

SCSI Tape Backup

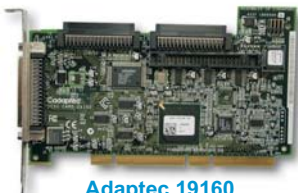


IBM 20/40 GB
DLT Tape Drive

Tape systems have been employed to back up data since the early days of computing. Although various formats have been developed over the years with ever greater storage capacities the process remains largely unchanged. The accumulated data on a computer's hard disk is transferred to a removable tape. In the event of accidentally deleted files or a hard disk failure the lost data is located on the most recent backup tape and restored. The current generation tape drives ON-LINE recommends utilize a storage format called DLT (Digital Linear Tape) which enables large amounts of data to be stored with a very high degree of reliability. DLT drives utilize a high throughput SCSI (Small Computer System Interface) controller which combines well with a RAID (Redundant Array of Inexpensive Devices) hard disk system to ensure high performance, reliability, data integrity and redundancy.

The IBM 20/40 GB DLT drive pictured to the left utilizes ECC (Error Correction Code), CRC (Cyclical Redundancy Checking) and SCSI bus parity checking to ensure data integrity. It stores up to 20 GB of data uncompressed, 40 GB compressed, and utilizes dual channel Read/Write which increases the data transfer rate, the speed the data can be written to the tape. The drive comes in internal, external and rack mounted models. A typical backup routine would involve a tape for each day of the week that have either all of the data or the new and changed data since the last full system backup written to each tape nightly. The tapes are rotated daily and stored in a secure location off-site. Additionally monthly tapes, one for even months and one for odd months, are used for full monthly backups. This routine ensures a complete backup up all accounting data coinciding with the completion of month end accounting procedures providing a safe data recovery point in case a problem is not identified until the following month end.

SCSI Controller



Adaptec 19160
SCSI Controller

The Adaptec 29160 SCSI Controller allows up to 7 storage devices to be connected. It has a data transfer rate of up to 160 MB/second compared to the 66 MB/second that Ultra DMA controllers connected to EIDE hard disks achieve. This high throughput combined with the 2 to 3 times longer MTBF (Mean Time Between Failure) of SCSI over EIDE drives make SCSI the only choice for very high performance workstations and PC-based Servers. When configured with multiple SCSI hard drives to form a RAID system this controller provides extremely high reliability, data integrity and data recovery in the event of a hard disk failure. Connecting a tape drive like the one described above to the same controller enables extremely fast data streaming from the hard drive system to the tape reducing total backup times.

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