

Keeping Your Computer's Data Intact and Portable

As technology continues to advance and improve at an ever increasing rate, so has the capacity of hard disk storage. Most computer manufacturers now offer desktop systems with a terabyte (TB) of hard drive space -- that's one trillion bytes of information (1,000,000,000,000 bytes). For those of us that remember the 1 MB 3.5-in floppy disks, 1 TB would be the equivalent of *one million* of those. Even laptops can come equipped with half terabyte (500 GB) hard drives. This increased storage capacity has not only made possible technology like DVRs, because recording video to disk requires a greater amount of storage space, but it has also increased the longevity of most computers, since most systems come with more available disk space than the average user will ever need -- eliminating the need and expense of having to upgrade to a bigger hard drive or a newer computer when you start to run out of storage space.

So what happens when you've gotten the most out of your computer, and even though you may not have come close to maxing out the hard drive space, you decide to upgrade to a newer system with a faster processor, and you need to transfer all of your data? Moving large amounts of your personal computer's data can seem almost as daunting as moving your physical belongings from one residence to another.

Fortunately, most computer and hardware manufacturers have recognized this need and have addressed it in a variety of ways -- helped by the fact that disk storage continues to drop in price.

Portable hard drives

As the capacity of internal hard drives has increased exponentially, so has the storage capabilities of *external* hard drives. These relatively inexpensive portable external drives connect to a computer either via a FireWire or a USB cable -- the differences being the type of connector and the data transfer rate. FireWire cables are available with 4-pin or 6-pin connectors, and the FireWire 400 protocol allows for a data transfer speed of 400 Mbps (megabits per second), while FireWire 800 doubles that to 800 Mbps. Unfortunately, not all computers come standard with a FireWire port -- but they should have at least two USB ports. The data transfer rate of USB 2.0 -- the standard since 2000 -- is 480 Mbps. USB cables come with several different types of connectors, the most common being types A and B -- though some devices like camcorders use mini USB connectors.

Both kinds of external drives are usually plug-and-play compliant -- meaning that Windows, Mac OS X, and usually Linux operating systems automatically recognize a USB or FireWire external hard drive as an additional storage device once it is connected. Then it is usually a matter of simply clicking and dragging files and folders to copy them from the internal hard drive to the external drive.

Software utilities

With the evolution of higher-capacity hard drives, software applications have taken advantage of this technology. Newer versions of Mac OS X and some versions of Windows 7 offer free back-up and restore utilities, which incorporate external storage devices. In Windows 7 Professional and Ultimate, you can create a back-up image of your system's data and configuration settings and store that image on an external hard drive. In the event of your computer's hard drive failure, you can then use that image to restore your system to its most recently saved configuration with all the data intact. More recent versions of Mac OS X offer something similar

with Time Machine.

Some versions of Mac OS X and Windows also offer software solutions specifically for transferring your computer's data and configuration settings from your old system to a newer one when upgrading. After connecting the two systems with a FireWire cable, Mac OS X's Migration Assistant guides users through a wizard-like interface to complete the data transfer (which can also be done across two systems connected to the same network). Windows Easy Transfer operates much in the same way, and can also be accomplished over a network connection, but a special proprietary USB-to-USB cable is needed if a network transfer is not an option.

With the exception of Microsoft's proprietary USB-to-USB Easy Transfer cable, Optimized Cable Company offers a wide selection of USB and FireWire cables -- with all the different types of connectors -- to help you keep your data safely backed up or to make upgrading your computer as painless as possible.