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## **What's your backup plan?**

By Marc Berthiaume

You don't back up? You're not alone. According to Interactive Data Corp. analyst Cynthia Doyle, up to 60 percent of corporate data resides unprotected on computers. A recent IDC report found that 40 percent of small and medium-sized businesses don't back up.

Disaster preparation and security are reasons to back up with disk-to-tape, CDs, DVDs, external drives, flash, or the newer online backup methods.

Disk-to-tape is an approach to computer storage backup and archiving in which data is initially copied to backup storage on a disk storage system and then periodically copied again to a tape storage system (or possibly to an optical storage system). However, for many computer applications, it's important to have data immediately ready to be restored from a secondary disk if and when the data on the primary disk becomes inaccessible. The time to restore data from tape would be considered unacceptable.

On the other hand, tape is a more economical alternative for long-term storage (archiving). Because it's also more portable, tape is often used for off-site backup and restoration in case of a disaster.

CDs and DVDs have become great backup media. CD-ROMs hold approximately 700 megabytes of data, and DVDs have capacities of nearly 5 gigabytes on a single disk, so you can place a lot of data on one.

Many will buy an external drive for doing backups of important documents or the whole computer. It also may act as an auxiliary storage system if space is at a premium on the existing computer or to store audio, video and picture files. It's a good idea to estimate how much space is needed for everything that will be done on the drive and then double or triple that figure. Try to plan at least one year into the future when doing this.

If storage requirements are limited (less than 10 gigabytes), then a flash drive will be adequate. When more than 50 gigabytes is needed, then an external hard drive normally makes more sense.

When considering hard drive and flash drive speeds, it's helpful to know that some flash drives are capable of 25 megabytes-per-second data transfer rates. Hard drives can perform much faster, in some cases transferring data at 60 megabytes per second.

Another drawback of flash drives is that the data-writing rates are sometimes twice as slow as the rate at which information is read. While most data operations will not be a problem at these slower speeds, if large video files and virtualization images will be used, this might be a concern.

Another consideration will be the speed limitations of the USB itself. A USB is a computer interface for connecting computer peripherals. The fastest USB 2.0 data transmission speed is 480 Mb/s (megabits/second) or about 30MB/s (Megabytes/second). No matter how fast a hard drive is, it will be limited to this speed when sending data back and forth to the computer.

Online backup services save computer files on secure, off-site servers over the Internet. If your computer is lost in a disaster or theft, important files are saved.

Online backup is easily set up using a downloaded utility. You decide which files to back up automatically, and when. Should something happen to your computer, you can retrieve files from any computer with Web access after entering a user name and password. Many providers let you set up separate, shared folders for high-resolution digital files or other large files, available to employees with user names and passwords.



The cost of online backup is higher than traditional methods, but the old adage comes into play: “You get what you pay for.”

In this case, it’s security and peace of mind. The recommendation is to regularly back up key files with an online backup provider, in addition to traditional backup media kept off-site.

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