The future of IT outsourcing and

Cloud computing. Do we have to go there again? Isn't it already common knowledge that the traditional data center is an endangered species? Don't most business executives have their fingers hovering over the cloud computing button? For all the hype about cloud computing, there is very little survey data on the extent to which enterprises are planning for and adopting cloud computing as a replacement for traditional data center infrastructure technologies and management processes.

And then there are the traditional IT outsourcing (ITO) service providers sitting in the crosshairs of this trend who are about to see their business models and customer value propositions disrupted. Service providers in the ITO space have, after all, profited handsomely by taking on their customers' highly complex, one-off collections of IT assets and finding ways to manage them more efficiently than their customers can. But the essence of cloud computing is a move towards highly standardized racks of commodity servers and a software environment that together make for a highly efficient use of resources. What are the opportunities for the providers and their potential clients in that scenario?

Cloud computing, when done right, has the potential to actually replace, not just augment, legacy environments while adding value by reducing costs and increasing agility. However, it is unclear whether enterprises see it that way. Are they making appropriate plans? Whom do they take advice from? What business advantages are they anticipating?

PwC surveyed 489 business executives to find answers to these and other questions about the state of data center infrastructure management. We sought to understand the real state of data center management today, how fast business executives expect to move to cloud infrastructures in the future and who they will turn to to make the shift (traditional ITO providers, new cloud-oriented providers or internal staff). Finally, which is the bigger goal: a shift to public cloud offerings or a transition to private clouds?

Here are some interesting results

The survey suggests that many, if not most, functions of the traditional data center—both internal and outsourced—will gradually migrate to the cloud. For the participants, the infrastructure-as-a-service (IaaS) is a "boon for ITO customers" who are thinking of moving workloads to the cloud because it gives them many of the same characteristics of ITO at a lower price and with greater flexibility. The survey of CIOs and other senior executives found:

- 77 percent had a cloud plan (either completed or in development);
- 64 percent said some type of cloud, including private and public, would be the best way to manage IT infrastructure in three years.

As for the local Slovak environment and its clients, the CIOs are much more pessimistic about moving their current company data to the cloud.

The challenge: Providers must offer both cloud and traditional IT services

For the next several years, ITO providers will face the dual challenge of delivering traditional IT infrastructure services while they meet the growing demand from their own customers to migrate to cloud computing, including IaaS.

ITO providers not ready or able to move with their customers could put the entire relationship at risk, which many providers understand. A significant proportion of ITO providers currently are part of traditionally managed ITO services, but if these providers don't have a competitive cloud offering, customers will take their business to cloud providers elsewhere. Clearly, the migration will be gradual, and the cloud will coexist with traditional infrastructure for a long time. Since the IT resource landscape will be a mix of traditional infrastructure, the private cloud, and the public cloud for several years, customers will need help in deciding which applications to run where and making sure everything works together.

The big dilemma: Security versus scalability in the public cloud

The private cloud is currently popular because customers have concerns about the public cloud due to security, compliance and legal needs. However, the public cloud can be used on demand, pay-as-you-go, with no long-term contract and almost no penalty if the user doesn't need it anymore.

Executives identify security as the biggest risk of the public cloud, so it is not surprising that they overwhelmingly—by about 8 to 1—prefer private over public for their IT infrastructure, according to the PwC IT Outsourcing and Cloud Computing Survey. The survey found that:

- 62 percent rated data security as a "serious" or "extremely serious" risk to IT infrastructure in the public cloud.
- Four other risks were essentially tied in a distant second, each in the low 40 percent range.

Perceived risks in the public cloud

Question: Please indicate your view on the seriousness of each public cloud risk for your organization, on a scale of 1 to 5 (1 = minimal risk, 5 = extremely serious risk). Percentage of respondents who indicated a 4 or 5

Data security	62%
Data and systems integration	42%
Data and system portability	41%
Viability of third-party providers	40%
IT governance	39%
Service level agreements	35%

Source: The future of IT outsourcing and cloud computing, PwC study, 2011

cloud computing

Information security is not a domain where enterprises can adopt incomplete solutions, no matter how advanced they may be or how attractive the cloud option is from a cost perspective. New approaches to protecting data and infrastructure must be relatively complete from the get go.

Cloud computing, when done right, has the potential to actually replace, and not just augment, legacy environments while adding value by reducing costs and increasing agility.

The security issue is not likely to go away soon. CIOs will continue to be wary as long as the IT world suffers the occasional headline-grabbing breach, such as hackers hacking into an online video game network hosted in a leading public cloud service.

The market will increasingly demand hybrid environments CIOs are also concerned about compliance issues, which are important because most providers, both ITOs and IaaS vendors, house data in various locations—and not always in the region the customer is headquartered.

European laws are especially strict on data protection, some mandating the data must reside in the country of origin. A lot of cloud providers are not able to guarantee where a particular client's data is going to reside or to prove that for governmental audit purposes. These executives think the security fear will dissipate sooner rather than later as the benefits of flexible capacity and significant cost savings become too tempting to ignore. Even so, customers are likely to want a management wrapper around the public cloud offering.

Business executives are buying into the promise of cloud computing. And there are sufficient examples of "ready to go" compute workloads—mostly data storage and retrieval based on this survey—to create the impression that a wholesale shift to cloud is upon us. But not so fast.

For various technical reasons, most mission critical workloads are not yet ready for multi-tenant cloud computing infrastructure. And they won't be ready until some major re-architecting and re-coding gets done, the cost of which may prove to be a major factor in keeping these applications in traditional data centers for many years. Mission-critical online transaction processing (OLTP) applications and other enterprise systems will require extensive recoding to take full advantage of the highly virtualized cloud infrastructure.

IaaS providers and their potential clients are unlikely to see cloud technology fully replace traditional infrastructure.

Cloud value proposition: Little consensus on how the cloud will benefit enterprises Even with all the talk about the cloud, customers seem unsure of its value proposition. While cost reduction is a reason enterprise customers consider using a service provider to manage private clouds, it is just one reason among many. Furthermore, for a substantial number of enterprise customers, cost reduction is not even the main reason to consider using the cloud. When the respondents to the PwC IT Outsourcing and Cloud Computing Survey were asked the most important reasons for using a private cloud managed by a service provider for IT infrastructure, three reasons tied with tepid support:

- faster delivery of IT solutions for business requirements (23 percent),
- access to superior technical skills (22 percent), and
- cost reduction (20 percent).

In contrast, cost is the clear driver for ITO. When respondents were asked to choose the most important reasons for using external providers to manage traditional data centers, the top choice (40 percent) was reduce total cost of IT department.

In short, unlike the ITO model, no single reason stands out as a dominant driver for use of the cloud. This may reflect the fact that large enterprises are in the early stages of cloud adoption.

A cloudy future Cloud computing creates contradictory expectations that will test even the best providers. Our survey respondents (CIOs and other executives) are in an odd place right now. They are true believers and, at the same time, eternal skeptics of cloud computing. The contradiction is understandable when considered against the history of enterprise approaches to provisioning and managing IT infrastructure.

Because of their previous experience, such as public cloud service providers demonstrating every day that a cloud architecture is extremely efficient, vendor messaging reaching extreme levels of hype, and even early experiences with public cloud IaaS offerings, business executives know that cloud computing will soon be the single best approach.

But knowing there is a better place and getting there are two various things. Business executives do not believe their current workloads are going anywhere anytime soon. On the surface this may appear to be good news for IT outsourcing vendors, but only if those vendors are perceived as helping customers to reach the cloud.

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