**Backup HSM and Media Choice**  
**краткий пересказ**

Near-line and offline storage (often called Hierarchical Storage Management) is the modern way of dealing with current storage needs.

Hard disks are becoming cheaper, but data storage requirements are higher, so it's better to plan for HSM than assume disks can continually be added to systems.  
HSM is essentially the automatic movement of data between media, the media type used depending on when it was last accessed.  
The most common HSM setup is where there's s online storage (the hard disk), near-line storage (some sort of fast media from where a file can be quickly retrieved), and offline storage.   
This arrangement is the major thrust of today's systems.  
  
Data is automatically moved from the online disk to the near-line optical media if it hasn't been accessed for a definable period of time. The system has to operate on the basis that a user won't know that a file has been moved into near-line storage. Therefore some marker is left in the directory structure on the disk so that the user can still see the file.  
  
Some modern systems have the ability to keep multiple tapes in a tape changer or jukebox system, so retrieval from offline to online storage can be automatic. However, it is more likely that when a file goes into offline storage it will never be recovered, as it has probably been untouched for several months (again depending on the business).  
  
The choice of storage media type is a crucial aspect of HSM. The cheapest is undoubtedly tape (be it digital, analogue or digital linear), so this tends to be used for offline storage. Tape is used for backup systems where large amounts of data need to be backed up on a regular basis. Tape is cheap, integrity is good over the short to medium term, and retrieval from a backup can be made acceptable with good tape storage practices.