venture between Accenture and Microsoft that offers systems integration, he realizes that no customer wants to be the first to

use a technology, so his company must.

But 2003 was more about helping customers survive than paving the way with new technologies. "We saved our customers \$100 million just in server consolidation," Kumar explains. "It wasn't so much the hardware cost but the cost of management."

Kumar encouraged customers to rein in their spending by also deploying Web services instead of more costly application-integration solutions.

For Kumar, being a CTO is as much about balancing communication as it is about balancing budgets. "You need technical credibility with engineers, but you can't talk over the head of the executives," he says.

Brad Kummer

Brad Kummer spent 25 years at Bell Labs doing R&D on optical-fiber-based systems, and then in 2000 he was lured to ISP Cogent Communications for a once-in-a-lifetime opportunity: to design an all-optical, data-only network. He built an 80Gb backbone that spans almost 20,000 miles and 21 cities in North America. Reputedly offering six times the bandwidth of a T1 connection at the same price, Kummer's backbone supports Radio Free Virgin's streaming audio, Weather Underground's real-time weather data, and two major stock exchanges among others.

But this CTO and vice president of optical transport stands for simplicity above all else. "Of the new products offered in telecom," Kummer says, "95 percent have too many features, features that I don't need or want and only increase the cost and complexity of the network."



▶ CTO and vice president of optical transport
▶ Cogent Communications
▶ cogentco.com



Senior executive vice president, global technology & operations
MasterCard International
mastercardintl.com

Jerry McElhatton

As MasterCard International's CTO and senior executive vice president of global technology and operations, Jerry McElhatton only worries about two things: his customers (banks that issue credit cards) and his customers' customers (consumers who use credit cards). That translates into two areas: performance and security. The point-of-

service terminal has to work and so does the card.

In 2003, those simple goals translated into some big projects under McElhatton's purview, which includes a global staff of approximately 2,700 with a \$100 million payroll. But his biggest win has been a five-year, \$160 million upgrade of MasterCard's global payment processing platform, which accounts for as many as 40 million transactions per day, completed in 2003. Last year, for the first time, MasterCard surpassed its competition to become the No. 1 card issuer in the United States.

Phyllis Michaelides

Phyllis Michaelides spent 2003 ensuring that Textron's 44,000 employees are who they say they are. As chief technologist of the \$10 billion conglomerate, with divisions that include Bell Helicopter and Cessna, she deployed an ID management system that encompasses both authentication and authorization.

Although regulatory requirements such as Sarbanes-Oxley spurred the project, she wanted Textron to stay ahead of the curve. So she led the creation of an enterprisewide system that uses metadirectories and takes a unified, centralized approach to identity and policy management. But because Textron doesn't impose a unified infrastructure, her greater challenge is determining where to best share technology. "Finding those core pieces is the most exciting part of my job," says the two-time CTO 25 honoree.



Chief technologist
Textron
textron.com

'I love the excitement of going from concept to test to implementation.'

— Phyllis Michaelides, Textron

Steve Orrin

When it comes to enterprise security, Steve Orrin believes in building it in rather than tacking it on. The CTO of Sanctum spends much of his time evangelizing the importance of embedding security in applications. To that end, he is active in two OASIS working groups established in 2003. The WAS-XML working group focuses on Web application security; Orrin is also working on formulating the Application Vulnerability Description Language, which will uniformly describe application security vulnerabilities.



CTO
Sanctum
sanctuminc.com

Within Sanctum, early last year, Orrin led the development of App-Scan DE, an automated testing tool that helps developers create secure Web applications using either Microsoft .Net or Java code. Orrin has also led his company's development of software that searches the Web for purloined documents, which companies use to prove that data has been stolen.

Greg Papadopoulos

For years, Sun has been saying, "The network is the computer." Last year, CTO and Executive Vice President Greg Papadopoulos put a key part of that concept into practice with its N1 system architecture. Deployed at more than 100 customer sites, including Cingular and DaimlerChrysler, the distributed and dynamically provisioned computing architecture is a step forward in harnessing the data power of disparate computers and giving critical applications priority.

Papadopoulos' work will also take the industry one step closer to the concept of grid or utility computing. "The greatest CTOs that I know are the ones that take architecture seriously," he says, a 2003 InfoWorld Innovator. "Architecture guides the constraints and shows what's important and what isn't. It bridges the creativity of the engineer to something that can achieve a high impact for the company."



CTO and executive vice president
Sun Microsystems
sun.com

Shane V. Robison

Last April, Chief Strategy and Technology Officer and Executive Vice President Shane V. Robison gathered 500 of the brightest engineers from every division of Hewlett-Packard for the first time — a savvy move of technological cross-pollination. Engineers competed for invitations; 1,500 submitted papers online the first day, crashing the server.

These meetings — as well as those of a customer advisory board he formed after the merger with Compaq — help Robison in his strategic planning for HP. He spent 2003 putting into place the unique concept of formulating different business models for different products, depending on where they are in their maturity cycles. “We have to shepherd new businesses as they grow from their embryonic phase,” he says. “My role is to make sure they get the care and feeding they need so we can integrate them into the larger business later.”



- ▶ Chief strategy and technology officer and executive vice president
- ▶ Hewlett-Packard
- ▶ hp.com

Thomas Sanzone

The financial powerhouse Citigroup may not have a CTO, but it does have Thomas Sanzone, CIO of its \$20 billion Global Corporate and Investment Bank. Responsible for the technical infrastructure of the division, which operates in 100 countries, he leads the \$100 billion conglomerate's working group for application development. In 2003, his group deployed CitiVision, a Web services-based portal application that delivers real-time information to investment bankers in 100 countries and allows them to prepare personalized portfolios for customers and share updated information.

In the past, Sanzone believes, technologists were reactive. He's overseeing his technology group within Citigroup to be proactive. “Our business partners depend on us to be innovators and show them how technology can give them a competitive advantage,” he says. He's using technology to help both Citigroup and its customers be competitive.



- ▶ CIO, Global Corporate and Investment Bank
- ▶ Citigroup
- ▶ citigroup.com

‘Keep an open mind about exploring new ideas and concepts, because the impossible is more than likely to happen.’

— Shane V. Robison, Hewlett-Packard

Wade Schott

Under Wade Schott's leadership, General Dynamics in 2003 became the fourth company to reach the highest level of the Software Engineering Institute's Capability Maturity Model — and it did so in less than a year, when the process can take three times as long.

“Reaching this level is key in getting government contracts,” says Schott, CTO of the company's Advanced Information Systems group, “but from a philosophical standpoint, it's also how you challenge yourself and improve your quality.”

Schott also serves as the leader of the defense contractor's Technology Council, through which he speaks to the company's customers in the U.S. intelligence community about the global realities of the 21st century, as well as helping other divisions move from platform-centric to network-centric computing.



- ▶ CTO and vice president of engineering
- ▶ General Dynamics, Advanced Information Systems group
- ▶ generaldynamics.com

Charles W. Stevenson

Perhaps no CTO dealt with more daunting financial constraints in 2003 than Charles W. Stevenson. As CTO, COO, and executive vice president of Gupta Technologies, a database tools developer spun out of its parent company (which later went bankrupt), Stevenson cut development costs by 20 percent and technical support costs by 40 percent. At the same time, the \$20 million company has managed 10 straight quarters of profitability.

Stevenson focuses on Gupta's .Net and Linux tool strategies, but sees their drawbacks: “.Net is weak in providing enterprise scalability, and Linux is like McDonald's.” He is leading the charge to give customers flexibility, and in doing so, acting as a peacemaker for those who require both. “Web services may allow us to bridge the gaps regardless of where or on what OS information may run,” he says.



- ▶ CTO, COO, and executive vice president
- ▶ Gupta Technologies
- ▶ guptaworldwide.com



Scott Thompson

On the last day of holiday shopping in 2003, consumers were buying presents with Visa credit cards at the lightening-fast speed of 5,119 transactions per second. But Visa USA CIO Scott Thompson doesn't consider that a big accomplishment. Rather, he's

most proud of a new fraud-identification system he and his staff deployed in 2003 that ranks a transaction's potential for being suspect in real-time. Because the system looks at possible fraud among both customers and merchants, he explains, it has value for both the bank and the merchant.

For Thompson, his fraud identification system is hardly the only thing to run in real time. "Everything we install has to work in 196 countries around the world from the moment you install it," he explains.

"There's no maintenance window. If you mess it up, millions of people notice."

▶ CIO
▶ Visa USA
▶ visa.com

Gordon Van Huizen

This CTO envisions a world in which application integration is widespread and achieved on a manageable basis. At Sonic Software, Gordon Van Huizen has led the development of a foundation

for an application infrastructure that combines messaging and XML in a standards-based integration platform. Dubbed the ESB (enterprise service bus), it's seen worldwide deployment at 1,500 customers, including Northrop Grumman, Philips Electronics, and Seiko Epson. In 2003, analyst firm IDC predicted that ESBs will be the basis for flexible, scalable distributed computing for years to come.

Van Huizen is encouraged to see other companies take up his mantra of manageable integration. "When you embark on a journey that's way off on the horizon and the odds aren't in your favor, it's gratifying to see other vendors, such as IBM, moving in your direction."



▶ CTO
▶ Sonic Software
▶ sonicsoftware.com

'My role as a tech provider is to keep the company at the leading edge.'

— John Watkins, Fairchild Semiconductor



John M. Watkins Jr.

At the company that launched a million chips, Fairchild Semiconductor CIO and Senior Vice President John M. Watkins Jr. has two major challenges: serving the IT

needs of 10,000 employees worldwide and keeping the company ahead of the competition.

To those dual ends, Watkins led the creation in 2003 of an e-business platform that integrates and standardizes processes in manufacturing, engineering, and administration. The system provides information to more than 50,000 customers, channel partners, and suppliers about Fairchild Semiconductor's 20,000-plus products while giving managers real-time performance metrics. "My job is to keep the company at the leading edge," Watkins says. "It's not for me to beat up the CEO for more money; it's for me to make him understand what he'll miss if we don't invest."

▶ CIO and senior vice president
▶ Fairchild Semiconductor
▶ fairchildsemi.com

Fred Weber

Fred Weber, AMD's CTO and vice president of engineering of its Computation Products Group, believes the semiconductor manufacturer is about to step out from under Intel's shadow. If so, it's in no small part thanks to his efforts during the past five years as the leader of AMD's 64-bit development efforts; Weber became CTO in 2001.

AMD's delivery in 2003 of the industry's first x86-compatible, 64-bit processors — the Opteron and Athlon 64 — exemplifies this CTO's passion of "innovation within standards."

"English is a beautiful language because we add to it rather than throwing it away every 20 years for something else," Weber says, explaining that this philosophy is both a personal and a corporate strategy. "The art of technology is in synthesizing the rules to create something of beauty and utility."



▶ CTO and vice president of engineering, Computation Products Group
▶ AMD
▶ amd.com

Barry J. West

Differentiation in the mobile phone market is hard to come by, but Nextel Communications' Direct Connect feature sets the company apart. CTO and Executive Vice President Barry J. West, a 25-year veteran of British Telecom, in 2003 led Nextel in extending this "walkie-talkie" feature. Now Customers can use it nationwide as well as regionally.

West's next project: "vocoder" technology, which will enable the company to double the voice capacity of its wireless network without spending billions on upgrading base stations. Because ISVs also develop data applications for



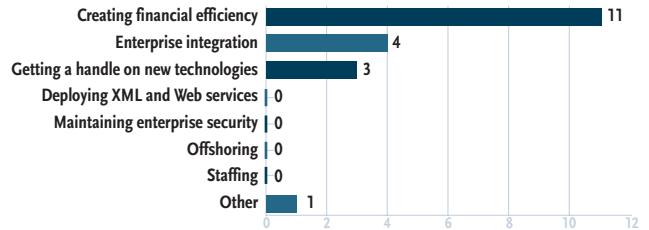
► CTO and executive vice president
► Nextel Communications
► nextel.com

Nextel's phones, West's efforts to expand the network form the underpinning of possible advancements to mobile communications. He recognizes that maintaining progress for cutting-edge technologies isn't easy. "It is always tempting in a financial crunch to target programs with long payoffs, but the CTO has to be the guardian of the future," he says.

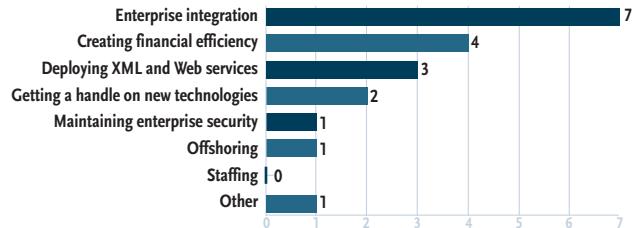
'The CTO function is one of guardianship for the future.'

— Barry J. West, Nextel Communications

What Was the Greatest Challenge You Faced in 2003?



What Do You Anticipate Will Be the Greatest Challenge in 2004?



NOTE: SURVEY RESPONSES FROM 19 OF THE 25 HONOREES

Four Up-and-Coming CTOs to Watch

AMONG THE INFOWORLD CTO 25 APPLICANTS, we found four special executives whom we wanted to cite for their forward-thinking and leading-edge activities. Not surprisingly, three of them work at security firms, where they believe strongly in the concept of building in security rather than bolting it on later; the fourth is focusing on reusing components in Java and .Net.

Carl E. Banzhof, CTO of Dallas-based Citadel Security Software, eats, breathes and sleeps security management. His company's Hercules software, which he designed, fixes potential security holes identified by other vendors' vulnerability scanners. Banzhof is also on the board of Open Vulnerability Assessment Language,

which aims to establish standards for identifying and naming vulnerabilities.

Brent Carlson, vice president of technology and co-founder of LogicLibrary, is on the forefront of migrating Java-based code to the .Net framework while preserving the basic Java capabilities after it's recompiled. As a result, common functionality is maintained on both sides, and developers can leverage expertise no matter which platform they're comfortable with.

Gene Kim, CTO, vice president and co-founder of Tripwire, works with both the Software Engineering Institute and SANS on security issues. His forte is studying IT shops that are highly efficient when it comes to security to develop best

practices (an SEI report is due next month). "Security has far more to do with repeatable, verifiable IT operational processes," he says, "along with the ruthless determination to detect and reduce operational variance."

Mamoon Yunus, CTO and co-founder of Forum Systems, splits his time between customers and standards groups. Forum's XML security hardware helps Fortune 100-ranked MassMutual meet the privacy regulations of the federal government. Yunus also participates in the XML Working Group and xml.gov to educate various government agencies about XML and Web services security and the use of message-centric security. ☛

— H.B.

Silicon Valley-based freelancer Howard Baldwin (howardbaldwin@pacbell.net) was formerly executive editor of Line56 and senior editor at CIO. His work has also appeared in CIO Insight, Upside, and Electronic Business.

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1 WHAT IS YOUR ORGANIZATION'S PRIMARY BUSINESS ACTIVITY AT THIS LOCATION? (PLEASE CHECK ONE ONLY):

General Business Industries

- 01. Defense Contractor / Aerospace
- 02. Retail
- 03. Wholesale / Distribution (non-computer)
- 04. Pharmaceutical / Medical / Dental / Healthcare
- 05. Financial Services / Banking
- 06. Insurance / Real Estate / Legal
- 07. Transportation / Utilities
- 08. Media (print / electronic)
- 09. Communication Carriers (telecomm, data comm., TV / cable)
- 10. Construction / Architecture / Engineering
- 11. Manufacturing & Process Industries (other than computer-related)
- 12. Research / Development

Technology Providers

- 13. Managed Service Provider / Business Service Provider
- 14. Technology Service Provider (ISP / ASP / MSP, etc.)
- 15. Computer / Network Consultant
- 16. Systems or Network Integrator
- 17. VAR / VAD
- 18. Technology Manufacturer (hardware, software, peripherals, etc.)
- 19. Technology - Related Retailer / Wholesaler / Distributor

Government / Education

- 20. Government: federal (including military)
- 21. Government: state or local
- 22. Education
- 98. Other _____
(Please specify)

2 WHAT IS YOUR PRIMARY JOB TITLE? (PLEASE CHECK ONLY ONE):

IT / Technology Professionals

- 01. Chief Technology Officer (CTO)
- 02. Chief Information Officer (CIO)
- 03. Chief Security Officer (CSO)
- 04. Vice President (including SVP, EVP, etc.)
- 05. Director
- 06. Manager / Supervisor
- 07. Engineer
- 08. Systems Analyst / Programmer / Architect
- 09. Consultant / Integrator
- 10. Developer
- 11. IT Staff
- 12. Other IT Professional _____
(Please specify)

Corporate / Business Management

- 13. CEO, COO, President, Owner
- 14. CFO, Controller, Treasurer
- 15. Vice President (including SVP, EVP, etc.)
- 16. Director
- 17. Manager / Supervisor
- 18. Other Business Management Title _____
(Please specify)

- 98. Other Title _____
(Please specify)

3 PLEASE INDICATE YOUR JOB FUNCTION(S)? (PLEASE CHECK ALL THAT APPLY):

IT / Technology Functions

- 01. Executive
- 02. Department Management - IT
- 03. Research and Development Management
- 04. Systems / Network Management
- 05. Management of Enterprise Applications (CRM, ERP, SCM, etc.)
- 06. Applications Development
- 07. Consultant / Integrator
- 08. Other IT Department Management _____
(Please describe)
- 09. Other IT - Staff _____
(Please describe)

Corporate / Business Functions

- 10. Executive
- 11. Department Management - Business
- 12. Financial / Accounting Management
- 13. Research and Development Management
- 14. Sales / Marketing Management
- 15. Other Department Management
- 16. Other Department Staff _____
(Please describe)
- 98. Other _____
(Please describe)

4 HOW MANY PEOPLE ARE EMPLOYED AT THIS ORGANIZATION, INCLUDING ALL OF ITS BRANCHES, DIVISIONS AND SUBSIDIARIES? (PLEASE CHECK ONE ONLY):

- 01. 20,000 or more
- 02. 10,000 - 19,999
- 03. 5,000 - 9,999
- 04. 1,000 - 4,999
- 05. 500 - 999
- 06. 100 - 499
- 07. 50 - 99
- 08. Less than 49

5 OVER THE COURSE OF ONE YEAR, DO YOU BUY, SPECIFY, RECOMMEND, OR APPROVE THE PURCHASE OF THE FOLLOWING PRODUCTS OR SERVICES WORTH:

* CONSULTANTS: PLEASE INCLUDE WHAT YOU RECOMMEND FOR YOUR CLIENTS AS WELL AS WHAT YOU BUY FOR YOUR OWN BUSINESS, IF APPLICABLE. IF YOU CANNOT DISTINGUISH BETWEEN THIS AND OTHER LOCATIONS, PUT RESPONSE IN THE FIRST COLUMN.

- | | | |
|----------------------------------|--------------------------------|----------------------------|
| 01. \$100 million or more | 06. \$5,000,000 to \$9,999,999 | 11. \$100,000 to \$399,999 |
| 02. \$50,000,000 to \$99,999,999 | 07. \$2,500,000 to \$4,999,999 | 12. \$50,000 to \$99,999 |
| 03. \$30,000,000 to \$49,999,999 | 08. \$1,000,000 to \$2,499,999 | 13. Less than \$49,999 |
| 04. \$20,000,000 to \$29,999,999 | 09. \$600,000 to \$999,999 | 14. None |
| 05. \$10,000,000 to \$19,999,999 | 10. \$400,000 to \$599,999 | |

Product category	For this location: (write code in box)	For other locations: (write code in box)
Large systems	<input type="text"/>	<input type="text"/>
Client computers	<input type="text"/>	<input type="text"/>
Networking / Telecom (including servers)	<input type="text"/>	<input type="text"/>
Internet / Intranet / Extranet	<input type="text"/>	<input type="text"/>
Security	<input type="text"/>	<input type="text"/>
Storage	<input type="text"/>	<input type="text"/>
Peripheral equipment	<input type="text"/>	<input type="text"/>
Software	<input type="text"/>	<input type="text"/>
Service / Support	<input type="text"/>	<input type="text"/>

Please answer the questions on the following page. 

6 PLEASE TELL US YOUR INVOLVEMENT WITH YOUR COMPANY'S STRATEGIC TECHNOLOGY INITIATIVES (PLEASE CHECK ALL THAT APPLY):

- 01. Integrate Technology with company goals
- 02. Define Architecture
- 03. Choose Technology Platforms
- 04. Develop Technology Integration Strategy
- 05. Test, pilot, implement emerging technologies
- 06. Scalability Planning
- 07. Build, Run Web Services
- 08. Internet / Network Infrastructure
- 09. Customer Relationship Management
- 10. External Partnership Management
- 11. Budgeting
- 12. Recruitment & Retention
- 13. Other _____ (Please describe)
- 99. None of the above

9 ARE YOU INVOLVED IN BUYING, SPECIFYING, RECOMMENDING OR APPROVING THE FOLLOWING TECHNOLOGY SERVICES? (PLEASE CHECK ALL THAT APPLY):

- 01. Technology Services
- 02. Systems / Application Integration
- 03. E-Business / Internet / Intranet / Extranet
- 04. Application Development
- 05. Application Hosting (ASP)
- 06. Web Hosting
- 07. Web Development
- 08. Security
- 09. Storage
- 10. Content Delivery Networks
- 11. Disaster Recovery / Business Continuity
- 12. Outsourcing
- 13. Utility Computing Services
- 14. Telecommunications
- 15. Call Center / IT Services
- 16. Consulting
- 17. Other Technology Services

7 ARE YOU INVOLVED IN BUYING, SPECIFYING, RECOMMENDING OR APPROVING THE FOLLOWING SOFTWARE? (PLEASE CHECK ALL THAT APPLY):

- 01. Enterprise / E-Business Applications
 - 02. Customer Relationship Management (CRM / eCRM)
 - 03. Enterprise Resource Planning (ERP)
 - 04. Supply Chain / Procurement
 - 05. Business Process Management
 - 06. Business Intelligence / Data Mining
 - 07. Knowledge Management
 - 08. Portals
 - 09. Collaborative Applications / Groupware
 - 10. Project Management
 - 11. Financial / Payroll / Billing
 - 12. E-business / E-commerce
 - 13. Database Management Systems (DBMS)
 - 14. Data Warehouse
 - 15. Manufacturing
 - 16. Asset Management / Software Distribution
 - 17. Performance / Application Management
 - 18. Streaming Media
 - 19. Other Enterprise / E-Business Applications
- 20. Integration Software
 - 21. Web Services
 - 22. Web Services Orchestration
 - 23. Application Servers
 - 24. Enterprise Application Integration (EAI) / Middleware
 - 25. Business Process Management
 - 26. Legacy Application Integration Tools
 - 27. Other Integration Software
- 28. Application Development
 - 29. Application Development Tools
 - 30. Application Servers
 - 31. Web services
 - 32. Java / J2EE
 - 33. XML
 - 34. .NET
 - 35. Testing Tools
 - 36. Other Application Development Software

10 ARE YOU INVOLVED IN BUYING, SPECIFYING, RECOMMENDING OR APPROVING THE FOLLOWING PRODUCTS OR TECHNOLOGIES? (PLEASE CHECK ALL THAT APPLY):

- 01. Networking
 - 02. LANs (Local Area Networks)
 - 03. WANs (Wide Area Networks)
 - 04. Switches / Routers / Hubs
 - 05. Caching / Load Balancing
 - 06. Grid / Utility Computing
 - 07. E-mail
 - 08. Instant Messaging / Peer-to-Peer
 - 09. Content Delivery Networks
 - 10. Network and Systems Management
 - 11. Traffic Monitoring and Analysis
 - 12. QoS (Quality of Service)
 - 13. VoIP (Voice over IP)
 - 14. Telecommunications
 - 15. IP Telephony
 - 16. Wireless
 - 17. Remote Access
 - 18. Web / Video Conferencing
 - 19. Other Networking
- 20. Storage
 - 21. High-end / Enterprise Class Storage
 - 22. Network Attached Storage (NAS)
 - 23. Storage Area Networks (SANs)
 - 24. Storage Management Software
 - 25. IP Storage
 - 26. Direct Attached Storage (DAS)
 - 27. Storage Blades
 - 28. Storage Backup (Tape, Disk, Optical, RAID)
 - 29. Removable / Portable Storage
 - 30. Disaster Recovery
 - 31. Other Storage
- 32. Security
 - 33. Anti-Virus / Content Filtering
 - 34. Firewall
 - 35. VPN (Virtual Private Network)
 - 36. Identity Management / Authentication
 - 37. Intrusion Detection
 - 38. Encryption
 - 39. Other Security
- 40. Internet / Intranet / Extranet
 - 41. Web Servers
 - 42. Web Development / Authoring Tools
 - 43. Web Performance Management / Monitoring Software
 - 44. Content Management / Document Management
 - 45. Content Delivery Networks
 - 46. Internet Software
 - 47. Other Internet / Intranet / Extranet

8 ARE YOU INVOLVED IN BUYING, SPECIFYING, RECOMMENDING OR APPROVING THE FOLLOWING HARDWARE? (PLEASE CHECK ALL THAT APPLY):

- 01. Hardware
 - 02. Mainframes
 - 03. NT / Windows 2000 / .NET Servers
 - 04. Unix Servers
 - 05. Linux Servers
 - 06. Blade Servers
 - 07. PCs / Workstations
 - 08. Notebooks / Laptops
 - 09. PDAs / Handhelds / Pocket PC / Wireless Devices
 - 10. Other Hardware
- 11. Peripherals
 - 12. Laser Printers
 - 13. Inkjet Printers
 - 14. Monitors
 - 15. Flat Panel Displays
 - 16. UPS (Uninterruptible Power Supply)
 - 17. Network Copiers
 - 18. Other Peripherals

11 WHICH OF THE FOLLOWING OPERATING SYSTEMS ARE IN USE OR PLANNED FOR USE AT THIS LOCATION? (PLEASE CHECK ALL THAT APPLY):

- 01. Windows XP
- 02. Windows 2000
- 03. Windows NT
- 04. Windows 95/98
- 05. Windows CE
- 06. Mac OS (Macintosh)
- 07. Solaris
- 08. UNIX
- 09. Linux
- 10. MVS, VMS, ESA
- 11. VM
- 12. OS 400
- 13. Netware
- 14. Palm OS
- 15. Other OS

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