

Data Recovery – What it Means

Digital devices are built around a silicon micro-processor that contains millions of microscopic transistors. These enable the chip to carry out an unbelievable amount of calculations per second, which is thousands of times faster than the human brain. Because of this, computers are formidable force multipliers. They can do any task much quicker than it would have been done by us humans. It is no wonder then that there is hardly any home or office today in the world where digital devices do not have pride of place.

Digital devices can only process information only if it is in a digital form, that is, it is represented as a string of ones and zeros. This digital data that is fed to the processor needs to be copied and stored somewhere safe and sound till it is needed for further processing by the operating system. For this purpose, there are many storage devices that have been introduced in the market. Hard disks are the primary storage devices inside computers. Nothing can come close to them in terms of the combination of random access and storage capacity that they provide. There are many removable storage media available too, such as optical disks (both CDs and DVDs), USB drives, tape drives and floppy drives. Their capacities range from a puny 1.4 MB of a floppy to about 100 GB for a tape cartridge.

Digital data has many advantages. Hundreds of copies can be made of it instantly. It can easily be sent across wires from one continent to another. It is easy to process, create and delete. For all its benefits though, digital data has one fatal flaw that almost threatens to overshadow all its advantages. It is volatile and can easily be lost or become inaccessible due to a variety of hardware or software reasons. A hard drive may crash. An optical disk may develop scratches over its surface. A USB drive may get crushed underfoot. Then there are user-inflicted errors. A data file may be deleted by mistake and the recycle bin emptied. The entire storage media may accidentally be reformatted by the user before it is realised that some important file was residing on it.

Once data gets lost, it leads to a lot of consternation among users. Data loss can have devastating consequences for banks, insurance firms, R&D companies, etc. which are heavy users of information technology. For individuals, it may lead to a lot of inconvenience as they lose their presentations, manuscripts, emails and treasured family photos.

Data that has got lost due to mild software errors can be easily recovered by using “do it yourself” (DIY) recovery software. There are many companies with a presence online which sell DIY software through their websites. You can make a purchase through your credit and download the software to your hard disk. After this, you can follow the instructions and proceed to recover the missing file.

DIY software is not of much help in severe cases of data loss such as corruption of data structure or any case of hardware error in the storage media. When faced with such a situation, there is no alternative but to take the media to a professional data-recovery company.

Professional recovery companies have a technical team that is equipped with special machines and customised software to recover data from damaged storage media. The technicians diagnose the problem and then use special procedures to extract the files. Professional recovery of files comes out to be quite expensive compared to DIY recovery but is well-worth the price if the data that has got lost is crucial to the survival of a company.

One of the most important parts of the infrastructure of the professional recovery companies is what is called a clean room. This is a sealed room with restricted access in which the air is constantly cleaned by special filters to purge it of all air-borne contaminants. Technicians working in the clean room have to wear moon suits so as to avoid contaminating the air with their hair, sweat, odour or skin flakes. In a clean room, hard disks can safely be opened and exposed for carrying out repairs.

Source: <http://www.articlecircle.com>

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