PoINT Software & Systems GmbH

Company and Product Overview

The IT Press Tour – Sofia Edition

April 1st, 2026

Challenges in IT Storage

Challenges in IT Storage

Technical

- Growth of unstructured data
- Data & storage system migration
- Scalability & availability
- Data integrity

Legal

- Compliance and archiving
- Data privacy
- Litigation risks
- Cybercrime attacks

Economic

- Prices for storage and energy
- Rising OPEX
- Unpredictable costs, e.g. for cloud storage

Ecological

- CO_2 footprint
- Energy consumption
- Electronic waste

Political

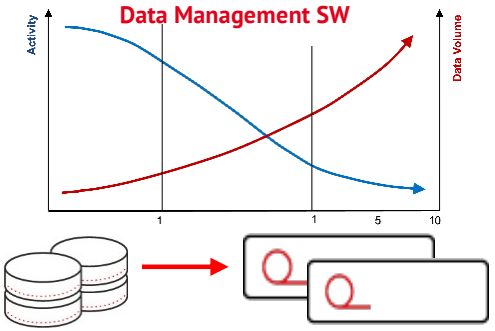
- Data sovereignty
- Export controls
- Trade warfare

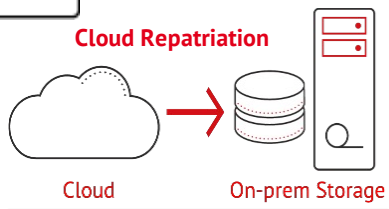
Challenges in IT Storage

Methods …

- Data tiering
  “The right data at the right time in the right place”
- Storage systems/media with low €/TB
- No energy consumption for inactive data
- “Air-gapping” for cybercrime prevention
- Scalable and high available storage
- Standards for homogenous integration
- On-prem storage for data sovereignty
- Avoiding external supply dependencies

Enablers …





SOFTWARE MADE IN EUROPE 2026

PoINT Identity, Vision & Mission

Challenges in IT Storage

Identity

- Independent software vendor (ISV)
- Long term expertise
- Flexibility
- Quality & innovation
- Software Made in Europe

SOFTWARE MADE IN EUROPE 2026

Storage Newsletter ARCHIVING SOFTWARE 2026 WINNER

Vision

- Optimal data placement
- Sustainability
- Long term preservation
- HPC & AI enabled infrastructure
- Data sovereignty

Mission

- Managing data growth with data tiering SW
- Efficiency & cost reduction with S3-to-Tape
- Cyber resilience with tape-based SW
- Merging HPC & AI with S3-to-Tape

PoINT Origins

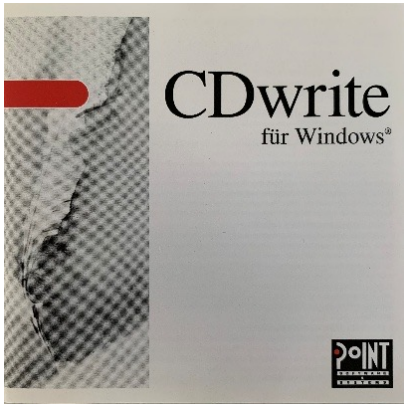
PoINT Software & Systems

Roots in storage and archiving business (1985)

- World-Wide Competence Center of Philips
- European Project Organization of Digital Equipment (DEC)

Foundation of PoINT Software & Systems GmbH in 1994

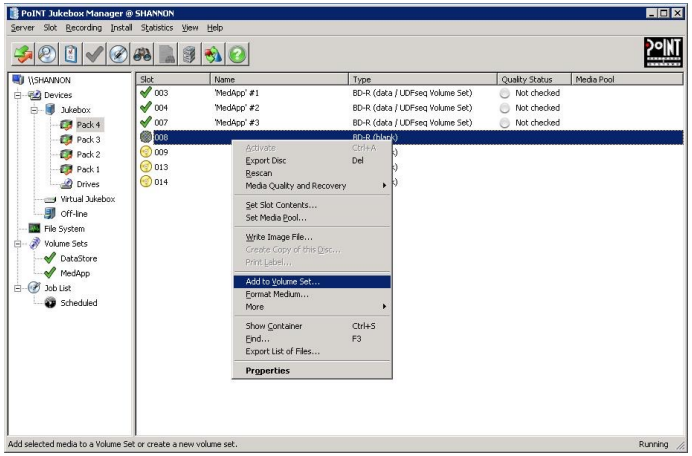
- Independent software vendor (ISV) located in Germany
- Privately held company



PoINT Software & Systems

PoINT Jukebox Manager (market launch 1997)

- Native file system access to optical jukeboxes
- CD, DVD, BD and MO/WORM, UDO support
- World-wide sold licenses >2,500
- Leading software product for management of optical storage



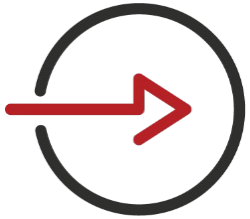
PoINT Products 2026

PoINT Software & Systems

PoINT Storage Manager

File Tiering and Archiving

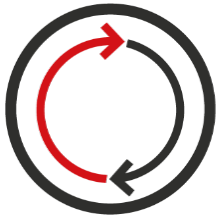
- Data & Storage Management
- File Archiving / HSM
- Archive File System



PoINT Archival Gateway

S3-to-Tape™

- S3 Object Storage on Tape
- Backup of Object Data to Tape
- Archiving directly to Tape via S3



PoINT Data Replicator

Replication to S3 Object Storage

- S3-to-S3 and File-to-S3 Replication
- Cloud Repatriation
- Continuous S3 Backup

PoINT Software & Systems

PoINT Customers (extract)

PoINT Software & Systems

PoINT Technology Partners (extract)

PoINT Resellers (extract)

PoINT
software & systems

File Tiering & Archiving

Data & Storage Managment

PoINT
Storage
Manager

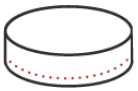
PoINT Storage Manager

PoINT Storage Manager (market launch 2007)

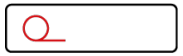
- File Tiering and Archiving
- Supporting all storage technologies and storage systems
- Certified by leading storage vendors
- 200+ installations worldwide

Supported Storage Media

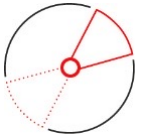
Flash



Disk

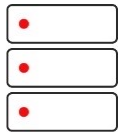


Tape

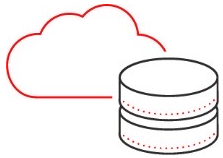


Optical

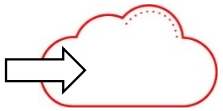
Supported Storage Systems



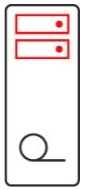
NAS
NetApp, EMC, ...



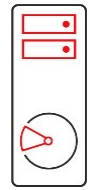
Object Storage
Cloudian, Scality, ...



Public Cloud
AWS, Microsoft, ...



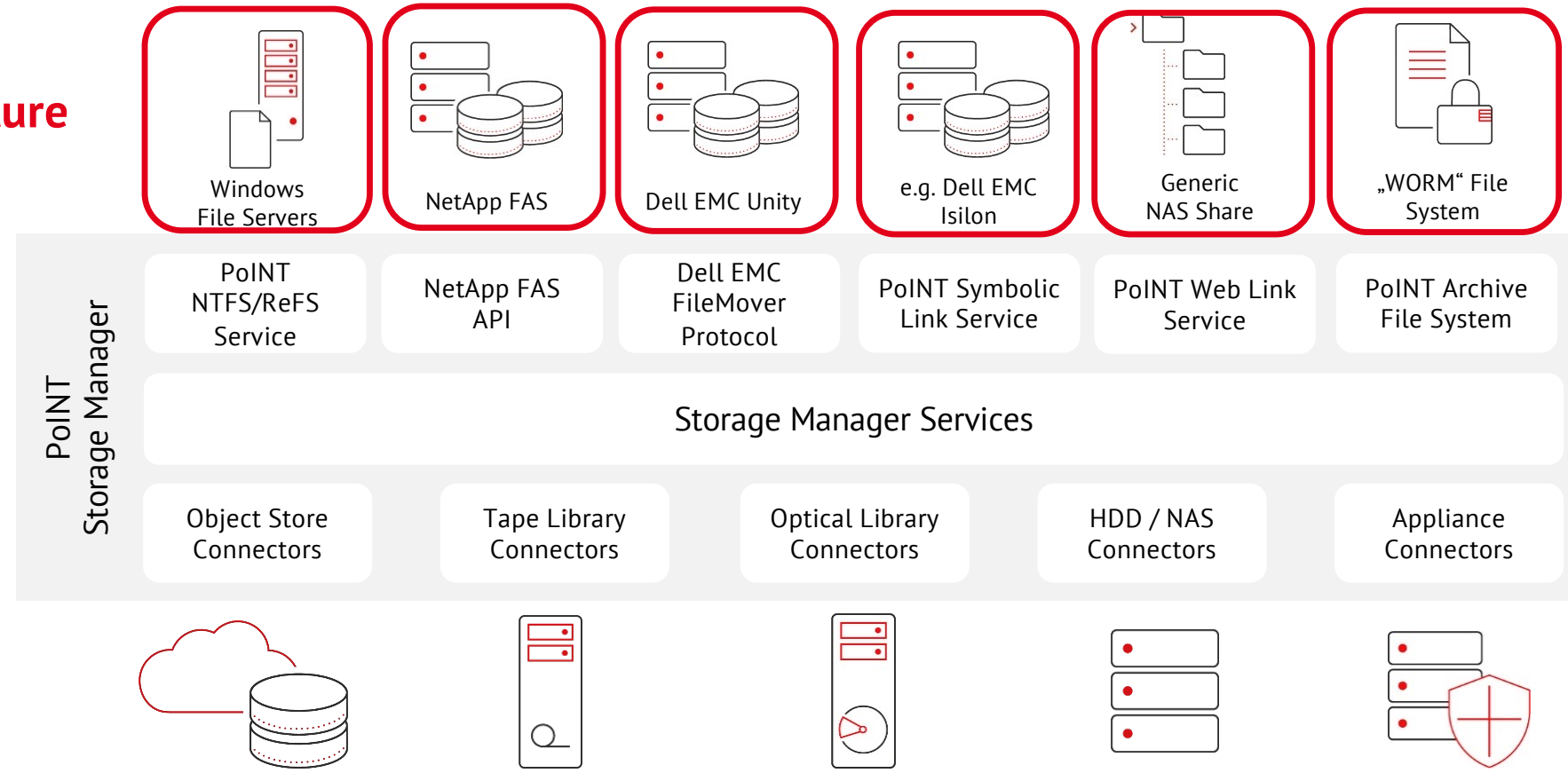
Tape Libraries
BDT, IBM, Spectra, ...



Optical Libraries
SONY, HIT, ...

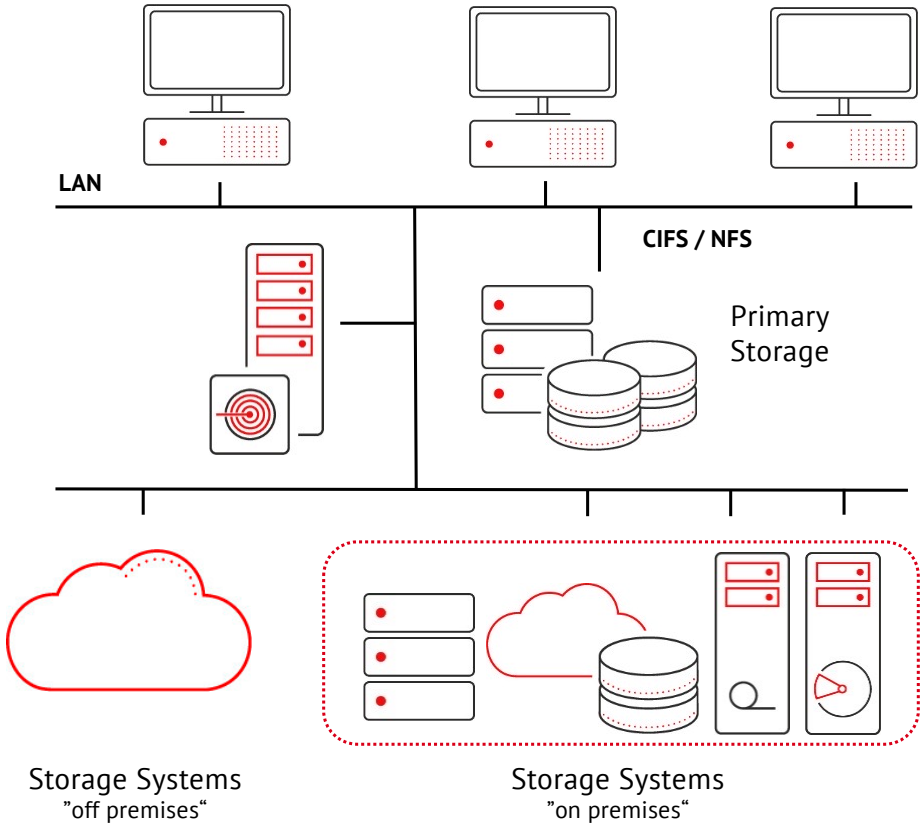
PoINT Storage Manager

Software Architecture



PoINT Storage Manager

Conceptual Overview



Active Approach

Client and application transparency
– Archived files are visible through primary storage
– Multiple options to access archived data

Primary Storage
– NAS Systems

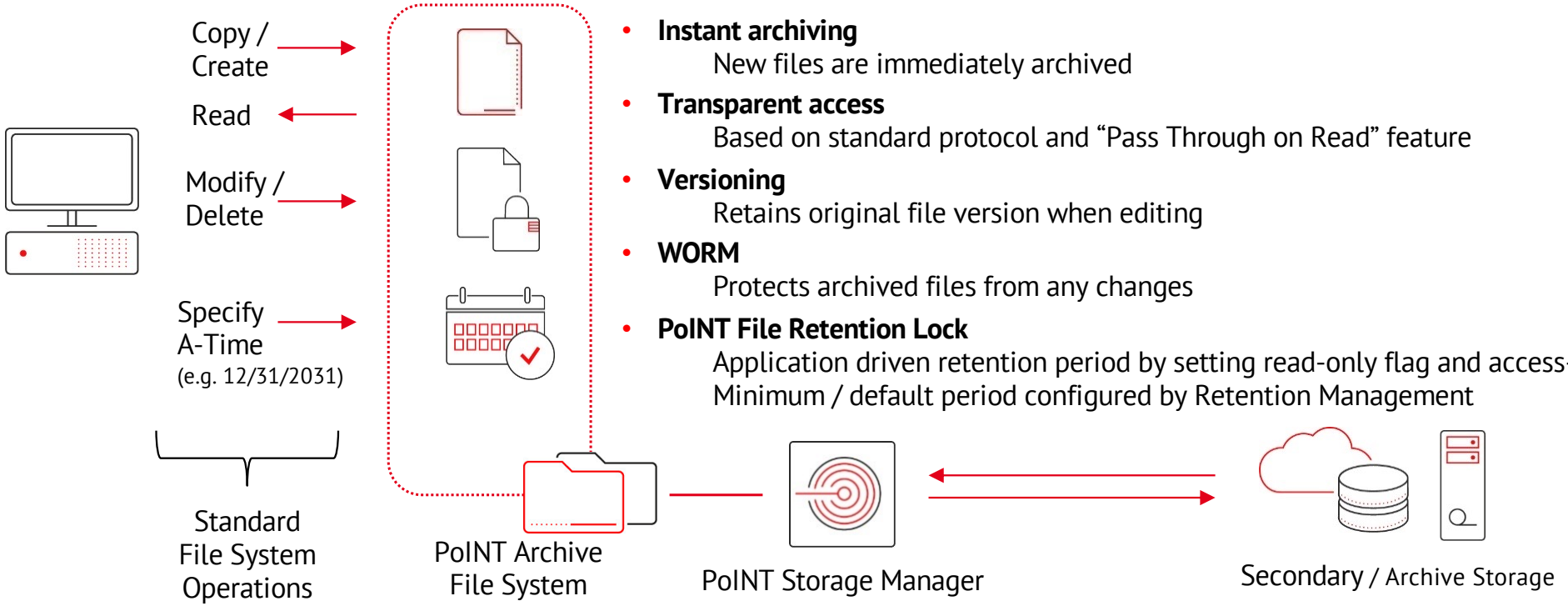
File Tiering & Archiving
Policy-based archiving of inactive files from primary to secondary/archive storage

Secondary/Archive Storage
– HDD / NAS
– Appliances (CIFS, NFS)
– Private and Public Object Stores (S3, Azure)
– Tape (LTO, IBM 3592, LTFS, ACSLS)
– Optical

PoINT Storage Manager

Archive File System

Passive Approach



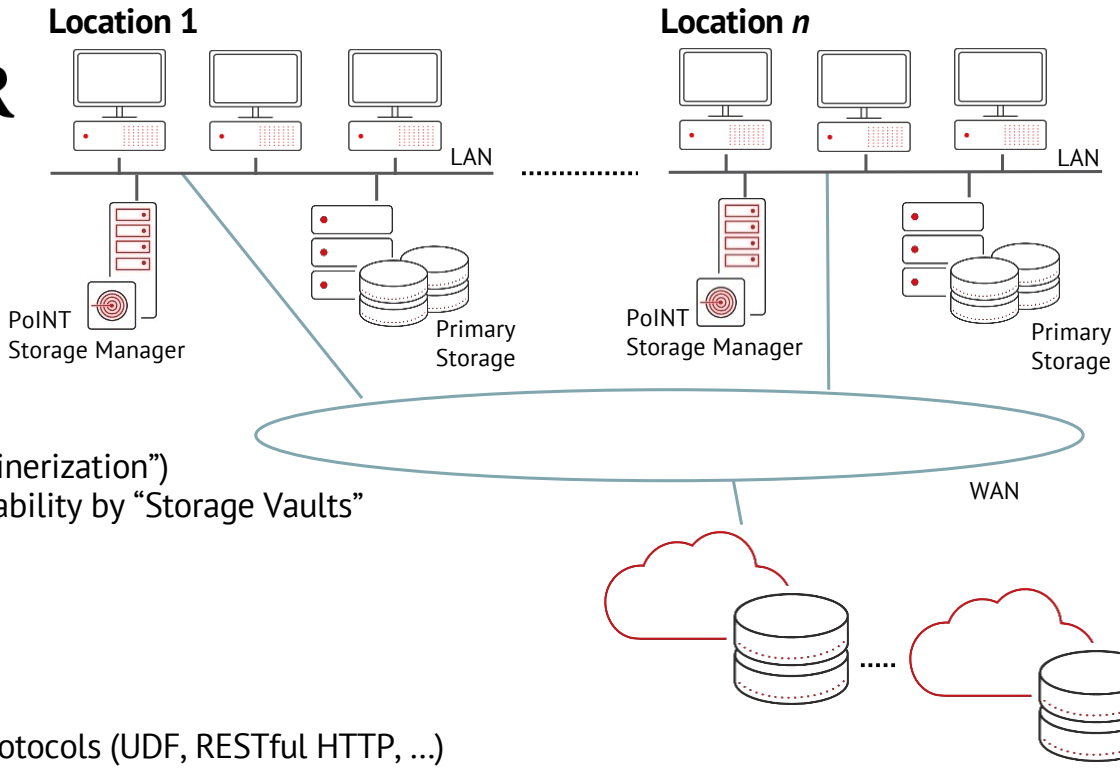
- **Instant archiving**
  New files are immediately archived
- **Transparent access**
  Based on standard protocol and “Pass Through on Read” feature
- **Versioning**
  Retains original file version when editing
- **WORM**
  Protects archived files from any changes
- **PoINT File Retention Lock**
  Application driven retention period by setting read-only flag and access-time
  Minimum / default period configured by Retention Management

PoINT Storage Manager

Case Study

DAIMLER

Active Approach



- Policy Based Tiering and Archiving
- Stubbing / "Pass Through"
- Transparent Access through Primary Storage
- Optimized Caching

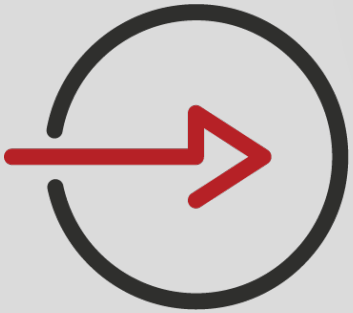
- Archive Volumes ("Containerization")
- Strict multi-tenancy Capability by "Storage Vaults"
- WORM and Versioning
- Encryption
- Authentication
- Replication
- Migration
- Standard Formats and Protocols (UDF, RESTful HTTP, ...)

Private Cloud
Secondary / Archive Storage

PoINT
software & systems

S3-to-Tape™

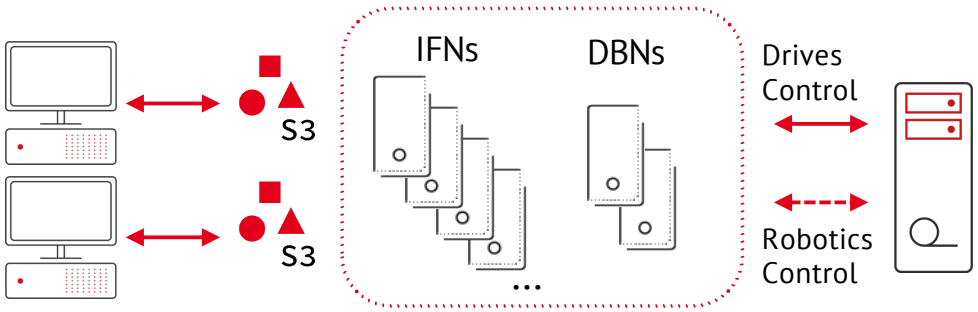
Tape-based S3 Object Storage



PoINT
Archival
Gateway

PoINT Archival Gateway

Concept



Interface Nodes (IFN)

- S3 REST API
- Scalable active nodes
- Drives & robotics control

Database Nodes (DBN)

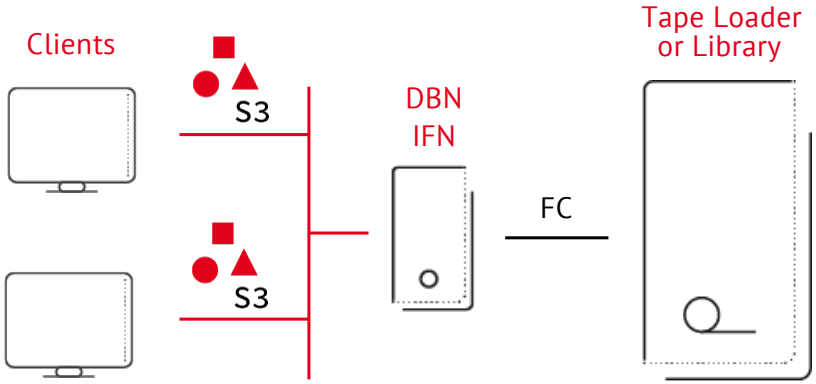
- Databases and logs
- HTML admin interface
- RESTful admin API

Deployments

PoINT Archival Gateway

Compact Edition

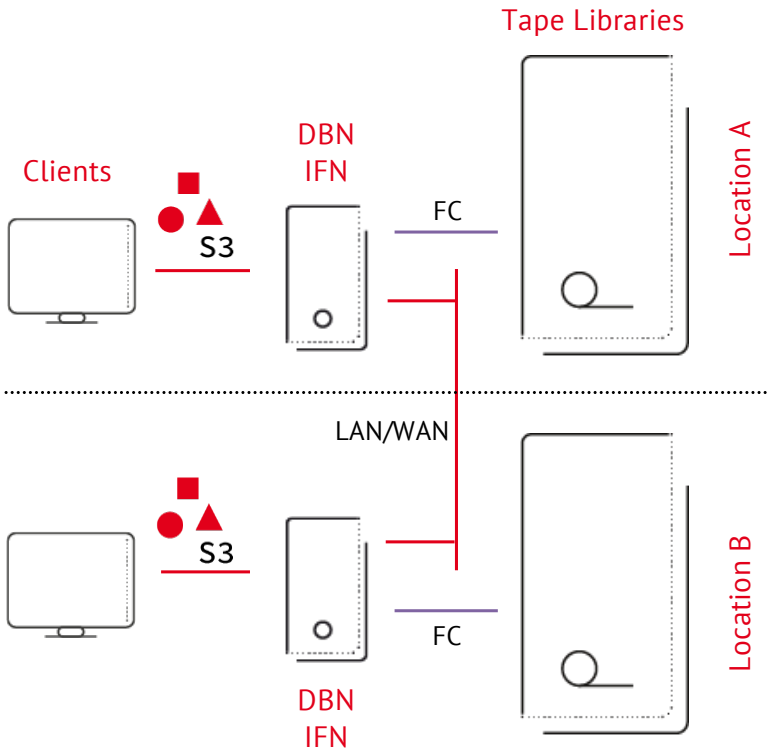
- Cost-effective entry-level solution
- Minimal hardware and server requirements
- Single-node installation
- Media mirroring
- Support for up to 2 tape libraries
- Support for up to 8 tape drives



PoINT Archival Gateway

Compact Edition / Failover Cluster

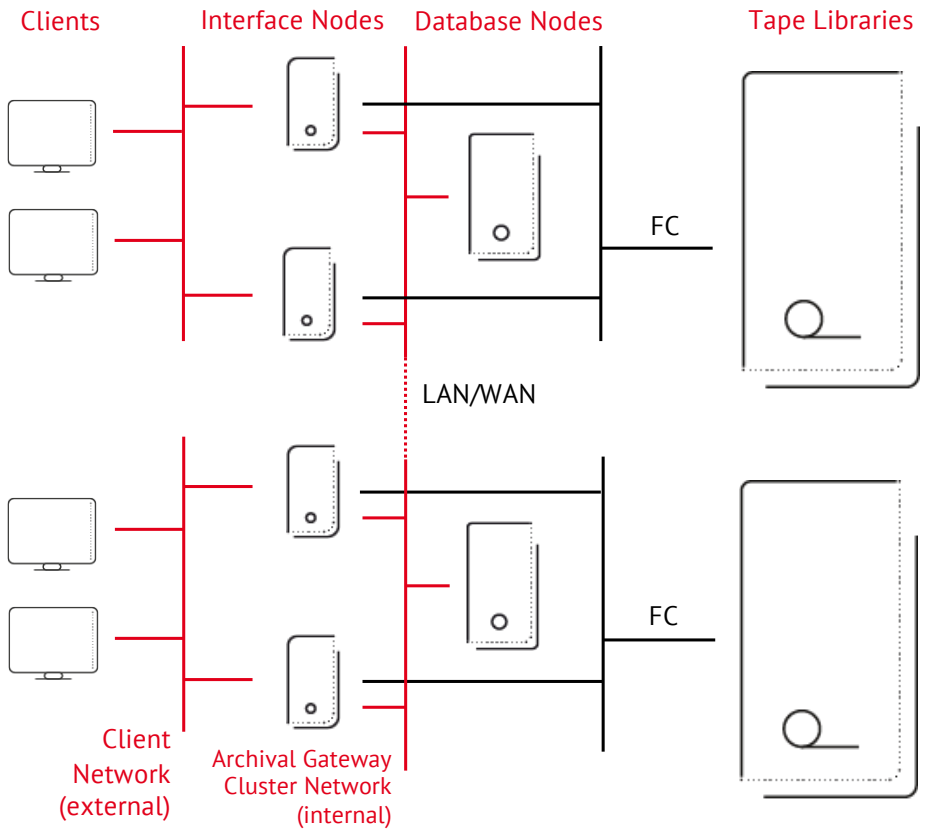
- Geo-distribution & redundancy (two sites)
- Single-node installation per site
- Local & distributed media mirroring
- Support for up to 2 tape libraries per site
- Support for up to 8 tape drives per site



PoINT Archival Gateway

Enterprise Edition

- High performance deployment
- Multi-nodes installation (up to 32 IFNs)
- Geo-distribution & redundancy
- High availability (server nodes failover)
- Media mirroring (EC rates 1/2, 1/3, 1/4)
- High performance (EC rates 2/4, 3/4)
- Support for up to 12 tape libraries
- Support for up to 384 tape drives

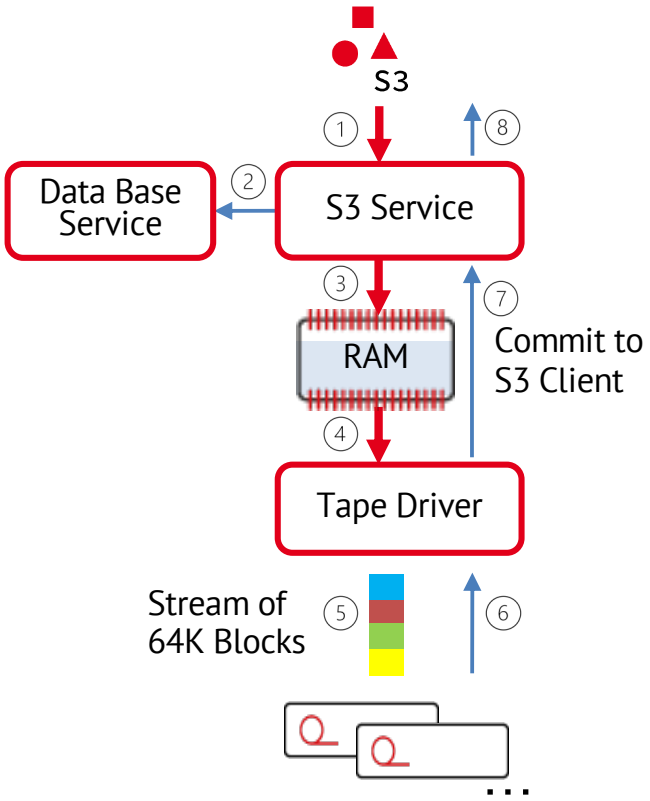


Features

PoINT Archival Gateway

Direct Tape Access

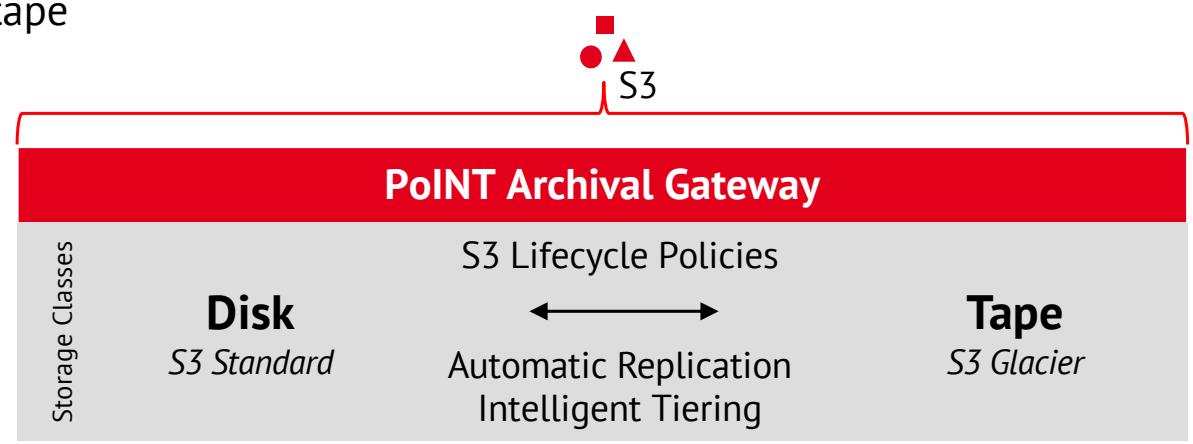
- Direct writing/reading to/from tape
- AWS “S3 Standard” compatibility
  - Glacier S3 optional
- No intermediate hard disk storage
- Optional disk caching
- No intervening file system layer



PoINT Archival Gateway

Optional Flash/Disk Storage Class

- Multiple storage classes (disk & tape)
- Single namespace across disk and tape
- AWS S3 compatible incl. Glacier
- Lifecycle policies
- Transparent access
- Free choice of storage hardware
- Automatic replication
- Intelligent Tiering[1)]

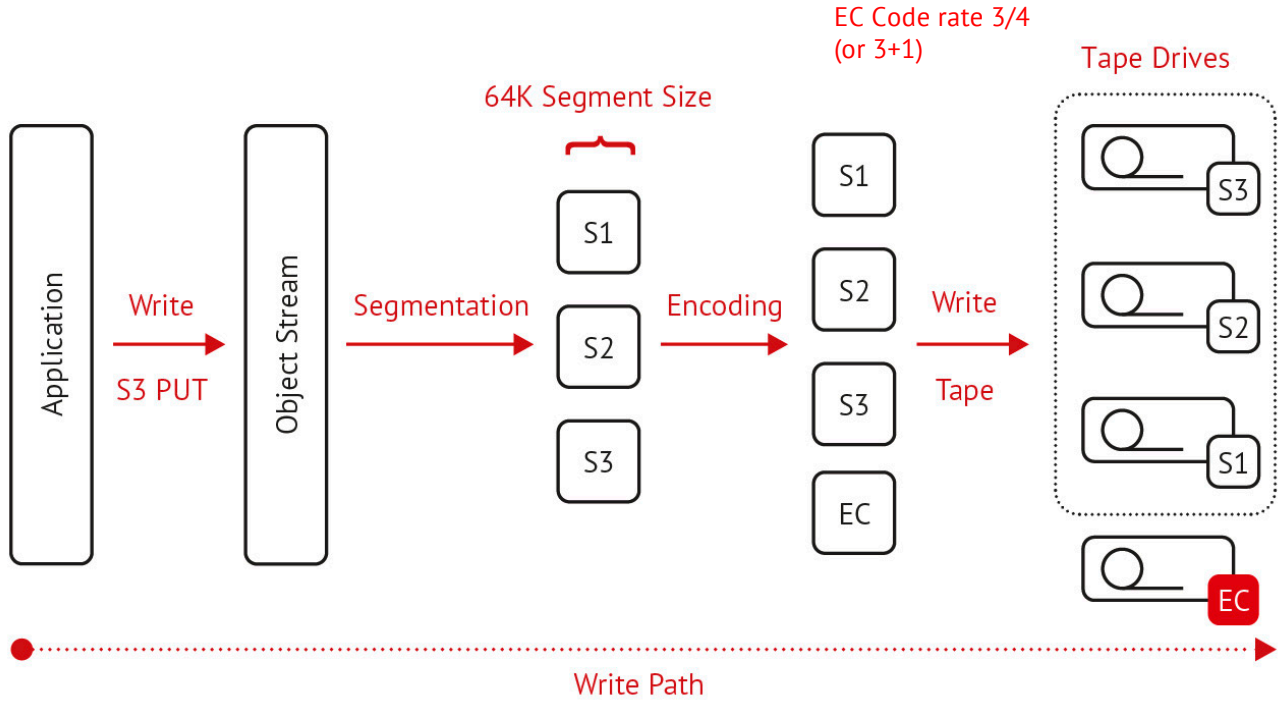


1) under development

PoINT Archival Gateway

Erasure Coding

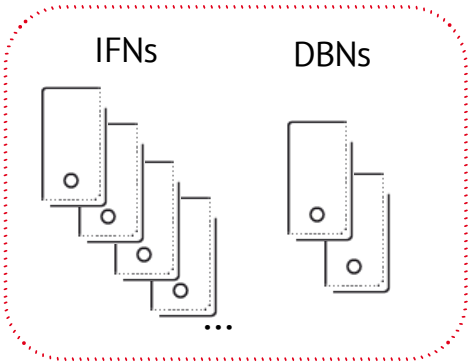
- Redundancy on tape
- Media mirroring
  - EC rates 1/2, 1/3, 1/4
- Increased performance
  - EC rates 2/4, 3/4
  - Parallel drive usage



PoINT Archival Gateway

Scalability

- Up to 32 active Interface Nodes (IFNs)
- Up to 12 drives per IFN (384 total)
- Up to 12 libraries
- Up to 153,6 GB/s throughput (native)



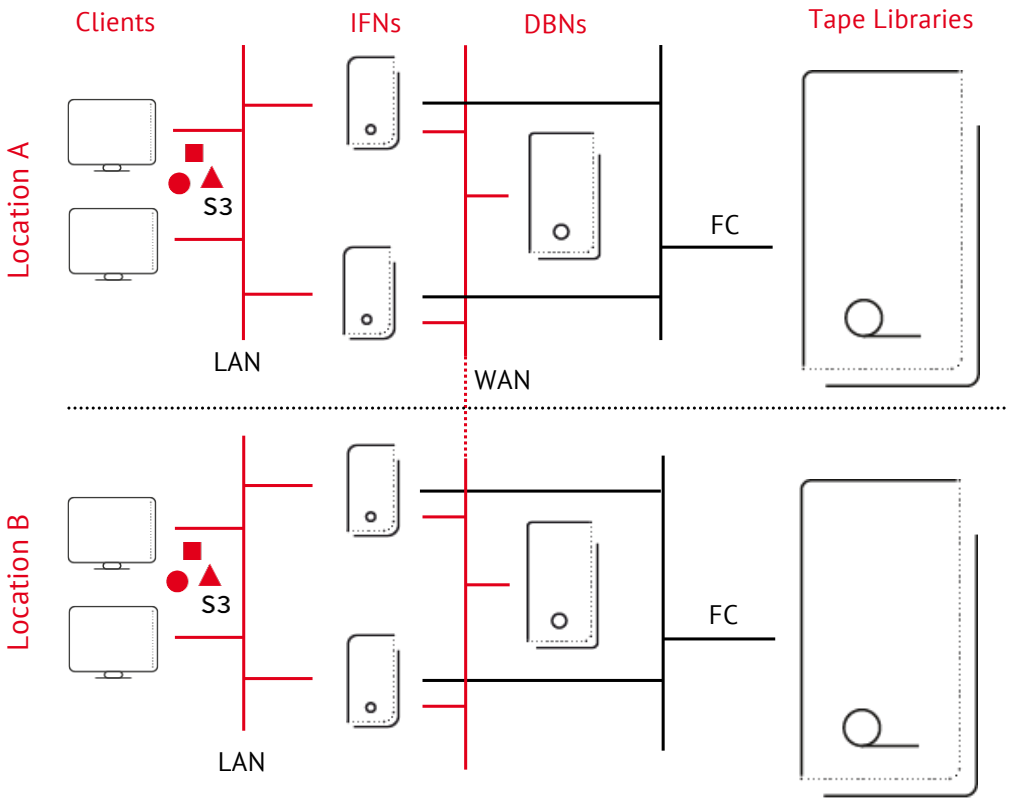
S3 Performance

- **50+ billion** objects per S3 bucket
- **10,000+** S3 buckets
- **100,000+** parallel HTTP connections
- **1,000+** parallel S3 applications

PoINT Archival Gateway

Geo-Distribution & Redundancy

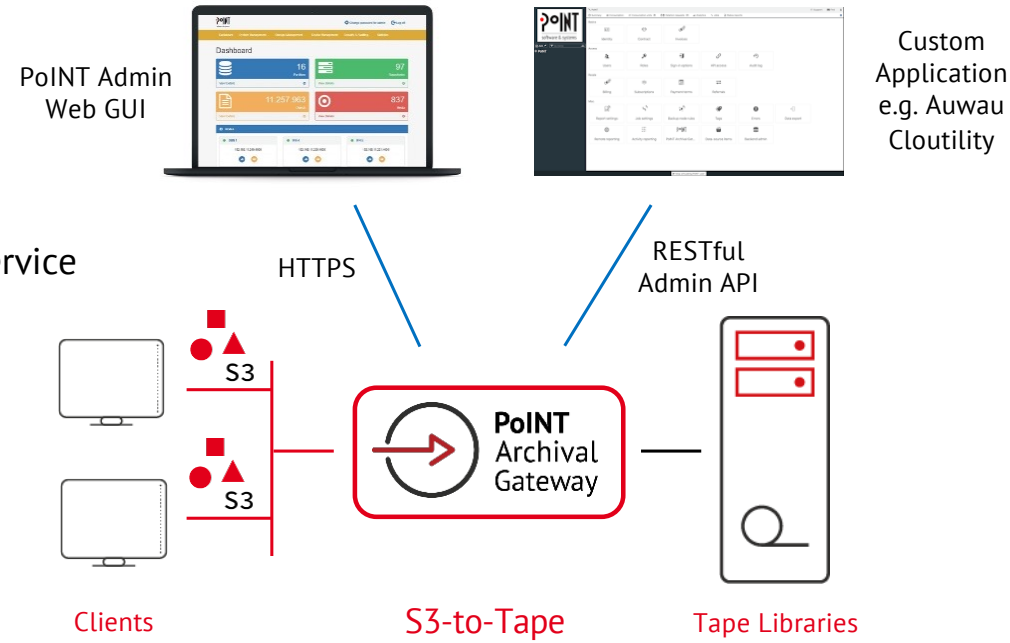
- WAN latency up to 100 msec supported
- Synchronisation and erasure coding across sites
- Automatic site failover
- Automatic re-synchronisation after site failure



PoINT Archival Gateway

Administration

- Web GUI
- RESTful API
  Provides functions for implementing:
  - Flexible and secure multi-tenancy
  - Role-based and end-user access and self-service
  - Consumption reporting
  - Subscription based billing automation
- Data Access Audit Logs
  - Access to data objects, …
- Security Audit Logs
  - Logon activities, …



PoINT Archival Gateway

Tape Media & Library Management

- Support for all library manufacturers
- Mixed library support
- LTO-5 to LTO-10
- IBM 3592 (TS1150 to TS1170)
- Mixed tape format support
- Reconstruction of defective tape in PVA
- Tape space reclamation
- Tape quality check
- Tape media and drive monitoring

IBM 3592

S3-to-Tape Benefits

PoINT Archival Gateway

S3-to-Tape™ Benefits

- Savings in storage costs (compared to all data on HDD)
- No ingest, egress and transaction costs (compared to public cloud)
- No vendor lock-in regarding storage hardware
- Data sovereignty (on-premises private cloud)
- Fulfillment of archiving and compliance requirements (by long-term data preservation)
- Protection from ransomware and cybercrime ("Air-gap" by tape)
- Investment protection by standardized interface (Amazon S3)
- Sustainability by less energy consumption and lower CO_2 emissions (compared to all data on HDD)

ORION S3

PoINT Archival Gateway

ORION S3

BDT COMBACK HOCHSICHERHEIT FÜR IHRE IT PoINT software & systems

ORION S3

Complete Solution – Made in Germany

- BDT ORION MC6 – Tape Library
- PoINT Archival Gateway – S3-to-Tape Software
- COMBACK – Sales, Support & Service

6U – S3 Head

- PoINT Archival Gateway Servers
  - Interface Nodes
  - Database Nodes

42U – Library Components

- 7 Modules
  - Up to 974 Slots
  - Up to 21 FH Drives
  - Up to 29 PB (LTO-10, native)

PoINT Archival Gateway

ORION S3

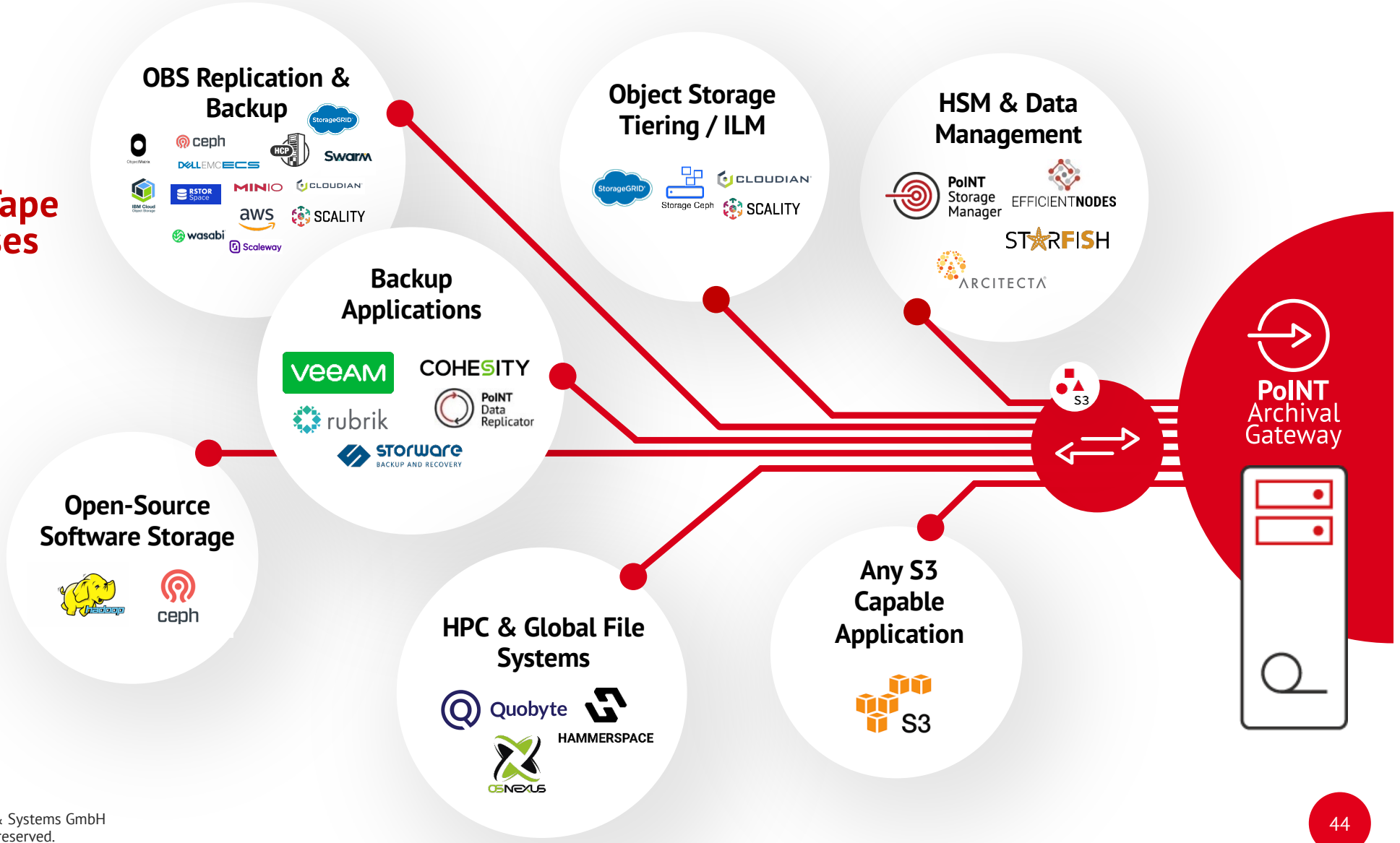
ORION S3

High Scalability

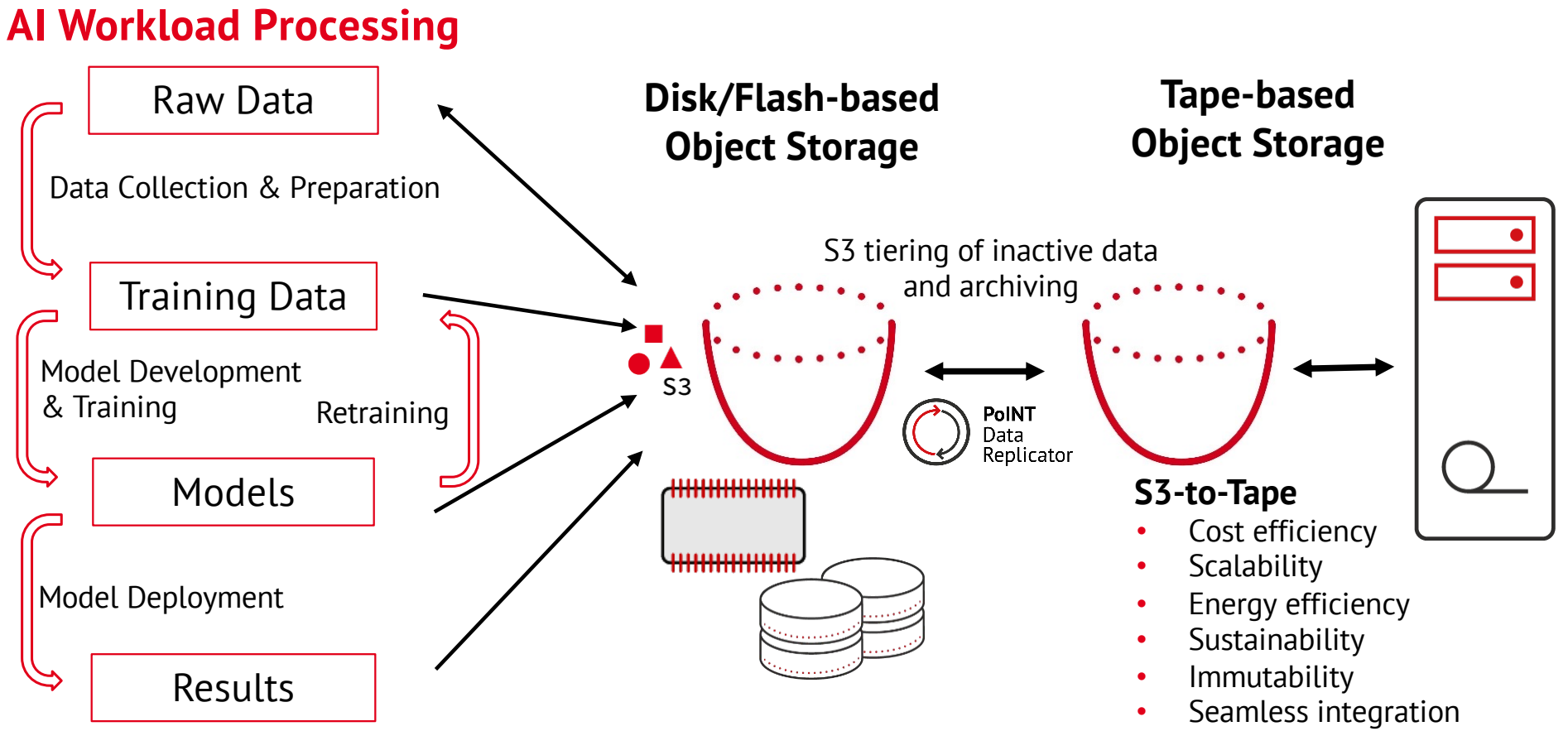
- Up to 12 libraries per site
- Up to 13,380 slots
- Up to 392 PB (LTO-10 native)
- Up to 288 drives

Use Cases & Case Studies

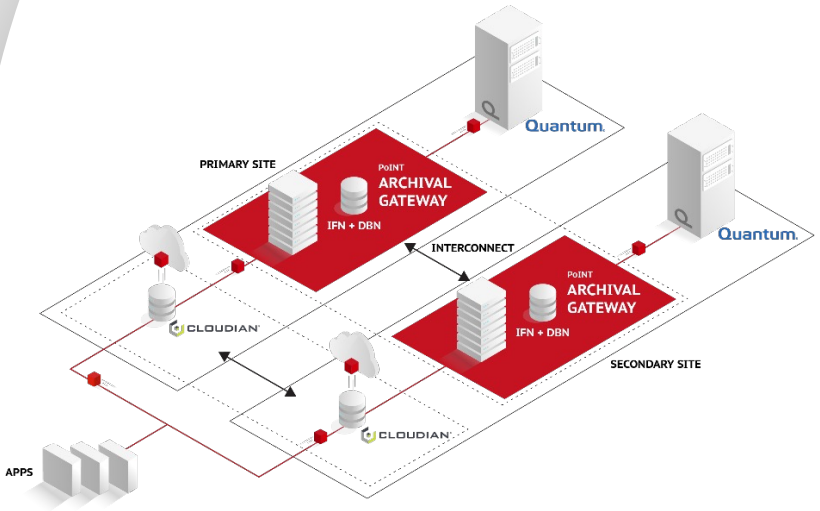
S3-to-Tape Use Cases



PoINT Archival Gateway



PostFinance



DATA PROTECTION

The challenge

- Minimize risk of data loss
- Increase data protection through replication
- Cost-efficient storage

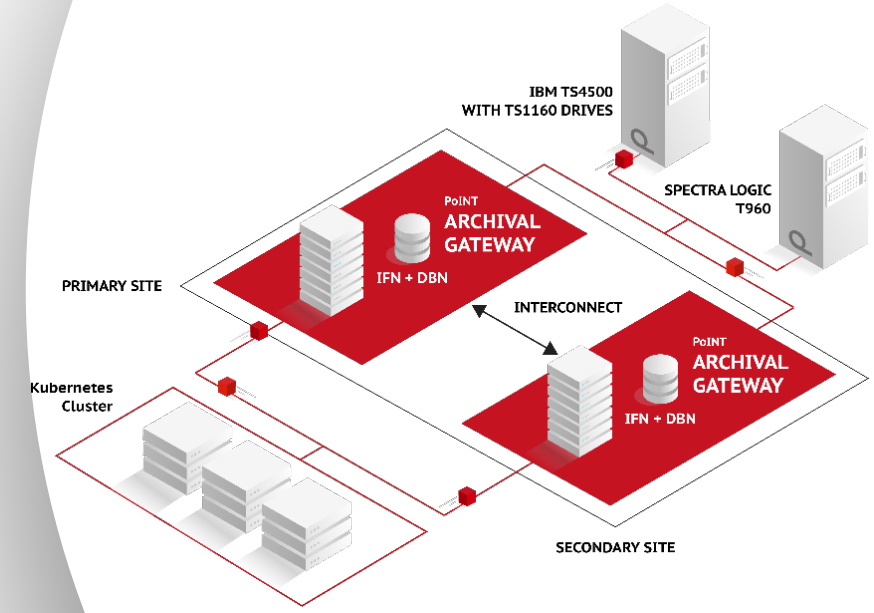
The solution with PoINT

- Introduction of an additional S3 storage class
- Automatic asynchronous replication on object level
- Access to backup copy via native S3 API
- Scale capacity, performance and security as needed

The benefits

- Minimization of data loss risks
- Cost-effective storage on tape technology
- Flexible and simple expansion options
- Investment protection through independent software

EMBL-EBI



DATA PROTECTION

The challenge

- Archiving workloads from Kubernetes cluster via S3
- Data volume in high three-digit PB range
- Multiple vendor support incl. LTO and 3592
- High performance for read and write access

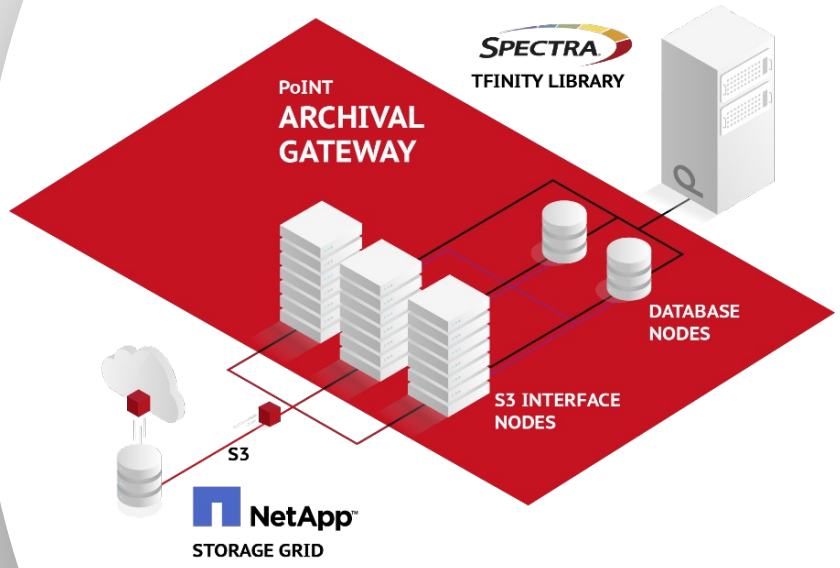
The solution with PoINT

- Tape-based object storage for low-cost storage
- Native S3 interface including versioning
- Scale-out architecture with unlimited storage space
- WORM and retention management
- Read and write performance with 1+ PB a week

The benefits

- Workload specific configuration on bucket or partition level
- Scalable by nodes, drives, slots and media
- Software defined for independence and sustainable planning
- No vendor and technology lock-in

European Ministry



ARCHIVING

The challenge

- Additional protection layer with tape
- Increase data protection by replication
- Scalable as needed
- Cost-efficient storage

The solution with PoINT

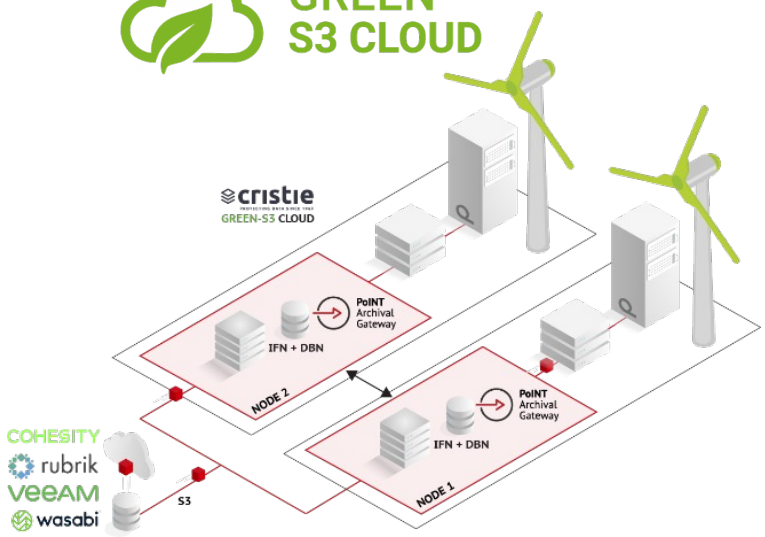
- Tape integration through standardized S3
- Automatic data replication to tape
- Scalable software solution
- Redundancy through Erasure Coding

The benefits

- Minimized risk of data loss
- Cybercrime protection
- No vendor lock-in
- Cost savings

cristie
PROTECTING DATA SINCE 1969

GREEN
S3 CLOUD



CLOUD BACKUP

The challenge

- S3 cloud storage in Germany
- Green IT with renewables & sustainable infrastructure
- Cyber resilience against ransomware
- Cost-efficient storage for backup and archiving

The solution with PoINT

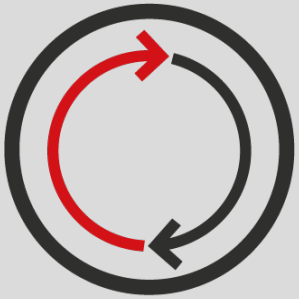
- Data storage via S3 directly to tape
- Automatic replication to a different location
- Legally compliant and cost-effective archiving
- Sustainable and resource-saving technology

The benefits

- Data protection through replication and air-gap
- Extensive cloud offering with broad functionality
- Consistently sustainable cloud service

PoINT
software & systems

Replication to S3 Object Storage



PoINT
Data
Replicator

PoINT Data Replicator

Motivation & Purpose

- Protection of cloud and object storage
- Migration of legacy NAS to modern object storage
- Cloud repatriation
- S3 bucket synchronization

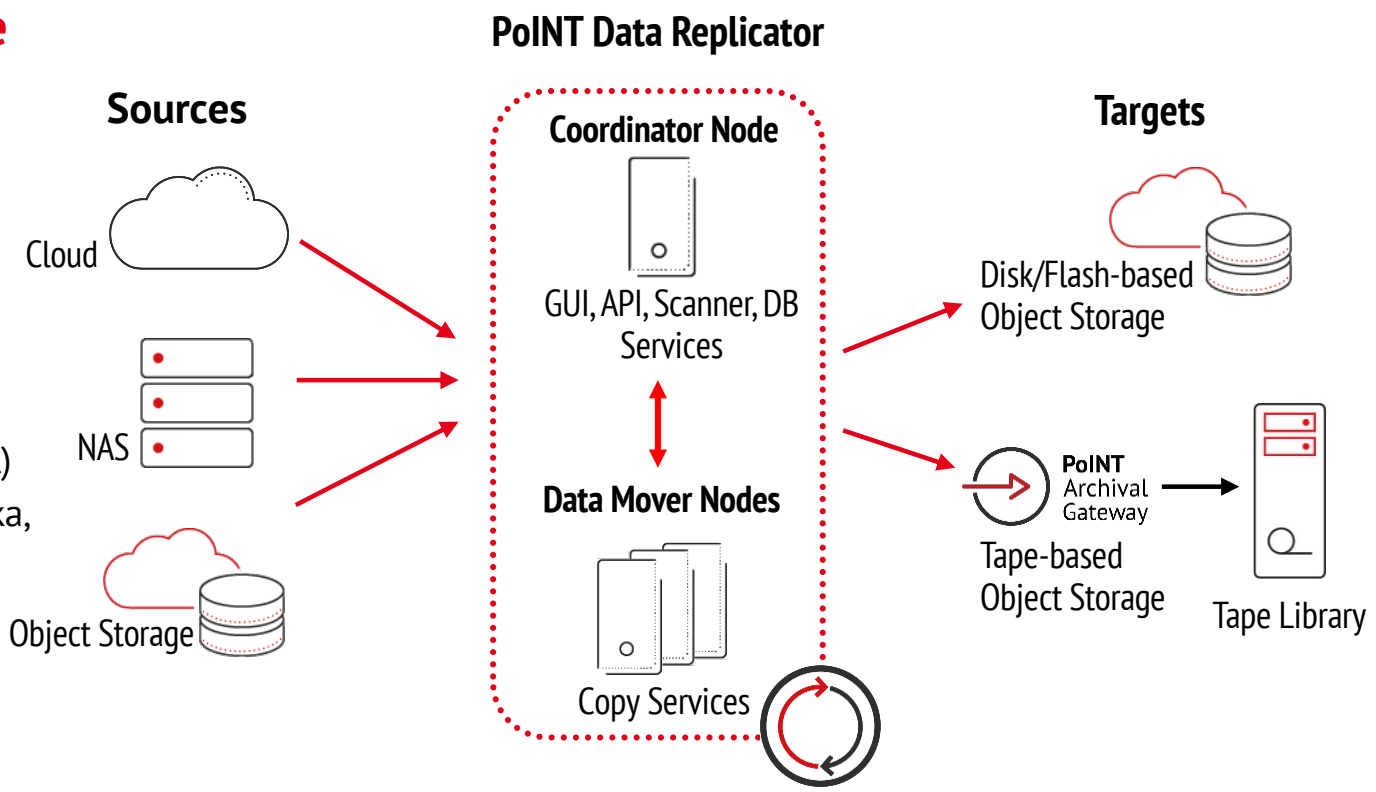
PoINT Data Replicator

Backup & replication of object and file data to S3-capable storage systems

PoINT Data Replicator

Concept & Architecture

- Single- & Multi-Node configurations
- Scalable through adding Data Mover Nodes
- Multi-threaded processing
- Integrated data base for job optimization
- Background operation (optional)
- Use of messaging services (Kafka, SQS) for change tracking
- Management via Web GUI, CLI & REST API
- Optimized for S3-to-Tape with PoINT Archival Gateway



PoINT Data Replicator

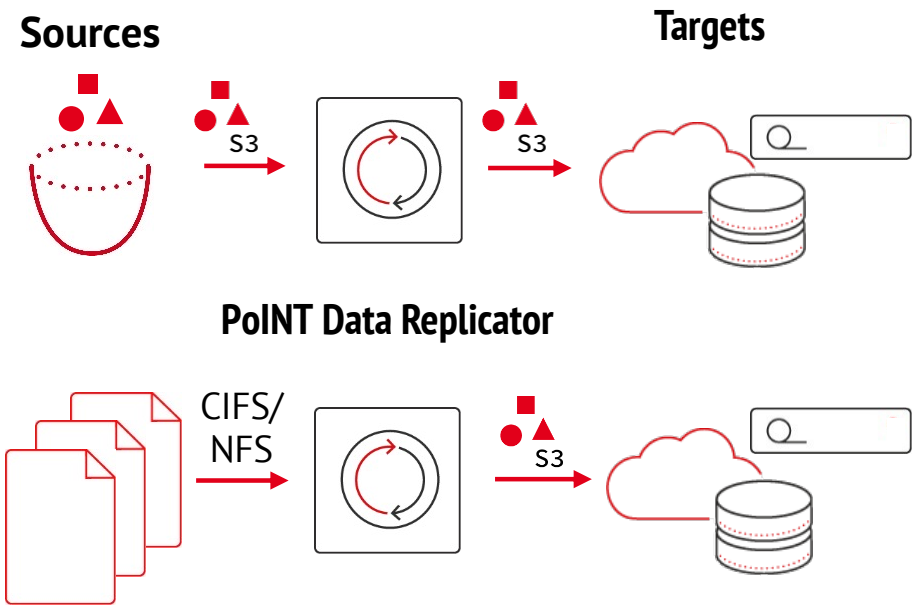
Replication Modes

S3-to-S3

- S3-capable sources and targets
- Public clouds, On-prem Object Storage
- Objects incl. metadata, tags, object lock, ACLs, …
- Multi-part objects

File-to-S3

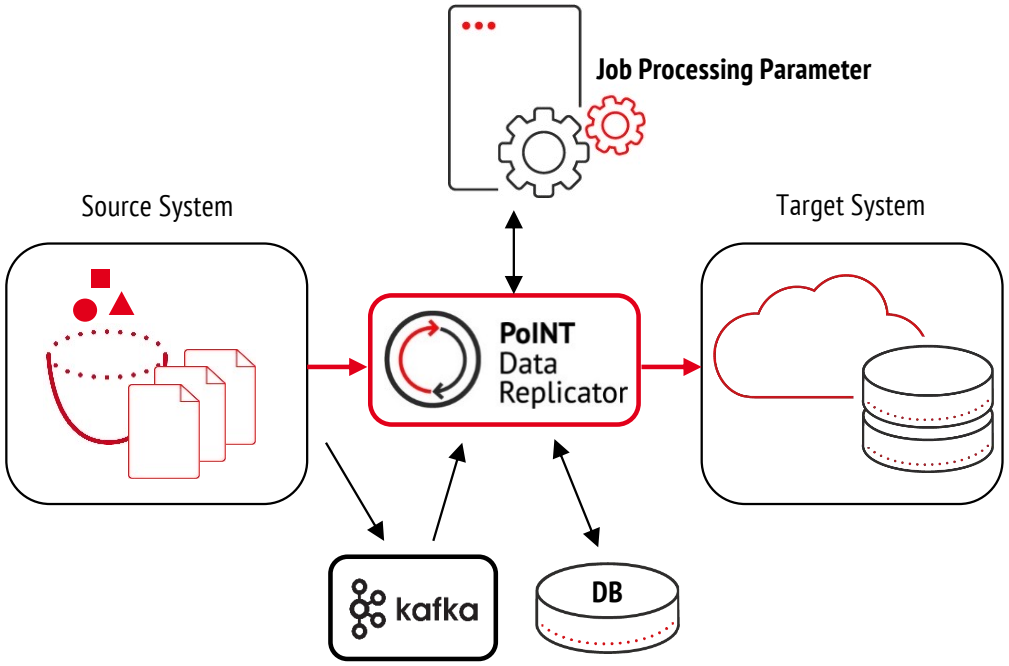
- CIFS/NFS file system sources (File Server, NAS, …)
- Original file path = object key
- Retaining original file structure



PoINT Data Replicator

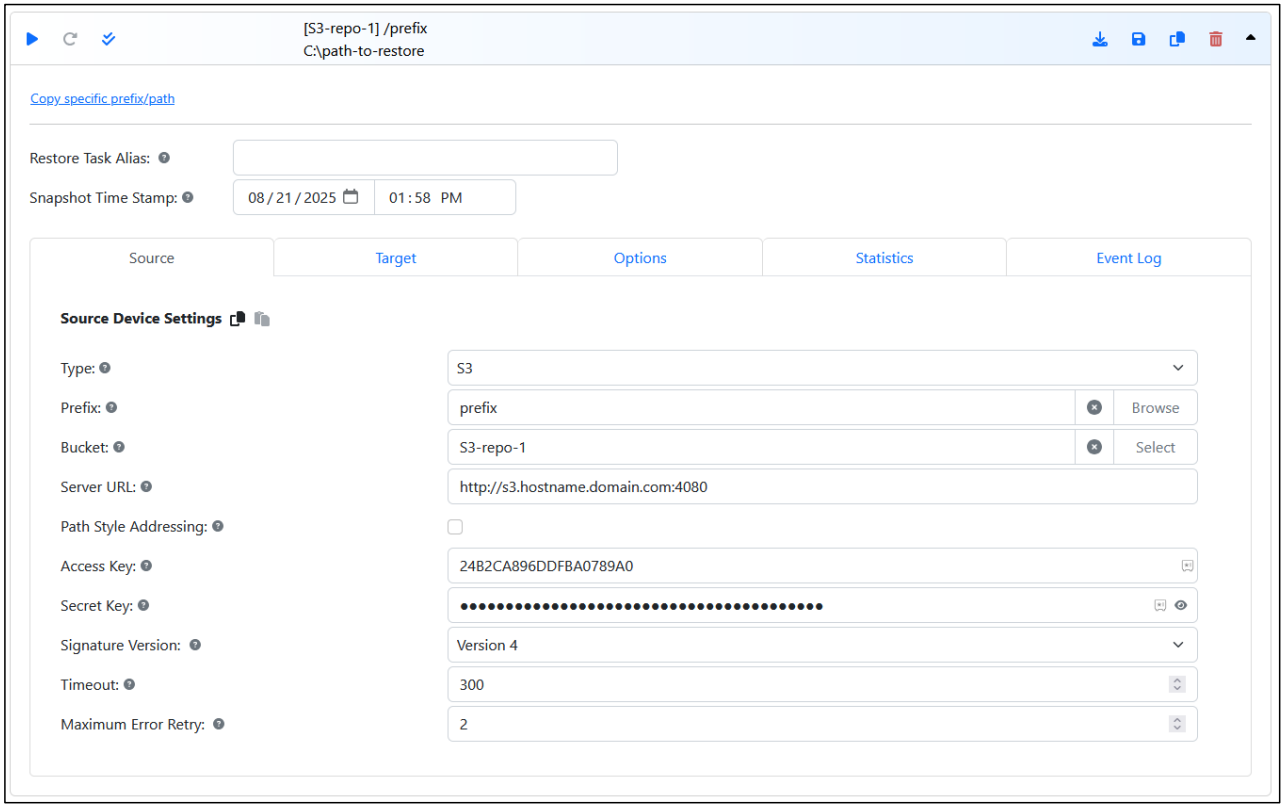
Job Processing

- Database supported enumeration of source system
  - Optimized job re-runs, fast retries without rescanning, …
- Scheduled execution
  - Run jobs on a regular basis for backup purposes
- Multi-threaded execution
  - Parallelism for read/write operations
- Scalable by multiple Data Mover Nodes
  - Performance booster
- Usage of messaging services
  - Processing of Kafka/SQS notifications, prevents rescanning
- Filter options by time stamps
- Automatic Verification
- Source / target synchronization
  - Incl. optional (delayed) deletion



Restoring Data

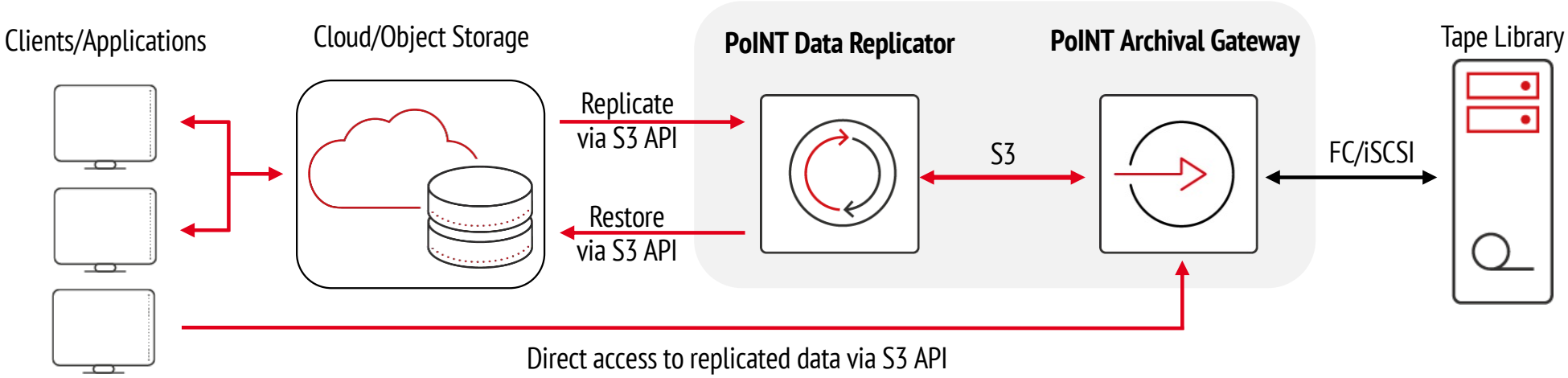
- Current status restore
  - Restore to most recent status
- Snapshot restore
  - Restore data set to a specific point in time



PoINT Data Replicator

Tape Integration with PoINT Archival Gateway

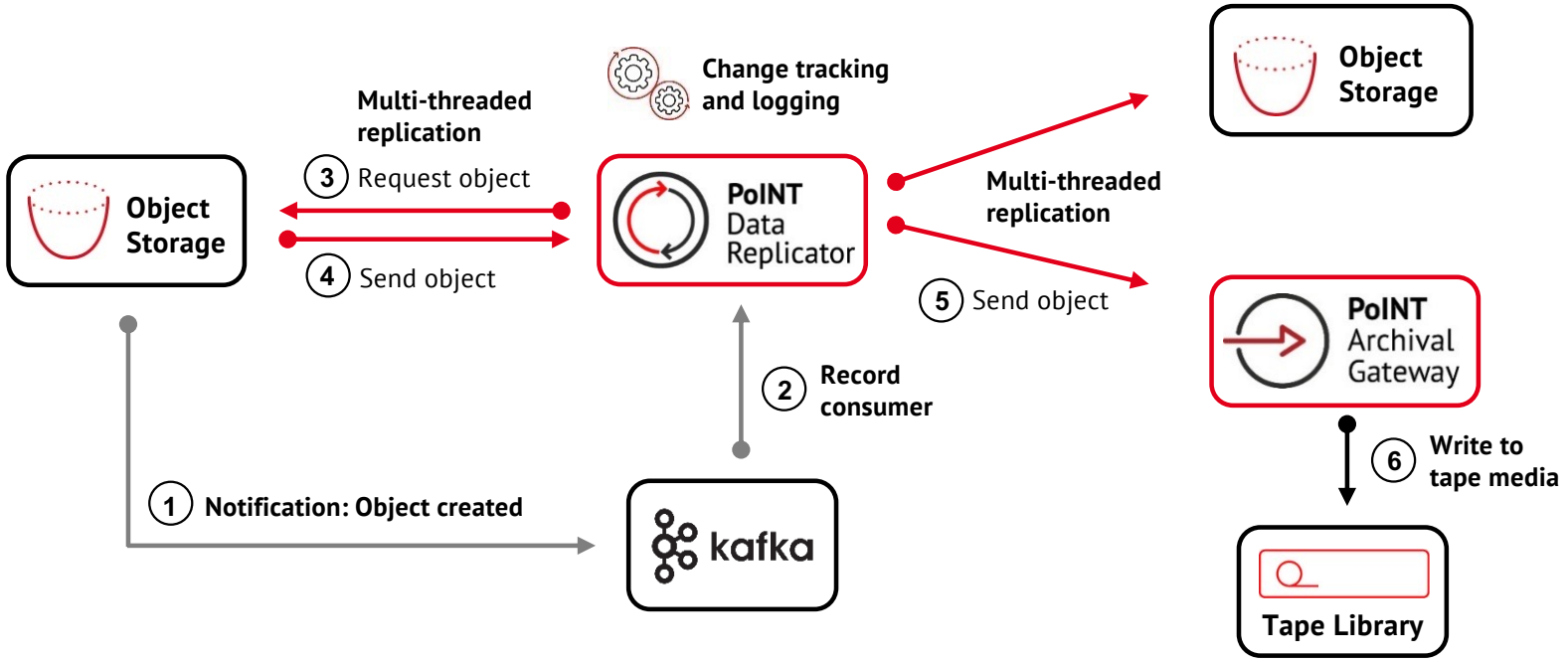
- Optimized interaction between PoINT Data Replicator and PoINT Archival Gateway
- Sorting read requests according to location on tape



Use Cases

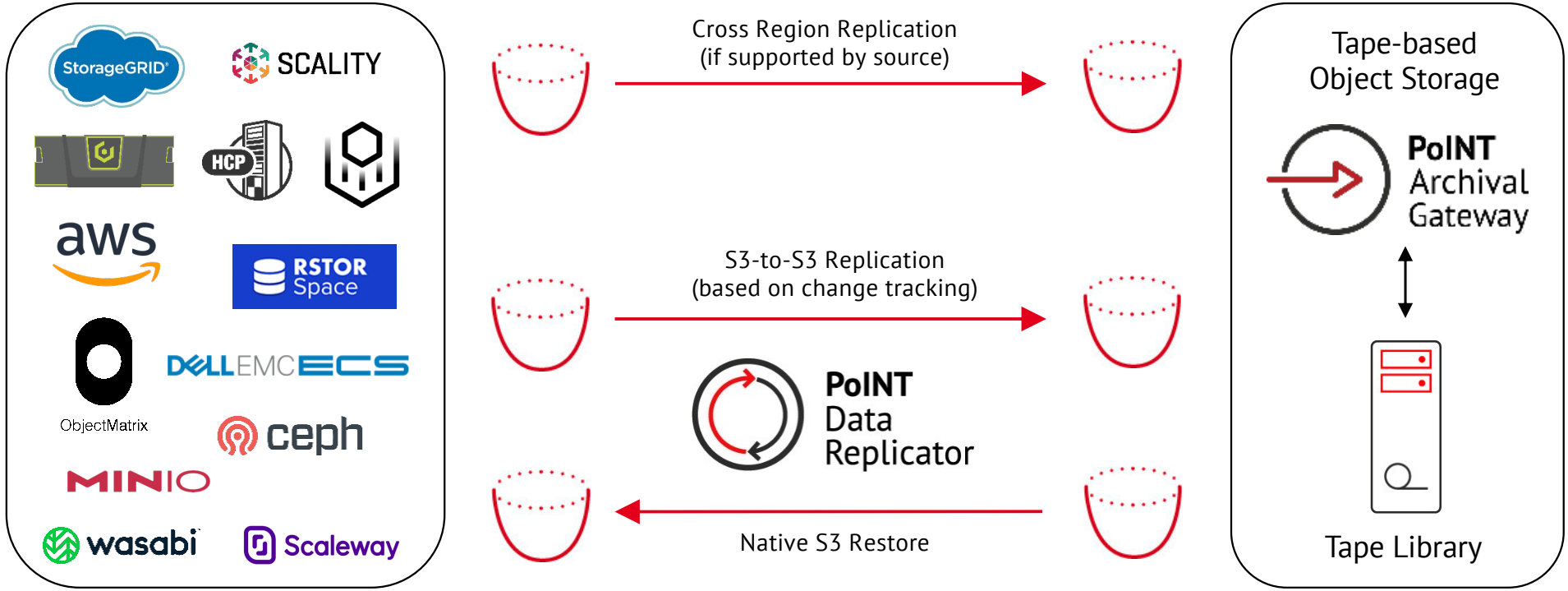
PoINT Data Replicator

Continuous S3-to-S3 Backup & Replication



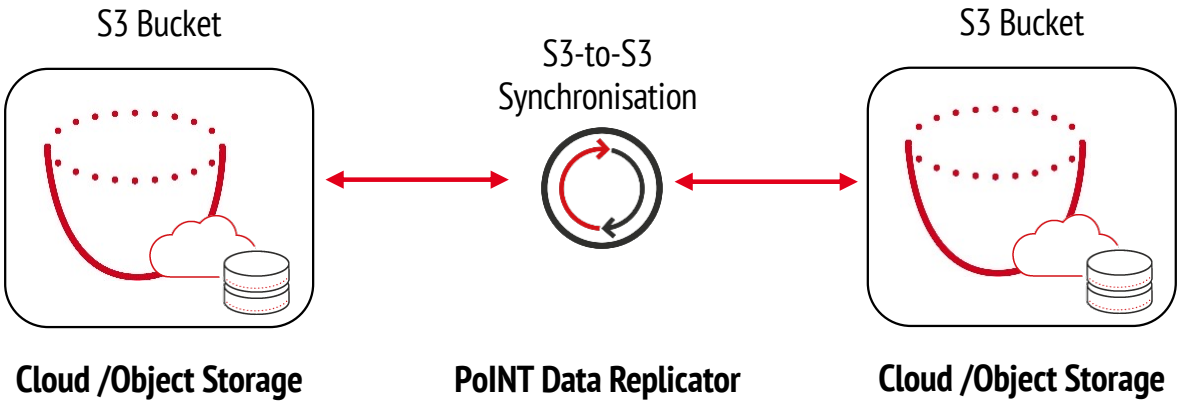
PoINT Data Replicator

Object/Cloud Backup & Replication to Tape



Automatic Bucket Synchronization

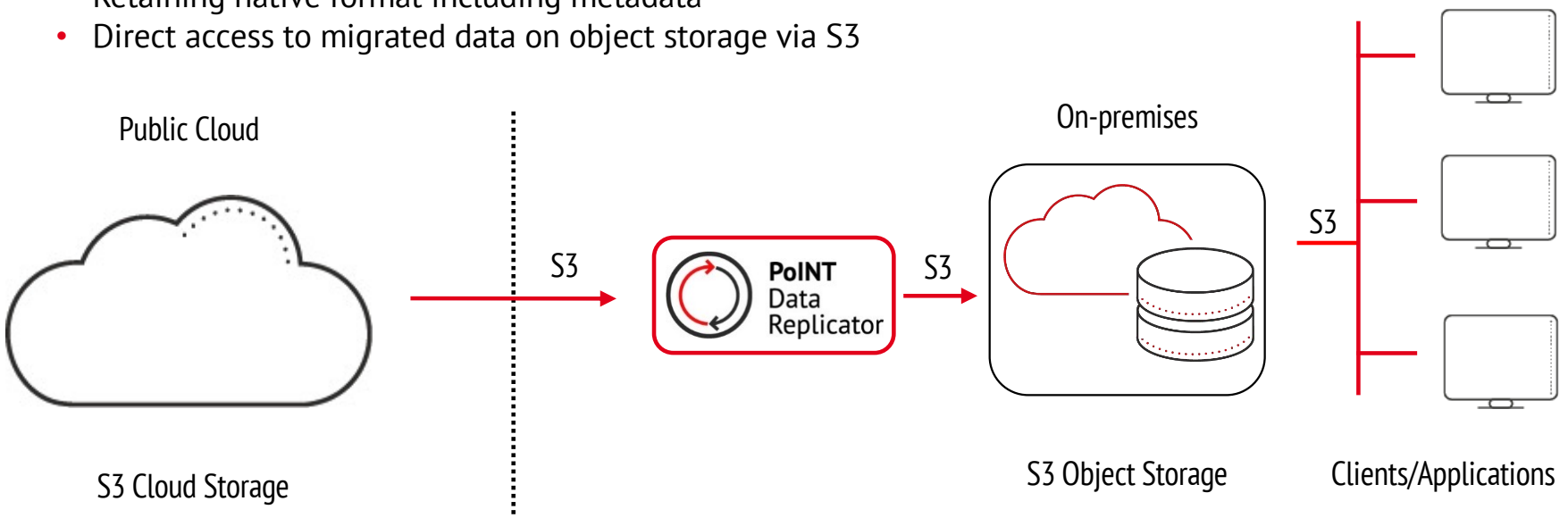
- Automatic background synchronization
- Optional deletion of objects on target if deleted on source (immediate or delayed)



PoINT Data Replicator

Cloud Repatriation

- Migrating data from public cloud back to on-prem object storage
- Retaining native format including metadata
- Direct access to migrated data on object storage via S3



Benefits

PoINT Data Replicator

Benefits

- Migration from legacy file systems to object storage
- Cost savings through cloud repatriation to on-prem storage
- Protection of cloud and object storage data
- Sustainability through integration of tape by PoINT Archival Gateway
- Protection against ransomware, malware, human error, and technology failure
- Direct S3 access to replicated data on target system

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