



For Backup



HIGH-PERFORMANCE BACKUP AND DISASTER RECOVERY FOR PETASCALE/EXASCALE UNSTRUCTURED DATA FILE STORAGES

Some challenges for protecting very large volumes and processing millions or billions of files:

The daily rate of file changes for your large storage is no longer compatible with your operational backup windows

Protection costs are much higher if you attempt to reduce service downtime and the I/O impact on your storages



The dependence on 100% single vendor solutions and their budgetary impacts (Snapshots, replications between NAS ...)



Costly investments and complex management for storage Disaster Recovery solutions (replicating primary storage, cloud synchronization ...)



The complexity and the time required to securely restore complete storage backups either on premise or from the cloud

KEY QUESTIONS FROM STORAGE BACKUP MANAGERS:

- How do I successfully perform full backups when my incrementals already exceed my backup window?
- I have legal obligations to back up our data and I am looking for a powerful and reliable solution for hundreds of terabytes of data with millions/billions of folders/files?
- How can I back up my data stored in the cloud or on object storage?
- How do I restore very large volumes rapidly?
- How can I restore data from one type of storage to another?
- How can I absolutely guarantee continuity of access to large volumes of critical data in the event of an incident on my storage devices?



Minimize backup windows



Perform regular and efficient backups with successive increments



Restore simply & with full confidence a few files or petascale/exascale data sets including to another storage platform



An open backup and multi-storage solution (cloud, disk, object, tape)



Ensure ongoing access to data in case of incident on primary storage (minimal production impact) with Miria's unique Snapstor feature.



- for Backup
- for Migration
- for Data Moving
- for Archiving



Michel Ruffieux –
Storage and Backup
Manager, University
of Lausanne (UNIL)

"We are backing up our unstructured NAS data sets based on multi-OS sources while respecting ACLs. Thanks to Atempo, our NFS and CIFS file systems are working in perfect harmony with S3-type storage."

TRADITIONAL NAS AND NDMP BACKUP LIMITATIONS:

- A file by file approach
- Never-ending filesystem scans to identify files to backup (added, modified or deleted) reduce performances and storage availability and actual backups start well after the job launch
- Massive data recovery is very slow due to the absence of parallelization
- NDMP protocol which is designed for tape storage
- Solutions for restoring only to identical storage platforms
- Traditional backup approaches (Full plus Incrementals) are poorly adapted to very large volumes (>100 TB)

THE KEY TAKEAWAYS OF THE MIRIA FOR BACKUP SOLUTION:

Rapid detection of created, modified or deleted files

The FastScan feature⁽¹⁾ collects a list of added, modified or deleted files on file storage servers. No need for lengthy and extensive storage crawling, the backup starts very early on and uses powerful parallel processing which adapts to all files sizes.

⁽¹⁾ Now available for Lustre and EXAScaler

Incremental forever protection

Miria for Backup implements an “incremental forever” technology when the target is an object or cloud storage. The initial backup is a full, followed only by incrementals. Miria reconstructs the full to restore on demand.

“Agnostic” solution enables restore to a different platform

Miria for Backup collects files with their ACLs and adapts their storage in a neutral and open format. During restore, the data and associated ACLs are formatted for the target protocol and storage.

Disaster Recovery and continuity of data access

Miria enables the recovery of selected files as well as priority folders or volumes. If a major incident disrupts your high-capacity storage, Miria Snapstor is activated to support production by ensuring ongoing data access while waiting for maintenance or replacement storage.



TECHNICAL CHARACTERISTICS

COMPATIBLE STORAGES & FILE SERVERS (TO PROTECT)

- Cloud & Object Storages: AWS, Azure Blob Storage, Google Cloud Storage, Alibaba Cloud and any S3 or Swift compatible objet storages/cloud providers
- NAS and Scale-out NAS: Dell/EMC Isilon, Qumulo, Huawei, Vast and other NAS with CIFS/SMB or NFS shares
- Shared or parallelized storages and file systems: Lustre, EXAScaler, DDN, IBM Spectrum Scale / GPFS, Panasas, StorNext, and more
- Industry-standard file servers: Windows, macOS, Linux, ... are supported

TARGET STORAGES FOR BACKUPS

- For more details, please consult our Compatibility Guide
- Miria supports heterogeneous technologies such as hard disk, object storage, optical disk, tape, cloud or combinations of all these

BANDWIDTH AND THROUGHPUT

- Capacity to move data at a very high rate with no parallelization ceiling (saturation of a 10 GB network for example) and limiting the impact on operational constraints
- Possibility of fixing dedicated backup windows
- Adapted to very large data volumes, numerous small or very large files

ADVANCED STORAGE INTEGRATIONS

- FastScan is an option available for Qumulo, Lustre, EXAScaler, Isilon, Nutanix GPFS storages. FastScan enables rapid detection and management of added, modified or deleted files since the last backup cycle

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