MARKET PULSE

Disruptive Technologies in the Data Center

Despite all the press and discussion about the next-generation data center, a majority of IT leaders in a new IDG global research report still view data-center investments from a bottom-line perspective rather than as a platform for growth.

Their primary goal with the data center is to cut costs rather than to innovate to promote business strategy. While the classic IT themes of cutting costs, growing profits, improving margins and managing risk still dominate, there are hopeful signs that growth and innovation are starting to share the conversation at more organizations.

IT leaders should shift the data-center conversation from a sole focus on cost and operational efficiency to growth and innovation. If they succeed, they will gain several benefits: competitive advantage, cloud readiness, agility and faster response to market opportunities.

Introduction

With constant and increasing cost pressure squeezing businesses in general and IT departments specifically, it can be a challenge to look at the data-center budget through anything but a monetary lens. When CIOs are charged with continually reducing expenses by 10 percent a year, they tend to focus on technologies and processes strictly as the means by which they can do just that.

While cost is undoubtedly critical, focusing only on cost is short-sighted and could end up costing the organization more over the long term through lack of innovation and lost market opportunities. When CIOs view their data center in terms of broad business strategy, however, they can use IT as a platform for innovation and a major engine for business growth.

Changing that mindset is not easy; especially given the reality of budget constraints in today's tight economy. That's reflected in a recent survey by CIO and IDG Research. The survey polled 200 senior IT managers at U.S. and European enterprises to understand how they viewed their data centers, what drove their decisions on data-center investment, and how new technologies are affecting data-center strategies. This white paper focuses on the survey findings from U.S. respondents. For overall results and highlights of the differences between the regions, see Sidebar 1.

The survey confirms that the traditional factors of risk management, revenue and profits still drive decisions about the data center. A majority of respondents still think investing to cut costs holds more promise for improving the business (59 percent) than investing in solutions to drive revenue growth (41 percent). At the same time, however, the research indicates that the conversation around data-center investment is starting to change. At least some organizations are in a transition in their data-center approach and are starting to view data-center investments more strategically.

CIOs recognize that new technologies including virtualization, infrastructure convergence, new application architectures and cloud mobility are disrupting the traditional data center and impacting strategy. As IT departments embrace these game-changing technologies, the data center and IT are at a turning point whereby they can become truly transformative to the business. IT leaders who advocate this vision and successfully shift the mindset from cost-cutting and operating efficiency to growth and innovation have the potential to transform the data center from a tactical cost center into a strategic competitive weapon that produces business agility, increases profitability and enables new business and IT models.

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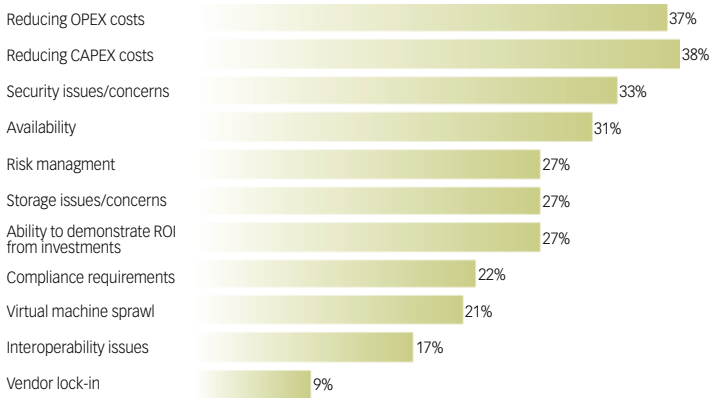
Top Data Center Challenges



Source: IDG Research, September 2011

Top-line findings

Virtually all companies recognize that their data centers are important assets. That's why organizations typically invest a chunk of capital spending and devote a large part of IT's ongoing budget to data centers. However, whether that asset is viewed as a key component of overall business strategy can make a big difference in the extent to which technology can be exploited for business transformation.

In the U.S., views on data-center investment are evolving, but a substantial number of IT managers apparently still need to be convinced that the data center can be a critical change agent for business transformation. In the survey, only 10 percent of U.S. respondents considered it a transformational asset, defined as an asset that leads the business proactively and changes the way business activities are executed. The majority—56 percent—said their organization viewed the data center as a strategic asset, one that should react to business needs and enhance business outcomes. And a significant proportion, 34 percent, viewed the data center as just a tactical asset that should support the business at the lowest possible cost.

This bottom-line view dominated when respondents were asked to cite the three top business imperatives driving their data-center strategy. Sixty-five percent cited the bottom line, profit growth or improved margins as the chief driver. A close second—62 percent—cited risk management. About half cited revenue and top-line growth, an encouraging sign that these IT managers are thinking strategically about the data center. Both innovation and agility, however, ranked below 50 percent, with business innovation coming in at 49 percent and speed to market at 35 percent.

But companies that view their data center as a foundation on which to build the future of the business are finding new ways of growing their business. Mediapro, one of the largest and fastest growing media and broadcast companies in Spain, invested in a next-generation data center so it could reach new customers and increase revenue. By upgrading and unifying its data centers, it can stream its sports channels over the Internet directly to customers. This new capability opens the door to a potential €300,000 in new advertising and subscription revenue while also eliminating an estimated €250,000 in costs of outsourcing content delivery. It can also bring other new services to market in half the time it took before (six weeks rather than three months) and at significantly lower cost. (See case study at www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/Mediapro_V3CSNT.pdf.)

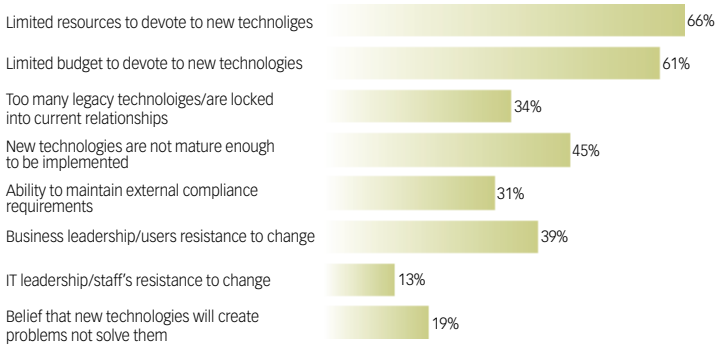
The IDG survey indicates that IT management aspires to more than just cost cutting. The respondents included agility (47 percent) as a top goal for their data center over the next year and a half, just below improving operations efficiency (50 percent) and ensuring business continuity and disaster recovery (47 percent).

Despite such a goal, however, responses to other survey questions indicate that IT is constrained by very real budgetary pressures. Respondents listed reducing capital and operating expenditures as the top challenges facing data centers today.

The challenge of new technology

CIOs recognize the disruptive impact and the strategic promise of new technologies. Virtualization is seen as the technology having the most impact by far. Some 90 percent of U.S. respondents reported virtualization

Barriers to Investment in Disruptive Technologies



Source: IDG Research, September 2011

will have a moderate or significant impact on their data-center strategy and decision-making over the next 18 months. They report that half of their production servers and nearly half of their business-critical applications are already virtualized, and predict both will rise significantly.

Respondents are taking advantage of new technologies, moving beyond simple virtualization and toward cloud computing. Although the vast majority of applications are hosted in traditional data centers today, respondents expect that figure to drop as many applications move to the cloud, both private and public, over the next 18 months.

Yet again, CIOs think a lack of resources may keep them from adopting these technologies as quickly and broadly as they might like. When respondents were asked to pick barriers that may inhibit investment in these technologies, they most often cited limited resources (66 percent) and limited budgets (61 percent) to devote to new technologies. Although there was also concern over the maturity of new technologies, the fourth barrier cited was resistance to change from business leaders or users. The fact that three of the top four barriers come from outside of the IT department indicates that corporate management may not be sold on the strategic benefits of such investments.

But enterprises that invest for growth may gain a substantial competitive advantage. Apollo Group Inc., which provides higher education programs for adults, had big plans for increasing its customer base and recognized that the data center had to be a critical part of its strategy. To meet future student demand and provide better service to adult students, including faster access and better availability, Phoenix-based Apollo built a next-generation modular data center that could scale as its student population grew. The new data center essentially doubled its IT infrastructure, yet Apollo manages it with the same number of IT staff as before. With the new infrastructure, Apollo can add bandwidth as its number of customers grows. (See case study at www.cisco.com/en/US/prod/collateral/modules/ps2706/ps6906/apollo_case_studyc36-646337.pdf.)

Global difference

In general, IDG's survey showed similar trends in the United States and Europe. However several interesting differences stood out:

- European respondents took a more transformational view of the data center. Almost 30 percent of the EMEA respondents viewed the data center as a transformational asset that leads the business proactively and innovates the way business activities are executed, compared to only 10 percent in the U.S. Only 19 percent of EMEA respondents viewed the data center as a tactical asset supporting the business at the lowest cost possible, compared to 34 percent in the U.S.
- While U.S respondents ranked virtualization as the most disruptive data-center technology initiative over the next 18 months, Europeans were less enthusiastic. Only 79 percent of EMEA respondents ranked virtualization as having a major impact, compared to 90 percent of U.S. respondents. EMEA also reported lower rates of production server virtualization and business-critical application virtualization.
- EMEA respondents rated limited resources and budgets as less of a barrier to investment in disruptive technology than their U.S. counterparts (42 percent of EMEA compared to 66 percent by U.S.) and rated legacy technology lock-in and IT leadership resistance to change as higher.

Cisco's Take on the Data-Center Strategy

Cisco has designed an architectural framework to help customers link their IT investments to tangible business outcomes. Called the Data Center Business Advantage, the framework's goal is to make the data center more agile, efficient and transformative. Specifically, it helps companies leverage their data center to:

- Accelerate the delivery of new services and revenue streams
- Increase profitability
- Enable transformative new business and IT models

For information on the Cisco Data Center Business Advantage, see http://www.cisco.com/en/US/netsol/ns340/ns394/ns224/architecture.html.

Impact on the business

Sometimes IT investments are misguided because there is a lack of agreement between business and IT over goals. The good news is that's not the case here. The survey shows that IT and business leaders use the same yardstick to measure IT success: it's successful if it's on time and under budget. The not-so-good news, however, is that both groups are still focusing on the traditional approach to IT—cutting costs and increasing efficiency—more than driving revenue and innovation.

Asked to rate the importance of various criteria to business leaders and IT leaders in evaluation of IT departments, U.S. respondents said both groups agreed on their top three priorities: delivering new services on time and under budget, achieving a certain percentage of IT cost savings and achieving percent gains in efficiency.

After those top priorities, however, business and IT leaders begin to split on their ratings of top criteria, suggesting that business leaders tend toward a more transformational view of IT. Substantially more IT leaders, for example, rate as important "completing specific technology implementations on time and under budget" than business leaders. And when it comes to generating revenue or creating innovation, business leaders are slightly more enthusiastic.

But it was an investment in its data center that enabled Parentix to adopt a new business model, win new business and accelerate its growth. This applications-hosting company in the Netherlands increased revenue by 50 percent in recent years, but its two data centers were becoming bottlenecks to continued growth. The company invested in a new center that standardized and unified its IT operations, plus established a foundation to virtualize the entire data center, enabling it to take a cloud-based approach to hosting. As an SaaS vendor, Parentix now offers more flexibility—allowing customers to set up and manage services online for example—and has a pay-as-you-go pricing structure that's more attractive to customers. (See case study at www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/Parentix_case_study.pdf.)

Next steps

Parentix' experience with virtualization and cloud computing shows how these technologies can reduce costs in the data center and set the stage for major business transformation. Over the next 18 months, according to the survey, virtualization of business-critical applications are expected to increase by 33 percent and hosting in the cloud is expected to increase by about 50 percent worldwide. This increased adoption has been driven primarily by their potential to reduce or better manage costs. But as companies adopt these technologies more broadly, IT and business leaders will be able to focus on how data centers can lead innovation and drive revenue growth.

The challenge in taking advantage of this watershed will be to change the overall mindset around the data center. Costs are coming down, so what now? These technologies open up new ways of achieving business goals. What part will your data center play in innovation—creating new services, products and revenue streams? How can IT enable profitable growth for the business? It is only when IT and business leaders think in these terms that the data center will fulfill its transformational promise.

For more information, please visit **www.cisco.com/go/dc.**