Radio Days – 2014-07-12

Tip of the Week – Did My Backup Work?

During the week I had a call from a client who was worried that her backup had not worked. She had checked the date on the main folder on her USB backup and noticed that it was about two years old. She was convinced that this meant that her backup had not worked for the last two years.

How To Check

The containing backup folder had not been changed for these two years. This did not mean that her backup was not working: it just meant that that particular folder had not been changed for two years.

While we were talking on the phone I asked her to open that backup folder then to open her MYOB folder because that is her most important backup. She is very conscious that, if her accounting data goes, her business goes too and she was worried that her MYOB files were not being saved onto her USB stick.

I then asked her to tell me when her MYOB data file had last been saved onto that USB stick. She was really relieved to see that her MYOB data file had last been saved to her USB stick the previous day.

All her worries were put to rest and all her butterflies were able to settle down until the next scare!

Room For Toes To Grow

As a boy I remember going to buy new shoes and seeing the slogan for Clark's Shoes: *Room for Toes to Grow*. I have always liked this slogan because it seems to apply to so many areas of life and I have reminded myself of this on many occasions since my parents bought Clark's Shoes for my feet and toes.

This slogan came to strongly mind with one client during the week as their computer showed what can happen when there is no room for toes to grow.

Hard Disc Full

The first cause for concern was when the program used to run the business would not work. As the program started it checked that there was sufficient room on the hard disc for working space. This was when the message *Hard disc full* appeared and the only option that the program had was to abort. As this program was needed to run the business it was imperative that the problem was resolved immediately!

Oh! The joys of being an emergency service!

Possible Causes

There are a number of possible causes for a message stating that the hard disc is full apart from the obvious one that there is no more room on the hard disc. These include:

- Faulty hard disc which is near failure
- Corruption of Windows which leads to no program being able to write to the hard disc
- Failure of the NTFS file system which can lead to all sorts of erroneous messages

The first thing to check for was just how much space there was on the hard disc. This is easy to do using Windows Explorer. To get to Windows Explorer you just click on the Start button then select *Computer* or *My Computer* depending on your version of Windows. This allows you to see all the disc drives: right-click on the hard disc called (C:) and select *Properties*.

This will show you the size of the disc and the amount of free space. For most modern computers the free space will be a large proportion of the total amount of disc space: usually about 90% of a modern hard disc is free space.

As it happened, the size of my client's hard disc was 150 GB and the free space was 300 MB: that is about 0.2% of the disc's space was free. 300 MB of free space is not nearly enough working room for the hard disc's file system.

How Much Free Space is Needed?

NTFS (New Technology File System) is the file system which has been used by Windows computers since Windows 2000. NTFS has taken over from the old FAT (File Allocation Table) file system used by floppy discs and still in use on USB sticks.

NTFS has many improvements which make hard discs much more reliable than they were when the FAT file system was used. One difference between these two file systems is that NTFS needs working space for journalling: the method of storing the changes that are about to be made to the files on the hard disc to ensure that the file system is always in a consistent state.

It is this journalling which makes NTFS discs so much more reliable than the old FAT discs.

One of the consequences of this increased security of NTFS discs is that they need at least 15% free space on the disc. This need for free space is not a problem with modern hard discs which typically have at least 75% free space because most hard discs are at least 500 GB in size and most people's computers only have about 20 GB space actually used.

Despite the worries that so many people have about the size of their hard disc (remind you of anything?), for the vast majority of people there is more than enough space on their hard disc to last them for more than one lifetime! Yet still people worry about the amount of space on their hard disc.

What I Found

Having checked my client's hard disc I found that there was not enough free space to run his daily business program. This meant that I had to find where all the free space had gone to and then recover enough free space to get the business going again.

The first thing to do, having found that there were no errors with his hard disc, was to find the folder which took up all the space available. Normally I would have installed a program called *TreeSize Free* but, due to the lack of free space on the hard disc, this was impossible. At this stage the only option was to check each folder one by one. The first few folders were all small and a check showed that there was no point in looking further.

The next folder was a different story. Rather than taking just a few seconds to display its size and the number of folders and files inside this folder it took over a minute and was still going when I opened the folder, which was called *Backup*. Backup had many folders inside it, and each one was labelled with the date.

It turned out that this folder was a daily backup of the company's essential business program. Each folder (each day's backup) contained about 650 MB and there were too many of them for the company's needs. Each evening the owner would do a backup onto a USB stick: this backup took only a few seconds because so much of the data did not change from day to day.

What I Did

It was possible to remove all (or at least most) of these daily backup folders without losing any important data which could cripple the business. I discussed this with my client who was worried that he would lose the ability to recover from any problem if he lost data. I was able to point out to him that some of these backups were nearly ten months old so he would not be able to re-enter all the lost data from that point.

After persuading him that he would not lose any useful data, and that he would not be able to run his business if he did not remove some data from his hard disc, I started to delete the oldest backup folders first. This took some time as each folder contained some 11,000 files and the time to access the disc meant that it took about 10 minutes to delete each folder and its contents.

Fortunately the computer was able to save time by deleting more than one folder at a time. This was a great time saver so it only took about an hour to free enough space so that there was 20% free space: this was more than enough so that Windows could work properly while still leaving over eight months' worth of backup data in case anything should go wrong.

Next Steps

The next step was to check that there was enough space to start his business program: this is the program which had caused all the fuss in the first place. This program now started very quickly and the business could get back into the business of being in business. I would have liked to have done a defragment on his hard disc but that slowed the business program down too much so had to be cancelled.

No Emails Coming In

He now pointed out that he had not received any emails for some time and he usually had at least ten emails each day. There was one check that I had to make given that he had run out of room on his hard disc.

Outlook Express

Because he had Windows XP on his computer he used Outlook Express as his email program. Outlook Express stores each type of email (Inbox, Sent Items, etc) in separate database stores and, because Outlook Express is a 32-bit program, all of these database stores are limited to 2 GB. I won't go into the mathematics of this calculation because it is too technical for most people but it means that each of these stores is limited in size and you need to take some action when the store approaches this size if you want to continue working.

Cleaning Outlook Express Stores

There is an easy way to clean your Outlook Express stores and it is built into Outlook Express ready for you to use. Once you have opened Outlook Express you select *File » Folders » Clean All Folders*. This copies all the folders then deletes all the deleted emails which are sitting in each of your folders and just taking up space.

This copies all the old folders as *.bak* files to the Recycle Bin and leaves your original folders in their original place but with all the deleted emails removed.

This is the sort of maintenance which you should do periodically. The time between clean-outs varies depending on how many emails you receive and how many of them you delete or move to another folder. It is this moving and deletion which leaves rubbish in your email stores.

Further Information

TreeSize www.jam-software.com