Not so long ago, technology was little more than an afterthought in the strategic planning processes of major corporations. The CEO would determine a corporate course, then ask technologists to implement it. Many companies didn’t even have a CIO—and in those that did, the CIO was not usually considered a strategic player. The technology/strategy divide was deep and it was seldom crossed.

Today, that situation has changed. Thanks mostly to the Internet revolution, technology now plays an essential role in the modern corporation. Recognizing this, companies are crafting technology-based strategies and elevating CIOs to positions of strategic importance in the process. How has the CIO function changed and what challenges does today’s CIO face? These questions were the focus of The CIO Summit presented by BusinessWeek and WorldCom on May 10–11 in Boston, MA. The cross-industry gathering explored the evolving roles and responsibilities of CIOs.

**Internet Technologies and Today’s Corporation**

The adoption of cutting-edge Internet technologies is no longer optional in today’s corporation, it’s a must. In part because customers demand it. And it’s clear that CIOs are at the center of not only of technology purchases and implementation, but of setting the strategies that leverage their power. An audience poll revealed that nearly 90% of conference attendees either headed their company’s e-business functions or were central to the planning and implementation of those functions. As Frank Nigro, director of e-applications product management for WorldCom, points out, “Your customers are evolving. They have accepted and embraced things like e-mail and chat, and they’re not going away. You’re stuck with them. So you must evolve your business plan to incorporate those things into how you do business.”

Keeping customers happy, however, is only one small part of the equation. Companies today understand that there are myriad operational advantages to be gained through the use of these technologies. One such technology is the virtual private network, or VPN. A VPN allows a company to provide 24/7 global network access to employees, vendors, partners, stockholders, or other entities. Janel Crabtree, director of global IP VPN services for WorldCom, points out the advantages of such a network: “You can run all of your networking functions over a single infrastructure, which makes them simpler and easier to manage. A VPN gives you lower cost and global availability. You can outsource it. And you can use it to run applications that require higher bandwidth, global availability, and access to both the public Internet and your private solutions.”

Another valuable technology is universal routing, which shuffles customer queries...
I-Culture

“Corporate culture ultimately determines how work gets done and progress gets made inside a company. It’s the invisible hand that is guiding things. Therefore, it is critical to your e-business strategy,” says Peter Solvik, senior vice president and CIO of Cisco Systems, Inc. Yet most companies neglect this issue: “Very few companies address culture as part of their e-business initiative. And that’s a key reason that some companies are not getting the results they were hoping for.”

According to Solvik, success as an Internet corporation requires an underlaying Internet culture, or I-culture. What exactly is I-culture and what is its value? “It’s comprised of values, principles, and behaviors required to accelerate success in the new Internet economy. An I-culture supporting Internet initiatives enables corporations to rapidly adapt, providing better customer service and creating shareholder wealth.”

Making the change will not be easy, says Solvik. But it is essential. “It is very short-sighted to expect a return on your investment without looking at how culture could be a barrier to your success. You must determine whether your current culture is helping you—or getting in the way.”

Conference chairman Scott Shuster (left) had some time to question Pete Solvik, Cisco’s CIO, after his intriguing presentation on the importance of building an Internet culture.

After making individual presentations, MIT’s Erik Brynjolfsson (second from left), Capital One’s Marge Connelly, and Prudential Insurance’s William Friel joined conference chairman Scott Shuster to continue the discussion on The Evolving Role of the CIO.

from multiple channels (phone, fax, e-mail, etc.) into a single queue. Not only does this technology simplify the customer care process, it also has important ramifications for the business as a whole. “If you have different data in separate systems, that means your knowledge of the customer is most likely in separate places too,” explains Lucy Sanders, vice president and chief technology officer, eCRM Solutions, Avaya Labs. “If you don’t blend these communication channels, you won’t have a consistent view of the customer.”

VPNs and universal routing are just two of the emerging technologies that are enabling chief information officers to redefine corporate strategy. There are countless others and spotting those that are most promising is difficult, so forward-thinking companies, including Charles Schwab & Co., are establishing policies that promote the adoption of the most promising ones. Frederick Matteson, executive vice president of Schwab Technology Innovation, explains Schwab’s three-pronged approach. “Each of our enterprises has fundamental operating spends that are mandated at the corporate level. Then they have discretionary funds with which they can finance whatever technology they want. And finally, we fund enterprise-wide applications out of a corporate project budget, which means we don’t have to solicit support from individual business units.” Between these three policies, says Matteson, Schwab ensures the implementation of new technologies but also strikes a balance between corporate consistency and departmental innovation.

Which Technologies?

With the advantages of innovation becoming increasingly evident, the CIO’s biggest challenge is no longer convincing a reluctant CEO to adopt new technologies. The issue, rather, is choosing the best and most appropriate solutions from the thousands available. But there is a minefield of distraction to navigate. Many CIOs have championed dazzling new technologies only to discover that they were nothing more than window dressing. It is dangerous to get sidetracked in this manner, says Paul Rosenblum, vice president of product management for Blue Martini Software. “We would never suggest that people do stuff just because it’s cool. That doesn’t make a lot of sense. You should look at technology on an ROI basis and decide whether it makes business sense.”

Gord Kukec, vice president of eBusiness for Crystal Decisions, also cautions against getting caught in the “cool” trap. “It’s very easy to become seduced by the latest technology. But if you can’t see how it improves your business, I suggest you think again.”

How does one avoid the Siren’s call? “Ask whether a technology answers the ‘So what?’ question. Will it allow you to drive better

“Everything you do as a CIO has to be centered around knowledge of the business process. Otherwise you will not be successful.”

THOMAS J. FLANAGAN, senior vice president, program management and application engineering, WorldCom
As this risk—and doing so can be a delicate task. "Look at how it improves the fundamentals of the business process. Incremental change doesn’t really alter your business. It improves market opportunities, but it does not create new ones. To create, we have to look for disruptive technologies." **Erik Brynjolfsson**, professor at MIT’s Sloan School of Management and co-director of the Center for e-Business@MIT, agrees: “Simply overlaying technology on old systems is not likely to succeed. But if you really leverage technology well, you can reinvent your business and create a set of information flows that would paralyze an old-line organization.”

The advances enabled by disruptive technologies, of course, do not come without risk. It is the CIO’s responsibility to manage this risk—and doing so can be a delicate task. As **Joe Feliu**, vice president of operations and CIO of Visto Corporation, points out, “We have to meet the needs of our users. If the technology isn’t appealing or easy to use, it’s not going to work for them. On the other hand, we have to make it work for our companies, too; it can’t meet our customers’ needs but drive us out of business. Our job as CIO is to strike that balance.”

**The CIO’s Changing Role**

Striking a balance requires an understanding not only of technology, but also of a business’s customers, philosophy, and strategic direction. Today’s CIO, therefore, must be more than a technologist. In the words of **Marge Connelly**, executive vice president of Capital One Financial Corporation’s domestic card operations and IT infrastructure departments, “The CIO must be a business leader, a technology leader, and a cultural leader, not just within the IT division but across the entire company...The CIO has to have a deep understanding of the critical business levers and then translate that understanding into technical specifications.”

Transcending the technologist role is not always easy. Especially in old-line companies, the CIO must often prove his or her readiness to be a strategic player. According to **Sateesh Lele**, vice president and CIO of FritoLay-PepsiCo., this is accomplished through knowledge. “CIOs can bridge the technology/strategy divide by developing the ability to converse in business terms,” he says. “Once you can do that, then people are willing to say ‘OK, he understands the business. Let’s make him a collaborative partner with the chairman, the CEO, and the rest of the top management team.’”

Communication, too, is essential. It doesn’t help to understand the business if you can’t talk the talk, says **James Bussey**, advisory board member of StrataSys. "When you’re discussing a technology upgrade, do you speak the technical language? No. You talk about ROI and leveraging that investment. Striking a chord with your management gives

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**The New Economy of Delight**

“The percentage of our incomes that is dedicated to survival is dropping at an unprecedented rate,” says **Eric Clemons**, professor of operations and management at the University of Pennsylvania’s Wharton School. As a result, people are making more and more delight-based purchasing decisions. What does that mean? Clemons offers an example: “What percentage of your household income goes to mustard in a year? Rounded off, it’s 0.0000%. So why would you accept anything but exactly what you want? That’s delight.”

With its ability to customize products, the Internet will drive this New Economy of delight, says Clemons. The best part from the corporate view? It’s cheap. “With perfect information you can deliver delight to every customer at almost no cost to you—and delight improves your profit margin.” It is incumbent upon CIOs, therefore, to learn how to play this new game. The trick will be figuring out how to price delight-based services. As Clemons says, “You can’t afford to deliver delight for free. Everybody is entitled to respect, but not everybody is entitled to the same level of delight.”

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"We can’t do everything for every constituent inside and outside our organization. So the challenge is giving them the ability to do it themselves.”

**Gord Kukec**, vice president, eBusiness, Crystal Decisions
“We can’t do everything tomorrow—but if we promise that we will do something tomorrow, we have to deliver.”

**MARGE CONNELLY**
executive vice president, domestic card operations and IT infrastructure, Capital One Financial Corporation

“I think that the things we have learned about running contact centers are going to be applicable to the whole business.”

**LUCY SANDERS**
vice president and chief technology officer, eCRM Solutions, Avaya Labs

“BP realizes that we can’t salvage the past. We have to stop trying to fix it and build for the future instead... I have a spine-tingling feeling that somewhere in BP, the future has already happened. What we have to do is find it and bring it to scale.”

**JOHN LEGGATE**
group vice president, digital business, BP

“If you invest in information technology without investing in the people behind it, you are likely to be disappointed with your results.”

**ERIK BRYNJOFFSON**
professor, MIT Sloan School of Management; co-director, Center for e-Business@MIT

**Challenges and Opportunities**
That type of fearless approach may actually be the key to success in today’s challenging economic climate. With the right attitude, says **ROBERT ATKINS**, vice president of Mercer Management Consulting’s communications, information, and entertainment group, a company can turn hard times into competitive advantage. “It’s very tough to gain relative share when the economy is going well and everyone is investing. But in a recession, everybody is cutting back. If you can be a little bit smarter about how you cut and make the right investments to position yourself for the upturn, you can move ahead of the competition.”

**JOHN LEGGATE**, group vice president of digital business for BP, also sees a positive side to the economic downturn, particularly in terms of lessons learned. “The Internet was never about technology. It has always been about how to do business faster, more efficiently, and more profitably.” Leggate also offers a prediction: “The winners in the second wave of the Internet revolution will be the companies that have real assets and that learn to understand those assets in new ways, to manipulate them on a scale they haven’t achieved before through the use of digital technology.” In short, he says, “The revolution is not the technology. It’s what we do with it.”

With that statement, Leggate strikes at the heart of the technology/strategy divide. For if the revolution is not in the technology, then a CIO who is a technologist alone will inevitably be a bit player in the corporate transformation process. One who looks at the larger picture, on the other hand, will necessarily assume a role of strategic importance—and will help to shape the future in the process.

To view a Web cast of the The 2001 CIO Summit, please visit our Web site at www.conferences.businessweek.com