The high cost of change

The growing complexity of Information Technology.

To understand the complexity of today's technology environment, it helps to stand for a moment in an IT manager's shoes. One warning—you won't be standing still.

Today's IT managers are continually on the move amidst a constantly changing stream of multivendor products and technologies—a stream quickly becoming a deluge.

Analyzing these multiple technologies and integrating them into existing IT infrastructures is difficult, time-consuming, and costly. Furthermore, new technology requirements, such as Web applications or ongoing Year 2000 issues, are straining the resources of the IT department.

Extending those resources is a formidable task, particularly when the demand for IT employees far outweighs the supply. Further compounding the complexity is a new user-driven form of networking—the Web. Employees are sending global e-mail, downloading files, conducting international research, and more. Consequently, controlling or predicting the use of network systems is becoming much more difficult.

Equally unpredictable is the world's constant economic and market shifts. Factors like industry consolidations leading to mergers and acquisitions, and a roller-coaster stock market, do nothing to establish a sense of permanence in the business world. Domestic and international regulatory influences also contribute to the chaos.

With so many changes happening so quickly, the need to manage change becomes paramount. Expertise is scarce and management processes are still evolving. The question becomes "Can you change faster than change?"

A new term called "change fatigue" has arisen. This fatigue results when the various change drivers (technology, business rules, regulatory issues, etc.) occur in an uncoordinated, asynchronous schedule. IT organizations are under significant stress as they attempt to "change faster than change" and re-engineer themselves on the fly, add value to the business, respond to customer needs, and drive down costs wherever possible.

As a result, IT managers are caught in a bind—they have neither the resources to fulfill the promise of IT as a strategic asset nor the luxury of providing strategic IT leadership.

Moreover, priorities are continually changing.

While yesterday's IT executives might have established priorities on an annual basis, today's executives are more likely to require monthly or weekly objectives from their IT leaders. As Roger Baldock, a partner in Andersen Consulting's Financial Services, succinctly put it: "Responding in years to a world that now moves in nanoseconds is a dangerous strategy."

INTERNET IMPACT: SURFING THE WEB VS. GOING UNDER

Of all the questions raised by the onset of new technologies, none is more important than "What role will the Internet play?" Virtually unknown five years ago, the Internet has advanced at a rate unmatched by any technology in history.

While only three million people used the Web in 1993, this global public network currently boasts more than 100 million users worldwide. (To put that figure in perspective, consider that it took radio 38 years and TV 13 years to reach half as many individuals.)

Just as incredible, traffic on the Internet is doubling every 100 days, yielding an annual growth rate of 700%, with the U.S. Department of Commerce expecting one billion Web visitors by 2005.

The number of commercial Web sites has also skyrocketed, from about 2,000 three years ago to almost a quarter of a million today—and it is growing rapidly. In fact, general business use of the Internet and intranets is expected to increase annually at a rate of 60% or more.

While the Net offers unrivaled communications economy and efficiency, its true power lies in its ability to create completely new ways of conducting business. Take, for example, e-commerce, the buying and selling of goods or services over the Internet.

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Avoid change fatigue

The fierce pace set by the Internet's technological development has created a new problem for the enterprise: change fatigue. IT departments are losing the race to implement the latest best practices and applications. In order to keep up, an enterprise must assess the evolving changes in the IT environment against the organization's ability to absorb them, either on its own or with the assistance of services like outsourcing. Here are a few suggestions for departments fighting change fatigue:

- Establish company-wide standards for ease of management and to reduce integration problems during upgrades;
- Set aside more time for vendor management;
- Keep documentation of your assets and processes available and updated;
- Be sure to revisit your high-level IT plans regularly to ensure you're still on track; and
- Do not deploy new technologies before they are fully tested, your staff is trained, and your support infrastructure is in place; or work with an outsourcer whose core competence is to manage IT change.

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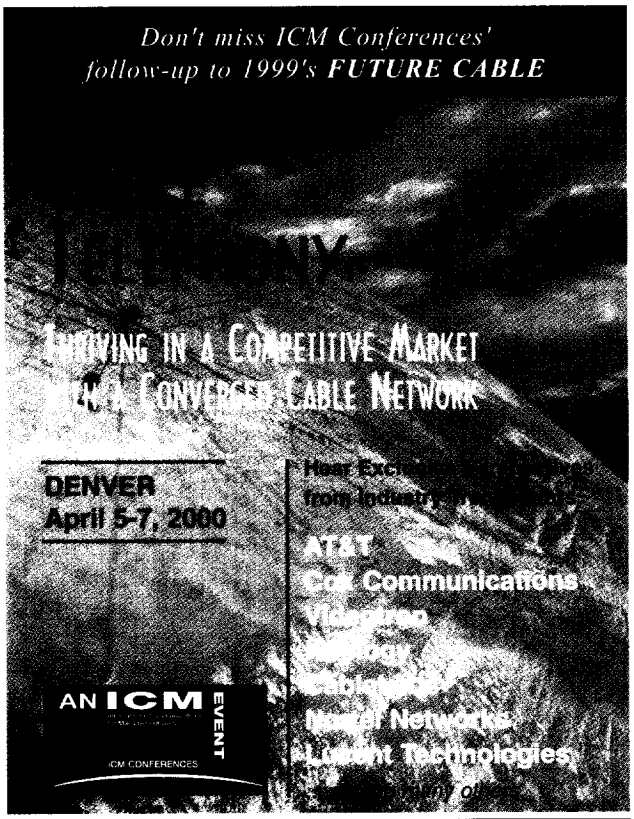

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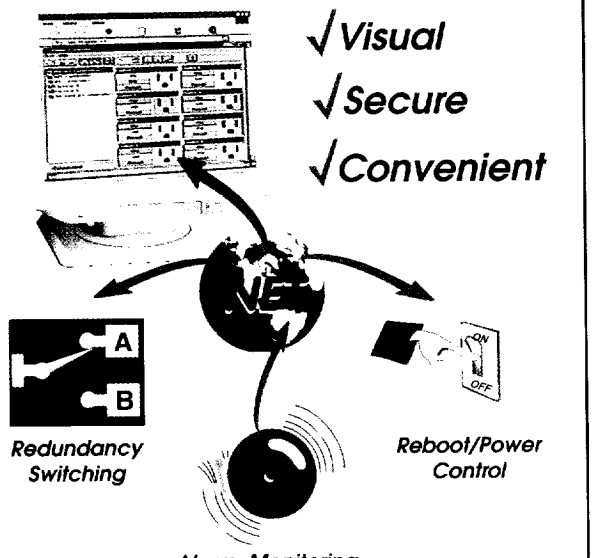

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Only a couple of years ago, revenues for e-commerce were estimated to reach $22 billion and were expected to grow to $350 billion in four years. Equally significant, 78% of the e-commerce transactions in the next few years are expected to be business-to-business.

The impact of such dramatic changes has yet to be fully felt or understood. Additionally, as bandwidth-intensive applications—like integrated voice, video, and data—become more commonplace on the Net, the repercussions are likely to be felt by technology managers everywhere.

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THE LONG AND SHORTAGE OF IT

According to a recent study by the Information Technology Association of America (ITAA), employment in the hardware and software industries has practically tripled over the past 10 years.

The expansion of technology into virtually every level of our lives has led to a market where IT skills are constantly in demand across all industries: healthcare, finance, manufacturing, retail, and so on. Yet, as the demand continues to grow, the supply is lagging seriously behind.

In the U.S. alone, it was expected that more than one million new computer scientists, engineers, systems analysts, and programmers would be required between 1994 and 2005 at an average of 95,000 per year (U.S. Department of Labor, Bureau of Labor Statistics). In fact, the ITAA study found that 82% of technology companies and over 50% of nontechnology companies planned to increase their IT staff in the coming year—even in the face of 346,000 currently vacant IT positions.

Additional surveys are sending similar signals. For example, a Coopers and Lybrand study found that nearly half of America's fastest-growing companies are experiencing an inadequate supply of IT workers.

To help alleviate the crisis, Washington recently increased the immigration limit for temporary foreign IT workers, which formerly stood at 65,000 per year. But this is only temporary and is not a U.S.-only predicament.

A recent Deloitte & Touche survey of 1,500 CIOs in 21 countries indicated that companies around the world are experiencing the same high turnover rates and increased demand for IT skills. In Europe alone, says the ITAA survey, there are currently 260,000 IT job openings.

This shortage is particularly harmful for small and midsized companies, which are not equipped to offer "perks" like stock options and lush retirement programs to attract the cream of the technology crop. In fact, in a recent survey by the National Association of Manufacturers, nearly 35% of the smaller member companies cited "finding and keeping qualified employees" as their most serious problem.

But perhaps the most distressing aspect of the IT personnel shortage is the fact that it is destined to get worse. As IT infrastructures continue to evolve in new directions, the need to add, enhance, and leverage skills will only increase in importance.

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