

# TAPE OR DISK STORAGE? MAYBE BOTH

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Tape or disk storage? Maybe both

The choice of enterprise storage systems may not be as clear-cut as champions of disk systems might suggest.

By Anand Parthasarathy  
The Hindu  
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WHEN THEY speak of 'incumbency factor' in Indian politics, it usually means the guys in power tend to be thrown out, the next time the electorate gets to decide. In the world of computer storage, though, incumbent technology has often exhibited the 'stickiness' required to last longer indeed, long after experts have written it off.

Ever since the first IBM main frame computers, fifty years ago, used those jumbo-sized tape drives, magnetic tape -- where different patterns of magnetisation are used to represent stored bits or bytes of information -- has remained the dominant media for the storage of digital information.

Earlier technology

In the early 1980s, optical technology was born, giving birth to the compact disk (CD). But rewriteable CDs were costly and complicated... the main data storage medium of the personal computer remained the hard disk. 'Mag Tape' however, was the preferred medium to back up and archive data -- and tape systems have gone through many evolutions, from the low cost DAT (Digital Audio Tape) drives to today's DLT and SuperDLT ( Digital Linear Tape) drives. In the DLT drive, data is written on the tape in dozens of straight-line (linear) tracks, usually 128 or 208. A variant of DLT technology, called SuperDLT, makes

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it possible to store upwards of 300 GigaBytes (GB) on a single cartridge allowing data transfer speeds of up to 60 Giga Bits Per Second (GBPS). Competing devices include the Linear Tape Open Drive, the Advanced Intelligent Tape (AIT) drive, created by Sony with rated capacities hitting 500 GB, and the Mammoth drive.

Disk costlier than tape

Meanwhile the cost per unit storage of magnetic hard disk systems, fell dramatically — almost by a factor of 1000 within a decade. By 2001 it overtook magneto-optical drives — which combined the speed and capacity of optical technology with the flexibility and reliability of magnetic drives — as the cheaper medium. But within the magnetic spectrum, disk remains costlier than tape by a factor of five to ten. Today we talk of cost in terms of dollars per GB and speeds of data transfer in terms of GBPS.

Disk array systems with their much faster transfer speeds and their ability to swiftly and non-linearly reach the data one wanted, have captured most of the high-end of the enterprise storage business, as the best bet for both primary storage and secondary back up. And whether the storage a