The Future of the IT Department – will it survive the cloud?

Dr Nick Tate
Australian Research Collaboration Service (ARCS)

IT departments will increasingly be caught in a pincer movement between an accelerating use of cloud infrastructure on one hand and a trend towards self provision of laptops and other mobile devices on the other hand. The consequence for IT departments, if they survive, will involve a substantial re-alignment of the activities that they undertake together with major changes to the skills, size and structure of the organisation.

Gartner predicts that the Worldwide Cloud Services Market will surpass $68 billion in 2010 and that by 2012, Cloud Computing will allow 20% of businesses to be entirely Cloud based with no physical assets. Universities will not be immune from this trend and, indeed, the sheer cost advantage of using public cloud utilities will mean that many universities will seek to adopt both Infrastructure as a Service (IaaS) and Software as a Service (PaaS) offerings earlier than some in the commercial sector. Early examples of this trend include the outsourcing of student email to the cloud, which is now common and the increasing outsourcing of staff email. An interesting commercial indicator of future directions can be found in Oracle's announcement in September 2010 that its ERP products were now certified on Amazon's EC2 and S3 products.

Part of the problem for IT departments will be which flavour of "cloud" to embrace for a particular problem. Nicholas Carr in his book, "The Big Switch", which predicted many aspects of cloud computing, identified five key types of cloud computing. These were, essentially:

Cloud as a model – private clouds
Cloud as supplement –adding extra capacity with low cost and risk
Cloud as replacement – handling variable loads
Cloud as democratiser – infrastructure for all
Cloud as revolution – disruptive change to IT delivery

Although the first of these, namely private clouds, will have an effect; it is the integration of cloud computing with a public utility model for compute and storage resource provision which will have a more radical effect on the future of IT departments, as the financial benefits and variable load capability of utility computing becomes apparent. Already, an early cost example from Amazon Web Services (AWS) shows that it is possible to rent 1,000 Virtual Machines (VMs) for around $25 per hour. To help exploit these cloud resources, a new class of Cloud Management software is emerging and this will become integral to the IT department of the future.

At the same time as infrastructure migrates to the cloud, the inexorable march of consumerisation will support a change to the provision of end user/mobile computing devices. Employees will increasingly want to bring their own devices and connect to their employer's services rather than have a device provided for them. As it will be their own device, they will acquire their own "desktop support" from the vendor because they will want to have equal support whether at home or in the office. Organisations will support this because it will save on costs, make effective use of the tax system and allow IT to concentrate on the provision of services via "virtual desktops". Some organisations are already adopting this approach for the provision of end user computing equipment and the trend is accelerating.

This presentation will explore the use of public and private cloud services for university IT departments and will illustrate their use by reference to both public cloud providers and the private cloud services from ARCS. Examples of self provided laptop programmes will be discussed and the implications of all these changes on the IT departments will be explored. Finally, a model for the IT department of the future will be suggested.