Enterprise IT: Ready for a bumpy ride

By Denise Dubie, 01/05/2009

To meet company needs without spending big bucks, IT execs are riding herd on business strategists and trotting out innovative technology approaches. Enterprise IT executives are taking the economy's downturn in stride. This not being their first time at the rodeo, they know how to take the bull by the horns.

High-tech leaders looking out over the year anticipate tightened budgets, greater demands on limited staff and tough negotiations with business managers about which needs technology can meet during this financial crisis. (Read analysis of our budget survey.) What they don't anticipate is a repeat of their experiences during the industry collapse of 2001, when IT executives took backseats while CEOs decided the direction of their corporations' technology use.

"The last time IT experienced this type of economy, the budget cuts were more punitive in light of high-tech seeing double-digit growth for years," says Robert Whiteley, a principal analyst at Forrester Research. "IT basically gutted itself and, from a skills and alignment perspective, has been paying for it ever since. Now IT is going to be smart in the cuts and offload noncore functions, while maintaining necessary resources."

That's why many IT executives view today's economic uncertainty more as an opportunity to stretch their muscle, and less as an uncontrollable force. Some say they even feel empowered to guide business leaders via strategic technology decisions that improve the bottom line.

Many IT leaders, for example, are investing in software-as-a-service (SaaS) - which involves providers delivering applications via a hosted, subscription-based model - to bring killer applications in-house without breaking the bank. They're changing service levels to require less immediate help desk responses for calls that aren't business-critical. And some are rolling the dice and cutting back investments in disaster recovery to facilitate increased mobility for workers.

The point is, IT executives can lead the charge to optimize services with less money.

"One should never turn down the opportunity to exploit a crisis, and IT organizations are more willing today to take a risk to get a benefit," says Peter Whatnell, CIO at Sunoco and president-elect for the Society for Information Management.

Where's the budget?

IT budgets indeed have shrunk for 2009: In a survey of Network World readers, roughly one-third of 123 respondents said they intend to keep IT spending at 2008 levels, and another 43% said they will spend less (see "IT budget '09: Spending down and contingencies at the ready"). IT organizations face a lean, challenging year of providing more services with fewer resources.

With shriveling IT budgets, spending forecasts for 2009 have fallen, too.

Gartner has dropped its worldwide IT spending estimate for 2009 from 5.8% to 2.3%. Forrester has adjusted its U.S. technology-spending predictions for the year from 6.1% to as low as 2%. And IDC has ratcheted down its global IT-spending growth projection of 5.9% to 2.6%. U.S. spending won't grow as much as 1%, IDC predicts.

Today's IT executives, however, are financially smarter and savvier about business than they were eight years ago. They still haven't reached the nirvana of complete business-IT alignment, but this year will provide IT executives with the chance to showcase just how far they've come.

Ken Harris, CIO at Shaklee, a maker of natural nutrition, cleaning and personal-care products in Pleasanton, Calif., sees the situation this way: "IT has become a standard part of the business. It is embedded into many aspects of the company, and can't easily be extracted at this point."

IT can't be left out of big-picture budget discussions either.

"It's less of a situation now where someone from the business dictates to the CIO about cutting budgets 20%, and more about how IT as an organization finds ways to advance the infrastructure and add value - even as budgets are being tightened," Harris says.

Susan Cramm, president of IT leadership consultancy Valuedance, agrees.

"IT has positioned itself as being much more cost-conscious, and the business doesn't look to IT as though it's completely out of control, buying technology for technology's sake," Cramm says. Previously CEOs just might have cut the budgets; now they are telling CIOs the numbers they need to reach and trusting them to figure out the best ways to get there. That's a good thing."

IT has more options at its disposal than ever before to weather an economic storm. For instance, SaaS and cloud computing offer IT organizations variable pricing models and much-needed technologies at a lower cost and faster time to market. Virtualization continues to let IT consolidate physical resources, which lowers power, cooling and other costs and increases services to the business. With far fewer dollars to spend on new investments, IT organizations will have to be creative this year to succeed.

At Shaklee, signing on for Virtela Communications' managed network services has let IT add value without burdening the budget. The company needed to expand quickly from five countries to 50 and distribute its products globally. (Read a story on WAN optimization services.)

"Budgetwise we were not going to be able to bring professionals with the right skills on board, and we needed to achieve the business goal of going global," Harris explains. "By choosing managed services, we got there without having to make significant investments in technology."

Strategic spending

IT organizations this year will be examining which technology investments serve the business best and which might be better left on the back burner.

"With every project we approach, we now consider closely how it helps us build efficiencies within the organization. And if it isn't going to provide us with efficiencies to do our work better or reduce overhead while improving services, it won't make the cut," says Devon Chalmers, CSO at PBS&J, an architecture, construction and engineering firm in Atlanta.

A wireless overhaul passed the efficiency litmus test - the firm has 90 offices nationwide with a very mobile workforce - and so it has the spending go-ahead for the coming months, Chalmers says. By implementing a next-generation, 802.11n system from Aerohive Networks, he will be able to provide more centralized control, security and efficiencies in PBS&J's wireless environment. (Read how Aerohive fared in our Clear Choice Test of wireless LAN access points.)

"We bring up offices all the time. Our engineers, architects and construction staff need to be mobile so they are not stuck without access to their work," Chalmers explains. "To support our users, we need to create a centrally managed, autonomous environment."

The opposite is true for Michael Morris, communications engineering manager at a $3 billion high-tech company and a Network World blogger. His company deferred plans for a wireless infrastructure upgrade and a WAN-optimization rollout to focus on IT projects that will save the company money.

"It's getting harder to justify infrastructure activities that potentially could enhance productivity for the entire organization but are difficult to tie back to a specific business unit," Morris says.

Vetting various cost options

Being able to vary IT expenses is especially critical in a down economy. This year, more than ever, IT executives will be weighing whether to buy technologies outright or pay for needed capabilities via subscriptions.

More enterprises will put together their core packages of enterprise services using internal and external virtual or cloud resources," says Phil Hochmuth, a senior analyst with Yankee Group. "The virtualization concepts that are reshaping enterprises - decoupling applications, operating systems and services from physical hardware and locations - will extend beyond the enterprise perimeter."

SaaS already has taken off, and industry watchers expect this trend to continue. Gartner expects the technology's worldwide spending uptick - which at the close of 2008 stood at more than $6.4 billion, or a 27% increase from 2007 - to continue this year and beyond. The research firm forecasts the market to more than double by 2012 to $14.8 billion.

In addition, cloud-computing technology is expected to see rapid adoption in light of the current economic condition (read "Nine hot technologies for '09").

By 2012, IDC predicts, dollars spent on cloud-computing services will account for 25% of the growth in IT spending worldwide and almost one-third of 2013's growth. The research firm also expects that by 2012, nearly 10% of IT spending will be on cloud offerings, including SaaS and cloud storage. IDC also forecasts that spending on IT cloud services will reach $42 billion by 2012.

"Just as virtual servers are easily brought online, moved around and deprovisioned in an enterprise cloud, businesses will look to bring in pieces from externally hosted sources, whether those are SaaS business applications - such as Salesforce.com, storage, backup and disaster recovery - or security services, such as filtering and inspection technologies," Hochmuth says.

Cloud storage, along with grid computing, is a top priority this year for Alex Godelman, vice president for technology at Gorilla Nation, an online-advertising sales representative firm in Los Angeles. The promised efficiencies of such technologies bring business and IT leaders together, and that eases planning during an economic downturn. Cloud storage software, such as from ParaScale, would prevent vendor lock-in and lessen the investment he would have to make in a high-priced storage infrastructure, he says. (Read a story on trusting stored data to the cloud.)

"If you look at a traditional mass-storage environment, you invest in a [storage-area network] framework and can grow it to a certain extent, but beyond that level, you would need to do a forklift upgrade," Godelman says. "With cloud storage, when you need more capacity, you add another component to the cluster of low-cost components. You repurpose existing hardware investments and make a very insignificant software investment."

Cloud computing remains an emerging technology, and many in IT aren't comfortable with storing company data in an external location; the lower cost and proposed efficiencies, however, will override those concerns this year.

"We will be focusing on our core applications and looking to see what makes sense to outsource so we can cut administrative costs. SaaS can cut costs, but it introduces a risk in putting company data elsewhere. But in this economy, we will consider riskier options [such as software-as-a-service] simply because they make sense financially," says Jeremy Gill, CIO of Michael Baker Corp., a civil engineering firm in the Pittsburgh area.

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Optimizing existing networks

This year also will see IT executives carrying on the 2008 trend of reworking existing systems and networks for optimal performance. This they'll do in lieu of buying the latest and greatest hardware. (Read a tips story on how to optimize IT.)

Blogger Morris' company has completed all the research around a syslog project that involves dedicating network staff to engineering and architecture work that could boost performance, he says. "It is all about cost savings. Projects are being slashed left and right, so we are turning toward internal projects that don't require us to spend money right now," he adds. The company also will look for ways to limit external conference calls and use internal resources that cost less.

"With external projects on hold, it frees up my team to improve processes and look for ways to introduce more automation in the environment," Morris says. "We may get a lot of projects cut, but we have a lot of work we can do, such as routing-protocol optimization, that doesn't require anything but labor and could drive revenue with improved business processes."

Others are sticking to planned projects, but negotiating with vendors to get better prices or extending the life of the project to lessen the blow to this year's budget.

For approved projects, "we are looking at pushing the timeframe out, trying to save some money in the budgeting cycle in 2009, but still trying to get what is important to the business done," Michael Baker's Gill says. For example, the company's IT department is kicking off Phase 1 of a collaboration project that involves moving e-mail, file and print servers from Novell to Microsoft, he says. It will be expanding integration points to include voice, video and presence technologies to drive work-sharing among offices and improve utilization rates. The first part of the project will lay the foundation; then IT will implement pieces that provide value in the long term. (Compare Collaboration/Web 2.0 products.)

"This project is ideal in a down economy because we can get it done within the budget constraints, but we are still adding some value by revisiting business processes and using technology to streamline," Gill says. The business still can take advantage of the project's incremental gains, while IT can slow capital projects to reduce the risks associated with having little wiggle room in their budgets.

"A big trend across enterprise IT in 2009 will be process efficiency: How can I make better decisions, act more efficiently and reduce the operational burden?" Forrester's Whiteley says. Those efforts will result in incremental spending in management and automation technologies, but only when IT can prove a demonstrable and quick return on investment. "It's a good time to work at getting everyone in IT singing from the same songbook," he says.

Process efficiencies, such as the best practices laid out in ITIL, Control Objectives for Information and related Technology (CoBIT) and other industry standards, offer IT an outline of approaches to specific tasks. Management-software vendors incorporate the guidelines implementing change-management policies, for instance, into their monitoring and reporting tools. Then, organizations standardizing a specific process can turn to automation products - also available from management software vendors BMC Software, CA, HP and IBM - to remove the tedious manual labor.

"Now is the time to take advantage of process-automation and workflow tools. They are reasonably mature, and they introduce efficiencies that ultimately save money," says Mary Johnston Turner, an IDC research director. "It is important that IT take these manual processes and codify them to free up staff wherever possible."

Virtual, green gain ground

Green IT will continue to be important this year, but improving business economics - not the world ecosystem - will be the motivator, industry watchers say. (Visit our research center on green IT.)

"Green has the promise of a better world, but really it is about trying to be a lot more efficient when it comes to lowering the expense associated with infrastructure components," Gorilla Nation's Godelman says. "Any company with a large environment realizes the costs associated with it. Understanding the green element of each technology footprint will help cut costs significantly."

If going green means more green in company accounts, business leaders will hop on board with the IT initiative. "Green is going to be all about cost efficiencies, and virtualization is going to be across the board - servers, storage, applications, network - based on business demand for more services fast," says Tony Bishop, founder and CEO of IT consultancy Adaptivity. "You also will see data-center container technologies popping up. It is going to be radical." (Read more from Bishop on how to create a business-boosting virtualization strategy.)

A modular, containerized data center, available from such vendors as HP, IBM, Rackable Systems and Sun, fits storage and hundreds, sometimes thousands of servers into one large shipping container with its own cooling system. Proponents say that containerized data centers are easier to set up and manage than traditional data centers, and are more power-efficient.

"Leading firms need to get the cost out. They need to get to the point where they can shrink their infrastructures physically and do double the volume," Bishop says.

Ian Rousom, who works in infrastructure design engineering for Lockheed Martin Enterprise Business Services in Denver, sees this as the year of the reduced footprint across all technology elements. That means converging network and storage resources across the same infrastructure.

Theoretically, such technologies as Fibre Channel over Ethernet (FCoE) would help IT support one set of switching infrastructure devices instead of two. That offers simplicity in management but also provides cost advantages in terms of power, cooling and real estate, Rousom says.

"2008 was about how FCoE would emerge as a standard, and in 2009 we expect to see some products and a higher degree of interoperability," Rousom says. "It would require newer switches, but we could run the same Fibre Channel protocols we use for storage over the Ethernet network, and it would streamline the environment."

Rousom also is keeping an eye on virtual switching technologies emerging from Cisco and to a lesser degree, Juniper Networks. He says virtual switching products, such as Cisco's Nexus, would restore the network's responsibility in the switching infrastructure - server virtualization shifted some of that ownership to the systems group - and enable IT staff to use the same management processes and products for the physical and virtual environment. (Read our analysis of what the network becomes in a virtual enterprise.)

"If virtual and physical switches were running the same software, you could use the same management tools and staff would apply the same expertise to run and operate the devices," Rousom says. "There would be less potential for incompatibility and conflict for the virtual and physical infrastructures interacting."

Virtualization, as well as multifunction network devices, will become mandatory for IT shops planning to reduce infrastructure, lessen costs and improve services to the business. WAN optimization, security and network-management services will be compiled into fewer devices, making the enterprise IT environment ever more fluid, yet more cost-efficient, analysts say.

"Expect to see networking and virtualization become more closely intertwined in '09; enterprise IT departments are starting to take the concepts from server and data-center virtualization and apply those to network-based services, such as security, QoS and network management," Yankee's Hochmuth says. "This ultimately will result in networks where such technologies as packet inspection, security, traffic shaping and acceleration will be decoupled from individual network products and deployed as enterprisewide virtual services. And this will be pervasive, from the LAN edge to the aggregation, core and data center, as well as across the WAN."