Tom O'Connor, Databackup.ie

Karl Jordan, Hewlett-Packard

An alternative form of this is the 'private cloud', which sits behind the corporate firewall and runs on a company's own IT infrastructure. This is seen as more secure and manageable than a public cloud and, therefore, some commentators believe, more palatable to businesses in the short term than the fully outsourced public cloud.

Cloud computing is not pie in the sky; it is already a sizeable and fast-growing business, and industry analyst IDC reckons that such services will represent a US$42bn market by 2012.

Examples of cloud-based services include web-mail services such as Google Mail (Gmail), which offers several gigabytes (GB) of storage per user, and dedicated online storage services that offer tens of GB of storage to consumers and small businesses for just a few euro per month.

Databackup.ie is one of the largest providers of such services in this country with over 2,500 customers nationwide, including Sherry Fitzgerald, the Probation Service and the National Youth Council.

Tom O'Connor, director of Databackup.ie, estimates that between 5–6pc of all Irish organisations now back up their data online.

"It is the way forward; it's a far more secure, automated solution," he remarks.

The falling cost of online backup is what has driven this market forward in recent years, and is causing more and more organisations to move away from traditional tape backup methods, O'Connor says.

"Small customers have, on average, 200GB of data. We charge a euro per GB [per month]. This makes it a realistic option for customers to move to online backup. Where before they may have been paying €600 a month for a company to come and take their tapes offsite, they can now back up online for about €100 a month, once the data is compressed. Especially in this climate, if you walked onto a customer premises and told them you could save them €6,000 a year, they'd jump at that."

Cost aside, the main drawback of traditional tape backup, O'Connor contends, is the scope for human error – people don't always remember to back up every evening and, in many cases, wouldn't know how to restore data from tape.

"I'd say 80pc of companies we speak to wouldn't be able to restore a backup from tape. What's more, there's the security aspect – the majority of tape backups are not encrypted, and if someone is taking the tape offsite, you have the scenario of accounts information and key customer data leaving your building in an unsecured manner."

That said, online backup it not completely 'online'. Owing to the large data volumes and the relatively slow internet connections used by most businesses, the first backup is usually done manually. In other words, an engineer will call to a customer's premises, take a copy of its data and upload that to a storage pool in the data centre of the storage provider.

Thereafter, backups are done online because only the incremental changes need to be uploaded, rather than the entire data set. Similarly, when a data restoration is required, it is much quicker to achieve this via a direct download from tape/disk rather than online.

If such situations would seem to be a millstone around the necks of online backup providers, it can, in fact, work in their favour because it acts as a barrier to entry to global operators such as Amazon and Microsoft, which have well-publicised plans to start offering consumer and business services via the cloud.

"If companies are using cloud computing, the services need to be local. International clouds are not the way forward; they need to have the information local – where it is needed," argues O'Connor. "In our case, we have a fleet of engineers on the road. We also have 300 channel partners who can get to customers in a hurry."

Karl Jordan, country manager for enterprise storage at Hewlett-Packard (HP) Ireland, also sees a growing interest in cloud computing, as organisations and service providers explore the possibilities.

"At the moment, the cloud is a small but growing source of services for IT departments into the business. Organisations are looking to see how effectively the cloud can deliver services for them, and the people running the cloud are asking themselves what they can do to make cloud-based applications viable for organisations. Reliability, performance, flexibility, agility, cost-effectiveness and scalability – these are all part of the answer. And there are a lot of new storage technologies that can support such requirements."

Innovation is the driver

While cloud computing is still in its infancy in Ireland, the fact it is happening at all is down to a series of technological innovations, particularly virtualisation, says Jordan.

"Storage as a service is enabled by advanced virtualisation technologies, such as heterogeneous storage resource aggregation (the ability to virtualise many individual, heterogeneous storage arrays into a common pool of managed storage); array partitioning (to facilitate the separation of storage pools and to guarantee quality of service); thin-provisioning (to eliminate