



Is Tape Dead? **By Chris Taylor**

Just recently, tape backup has received a lot of press in the technology community, much of it not so flattering. There have been stories of glitches, tapes and data vanishing at some of the largest financial institutions, customer data appearing in headlines and horror stories that have lined the walls of data centers. In light of these incidents and more attention being given to security, many organizations are wondering if there are better alternatives to backup than tape.

Some companies move physical storage devices from one location to another. When a disaster occurs, many of these organizations find it cheaper to buy new disks for data storage than restore data from tape. Since delays and associated recovery costs make the price of new disks seem reasonable, and a full restore using tape can be complex and time-consuming, nearline storage solutions like disk-based backups are becoming more popular.

One way to address both the need for faster restores and a solution for longer term storage and archiving of data is to utilize both tape and disk. For example, critical backup data is stored on disk for rapid restore. The user can decide how many versions of the data should reside on disk. For disaster recovery, critical data can be copied to tape and a duplicate produced for offsite storage. Less critical data can be staged to disk and then written directly to tape. By using this method, the data that is less mission critical can be staged to tape over time and mission critical data can be available nearline on disk for a much quicker restore. Such things as replication from disk-to-disk, either on-site or offsite, can also be introduced for even greater availability, shortened recovery time objectives and recovery point objectives.

Tape does remain an important feature of the backup solution. In most current IT operational strategic planning sessions, companies with significant business critical data are looking to typically stage first to disk and then to tape. This means they can centralize the backup to a single tape library, which can store, depending on the size of the library and the retention policies, multiple versions of the data. Rapid restores can either be done from disk for more recent backup versions or off the data from the library without the need to load tapes. In this scenario, a single file recovery takes less than four minutes.

When considering a disk-based backup solution, consider appliances that can reduce your disk-based backup capacity by leveraging compression or data reduction techniques. Data reduction is not the same as data compression. Backup applications and tape drives both support data compression and can achieve approximately a 2:1 compression of data. But data reduction appliances can detect common patterns or chunks of data within backup files and inhibit identical chunks from taking up additional disk storage space, resulting in much greater disk space savings. It is not uncommon for backup data to be reduced by 20:1 with these appliances.

One of the goals of disk-based backup systems should be to reduce the administration complexity of managing backups and restores. Once the decision has been made about which technology is best, ensure that both the backup administration staff and management team incorporate the processes of this solution into their backup processes and plan accordingly for both adequate testing of recovery and establishing a baseline for recovery points and objectives.

Marrying both disk-based backup and tape backup combines the strengths of these two solutions and allows organizations to match the right service levels to the appropriate costs associated with the value placed on the data. With this type of solution in place, organizations now have the flexibility to have the right data stored on the right media that allows the optimal restore capabilities that fit the needs of the business. Tape solutions will continue to be a vital component of data center storage solutions in the future. Through a lifecycle data management plan, corporations can reduce costs through a combination of storage practices dependent upon corporate policies and compliance needs. Tape is not dead; it has just changed its positioning in the lifecycle of data storage.

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