



Heading for the clouds

As we now navigate one of the most severe recessions of the last century, it is worth asking what comes next, post recession. During this trying time, a revolution is underway in computing. It is a revolution that promises to shake the foundations of how technology is delivered to all organisations. This revolution is cloud computing and it promises to reshape the structure of the knowledge economy.

What is cloud computing?

While there are many definitions of cloud computing, for the purpose of this article it is a way of providing remote computing services in a manner that is dynamically scalable and virtualised. Basically, users leverage a web browser to remotely access computing services provided by a third party. They do not need to know the details of how the computing infrastructure is provisioned. They simply use a few easy interfaces to connect. Valuable information residing on the cloud can easily adapt to being accessed by the interface from mobile phones or even laptop browsers. Software widgets on the access device, such as iPhone applications, will invoke access to different resources on clouds. Cloud computing incorporates the concept of software as a service, and can also leverage both open source software and web 2.0 principles for co-creating content.

Popular cloud computing technologies include salesforce.com, Google Apps, Amazon Web Services, Netsuite, facebook.com and Gmail. A powerful component of these applications is that such a sophisticated interface and accompanying data can easily be accessed through a web browser and an internet connection. The end user does not need to be concerned with the underlying technology and where or how the data and applications are stored.

Cut your costs with the cloud

Cloud computing presents a significant opportunity because it allows companies to reduce the capital costs of information technology. It allows companies to buy computing literally by the drink, converting the cost of computing from capital expenditures to primarily an operating expense. What does this mean? It means you don't have to pay for expensive software or hardware that you don't use all the time, making cloud computing a very cost-efficient alternative to on-site solutions. Second, it allows companies to easily scale resources. Companies can simply pay for more storage or users when the requirement arises.

As the resources in the cloud are shared among multiple tenants, there are added benefits such as lower costs from the greater economies of scale enabled by this sharing. In addition, since all users may not utilise resources at the same pace and time, a company can more efficiently manage their peak load capacity. Cloud computing also has potential reliability benefits in that shared redundant servers and resources are more cost-effective than provisioning backups and security on a single company basis.

Another major advantage of heading for the clouds can be the speed of deployment. Cloud computing can reduce the time between identifying an information technology need and acquiring the means to fulfil it. It replaces the need to purchase and install new software and hardware and it provides faster, more direct access to resources. By moving to the cloud, the old paradigm of packaged software receives one more nail in its coffin. Instead of paying for the purchase of a software installation, the model allows you to purchase a particular level of software use based on what you need. It saves you from purchasing something you may not need in the long run.

The availability of cloud infrastructures has the potential to be disruptive to traditional software companies as well as the way in which organisations run their IT systems. Essentially, a company can outsource non-critical IT tasks to cloud computing service providers who are better equipped to execute them, which frees up the internal IT organisation to focus on business critical processes.

Are there downsides?

Today, companies considering cloud computing are concerned about security and lock-in. Generally, the level of computer security, data privacy practices and the expertise of major cloud service providers are likely to be greater than those provided by an in-house IT staff and systems. This makes the security concern less salient. Nevertheless, before moving data and applications to a cloud it is important to ensure the cloud provider has strong security and privacy policies in place.

Concerns about lock-in are more salient today. At present, different cloud providers have different operating systems and processes and have not yet provided clear specifications for portability of data and applications across clouds.

Until the ease of migration from one vendor to another is resolved, the use of clouds for mission-critical applications should be considered with care. Given that clouds are relatively new, these questions are still being answered.

A third consideration is the reliability of different cloud providers and their related infrastructures. Like backups for mission critical systems, it will be prudent to ensure the cloud provides adequate redundancy and the ability to quickly recover from a system failure. Most cloud service providers are likely to address these issues and benefit from economies of scale in providing redundancy and disaster recovery services. But buyers should verify the cloud provider has adequate policies, procedures and resources in place for recovering from failures.

What should CFOs ask of their CIOs?

The IT budget is often one of the largest expenses a company incurs. CFOs should ask their CIOs how they plan to leverage cloud computing to reduce costs and increase service responsiveness.

Specifically they should ask:

- Is there a strategy to use cloud computing as part of the IT services mix?
- What areas create the greatest opportunities for savings now? Today, cloud services for data storage and occasional high performance computing capabilities may be a good starting point.
- What applications will be migrated to the cloud? For small and medium-sized companies, enterprise applications such as customer relationship management and accounting are already moving to the cloud. Both salesforce.com and Netsuite provide robust applications using a cloud infrastructure. We also anticipate that a variety of collaborative work and knowledge management applications may move to the cloud environment.

- Is there company-specific or proprietary software that can be migrated and monetised through a cloud? Companies often have applications they once developed as proprietary strategic tools that may no longer provide strategic differentiation. However, provisioning the software as a service on the cloud may help fulfil a business need while creating incremental revenue for the company.

All told, cloud computing is a useful tool for reframing IT services and moving from managing your information technology costs as a capital expenditure to managing them as an operating expense.

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