

What is Cloud Computing?

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The cloud computing revolution is real: it's on the front page of the Australian Financial Review this morning. But is it really "a radical new business model that purports to slash technology costs by up to 80%"?

What is cloud computing?

Every business bigger than one person needs somewhere to store its data and run its business applications and communications, including email. A generation of businesses has installed a server — or many servers in a data centre — and hired specialist IT staff to run it.

With cloud computing, you instead rent capacity in a provider's data centre, and connect over the internet. The provider's staff installs, maintain and upgrade hardware and software as required. Typically you'll rent a service, such as data storage or email or accounting, rather than 'a server' as such, and pay \$X per user or \$Y per business per month.

Why is it called cloud computing?

Network diagrams have traditionally used a cloud symbol to denote 'the internet' or, before that, the telephone network outside the customer's zone of responsibility.

What services are on offer?

You name it. Google's Gmail and Microsoft's Windows Hotmail are email in the cloud. In the lucrative business productivity market, Google Docs and Google Apps compete directly with Microsoft Office and Exchange — the latter now 'in the cloud' as Microsoft Online Services.

Accounting, customer relationship management (CRM), project management, email marketing, spam and virus filtering, data storage, ecommerce, online publishing, audio and video streaming, general databases — all available in the cloud.

Why use cloud computing?

Potentially cloud services are cheaper and more flexible. Because they're internet-based, you can access them from anywhere — often including mobile devices.

Most servers and internet links lie idle most of the time. Cloud providers host many businesses on a pool of hardware, sharing the cost of servers, electricity, data links, backup systems, IT staff and even real estate. A cloud provider can quickly add extra capacity or scale it back again when you need it. Capital expenditure on servers and up-front software licenses, and the unpredictable costs of dealing with emergencies, are replaced by a predictable operational cost.

Can it really cut IT costs by 80%?

That's hype. Hardware and internet costs are dropping, sure, but supporting end users is still a significant cost. Moving to the cloud removes the cost of maintaining your own systems, but you still need to configure the generic cloud-based service to match your business' unique needs, train your staff and help them find lost spread sheets.

Is there a downside?

You become dependent on your cloud providers. If there's no easy way to extract your data in a usable format, your business success is now intertwined with theirs. There may also be legal and privacy issues: will your data become subject to the privacy and data retention laws of another country; will you still be compliant with your industry requirements in Australia?

Is it secure?

Big cloud providers like Microsoft and Google have some of the best security staff on the planet. Their backup procedures are likely to be better than yours too. (Where are your business data backups right now?) However big cloud providers do represent an attractive target to hackers — if they can break in.

Is cloud computing “radically new”?

Not everyone thinks it's that big a change. It's more evolution than revolution. “Cloud computing is not only the future of computing, it is the present, and the entire past of computing is all cloud,” said Larry Ellison, founder of Oracle Corporation and the world's sixth richest man, in a passionately entertaining rant last year. “It's not water vapour. All it is a computer attached to a network. What are you talking about? I mean, what do you think Google runs on?” As Ellison points out, CRM provider Salesforce.com has been running more than a decade.

In many ways cloud computing is indeed just the current buzzword for what has also been called utility computing, grid computing, software as a service (SaaS), IBM's 'On Demand' branded services, the application service provider (ASP) model, or even good ol' mainframe timesharing.

Where is Australia in all this?

Some big companies have committed to cloud computing, including the Commonwealth Bank, Westpac, Visy and Komatsu. The Royal Australian College of General Practice will provide GPs with cloud-based e-health applications by this time next year. Even the Department of Defence's CIO is advocating the cloud.

On the supply side, Telstra is investing heavily to become a player — they're providing the RACGP's services. Saasu and Campaign Monitor are Australian success stories in cloud-based accounting and email marketing respectively.

Cloud computing does require solid internet links, however. Australia's relatively expensive broadband infrastructure may have held back adoption. The NBN will presumably fix this.