Storage for computer system and backup

Technology, Computer

The different types of storage system consist of " removable drives, fixed drives, network drives and internet drives" (UMTB, 2003). Removable drives are those that provide high portability like floppy drives, Zip drives, Tapes, CDR(Compact Disk Recordable), CDR/W (Compact Disk Rewritable), DVD (Digital Video Disk), Flash drives and USB drives. USB drives may be made from Flash memory like memory sticks and pen drives. USB drives may be made from modern hard drives (magnetic) enclosed in a portable USB interfaced enclosure. Fixed drives are consists of hard drives that provide high storage capacity.

Fixed drives remain connected into the computer system and are often used to boot up the system. Network drives are fixed drives that are connected to a network and are common to all computers connected to the network. They are normally a collection of several fixed drive providing much higher capacity but the data rate speed is limited to the LAN (local area network) bandwidth. Internet drives are much like network drives but they have been provided with protocols that allow recipients connected to the vast network of the internet (word wide web) to access.

Regardless of the type of storage used by your computer systems, why would you want to back it up? Any storage for computer systems are not indestructible therefore there is a possibility that the data stored inside them becomes inaccessible or destroyed. The reliability normally depends on the type of material being used. For example floppy drives are the least reliable because they are prone to molds and dust that could damage the magnetic materials. Hard drives that are made of magnetic material can easily be

affected by the presence of strong magnetic fields that can destroy the data stored in it.

The electrical stress of its circuitry can also damage the hard drive. Flash drives are reliable but still if they are improperly turned off, the data stored could be damaged. Viruses can also corrupt the data of any rewritable storage media. Optical storage like CDR/CDRW can be affected by wear and tear and the deformation due to thermal stress that eventually could damage the data in it. If any of this storage is broken, you might end up loosing a large number of useful data. Sometimes you can only recognize the importance of backup when you are already experiencing data loss.

Therefore it is very important that as early as possible and as often as possible the data in any storage must be backed up. Backing up your data storage can save you a lot of money and headache when an unfortunate data loss event occurs. What are the different techniques for backing up storage? There are two basic form of backing up any type storage media, manual or automatic. The media used in backing up differs from one another. Small amount of data such as for personal use are normally backed up using CDR/CDRW/DVDR because these optical drives are reliable over time if properly stored.

For large corporations that needs to store large amount of data, they normally chose between reliable systems like RAID (Redundant Array of Independent Disk), collection of hard drives or TAPE drives. What are the advantages and disadvantages of each technique? Between automatic and manual method of backup, normally automatic is preferred because manual

backup are prone to possibility of being left out. Automatic backup through advance software insures that data are backed up at regular interval.

Manual on the other hand gives the flexibility of being able to back up only when deem necessary and it is very easy to do. For the different type of media RAID systems are believed to be very reliable data storage system but these system are very expensive compared to ordinary drives. Some companies use a collection of ordinary drives but the management and integration to the storage infrastructure normally takes time and money. " Managing an end-to-end disaster recovery solution across an enterprise is currently an extremely complex challenge" (Hardipour, 2004).

Tape drives are normally the media of choice because they are cheap and the data are stored in linear fashion. Right now Tape drives are made of conventional hard disk that emulate Tape drives by writing the data in sequence like tape drives. An example is Quantum's DXSeries, " The disks or virtual tapes are presented to the external environment as conventional magnetic tapes" (Mezzullo, 2005). This makes recovery easy if even the storage is broken. On the other hand, RAID system fragments the data, making it impossible to recover manually if the RAID system is broken.