Montal Online Backup Vs. Tape Backup

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The advantages of Montal Online Backup for backup and recovery purposes

Montal Online Backup allows desktops, laptops and servers to back up data to, or restore from the remote Montal Online Backup Storage Platform. In most cases, data stored on desktops and laptops are only backed up when they are transferred to a server with a locally attached tape backup system. Recovery of backed up data using Montal Online Backup does not suffer from the access latencies associated with traditional sequential tape backup systems. Using Montal Online Backup, true backup/restore parallelism is achievable –a significant differentiator, as simultaneously streaming to multiple volumes greatly improves backup and restore performance, and shortens backup and restore windows.

Immediate advantages of disk over tape for backup and recovery are:

- Faster backup/restore than traditional tape solutions – Montal Online Backup supports concurrent backups and restores to and from separate volumes
- Montal Online Backup supports parallelism using single or multiple data streams per volume
- Montal Online Backup restores are much faster – no waiting for tapes to be mounted and spun, eliminating a lengthy labelling process
- No linear searches for data
- Immediate, online access to backups
- Shortened backup and restore times

The weakness of tape for backup and recovery

The un-augmented tape backup model has some significant weaknesses. For instance, there is the reliability of the backup process itself. A recent CMP-Reality Research survey indicates that 10% of backups fail to complete because the backup window was insufficient or the tape device failed. If the backup is incomplete, for all practical purposes there is no backup. Then there is the restore process. The existence of a backup copy does not imply that accessing the data will be quick or easy. Again, the CMP-Reality Research Survey showed that the typical time required to retrieve a single file from a large tape backup is about 6 hours. There are two reasons why this process may take so long.

First, tape is not inherently a random access medium. Backed up data must be accessed serially as it was written. The backup software (and hence the backup server) must be employed for this search and knowledge of the software is thus required. Recovering a single file from a tape often requires first reading through a substantial portion of the tape.

Second, the recovery process is usually more involved than simply reading a single tape. In an ideal world, the entire file system would be backed up every day. Since time restrictions usually make this impractical, IT managers often choose to perform a complete backup only on weekends, and then perform daily backups of only those portions that changed during that day. These “incremental” backups save time during the backup process, but they cost time during the restore process. A file restore requires looking at the daily files to find out if file changes were made on several tapes.

Inherent risks of using tape for backup and recovery

- Reliability of the tape drive and of the media itself – IT administrators must regularly perform restores to a recovery server to verify if the backups are actually readable.
- More often than is probably practiced, backup operations may also require a verification process as well. This doubles the required backup window, as the verification cycle.
- Sequentially re-reads the tape.
- Recovering files or even an entire system may involve more than a single tape, which adds file access latency.
- For file recoveries, an administrator is often required to queue up the appropriate tape(s) and monitor recovery progress.
- Tape backup and restore is prone to mechanical failure and usually must be attended to insure proper operation. Backup of data physically located only at remote sites can also be problematic.

Montal Online Backup Disk server access times – a key advantage

Backup and recovery operations to and from tape devices are, by nature, serial operations. This means that each job must complete before the next one can be started, because the data must be written-out and read-off the tape in a sequential serial format. Many tape libraries utilize multiple tape drives to mitigate this limitation, but adding tape drives adds cost to the tape library.

In contrast, by its architecture, data access from the Montal Online Backup Storage Platform disk server is random. Therefore, disk storage servers used in conjunction with a backup application that supports multiple concurrent streams will improve performance of the backup or restore operations.

Combining tape and disk technology in data protection strategies

Data loss is most likely to occur as a result of file corruption or inadvertent deletion. In fact, single or multiple file recoveries account for 90% of requests. In these scenarios, Montal Online Backup allows a much faster and far more reliable restore process than possible with a tape device. The subsequent reduction of downtime helps deliver what all IT managers strive for – high availability. The Montal Online Backup solution will, at a minimum, help bring a downed server back online faster. Depending on complexity of the tape organization and the difficulty of the restore process, Montal Online Backup may help bring the server back online quicker than a tape-based system.

As Montal Online Backup is a remote data storage solution, business critical data, once backup up, is automatically kept offsite. If disaster recovery should ever be necessary, a copy of the data is already located at a physically separate site. The CMP-Reality Research Survey indicated that most businesses store data offsite. Furthermore, they refresh that data, on average, every two weeks.

Montal Online Backup can be employed as part of an overall data protection strategy, which may include an existing tape infrastructure. This combines the advantage of quick service restoration in event of data corruption, with the assurance of recovery in the event of a disaster. In this scenario, Montal Online Backup may be executed as the daily backup solution, with less-frequent tape backups perhaps timed to coincide with the offsite storage procedure. For average businesses, this may imply creating a full tape backup once a month rather than doing a tape backup every day. This would greatly reduce the demands on the tape infrastructure and on the manpower required to maintain it.

Summary

Tape Backup	Montal Online Backup
Tape backup takes a long time.	With Montal Online Backup, after the initial back up, only changes at byte level are backed up, so if you change one word, only that word is backed up and not the whole file
Tapes can fail. They can fail to backup and they can fail to restore.	With Montal Online Backup, your data is stored redundantly on high tech storage devices. You can tell when a backup has failed. Most of the time, this is usually due to a failure with the connection to the Internet rather that the software itself.
Orchestrating a tape-based backup is time-consuming and prone to human error.	With Montal Online Backup, you select the files or folders and it automatically backs them up, day in day out.
Moving the tapes to and from the off-site storage area is necessary, costly and time-consuming.	Montal Online Backup automatically stores your data in a remote, off site location. This data is also mirrored to another location.
The recovery process is unreliable and time consuming. You also have to wait for the tapes to be transported from the off site storage location.	With Montal Online, you can restore a single file, multiple files or an entire directory easily and quickly. Providing you have the passwords and encryption keys, you can access, email and restore the files through the Internet
How many historical versions of your files do you have to restore from? Most tape drive users only have 5, one for each weekday.	Montal Online Backup gives you instant access to up to 61 days of historical versions of your files.
How do you know if all your files were actually backed up properly?	On the Server Edition, Montal Online Backup can automatically notify you via email if a backup session does not run properly. On the Server Edition and Desktop and Laptop version, you can view the daily logs of backups.