



Getting your backup

With the ubiquity of modern day computing, backups are probably the single most important topic in Information Technology today.

Richard Greenane, Technical Director of SupportsIT, looks at some of the solutions available.

Backups in their simplest form are copies of the data files that are important to the business that owns them. These files might be letters, emails, customer designs, or anything that might have some value to the business or might cost money to replace. When asked, most business owners understand that there is a need to backup important data. However there are many companies that don't understand the consequences that a damaged hard disk or a malicious staff member can bring.

Furthermore, under the Data Protection Acts of 1988 and 2003 there is an obligation on all data controllers, among other things to take "appropriate security measures must be taken against unauthorised access to, or alteration, disclosure or destruction of, the data and against their accidental loss or destruction." In addition a minimum standard of security must include a backup procedure put in operation for computer held data, including off-site backup.

While the legal requirement is compelling, the practical result of even a limited amount of data lost is worrying too. The key factor in studies which calculate the cost of data loss to companies is whether the data loss is permanent or temporary. If the loss is temporary, the calculation (from the US) is that the cost to the company will be on average \$557 [€350]. If the loss is permanent then the average cost is \$20,557 [€12,934].

What is clear from our experience of developing and implementing hundreds of backup solutions, large and small; for our customers, is that any backup system, has to be simple, workable and effective without being cumbersome, time consuming and unreliable.

There are, a large range of backup options available to businesses. However experience tells us that any solution should meet a defined set of requirements before they should be considered as a permanent solution.

These criteria are:

Reliability – Backup systems have to work every day of every week of every year and then be reliable enough to be able to restore data at the worst possible time i.e. when a major failure or disaster has occurred.

Speed – Although continuous backup is becoming commonplace, most businesses still run nightly backups. The backup system therefore is required to complete its tasks overnight.

Cost – While the protection of data within the business should be paramount, cost is always a factor, especially in a small business environment. Costs can be broken down into two parts, capital, upfront costs and running costs.

Scalability – As a greater amount of data files are created within a business, further space within the backup system is required. The backup system should be able to cope with this continuous addition of files.

Workable – Having to put the backup tape in the bank every night so as to make sure that it is safe and protected, is probably not a workable solution for most companies. Therefore, it is important that the system is usable as well as living up to the other criteria.

Which backup system to choose depends on a number of factors but, to a small business, is largely dependant on cost and whether the system is workable. What is vitally important is that at least some backup is completed on a regular basis and that those backups are never kept with the computer that is holding the data.

Flash disks and external hard disks are an excellent way of transporting data, but an extremely poor method of backing up data of any importance or volume. The failure rate of both flash discs and hard disks varies with model, age and use but is significant enough to make use as a backup solution stopgap at best. Given these concerns, however, a very small business (i.e. one or two members) that did not currently have a backup system in place would benefit from the copying of their data onto one of these storage devices and for that data to be kept completely separately from the computer being backed up (i.e. off site).

Tape systems have been around for over 20 years and has until recently been the undisputed solution. As the name suggests the process is similar to using a very expensive tape deck – where data is recorded regularly (usually once a day) onto a single tape. This tape is then stored in a separate location. Tapes are usually rotated in groups of 10, with one tape replaced every month and stored to keep a historical record.

Contrary to some reports from online backup providers, a well setup and managed tape system is very reliable and the tapes themselves are quite resilient. There are however, a few shortcomings:

- Tape Machines are quite expensive – costing between €500 and €10000
- Tape Machines would typically need to be replaced every five years
- Tapes need to be stored off-site – many businesses use fire safes, however the rating of fire safes relates to paper, while plastic tapes burn, melt and become unusable much sooner than the listed rating,
- Tapes need to be archived and managed,
- Extra large volumes of data may require multiple tape machines and complex procedures to complete successfully.

Online backup is the new kid on the block and is assuming a growing importance in the IT market. The process requires a broadband internet connection to automatically upload your files to multiple servers located in different secure data centres. The data is encrypted before it is sent to the server, meaning that only those with access to your encryption key can access your data.

Another advantage of this system is that the whole process is automated, so that backup is completed nightly and the customer receives a confirmation email once the backup is complete. There is also no concern about storing data off-site or delegating a staff member to store and rotate tapes. Care should be taken when choosing an online provider as there are important ramifications for storing your data outside of the EU, especially if you store detailed customer information.

Finally, backing up important files is a vital way to protect your business from the potential damage that a major data-loss incident could cause. Both tape systems and online backups are simple solutions which allow data to be restored quickly and efficiently. The information protected by a backup solution is an important asset and is as important to businesses as staff, equipment and insurance – Back it up!

Richard Greenane is the Technical Director of SupportsIT. Richard has a B.Sc degree in Cybernetics and a M.Sc in Computer Science from Trinity College. Although passionate about his trade, he is not a jargon junky like many of his peers and is happy to teach clients while he is fixing their computer. Richard prefers disaster prevention over cure, although he says that "cure pays more!"

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