

**2011**

# **State of Cloud Survey**

**GLOBAL FINDINGS**



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## Executive Summary

While computing changes constantly, most shifts are simple changes that don't require organizations to change the core of how they work. Not so with cloud computing. While promising significant benefits, it requires organizations to change how they approach IT.

To better understand how organizations are dealing with these changes, Symantec commissioned the 2011 State of Cloud Survey, which gives a unique perspective on how organizations are adopting cloud computing. One of the largest surveys of its kind, it includes responses from 5,300 organizations across 38 countries.

In all, the survey asked more than 130 questions about a wide range of cloud computing areas, including:

- Public Software-as-a-Service
- Hybrid Infrastructure or Platform-as-a Service
- Public Infrastructure or Platform-as-a-Service
- Private Infrastructure or Platform-as-a-Service

The most striking findings are based on the process of moving to the cloud. First, organizations are conflicted about security, rating it both as a goal and a concern with moving to the cloud. This is unique to cloud computing. This may sound confusing, but we think this makes sense. Done correctly, security can be improved in a cloud environment. But it doesn't happen without planning and careful attention during the implementation phase.

Second, the survey found – perhaps not surprisingly – that organizations do not feel their computing staff is fully up to the challenge of moving to the cloud. This is a new area and computing professionals who have experience with cloud services are few and far between – less than 25 percent of total staff.

Resulting from this lack of readiness, the third survey finding is that while interest in cloud is high, few organizations have crossed the finish line, despite tremendous interest (and media coverage).

Fourth, among those organizations that have completed the move to cloud, there is a striking gap between the goals they expected to achieve and what they actually achieved.





## Methodology

Applied Research fielded this survey by telephone in April, May, June and July 2011. These results are based on 5,300 responses from organizations of all sizes, from five to more than one million employees in virtually every industry.

Geographically the survey included 38 countries, representing every region of the world. The countries included represent 83 percent of the world's GDP.

The survey targeted both SMBs and enterprise organizations. Within SMBs the target was the individual in charge of computing resources. Within enterprise organizations the target was a mix of IT personnel:

- 33 percent were senior C-level staff (Business Owner, CIO, CISO, CTO, etc.)
- 33 percent were senior IT managers who define their role as 'strategic' in focus
- 33 percent were senior IT managers who define their role as 'tactical' in focus

Globally, this survey has a reliability of 95 percent confidence with +/- 1.3 percent margin of error.

Note: Technology terms can often be interpreted differently by different companies; nowhere is this more true than with cloud computing. As a result, the survey defined cloud to the respondents as follows:

**Software-as-a-Service** - Software-as-a-Service is defined as software that you access via the Internet. It is deployed and maintained by the provider. There is no up front investment; rather, you pay for use as needed.

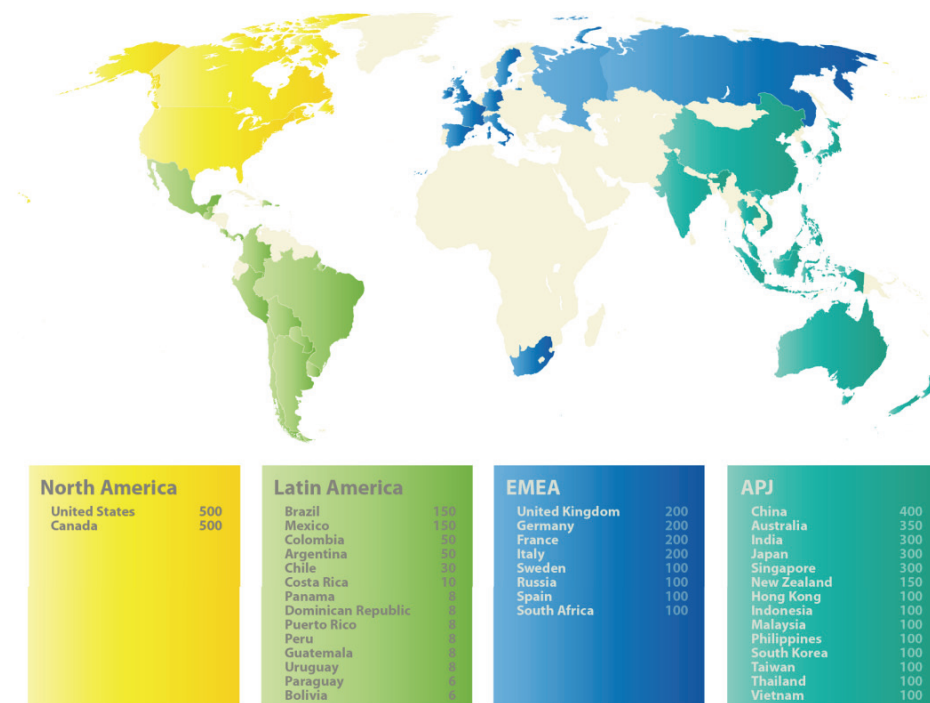
**Infrastructure-as-a-Service** - Infrastructure-as-a-Service offers core infrastructure, such as servers, switching, storage, etc., on an on-demand basis. The infrastructure is maintained by the provider. There is no up front investment; rather, you pay for use as needed.

**Platform-as-a-Service** - Platform-as-a-Service offers a platform for building your own cloud applications. All infrastructure is deployed and maintained by the vendor. Further, a set of APIs is provided to build your application. There is no up front investment; rather, you pay for use as needed.

**Private cloud** - Private cloud is a deployment model for things like Infrastructure-as-a-Service. It describes a model where an organization deploys the cloud service privately to its stakeholders only.

**Public cloud** - Public cloud is a deployment model for things like Infrastructure-as-a-Service. It describes a model where a vendor deploys cloud services publically for any company to use (for a fee).

**Hybrid cloud** - Hybrid cloud is a deployment model for things like Infrastructure-as-a-Service. It describes a model where an organization deploys both private cloud and public cloud services.





## Finding 1

### **Cloud security is top goal and top concern**

According to the survey, organizations are conflicted about security – rating it as both a goal and a concern with moving to the cloud. Respondents rated improving security as a top goal in implementing cloud computing. Not only that, the overwhelming majority (87 percent) is confident that moving to the cloud will not impact or will actually improve their security.

However, achieving security for cloud environments is also a top concern for these organizations. They are concerned about a myriad of potential risks, including malware, hacker-based theft, data leakage and so on. In fact, when asked to list their biggest concerns, the real finding was not which fears topped the list, but that so many fears made the list.

Of the concerns discussed in the survey, all were rated as somewhat or completely significant by 52 to 58 percent of respondents.

So, clearly, organizations are crossing the cloud chasm with both anticipation and trepidation.

Are they up to the task? Most say not just yet ...

“With the cloud, everything depends on how you secure your data. If there’s no security, there’s no point in moving to the cloud.”

*CTO of a small technology company*



### **SECURITY** BIGGEST CONCERN

**58%**  
Malware  
Outbreak



**57%**  
Hacker  
Data Theft



**57%**  
Insider  
Sharing



**56%**  
Rogue  
Cloud Use



**56%**  
Data  
Leak

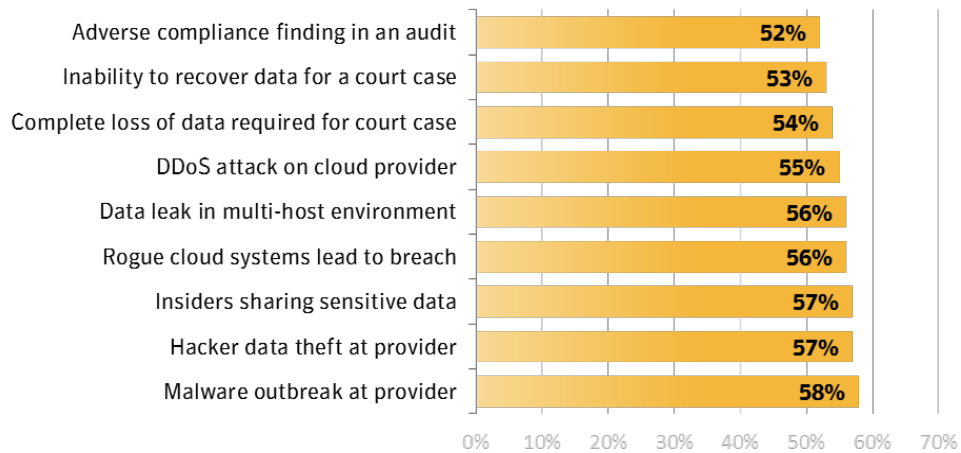


### **SECURITY** BIGGEST GOAL



## Biggest Concerns

Of the concerns discussed, all were rated as somewhat or completely significant by 52 to 58 percent of respondents.



**87%** 87% believe cloud will not impact or will actually *improve* their security posture.

Yet, they rate security as their #1 concern.

Top Threat Models?

- Mass malware outbreak at your cloud provider
- Hacker-based data theft from your cloud provider
- Sharing sensitive data insecurely via the cloud
- Rogue use of cloud leading to a data breach
- Data spillage in a multi-hosted environment

## Finding 2

### *IT staff not ready for move to cloud*

About half of the organizations surveyed said their IT staff is not ready for the move to cloud. While a handful (between 15 and 18 percent) rated their staff as extremely prepared, roughly half rated their IT staff as less than somewhat prepared.

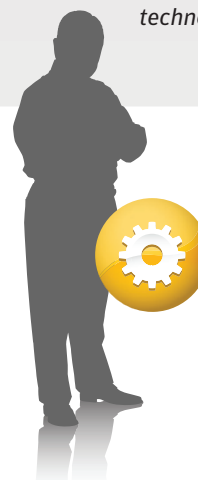
Part of the reason for this hesitancy is their staff's lack of experience. Less than 1 in 4 computer staffers have cloud experience. As discussed earlier, the adoption of cloud changes how IT works, so experience is absolutely crucial for IT.

To make up for this, organizations are turning to external resources to help. For example, 3 out of 4 respondents turned to value added resellers (VARs), independent consultants, vendor professional service organizations or system integrators when implementing hybrid infrastructure or platform-as-a-service clouds. Similar numbers relied on outside resources for other forms of cloud as well.

Clearly this lack of readiness is a potential roadblock. How has it affected cloud adoption?

“Few of our people are prepared to go there, so we need to do extensive training with them to get them up to speed.”

*Director of IT for a small technology company*

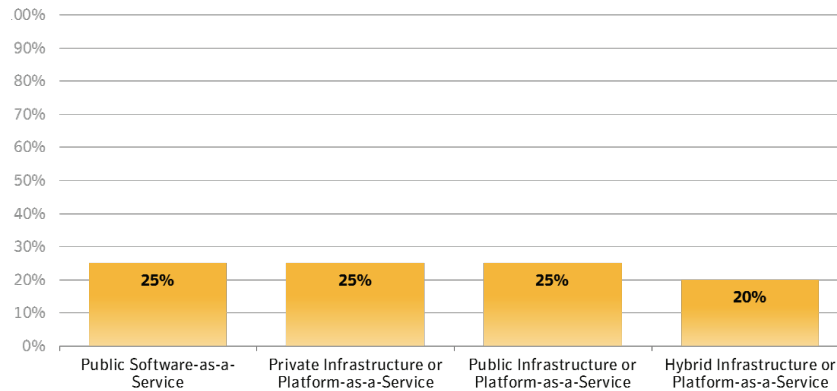


### IT Staffing

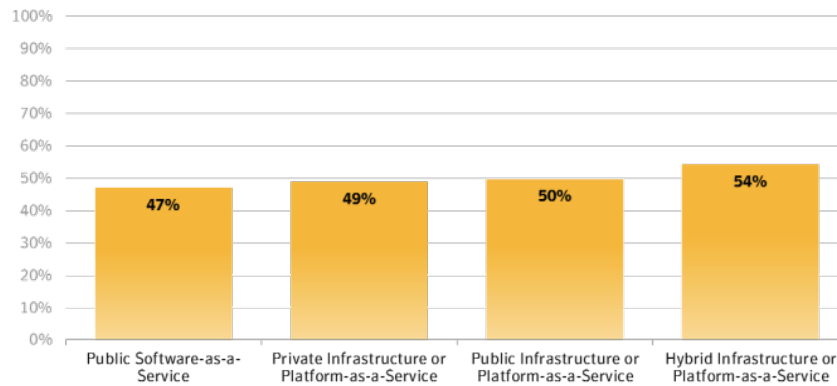
**20 to 25%** of IT staffs have cloud experience

**47 to 54%** of IT staffs are less than somewhat prepared to handle cloud

### Median percentage of IT staff with experience in each of the following areas



### Companies whose staff is not prepared to handle each of the following areas



## Biggest Challenges



## Finding 3

### *With cloud, there is more talk than action*

While organizations are excited about cloud, with 75 to 81 percent at least discussing all forms of cloud, most are stalled at the discussion/trial phase. Less than 20 percent have actually completed implementing each of the cloud areas the survey studied. About 1 in 4 is currently in an implementation phase. But roughly two-thirds are still in early discussions, in trials or simply not considering a move to cloud.

Part of this can be traced to a lack of readiness among the computing staff. But cloud computing is a big step. Certain foundational technologies, such as chargeback or self-service provisioning, need to be in place as well. Symantec's Virtualization and Evolution to the Cloud Survey, fielded earlier this year, found that only 1 in 5 companies had implemented these foundational technologies.

And most importantly, organizations need to change how they think about and manage their computing resources before they make the jump.

Of course, some organizations have already implemented one or more types of cloud. How have they fared?

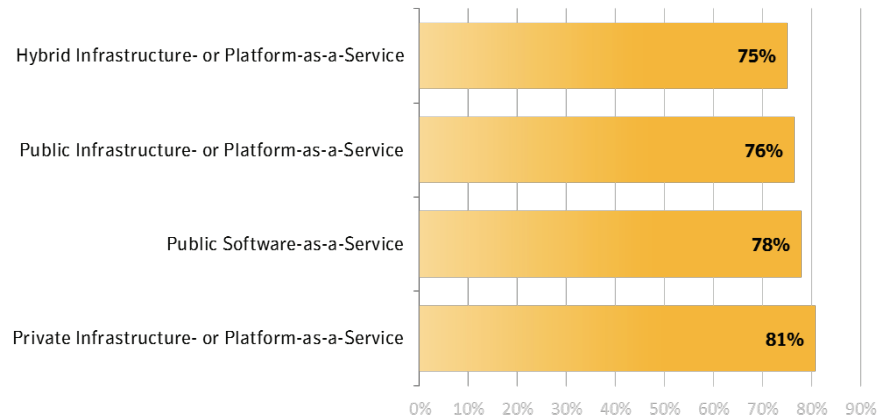
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“We have to do more research and get more experience.”

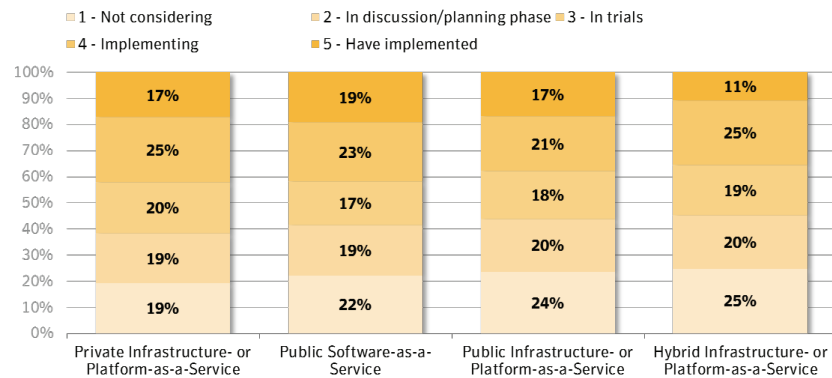
*CIO of a small insurance company*



### Three-fourths (75 - 81%) at least discussing cloud



### At what stage is your organization in each of the following areas?

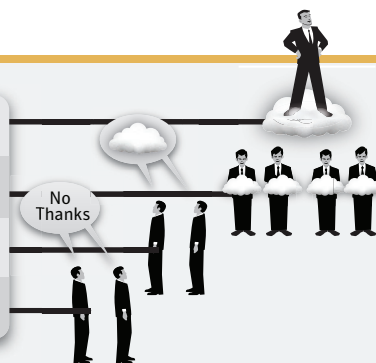


**11-19%** have implemented

**34-50%** in trials/implementing

**19-20%** in discussion/planning mode

**19-25%** not considering





## Finding 3 continued from page 12

While adoption of cloud computing as it pertains to the hosting of applications is still low, adoption of cloud services is very high. (Cloud services are computing services such as backup, storage and security that are delivered via the cloud.)

The survey found that 3 out of 4 (73 percent) have adopted or are currently adopting some sort of cloud service, with security services leading the way.

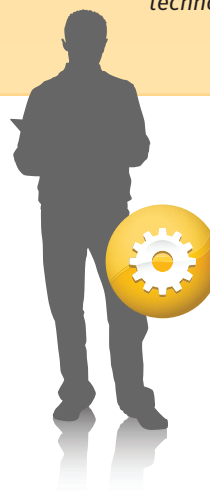
Contrast this with Public Software-as-a-Service or Private Infrastructure-as-a-Service, where only 42 percent have already adopted or currently are adopting.

In terms of which cloud services companies are adopting, the top five were predominantly security related in some way:

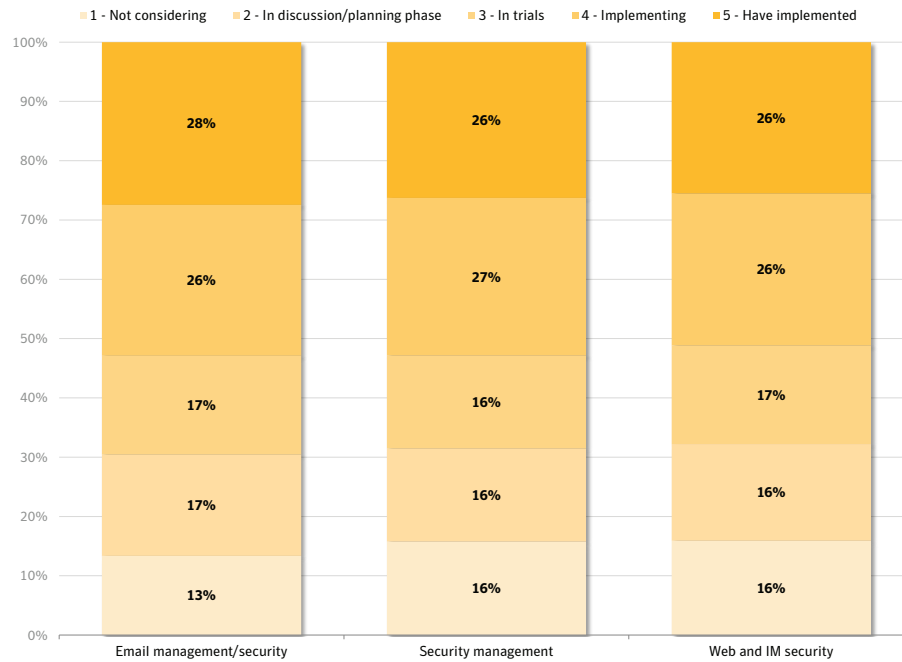
- Email services (such as management or security)
- Security management
- Web and IM security
- Virtual desktop
- Log or incident management

“Our goal is  
by 2014  
everything  
should be in  
the cloud.”

*CTO of a small  
technology company*



## What is the status in terms of using the cloud to host or deliver the following IT services?



# Finding 4

## Reality not meeting expectations

As it turns out, organizations that have already implemented cloud technologies are not faring as well as they had hoped. There are significant gaps between what organizations were expecting to achieve and what they actually achieved. For example, 88 percent expected cloud to improve their IT agility, yet only 47 percent found that it actually did. The same was true of disaster recovery, efficiency, lowered operational expenses and improved security.

This tracks closely with the findings of Symantec’s 2011 Virtualization and Evolution to the Cloud Survey which showed similar ‘reality gaps’ with those implementing hybrid/private cloud computing infrastructures.

These gaps are indicative of the immaturity of the market. Cloud vendors and solutions are still evolving and promises may be outrunning reality at this stage.

But a big reason lies with the organization’s computing staff.

Three out of four organizations admitted that ‘changing the way IT works’ was a ‘significant’ to ‘extreme’ challenge in terms of achieving cloud success.

So what are the lessons for organizations when it comes to moving to the cloud?

“When you start with so many new applications, or a new kind of architecture, people’s perceptions are sometimes not realistic.”

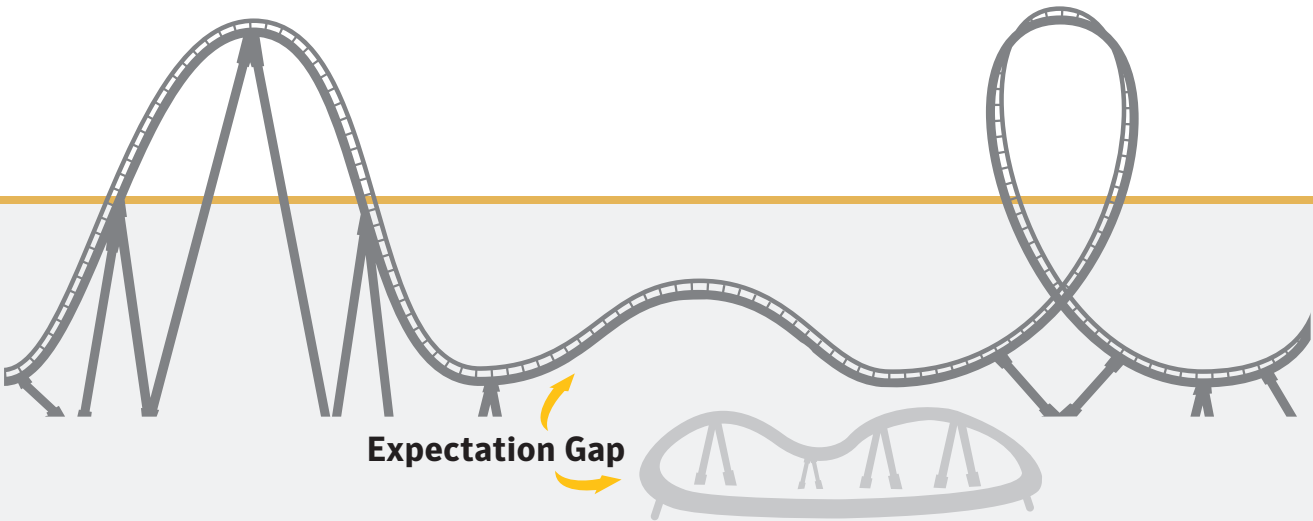
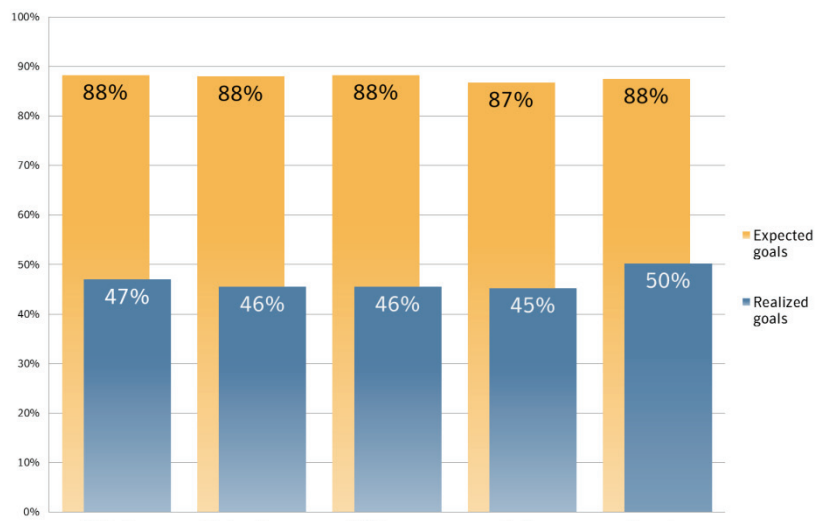
Senior program manager for a large telecommunications enterprise



## Gap Between Expected and Realized Benefits

Increased IT Agility	Improved DR Readiness	Reduced OpEx	Increased Computing Efficiency	Increased Security
42%	43%	43%	43%	37%

Expected vs. realized goals for cloud computing



## Symantec Recommendations

Whether your organization has 15 or 150,000 employees, moving to the cloud requires the active leadership of those in charge of IT. In a small company, that may be an ad hoc manager, whereas in a large enterprise it may well be the CIO.

In all cases, there are simple steps IT can take to ensure success:

- **Take the lead.** IT needs to take a proactive role in embracing the cloud. Too many IT organizations today are taking a slow, methodical, conservative approach to moving to the cloud. As an IT leader, you should maintain control of important aspects such as security, availability and cost. That's hard to do unless your staff has received the proper training and preparation.
- **Set information and application tiers.** Not all your information and applications are created equally. Perform an analysis and place your information and applications into tiers to determine what you feel comfortable moving to the cloud.
- **Assess your risk and set appropriate policies.**
  - Access Control: Assure critical information is only accessible by authorized users and that your critical information doesn't leave the company. Focus on the most important tiers first.
  - Compliance: In the cloud you effectively delegate management of infrastructure to your cloud vendor. But you retain the same compliance requirements. Make sure your cloud vendors can meet all of your compliance requirements, such as limiting where data is stored for jurisdiction-specific compliance and how they assure data privacy.
  - Availability: Assess potential cloud vendors for operational issues such as high availability and disaster recovery abilities. Match availability requirements to the importance of each tier.
- **Get started now.** You don't have to take an all or nothing approach to cloud computing. Leveraging cloud services are an easy first step to moving to the cloud. While it may take time to prepare to move business-critical applications, you can start immediately with simpler applications and services.