

Tech storm about to break on business efficiency beckons, but there are challenges – cloud computing & mobility, a special report –

By Ian Grayson 28 June 2011

AS organisations work at lining up IT infrastructure more closely with business demands, a technology perfect storm is brewing. The forces creating this storm, cloud computing and mobility, offer great opportunities, but also bring some hefty challenges. Used correctly, they promise to improve business efficiency and drive down costs. Poorly planned, they could result in costly risks and big losses for organisations.

In a survey by technology research house Gartner, Australian chief information officers ranked cloud computing and mobile technology as first and second on their priority lists. Many said they believed the duo would allow them to streamline and refine their technology infrastructure. This intention is translating into action as spending on cloud-related services continues to increase. Companies are diverting growing proportions of their IT budgets towards the cloud, working to create internal cloud platforms and to take advantage of external cloud opportunities.

According to a report by technology service provider Avanade, 71 per cent of Australian companies are using some form of cloud services. This represents an increase of 31 per cent since a similar survey in 2009. Of the companies surveyed, 31 per cent say they have moved their email systems to a cloud platform, 29 per cent have shifted human resources applications, and 27 per cent have moved their customer-relationship management software.

On the service provider side of the equation, large investments are being made in everything from data centres to product offerings. Cloud operators are positioning themselves to ensure they can offer everything from managed services to flexible, on-demand raw capacity. These investments are being supported by massive advertising campaigns designed to communicate the benefits of cloud computing to the senior executives whose buy-in will be needed before large-scale migration projects can be undertaken.

Meanwhile, on the mobility front, organisations continue to embrace devices and services in increasing numbers. According to Gartner, worldwide mobile communication device sales totalled 427.8 million in the first quarter of this year, an increase of 19 per cent from the first quarter of last year. Smartphones represented 23.6 per cent of that total. These devices obviously have multiple uses, but growing numbers of workers are using them to access data and applications stored on private and public cloud platforms. This combination of technologies has the potential to deliver big benefits to business.

Frost & Sullivan research director Arun Chandrasekaran says there is a strong link between cloud computing and mobility, and it's a link that continues to develop swiftly. "A lot of the progress is coming about because people are bringing their own mobile devices into the workplace," he says. "Some call it the consumerisation of IT, and it's something that companies can no longer ignore."

Once the devices are in corporate use, demand then turns to being able to use them to access data held on cloud platforms.

National ICT Australia business technology specialist Bruce McCabe agrees there is a natural linkage between cloud computing and mobility. "They are two of the key frontiers for business innovation at the moment," he says. "The cloud enables a mobile device to become a portable supercomputer." Rather than needing to store all data and run processes on a mobile device, it can all be shifted to a cloud-based platform. The device then simply becomes an access point, with the heavy lifting taking place on servers somewhere else.

The benefits of this model make it compelling, McCabe says, but it is not without challenges. "Organisations have to be careful with the amount of information that employees are storing and working with on their devices," he says. "It will become a matter of wherever possible abstracting data away from the device and keeping it behind a firewall. The device then simply becomes a means of access."

McCabe says another challenge arises from the desire of increasing numbers of workers to choose their mobile device. He predicts more organisations will be forced to adopt a BYO policy, allowing staff to use any device and connect it to corporate cloud-based resources.

To help overcome such challenges, McCabe says, Nicta is keen to assist organisations in moving to cloud platforms and taking advantage of mobility. Meanwhile, University of NSW IT director Michael Kirby-Lewis says it is very much a matter of personal choice, and organisations will find it difficult to dictate what people should use. "We tend to support a limited number of devices," he says. "We're not too religious about it, as it is obviously a matter of personal choice. "If they go for something that might be outside of what I would call the standard options, then we tend to say, well, you can buy one if you want and we'll help you configure it, but beyond that if you have any problems you're on your own." Kirby-Lewis says organisations must ensure that any devices used are kept up to date and have relevant security software installed. Then it is a matter of ensuring corporate data is also ringfenced. "The only way you can protect yourself is by assuming that all these devices are hostile and move your defences back closer and closer," he says.

Chris Holmes, director of business and technology services at law firm Allens Arthur Robinson, agrees, saying the best way to ensure security of data when it's being accessed by mobile devices is to keep the two separated. "The only thing that's actually on the device will be an image of something that we've kept back beyond the firewall," he says. "If you take that approach you can clearly separate the threat of the device from the enterprise." Steve Martin, director at security specialist Symantec, says cloud platforms and mobility are inextricably linked and require organisations to change their thinking when it comes to security. "We recommend that businesses take an information-centric approach," he says. "That entails thinking more about the data and less about the devices."

Previously, Martin says, attention has tended to focus on mobile devices and ways in which they can be made secure. This included everything from passwords and fingerprint readers to antivirus packages. Now, however, he encourages organisations to focus on ensuring their data is secure on whichever cloud platform has been selected. Access to that data from any device can then be controlled. "You don't let that data reside on the mobile device, but let the device access it as required. "This allows you to support a range of different devices without compromising data security."

Martin says it's no longer practical to expect to be able to build a security perimeter around an organisation's critical data and systems, especially in an era when a growing proportion of business is going mobile. "That said, if you take the right steps you can still expect to have the same levels of security as you did when everything was held and accessed internally," he says.

Despite the associated challenges, businesses are still recognising the benefits provided by the combination of cloud platforms and mobility. Providing employees with access to core systems and data regardless of location can affect their productivity and efficiency. Frost & Sullivan's Chandrasekaran says this productivity improvement is the biggest benefit of the combination of cloud platforms and mobile access. "It creates an agile business culture, as people are able to respond more quickly to changing demands," he says. Many companies start with basic applications such as email, Chandrasekaran says. Once mobile access to these systems is in place, they widen their scope to cover this to areas such as customer-relationship management systems. Companies can then open up portals to allow employees to access particular types of information, such as customer orders and service requests.

Darren Besgrove, director at mobile application developer BlinkMobile Interactive, says increasing numbers of organisations are looking at how they can take existing cloud-based information and make it more accessible through mobile technology. "The technology building blocks are in place," he says. "Now we need the will for it to happen to become widespread within organisations." Besgrove's company has developed technology that can extract information from websites and other sources and present it to various types of mobile devices. This means companies can quickly mobilise applications running on both internal and external clouds without the long and expensive development process needed to build and support multiple mobile devices. "It's a rapidly evolving area, and we expect growth to remain strong," he says.

Industry experts agree that the coupling of mobility and cloud computing will continue to evolve. As cloud platforms mature and more resources are built in Australia, both private and public sector organisations are expected to move applications and data.

On the mobility front, the development of ever more powerful devices will allow workers to access cloud-based resources faster and more effectively. The result will be changes in work practices that promise to deliver efficiency gains and improvements in productivity that previously would not have been possible.