

Radio Days – 2011-11-05

Discussion – Backup Solutions

I have had a number of discussions this week with people who believed that they had a fool-proof working backup solution. Unfortunately, when they showed me their backup location, it was obvious both to them and to me that their backup was not working.

This false sense of security was, fortunately, found before it could result in tears or worse. If the matter had been undiscovered until after a restore had failed then there really would have been a wailing and a gnashing of teeth!

I have spoken about backups before, but with this week's experience behind me I wanted to cover the topic again in more detail.

Why Backup

There is an old, and cynical, saying in the computer industry: *There are only two kinds of computer users: those who have lost data and those who are about to lose data.* I remember one early morning last century when, after a late-night session of programming, I was about to go to bed. I realised that I had not done a backup for some time so I copied all my files to about 30 floppy discs (the old bendy 5 inch ones!). When I started my computer the following day the hard disc had died, so I thanked my lucky stars and bought a new one.

Some clients have asked me to recover data, and on a few occasions I have been successful. More often than not, recovering data from a dead hard disc will cost some thousands of dollars for each megabyte recovered. It is for this reason that I recommend that that you do a backup: it will save you money in the long run!

What to Backup

This is the easiest question to answer: everything that you do not want to lose!

This includes your documents, your emails, your music and your photos. If you are running a business you will also need to backup your accounting program's data. Hunt around on your hard disc using Windows Explorer to find all the files in all the hidden nooks and crannies and see just which are important. Most of them should be in *Documents* (or *My Documents*) but you may find that many are either directly on your desktop or in a folder on your desktop.

You may also want to copy the CDs and DVDs which you bought over the years from which you have installed all your programs.

When to Backup

This, again, is an easy question to answer: whenever anything important has changed.

If you have written some invoices and received some payments today then you will need to backup your accounting program's data. If you have copied some photos to your computer you will need to back them as well. If you have written some more of *The Great Australian Novel* then you will want to back up the whole document (including these new pages) to your backup medium.

Remember that your accounting program stores all its data in one large file so your cannot backup just the last month's work. The same goes for *The Great Australian Novel*: it is all stored in one Word document so you backup the whole 432 pages each time you do a backup. Photos are a different matter: each photo is a separate file (to use a technical computer term) and each photo is copied to your backup medium separately.

Backup Types

There are three main types of backups. These are:

- **Full** – this copies all files from the source to the destination, even if these files have not changed since the last backup

- **Differential** – this copies all files from the source to the destination that have been added or have changed since the last full backup
- **Incremental** – this copies all files from the source to the destination that have been added or have changed since the last backup of any type.

All these backup types have their advantages and disadvantages. A full backup takes the longest time to backup but always contains all your files so recovery needs the fewest backup discs and shortest recovery time. A full backup plus the latest differential backup is great if you have a dedicated person who can be relied upon to do all the backups, but incremental backups are mainly the province of mainframe computers with dedicated operators.

Please check the section *My Recommendations* below: you will notice that my recommended backup program, SyncBack, combines full and incremental backup in an easy-to-use package. This program has been really well designed by people who know what they are doing because it can be set to copy everything when it is copying to a blank medium, but copy only changed files when the destination medium has some of the files on the source medium. You can also set it to delete from the destination medium files which have been deleted from the source medium.

SyncBack SE is the professional version and has the ability to store a number of versions of files which change so that you can go back to an earlier version of a file if something is wrong. This is the version which I use myself, but many of my clients like the no-cost version. The SE version costs \$US35 so is really cheap for a lifetime of data security.

Isn't your data worth protecting?

Backup Media

In the recent past there were a number of backup media to consider. The most popular, for a long time, was the humble floppy disc. When I priced them in the early 1990s a packet of 10 cost \$80 - \$100. Ten years ago they were about \$10 for a pack of 25. They were cheap and easy to use, but rapidly became worthless because they were made to a price and you were lucky to get half of a box of new floppy discs which work. The next medium was the optical disc: CD and DVD. They, too, were popular because they held much more than a floppy disc but they, too, lost quality because they were made to a price.

My current recommended media for storing backup data are the USB (thumb) drive and external hard drives. Currently, both of these media are reliable and very cheap. For storing up to about 8 GB of data the USB stick is an excellent choice because it is small and cheap. It is also slow compared to external hard discs so for storing more than 32 GB of data an external disc is my preferred medium. The crossover point is 16 GB: both media are good and the price is much the same.

USB sticks are small and easy to use, so you have to be careful where you put them but they are far more reliable. External hard discs are larger, so harder to lose but, because they are mechanical, they are easier to break. You pay your money and you take your choice.

Backup Location

Once you have made your backup you then have to work out where to store it. If you run a business then you would take your backup home each evening, unless you work from home. If you are a home user you would take your backup to a friend's place for safe storage or take it with you when you leave home. This is where handbags are so useful, especially if they have a zipped pocket to store USB sticks.

I always recommend that people store their backup at least a kilometre from their computer in case of fire. Living as we do in a bushfire-prone area this is the smallest distance that I can recommend with any chance of feeling that your data will be safe if the worst happens. I have known too many people who have lost their accounting data because their backups were stored next to their computer and stolen at the same time as their computer.

Online Backup

Another way to store your backup is online. There are websites which offer online backup, both free and paid-for. The advantages of online backup include being able to access your data from anywhere at any time without the inconvenience of carrying your backup disc with you. This assumes, of course, that you have internet access where you are at a reasonable price and that the website storing your data is working and it has not lost your data.

If you are thinking of storing your data online I strongly suggest that you protect everything with a strong password. If you are not sure how to create a strong password please search online for ways of creating passwords. I then suggest that you get an independent test of your password's strength: one way of doing this is at Password Meter.

Being a paranoid sort of person I prefer to keep my data under my control.

Checking your Backup

You have now made your backup, but are you sure that your backup has worked? The best way of checking that you have everything that you will ever need on your backup disc is to remove everything from your computer, reinstall Windows and your programs and then restore everything to your computer. If you have made a mistake then, unfortunately, you have no way of recovering what you have just deleted. You could use another computer to see how your restore would go, but even this is far too much trouble for most people.

One thing that you could do is check that all the files on your backup disc can be read. There is an excellent program which will read every file on your backup disc and see if it is readable.

You will often get a warning or two stating that there is no hash file present. You may also get an error or two stating that access is denied. These may all be safely ignored. The main thing to look for is that there are no files which are unreadable. If there are you will probably need to do some more checking to see if the problems are major.

My Recommendations

As you would expect, there are many backup programs on the market. They range from a simple batch script, which is free because the program comes with Windows and you write it yourself. There are other programs which will backup your data only, so you will need a copy of Windows if your computer is destroyed and you have to restore all your data to a new computer.

My favourite program, because it is easy for my clients to use, is SyncBack. The free version is excellent for most people but I prefer the professional version: SyncBack SE. This version has the ability to store a number of versions of a file so that you can go back for as many generations of The Great Australian Novel (or your accounting program's data) as you ask the program to store. This program does a full back up the first time that it is run and an incremental backup afterwards.

I recommend using a USB stick for a backup smaller than 8 GB and an external hard disc if you need to backup more than 8 GB.

Further Information

SyncBack	www.2brightsparks.com
Password Meter	www.passwordmeter.com
CD Check	www.kvipu.com/CDCheck