

Is the cloud clearing up?

Is cloud computing more hype than reality? Or is it already delivering a host of benefits to companies? **RAJU CHELLAM** finds out

TWO recent developments in Singapore are expected to give a boost to cloud computing, according to market analysts. Up to 60 per cent of Singapore's buildings, including businesses and residences will be ready for high-speed Internet access by this year-end. And by end-September 2010, about 7,000 WiFi hotspots across Singapore will offer businesses and individuals new seamless and secure access as part of the free Wireless@SG scheme.

Research firm IDC estimates that by 2014, cloud services in Singapore should reach US\$177 million, up from US\$42 million in 2010. According to Access Markets International (AMI) Partners, small and medium-sized businesses (SMBs) using some form of cloud services will jump from under 2 per cent in end-2009 to more than 15 per cent by end-2010 and up to 85 per cent by end-2014.

But large enterprises and government-led organisations are already finding huge advantages of moving key applications to the cloud: ♦ In Dec 2009, the Ministry of Education (MOE), NCS and Google put a suite of collaboration tools on the "cloud" to connect 30,000 teachers in 350 schools, making MOE the first ministry in Singapore to adopt an open standard cloud computing platform and the first in Asia to provide Web 2.0 communication and collaboration tools to all teachers in the public school system.

♦ In November 2009, NTU became the first in Asean to participate in the IBM Cloud Academy – a global forum for educators, researchers and IT folk from the education industry to pursue cloud computing initiatives. NTU joined 16 institutions worldwide to discuss new innovations for clouds in education with developers, share research findings, and exchange new ideas for research.

♦ In August 2008, HP, Intel and Yahoo teamed up with IDA to be part of a global, open source testbed to boost cloud computing research and education. Called Open Cirrus Cloud Computing Testbed, the goal is to promote open collaboration among industry, academia and governments by removing the

Expanding clouds

Global IT cloud services revenues

CATEGORY	YR 2009	YR 2013
Software apps	49%	38%
Infrastructure software	20%	20%
Servers	12%	15%
Storage	9%	14%
Apps dev/deployment	10%	13%
Total	100%	100%
Total (US\$b)	\$17.40	\$44.20

Source: IDC Sept 2009

financial and logistical barriers to research in data-intensive, Internet-scale computing.

♦ As of end-January 2010, Salesforce.com said it manages customer information for 72,500 clients on the cloud, including Allianz Commercial, Dell, Japan Post, and SunTrust Banks. Salesforce.com is the first enterprise cloud computing company to exceed US\$1.4 billion in annual revenues.

Does all this indicate that cloud computing has arrived? Or is it more hype than reality?

There are now a slew of companies on the cloud computing bandwagon, including hardware and software vendors, telcos, network and data storage giants, and security service providers. IDC estimates global IT cloud services will cross US\$44 billion in revenues by 2013, from under US\$17.5 billion in 2009. Of the mix, software applications will account for up to 38 per cent, and servers and storage at just 15 per cent each.

"The MOE project, for example, will help transform the way educators teach, communicate and collaborate with peers and with students of the Y-Generation," says NCS CEO Lim Eng. "These students are attuned to new Web applications like social networking sites. We will work with best-of-breed partners and use innovative technologies to enhance the education environment in Singapore."

Apart from Google, Microsoft is another 600 pound gorilla in the cloud computing space. Once the Next-Generation National

Broadband Network rolls out islandwide, it will endow SMBs with MNC-scale cloud infrastructures. The combination of ubiquitous high-speed broadband and cloud computing will help create new and innovative services in Singapore in telemedicine, virtual office, and home surveillance, for example.

Will much of the cloud be open source? In June 2009, Red Hat launched its Premier Cloud Provider Certification and Partner Program to simplify and expand the adoption of cloud computing by companies. "Amazon Web Services was the first mem-

ber of this program," says Gerry Messer, Red Hat's president for Asia. "It is an on-ramp program for ISVs (Independent Software Vendors) to cloud-enable more than 3,000 applications."

Hewlett Packard (HP) is even more bullish. "We're moving to a future where everything will be delivered to you as a service, from your work life to entertainment," says Tan Yen Yen, HP Singapore managing director. "At HP we call this Everything as a Service. Individuals and businesses will have full control to customise their computing environments and to shape the experiences they want to have," Ms Tan says.

A study HP commissioned in 2009 found that 50 per cent of technology decision makers in Singapore use, or plan to implement, cloud computing solutions in the next 12 months. Nearly 70 per cent of businesses that use some form of cloud computing did so to boost operational efficiency and cut costs, the study found.

Will companies jump totally to the cloud or will they keep some critical applications on their own servers? That federated approach is envisioned by EMC. It means companies can utilise resources available on multiple networks – including private and public clouds – but preserve the integrity of internal policies for compliance, governance and risk. SIM University, for instance, opted for on-demand da-

ta storage to back up its servers. "The next trend will see organisations move to a computing environment that spans internal and external cloud resources to present a seamless, managed service delivery to the business," says EMC's South-east Asia president Ron Goh. "This will result in what the cloud should really mean, which is information being delivered securely on any device, anywhere, anytime."

Security and trust, or the lack of it, is the number one worry that CIOs have. "It will take a brave CIO to decide whether live data such as customer information, HR records, on-going accounts, etc, should be on the public cloud," says Fujitsu. "That would depend on the reliability of the cloud service provider's infrastructure. Moreover, end-users won't have direct control over the security of that stored data."

An IBM global survey of 1,090 IT managers

found 69 per cent saying data security and privacy were primary barriers to public cloud adoption, and 50 per cent were worried about service quality and performance. "That's one reason IBM offers a Resilient Cloud Validation program to confirm the resiliency of any company delivering applications or services on a Cloud environment," says Chung Hao Ning, IBM's country leader for Cloud computing.

So, is the cloud clearing up? Yes, and it will only get better, faster, cheaper and more secure, say analysts. However, as Gartner cautions, right now cloud computing presents unique issues that need to be risk assessed, especially in areas such as data integrity, privacy and in the minefield of regulatory compliance, corporate governance and auditing. Given a little more time and technology, and a lot more assurance from service providers, these issues will be satisfactorily addressed.