What is Cloud Computing?

If you're into IT it's quite likely that you have seen terms like Software-as-a-Service (SaaS), Application Service Provider (ASP) and Utility Computing appearing in media more frequently. Whatever terms you care to use them all essentially refer to the same thing. For sake of argument, we'll use Cloud Computing (it seems to be gathering the most traction State-side).

THE GROWTH IN CLOUD

The increasing coverage of Cloud Computing as the new model for IT owes much to the rapid investment from some of the world's most recognizable enterprises. Google, Amazon and Microsoft have all been investing millions into their own Cloud service ventures. Such has been the inward investment that market research firm Gartner Inc. recently estimated that cloud-services revenue should top $56 billion US this year, growing 21 per cent from 2008, despite the credit crunch. It then forecasts the market to reach $150 billion in 2013.

BUT WHAT EXACTLY IS CLOUD COMPUTING AND WHAT'S CAUSING its RAPID GROWTH?

Nicholas Carr, technology writer and former chief editor of the Harvard Business Review, recently claimed that cloud computing is "a paradigm shift similar to the displacement of electricity generators by electricity grids in the early 20th Century". The idea being that in the future an organization's IT will be viewed as a utility expense not dissimilar to that of a water or electricity bill. It might seem farfetched, but it is quickly becoming a reality.

The Cloud Computing concept is one based on the outsourcing of computing resources. Rather than purchasing certain hardware or software at relatively high capital expenditure, companies simply rent applications from service providers and access them over the Internet. As an alternative to managing traditional IT resources, a host company takes care of the background technicalities and you simply connect to your services through a secure Web-

browser - using them whenever needed. These services are hosted online on secure servers - a network of computers collectively referred to as 'the cloud'.

WHAT CLOUD COMPUTING COULD MEAN FOR THE SMALL-MEDIUM SIZED COMPANY

Well first of all, a utility based delivery of IT services can have a huge cost advantage for the SME.

By avoiding the initial heavy capital expenditure of complex IT systems, companies can save money and utilize resources. Their system infrastructure now becomes only an operational expense since there is no hardware to purchase or maintain. IT staffs no longer need to spend time on maintenance jobs and can set about improving efficiency in other areas of the company. The Cloud model can also help companies avoid return on investment risk and uncertainty, being able to switch service provider should the service not work properly – avoiding the nightmare of expensive fixed asset failure six months down the line.

Cloud Computing offers efficiency and utilization of resources based on a 'pay-as-you-go' model for improved scalability. Businesses can allocate more or less funds to services depending on how much they actually need, growing or reducing over time. The avoidance of upfront capital expenditure also allows firms to get up off the ground and running much quicker than before. This can be a massive benefit to the smaller company. With no initial cost barrier holding them back they can drastically decrease time to market.

Cloud Computing Economics
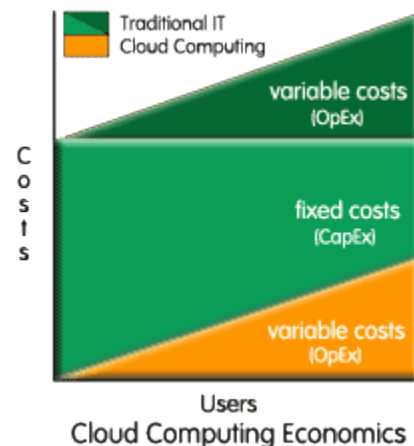
The advantage of location independence is another key benefit of Cloud services. Advances in 3G and Wireless Broadband technology have made accessing the Internet whilst on the move easier. Users can connect to their software applications and store data and information instantly over the net. The result is freedom from in-office infrastructure. For companies with multiple users in the field, applications no longer need to be installed directly onto the user's machine making them run more efficiently and securely.

Some argue that Cloud Computing will never really take off because users are so reliant on having an Internet connection. The reality is however, that although right now Internet connectivity is not ubiquitously available, it is surely only a matter of time before technology evolves sufficiently for this never to be an issue again. The growth in Dongle sales is a clear indicator of demand. In the meantime Cloud providers are looking for a way around this. Google has already anticipated the delay in open connectivity and preference for local computing by making some of its applications downloadable - characteristically covering all bases. This sign of uncertainty from normally the most confident of companies.

Detractors of Cloud Computing will also argue that accessing key company applications over the Internet represents a security breach. In reality it is no less secure than internet banking – in many cases more so. Using certain cloud-based applications means less critical data resides unsecured on company hardware and the reputable cloud-service companies have comprehensive failover measures that guarantee uptime. As far as third party confidentially is concerned, data contained on host servers is normally encrypted making it invisible to unauthorized bodies.

IS CLOUD COMPUTING THE FUTURE?

Some say that the future is already here. But like all new technologies and concepts Cloud Computing needs its 'killer app' – something to really validate the proposition to the masses. The internet, for example, had email – so what do the experts think is killer app for Cloud Computing? Well Microsoft founder and former CEO Bill Gates seems to think online backup is it. Gates is convinced that cloud storage is the proof of concept because its use is "without tradeoffs". And it becomes difficult to argue with him.

Whatever is your opinion on Cloud computing, it cannot be denied that it is already adding real value to small-medium businesses all over the world, improving efficiency, security and mobility. But perhaps the biggest advantage of all is that it allows companies to develop focus. Without having all the time-consuming IT maintenance tasks holding them back, organizations can concentrate on performing their core competencies to their highest potential. With more focus, companies can maximize efficiency in their core tasks - if you're a customer of online backup, you have already taken the first step. What else could Cloud Computing do for you?