

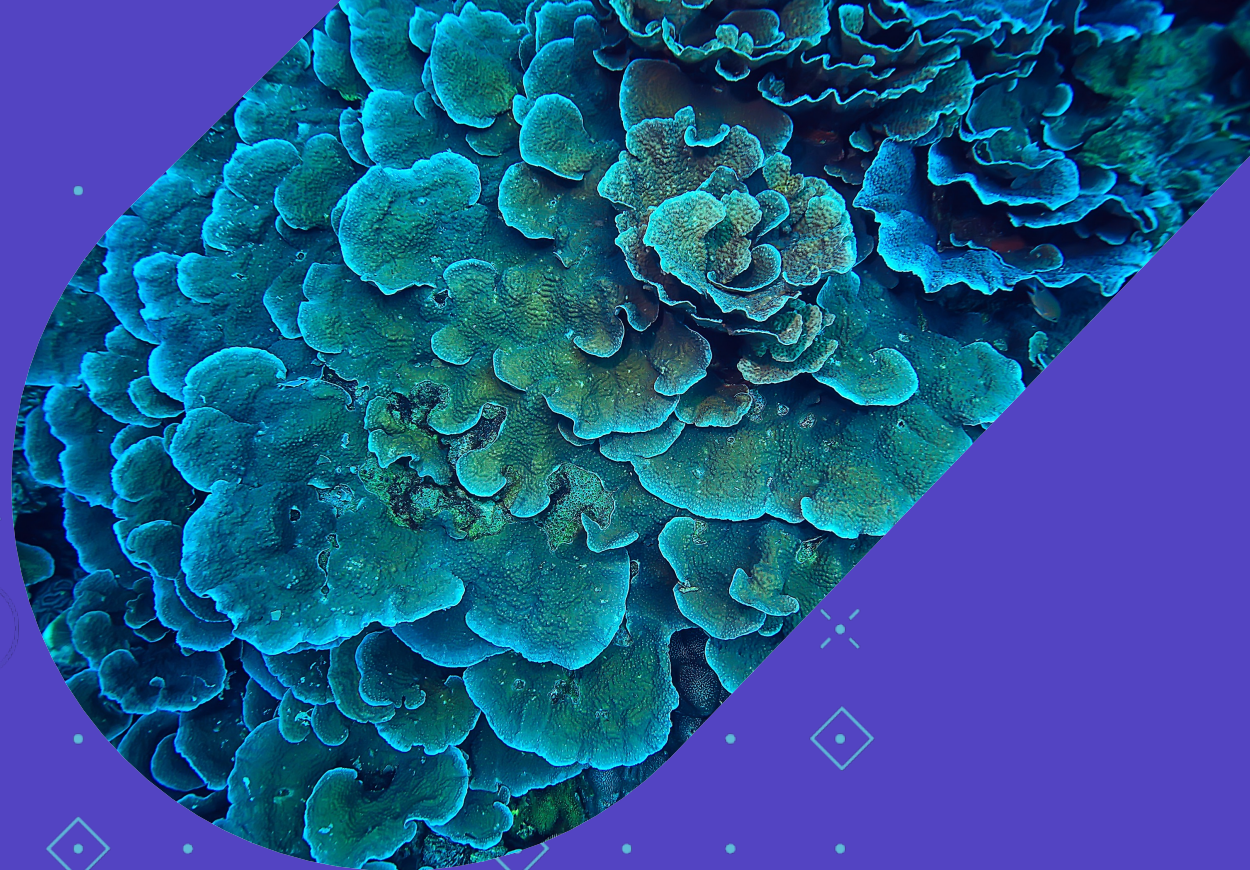
Migration of Spectrum Scale



SPECTRUM SCALE USER GROUP UK MEETING
30th June 2022



Spectrum Scale
User Group



Louis-Frédéric LASZLO

DIRECTOR OF PRODUCT MANAGEMENT

louis@atempo.com

+33 675 093 431





Atempo At a Glance



DATA MANAGEMENT & DATA PROTECTION ISV

*2,000+ customers worldwide, proven track record in M&E/HPC-
Research/ Healthcare/GOV..., from mid-size to Fortune 500, local
teams in all major geos
100% Channel Distribution Strategy*



EXPERTISE

*Strong technical expertise in protecting and migrating
large data volumes, ability to grasp complex workflows on-
premise & in the cloud, rich technological ecosystems
ensuring broad support of various use-cases*



WORLDWIDE SUPPORT

*Standard or 24x7, sun-never-sets support, training &
services available to partners/end-users in different geos
& languages*



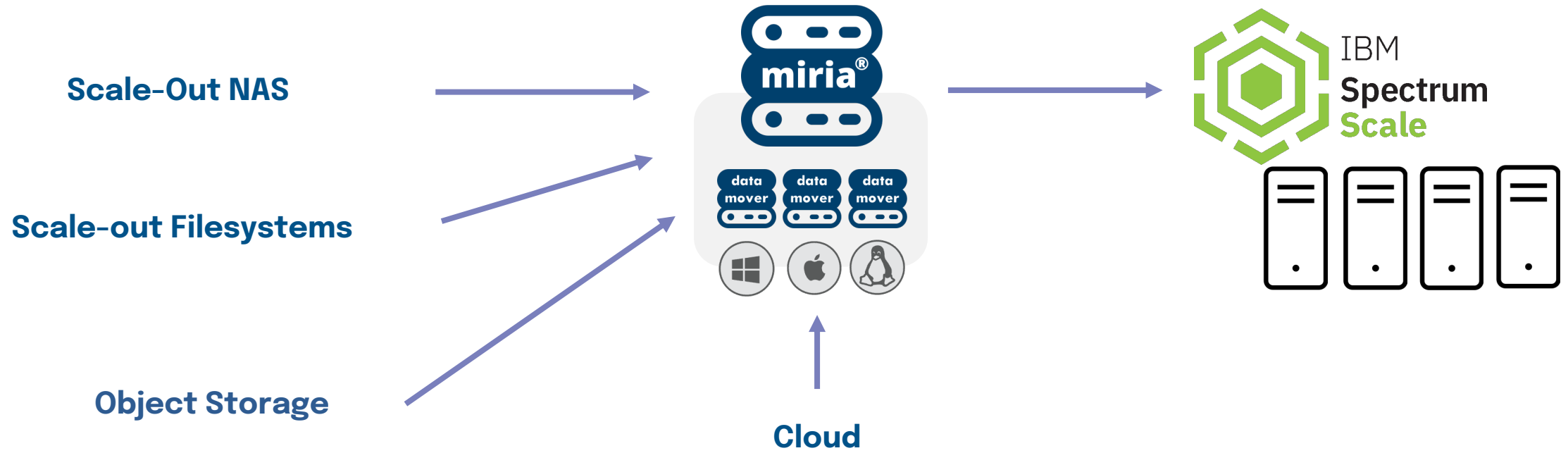
EMPLOYEES

*About 240 employees, 80% in Europe with 50% R&D
10+ people in the US, 10+ in APAC*



A Storage Agnostic Solution

DATA MANAGEMENT



Critical Challenges We Tackle with Miria



How long to migrate the contents of my old storage
to a new Spectrum Scale platform?



How to migrate a large set of files
without stopping / impacting users & production?



How to migrate *my storage with intact access rights on arrival?*



How to migrate millions of files, folders, and links
between storages of different vendors, technologies, or even versions?



Migration is a Journey

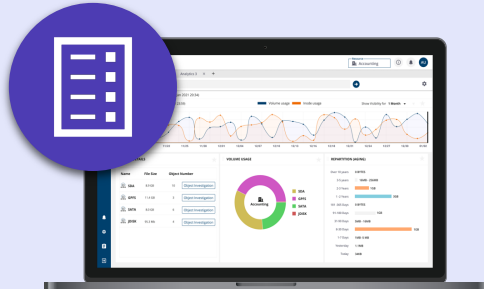
DATA MANAGEMENT



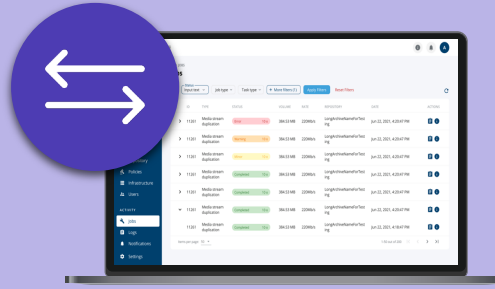
Source storage



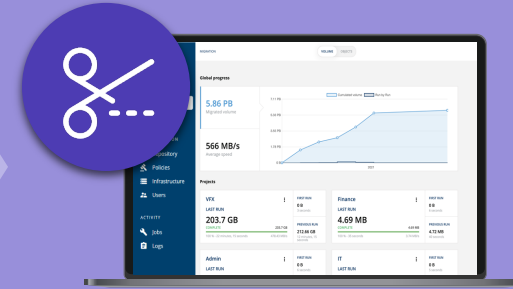
Target storage



Preparation & Planning



Volume synchronization
Successive migration cycles



Cutover phase

How Does Miria Help During a GPFS 4 Migration ?

DESIGNED TO LEVERAGE BEST OF GPFS CAPABILITIES

Highly parallel and multi-threaded data transfers

→ **Reduces migration duration even with high data change rate**

Integrated with Spectrum Scale policy engine

→ **Eliminates the need for crawling the file system**

Integrated with Spectrum Scale snapshots engine

→ **Guarantees migrated files integrity**

Detection of offline files – Choose to ignore or move them

→ **Prevents any timeout during the migration process**

Exclusive integrity check technology with reporting

→ **Proves & reports file integrity throughout the migration project**

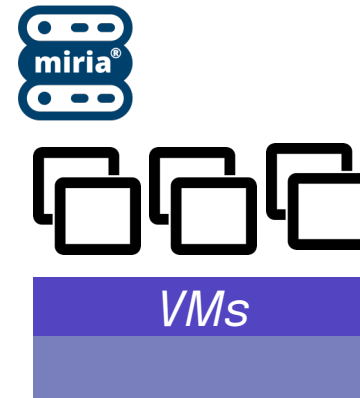
GPFS Migrations – Experience Feedback Deployment

DATA MANAGEMENT

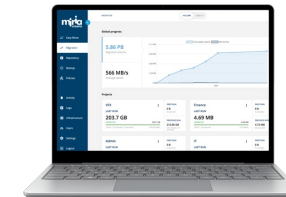
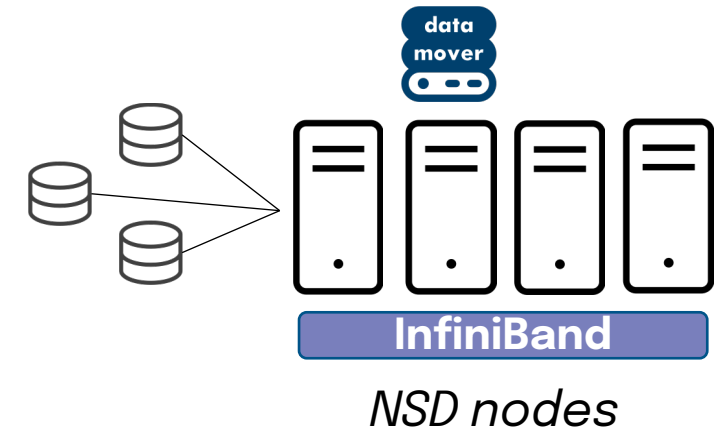
Miria's most frequent deployment:

- *Server – Soft.*
– installed in a VM
- *Data Mover – Soft.*
– installed on NSD nodes
- *Monitoring/Management via a Web browser*

Miria Server



Miria
Data Mover



Miria Web interface

GPFS Migrations – Experience Feedback

Real use case details

- Secure the upgrade of a production cluster:
Research center – 2-2.5PB – Up to 25 NSDs equipped as Miria DM
– 75% done by the customer after training
 - Miria migrated data from production cluster to backup cluster
 - The production cluster was upgraded
 - Miria migrated data from backup cluster to production cluster
- Multiple GPFS 4 to GPFS 5 migrations:
Energy – 2 systems:
 - 3.8PB / 800 million files GPFS 4 to GPFS 5 – 3 DMs
 - 2.8PB / 72 million objects/stubs from WoS to GPFS 5 – 5 + 5 DMs*Atomic research center – 5PB – GPFS 4 to GPFS 5 – 6 DMs – Confidential defense*
Biomedical research – 8PB – Migration done by partner
Semiconductor industry – 2PB / 3 billion of files
Genomic research – 2PB – with stubs migration /no-rehydrating



A **dedicated** migration experience
to achieve end-to-end migration



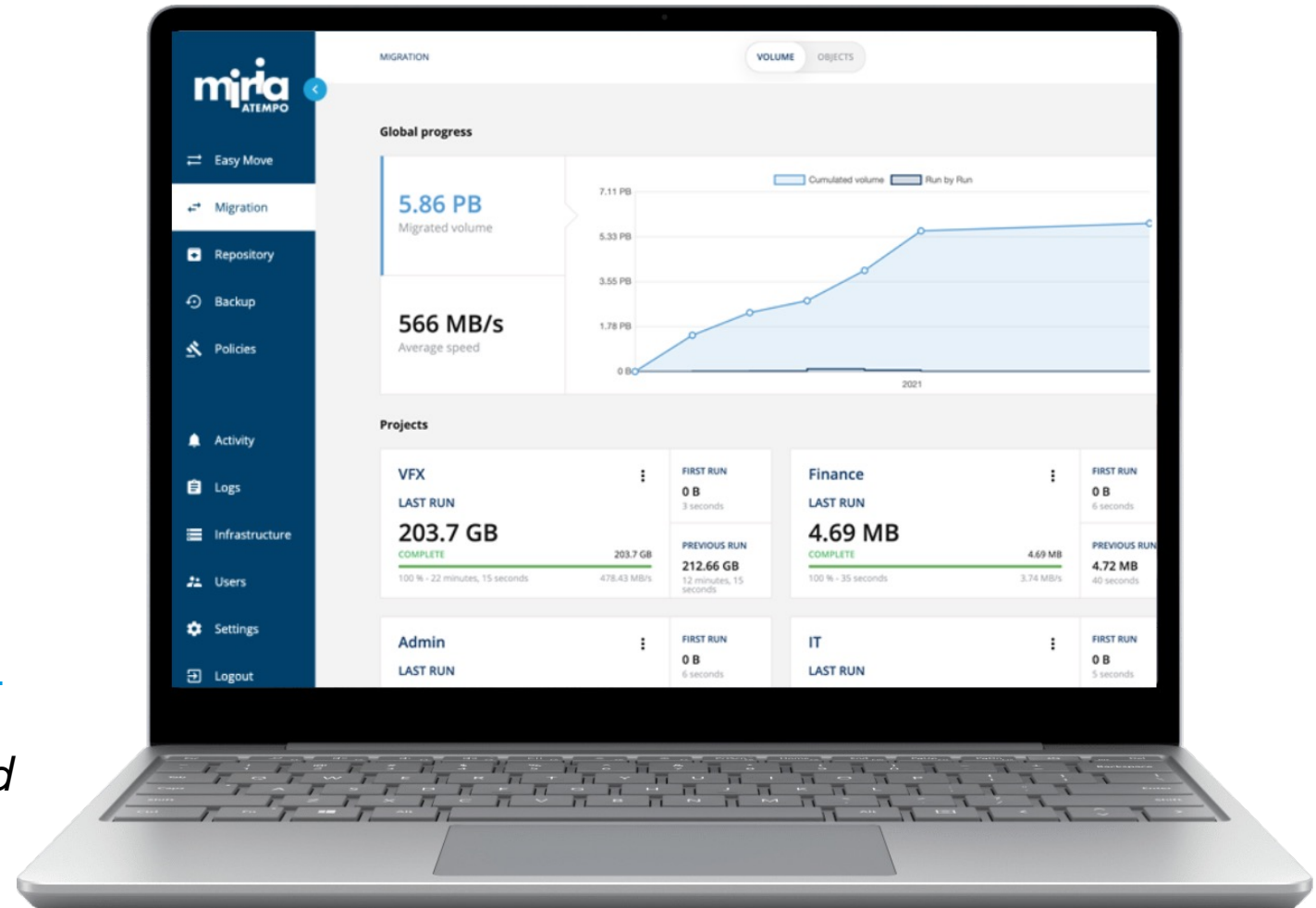
Up to 6GB/sec per
Data Mover



500 billion
files migrated

1,400 files/sec


Highest managed
capacity: 1EB





Migration Integrity Check





Easy Move

Migration

Repository

Activity

Logs

Infrastructure

Users

Settings

Logout

MIGRATION / PROJECT_FL / SYNCHRO_WITH_INTEGRIT... / INTEGRITY CHECK

Integrity check

SEARCH BY CRITERIA

SEARCH BY PATH

Name

Search by name

,

☐ Case sensitive

Size

Type

Migration date

Search

Results: 112

PATH	MIGRATION DATE	SIZE SOURCE	SIZE DEST.	DATE SOURCE	DATE DEST.
D:\Test\Source\Dinner (XDCAM HD...	Feb 25, 2021, 5:03:59 P...	26.24 MB	26.24 MB	Sep 18, 2014, 10:51:10...	Sep 18, 2014, 10:5...
D:\Test\Source\ada_event_000.txt	Feb 25, 2021, 5:03:59 P...	42.39 KB	42.39 KB	Feb 22, 2021, 6:44:14 P...	Feb 22, 2021, 6:44...
D:\Test\Source\ada_event_000xx.txt	Feb 25, 2021, 5:03:59 P...	156.61 KB	156.61 KB	Feb 22, 2021, 3:03:54 P...	Feb 22, 2021, 3:03...
D:\Test\Source\ada_event_001.txt	Feb 25, 2021, 5:03:59 P...	98.53 KB	98.53 KB	Feb 23, 2021, 6:05:09 P...	Feb 23, 2021, 6:05...
D:\Test\Source\ada_event_002.txt	Feb 25, 2021, 5:03:59 P...	60.12 KB	60.12 KB	Feb 24, 2021, 7:32:07 P...	Feb 24, 2021, 7:32...
D:\Test\Source\ada_event_003.txt	Feb 25, 2021, 5:03:59 P...	62.43 KB	62.43 KB	Feb 25, 2021, 5:02:55 P...	Feb 25, 2021, 5:02...

✕ Why do Customers Choose Atempo Miria

DISCOVER, SECURE & AUTOMATE

- *A holistic view of all unstructured storage*
- *Freedom to choose any storage*
- *Agility to compose workflows at will*
- *High scalability*
- *Cost-effective performance & automation*

BENEFITS FOR STORAGE & WORKFLOW OWNERS:

- *Save time & resources*
- *Stay in control of data*
- *Be ready to support new business processes*



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Thank you for your attention!

