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Cloud computing: Low cost high-rise living for small and medium businesses

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CLOUD COMPUTING: LOW COST HIGH-RISE LIVING FOR SMALL AND MEDIUM BUSINESSES

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The trajectory of Information Technology's (IT) growth and its impact has been explosive. Its continual evolution has created new paradigms in the way businesses are conducted, and how people interact with one another. One might even say that IT has trumped television to become the most important household entertainment medium.

Cloud computing has been heralded as the next phase in the information revolution, and while the concept is itself evolving, wide adoption has been driving new ideas and innovations in the "cloud". Still, many are asking, what is cloud computing and what does it mean for business?

Moonshi Mohsenruddin, founder and managing director of CommGate, an IT services provider, explained the technology and dispelled myths surrounding the phenomenon at a seminar organised by the UOB-SMU Entrepreneurship Alliance Centre.

CommGate was established in 2005, when Mohsenruddin put together a 3-person management team, leveraging on Linux and Open Source software to innovate and create IT solutions for business challenges faced by small and medium enterprise (SME) owners. Today, the company has clients spread across South-East Asia, with technology partners including global giants such as VMware, Zimbra, Dell, IBM, HP, Red Hat, Kaspersky and ClearCentre. He is currently engaged with several private equity and venture capital majors to help him grow his business across Asia.

Lighter on the pockets

"Cloud computing is a style of computing where massively scalable and elastic IT-related capabilities are provided as a service to external customers using Internet technologies," Mohsenruddin explained. One way to understand cloud computing is to examine how information technology has changed over time.

Currently, it is common for businesses to own their own hardware, such as servers, and to purchase software licenses. They hold all their data on these machines, and as the company expands, they have to make further capital investments in storage space and servers to increase

capacity. More software licenses may have to be purchased to support more users too. But such infrastructural changes incur downtime and can affect business performance.

Businesses have to manage IT assets, put in place a security infrastructure, a disaster recovery plan, keep both software and hardware up-to-date, and ensure that there are sufficient redundancy measures in place should any piece of the hardware fails, in addition to the manpower they have to hire to troubleshoot the systems.

With cloud computing, all these processes and concerns can be shifted onto a remote computing centre. This centre would house the hardware – farms of servers equipped with technologies that create a virtual computing infrastructure through the partitioning of physical assets of processing power, storage and network bandwidth into virtual machines. This is paired with another technology that balances the work load and doles out the virtual infrastructure on demand, with a metering, pricing and billing system in place.

Businesses on the cloud no longer have to own infrastructure. This drastically reduces IT capital expenditures. Instead, they pay for usage of the infrastructure-as-a-service, platform-as-a service, and software-as-a-service. The benefits for business owners are tremendous. As their business expands, they can scale up their IT requirements without having to forecast or make great IT capital investments, reducing their investment risks while improving cash flows.

Flying faster in the sky

The cloud can be viewed as a culmination of hosting services. With access to the Internet, co-location was an early business model for data centre service providers. Taking weeks to months to implement, co-location involved buying your own servers, renting a physical space at a data centre, and housing these servers in a cage. Cost would be incurred, regardless of whether or not these systems were being utilised. On the other hand, cloud computing can be set up in minutes, and with no upfront costs. If there is a seasonal or sudden spike in IT needs, cloud computing offers the “elasticity” or ability to stretch and match those needs – offering businesses flexibility that, previously, was not possible.

An example of this is when a company launches a new product and expects a spike in the volume of web visitors in the first few weeks. The way hosting services were structured previously, once a certain number of visitors or a maximum volume of data was exceeded, the website would cease to function, and the service would be denied to additional visitors. With cloud computing, the company can make temporary provisions by expanding its requirements just for a specific time period without having to invest in hardware or be locked into a contract, which would, in normal periods, be underutilised.

Another common scenario for businesses is that they might only need certain applications during a specific season, for example, tax-filing software during the end of their financial year, in the preparation of their taxes. Instead of making the upfront investment in a software license, they can now use and pay for it, on-demand.

All this is made possible because computing hardware has become cheap, and in a sense, commoditised. After the dot-com bubble burst, a glut of bandwidth became available due to the over investments made in the earlier years. Fibre optics has also made great advancements and become affordable. These factors, in combination, have created a “sweet spot” for cloud technology.

Mohsenruddin mused, “SMEs need to leverage on technology but often lack the budget. Cloud computing has allowed small businesses to leverage on the large scale of computing resources previously only MNCs could afford.”

He noted too, that many people are already users of cloud technologies. Popular social networking website, Facebook, can be considered a software-as-a-service, as they host a variety

of applications and web services. What is amazing about such websites is their ease of use. “Has anyone ever read a user manual on how to use Facebook?” he asked.

Look before leaping

While the benefits of the cloud are clear, business owners should rightly be concerned about the security of their data. Mohsenruddin noted that the US and the EU have differing regulations governing data ownership in the cloud.

As with any new idea, business owners may also wish to test the waters before taking any big plunges. They can, for instance, study the security policies, standards, disaster recovery measures, and even the conduct of the data centre’s operations, so as to better understand the implications of moving onto the cloud. It consultants may be of help to businesses making a transition. They can minimise disruptions, plan IT requirements and calculate the costs involved.

A hybrid cloud might be a good compromise, between having all data reside in a cloud and the burden of running a private cloud. One such model is to have an on-site server for basic IT services, while business applications are based in the cloud. In the hybrid model, the cloud can also be used to back-up local servers, and when needed, to scale up or supplement computing and network resources.

Just as a sign of its promise, Cisco had termed 2011 the year of the hybrid cloud, while other IT bigwigs such as Apple, Microsoft, HP, Intel and VMware have all recently launched hybrid cloud solutions and services.

Regardless of which cloud business model is ultimately adopted, cloud computing has the ability to provide virtually infinite computing resources on demand, with the virtualisation of hardware, and a simple and real-time setup on an on-demand basis.

With the elimination of upfront capital commitments, less need to invest heavily for temporary spikes, and increased ease in IT resource management, where issues like licensing and security can be left to the cloud service provider, cloud computing has been proclaimed as the “saviour of IT” by many technology pundits, Mohsenruddin noted. And as capabilities in data analytics grow, future clouds might just provide new and important customer, market and managerial insights from the integration and interpretation of data, he concluded.