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Experience Report and Use Cases

Datamanagement on Distributed Storages

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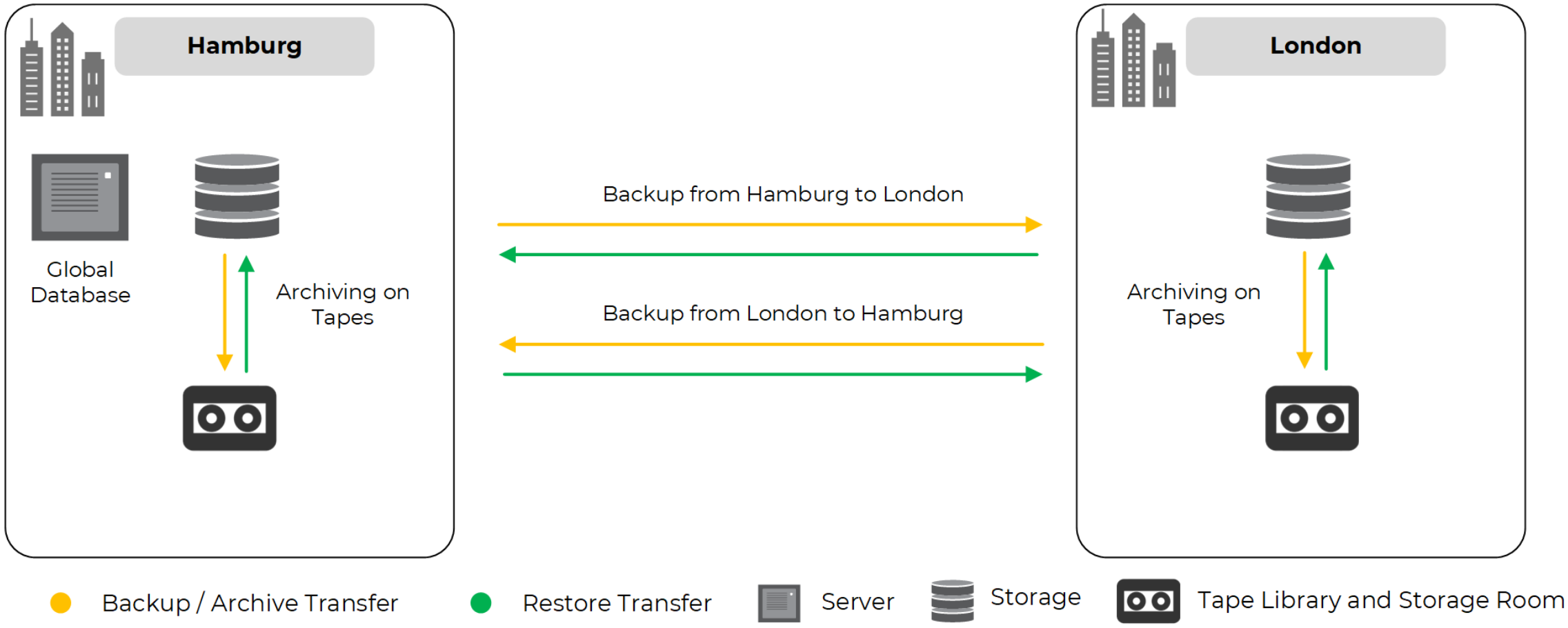
Initial Situation

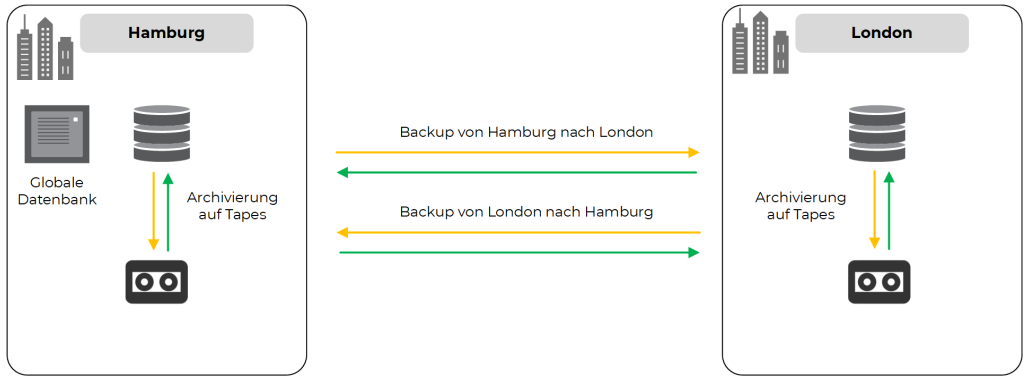


Initial Situation

How did backup and archiving work so far?

- Backups on storages of other locations
- Archiving on Tapes – many Tapes
- MPLS connectivity between all locations

Initial Situation



Which challenges did arise?

- ✗ Bandwidth shortage because of backups of other locations
- ✗ Shortage of storage room capacity
- ✗ How long to tapes last?
- ✗ Long restore times
- ✗ High effort during restores

Requirements

Secure and cost-effective long-term archiving

- Data has to be available 10-15 years

Fast restores

- Data of the last three month should be restores instantly
- Restores without „Turnschulogistics“

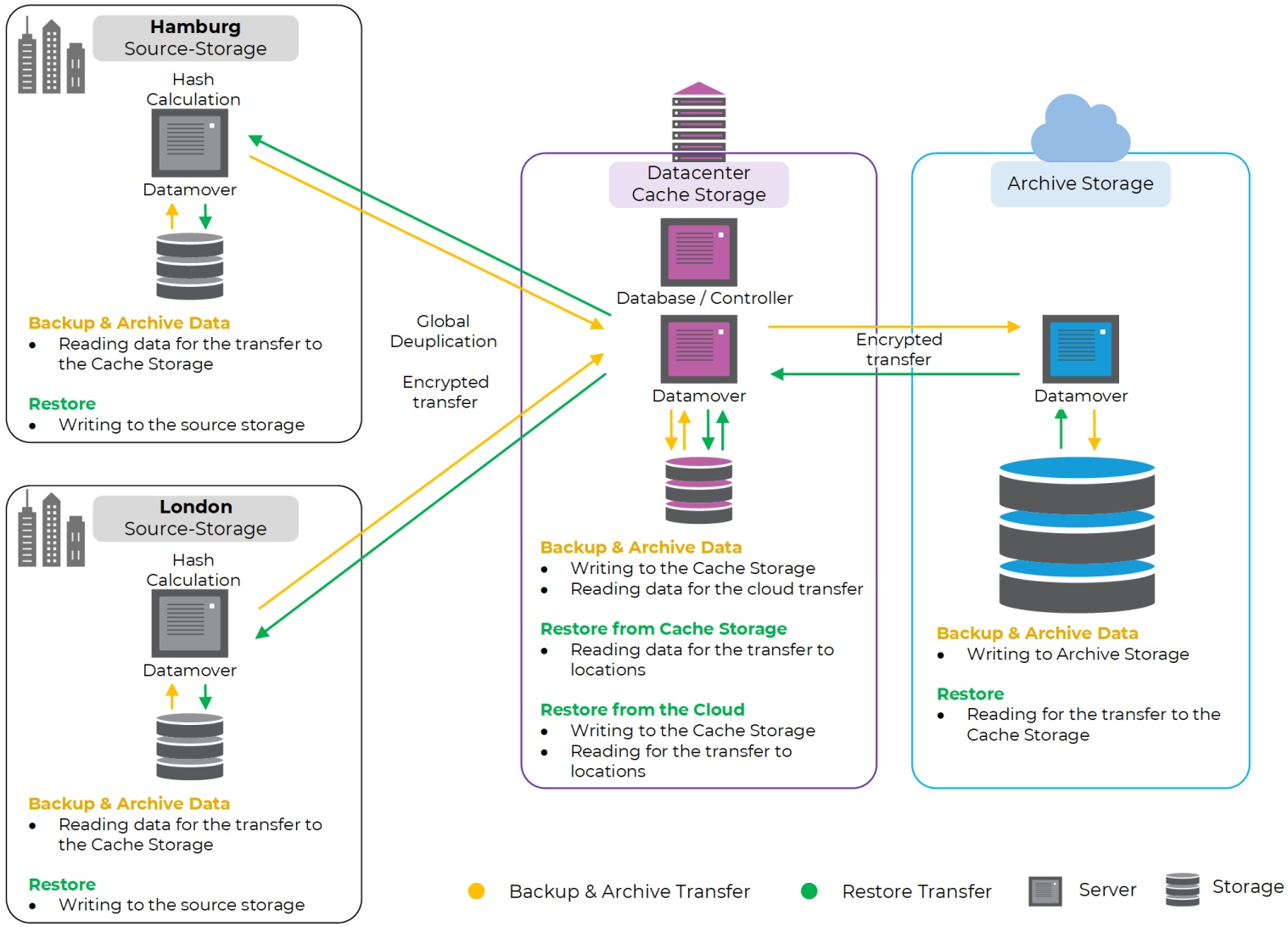
Possibility to Scale

- All locations worldwide should be able to integrate into the central solution

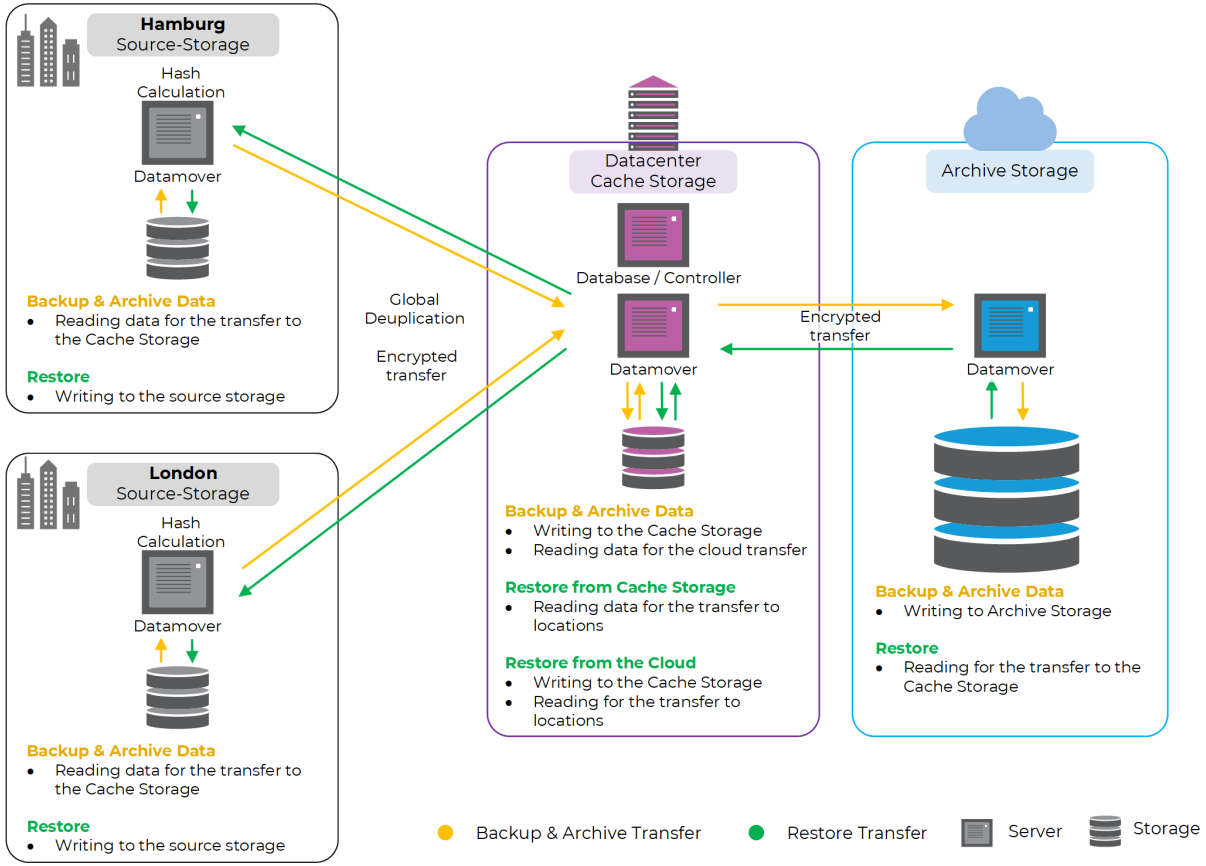
Efficient usage of bandwidth and storage capacity

- No additional transfer of data, which is already existing in the archive
- Using existing connectivity

Datamanagement on Distributed Storages



Datenmanagement – Cost Savings



Restore of data from the last 3 month from the Cache Storage

Prevent de-hydration (restore) costs of the cloud

Caching restored data for 4 weeks

Data can be restored to any location without additional de-hydration from the cloud

Usage of existing redundandcy connectivity

No additional connectivity costs

Long-Term archiving the the Cloud Deep Archive

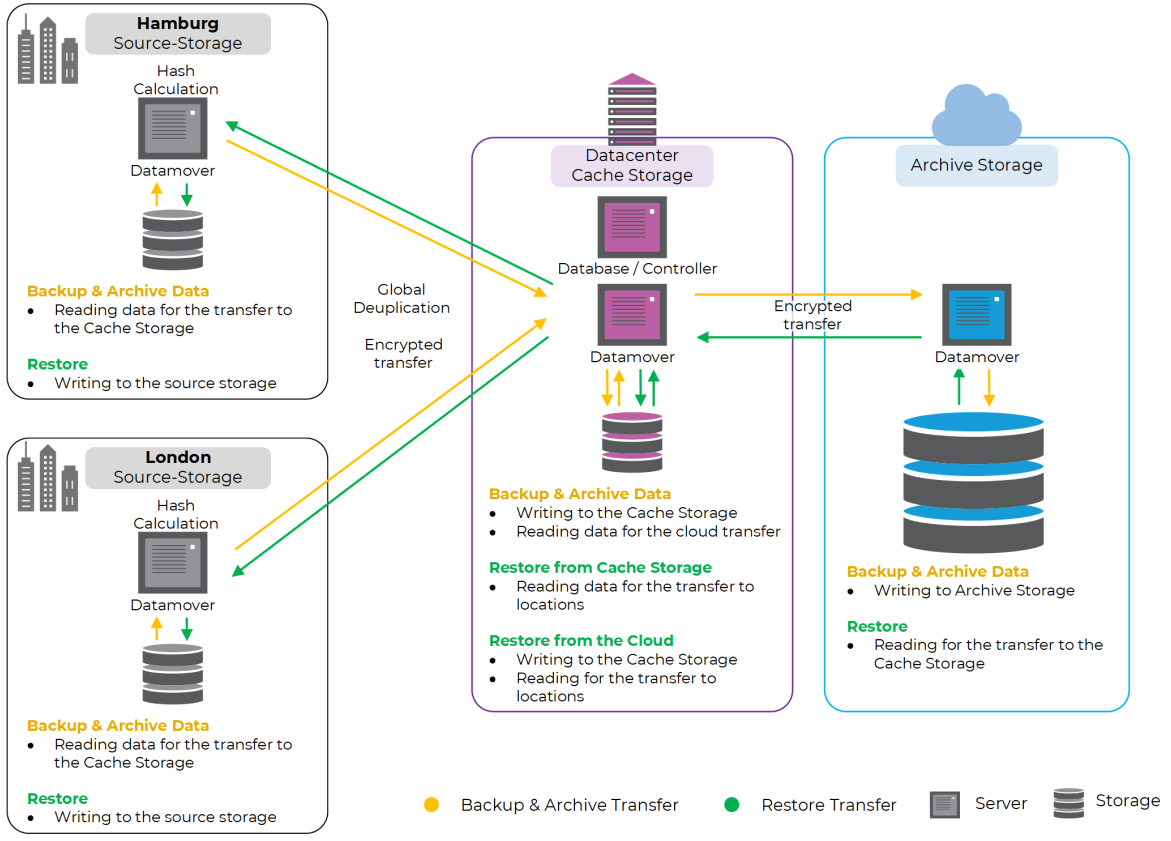
Cost efficient long-term archiving

Datenmanagement – Time Savings

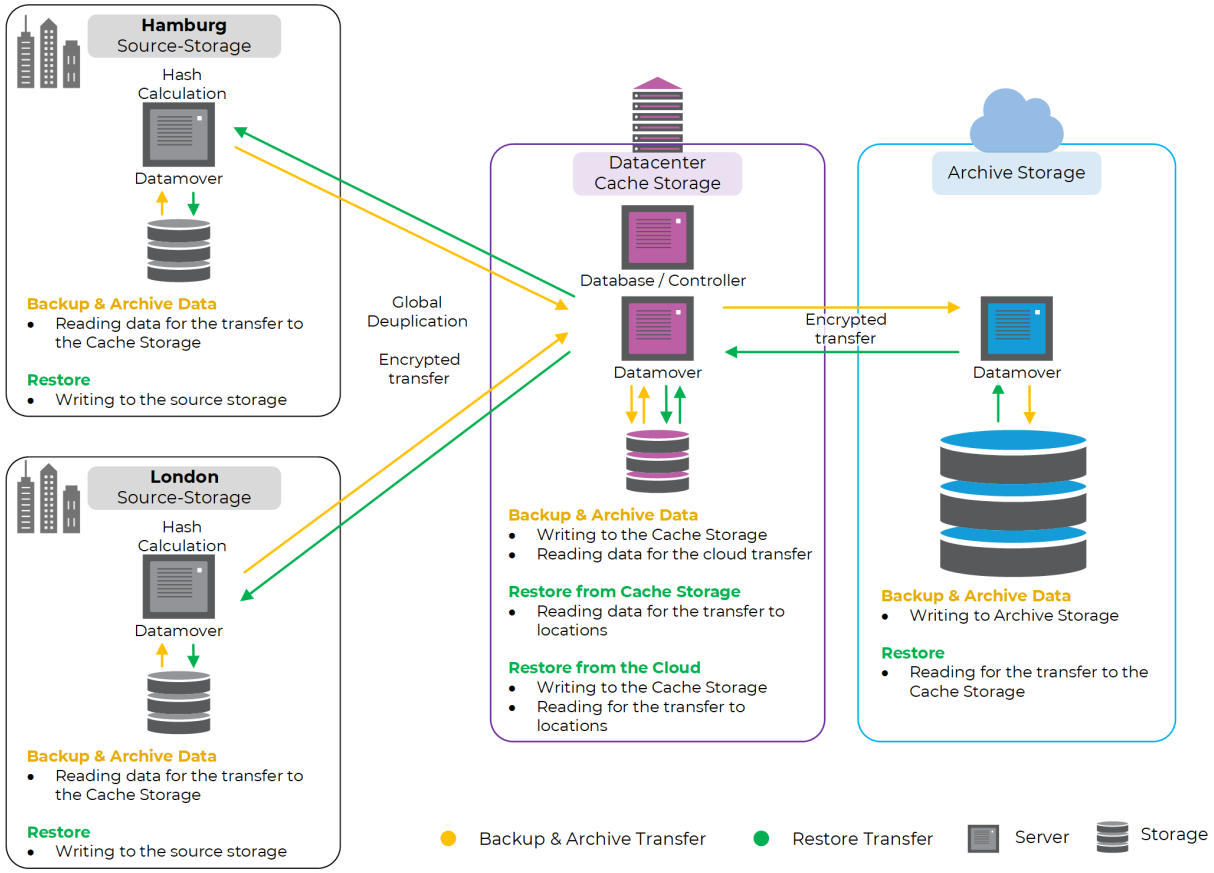
Restore of data from the last 3 month from the Cache Storage
Fast restore without waiting for the de-Hydration

No humand has to search for tapes in the storage room
All data is available online

No copy over to new tapes
Online long-term archive



Datenmanagement - Bandwidthoptimization



Usage of existing redundancy paths

No costs for additional connectivity

All locations communicate via the zentral Datacenter

Reduction of bandwidth usage in each location

Caching restored data for 4 weeks

No bandwidth usage of other location during a second restore

Lessons Learned

LAN vs WAN

- Applications show different behaviour on short connectvitity interruptions
- Operating Systems show different behaviour based on parameters like letency and bandwidth

S3 is not a defined standard - each Object Storage Provider with their own specific implementation

- Writing directly to the Archive Tier
- (Automatic) Deletion of de-hyrated files after a restore
- (Automatic) Deletion of files of failed transfers

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