



All Pro Solutions, Inc.
Optical Disc Archiving & Data Storage Solutions

Olympus Optical Disc Archiving Systems with PoINT Storage Manager

Solution Overview



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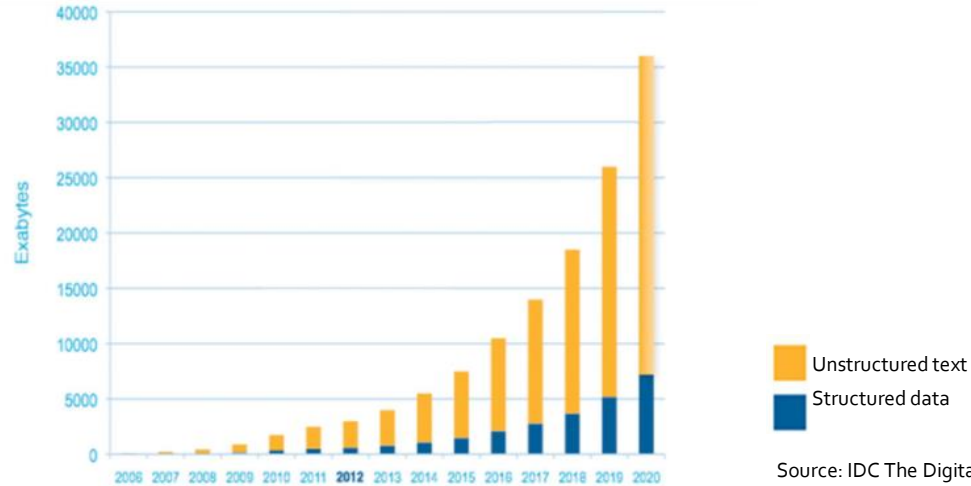
The Company – All Pro Solutions, Inc.

- Leading manufacturer of automated disc duplicating, printing & publishing systems.
- Started in 1996 manufacturing floppy disk duplication systems.
- Family-owned and operated.
- In South Carolina since 2009.
- Provides services like document scanning, imaging, converting.
- Expanded into data storage and archiving industry.
- Whatever the problem, we find a solution.



The Challenge

Worldwide Corporate Data Growth



80% of Corporate Data is Unstructured File Data

Hot
Active
10%

Warm
Less Active
20%

Cold
Inactive
70%



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Olympus 4H AE Optical Disc Archiving System

- Made in the U.S.A. by All Pro Solutions
- Standalone Self-Contained System
- Embedded PC w/ Windows 10 Pro
- POINT Storage Manager Archiving Software
- 4 Blu-Ray / DVD / CD Combo Drives
- SpeedJet HP Inkjet Printer
- 420 Disc Input & Output Capacity
- Industrial Grade Robotics - Metal mechanical parts
- Modular system – removable drive tower and printer.
- Open Design – free airflow without any restrictions from any enclosures.
- 3 independent power supplies - autoloader/PC, printer, drive tower.
- Ability to add or remove discs from bins while jobs are processing

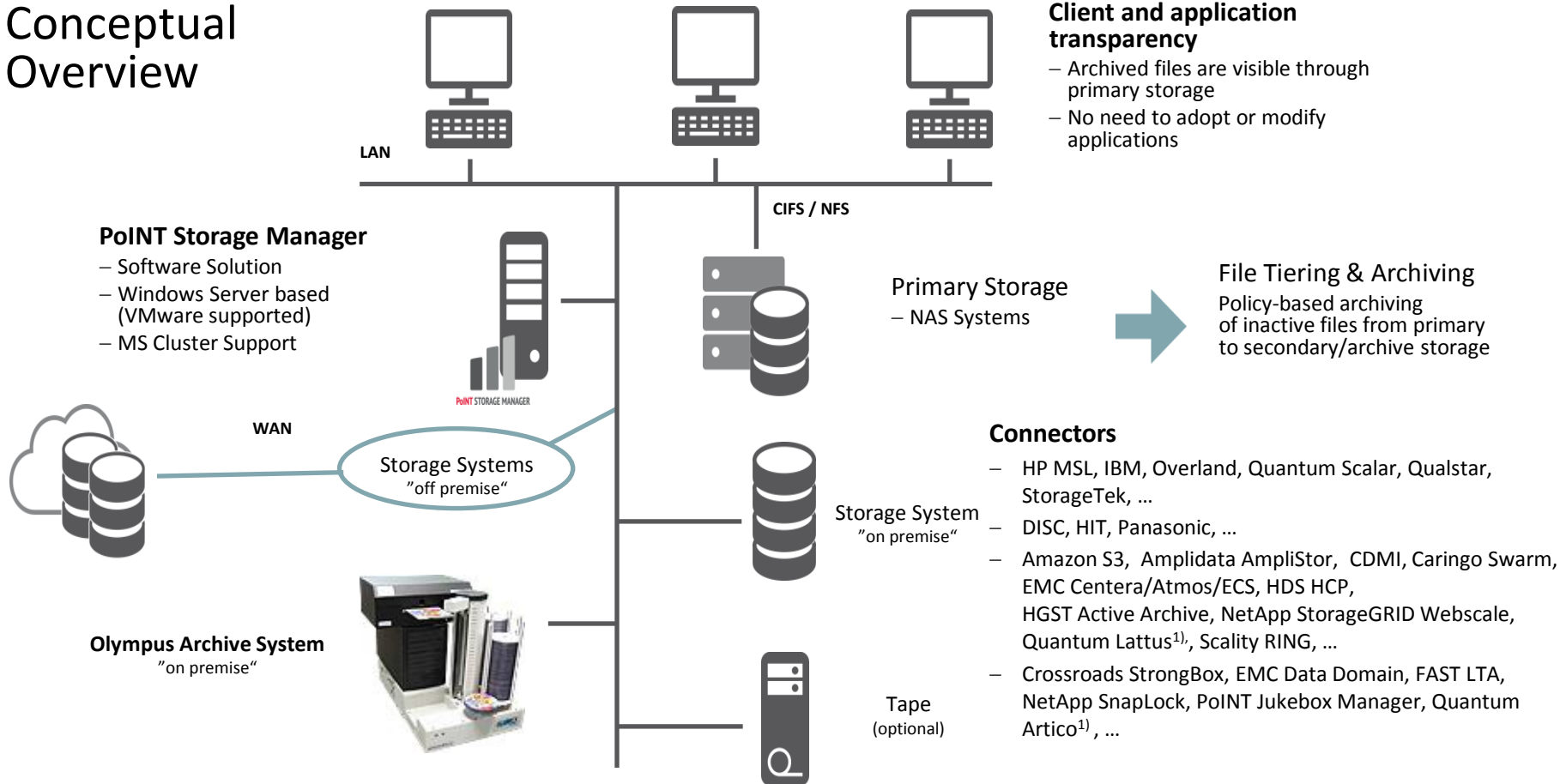




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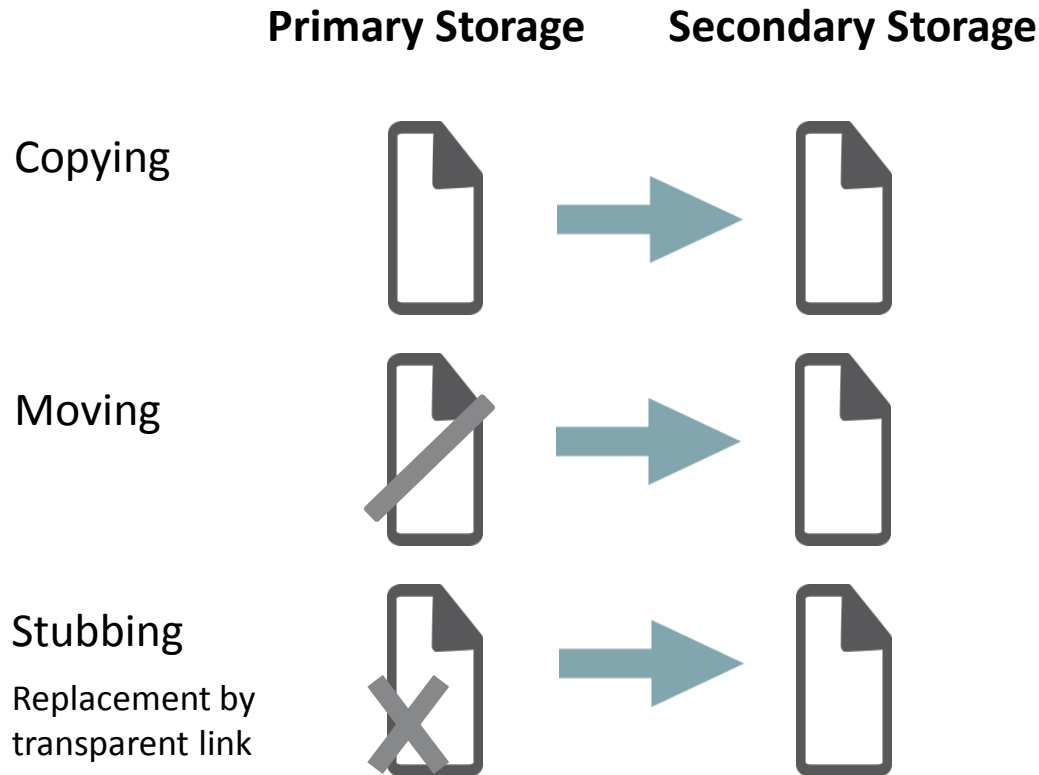
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Conceptual Overview





Methods





Archiving Features

- Software based
 - Independent from storage technology, systems and devices
 - No vendor lock-in
- “Archive Volume” concept
 - “Containerization” of files into objects (adjustable size)
 - UDF (Universal Disc Format) – standardized format
 - Authentication
 - Encryption
- WORM
- Retention management
- Authentication
- Versioning
- Background migration

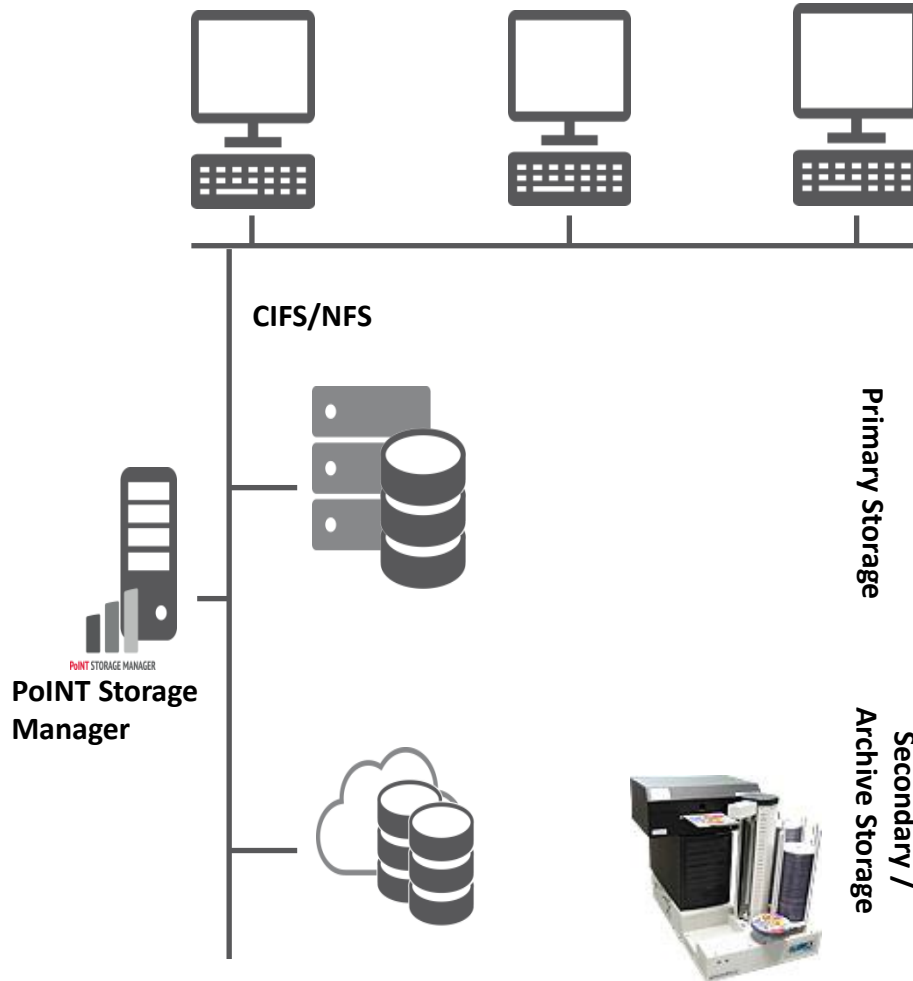


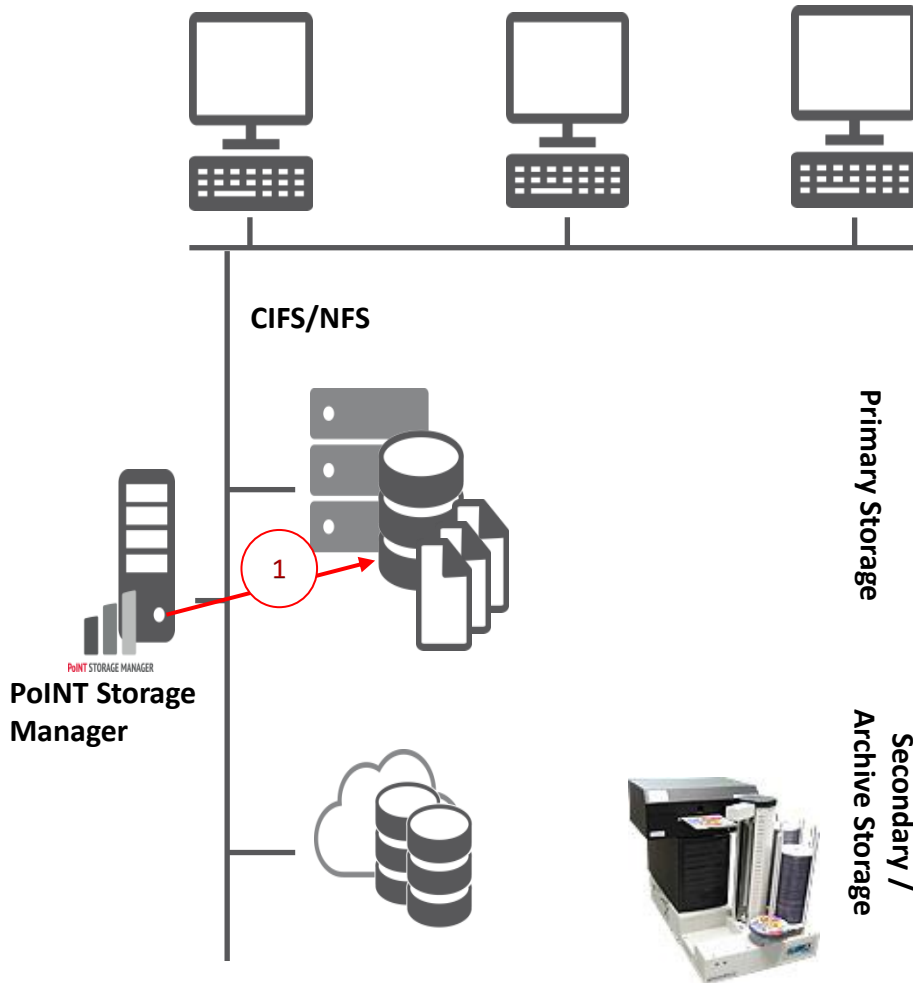


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Tiering- How It Works





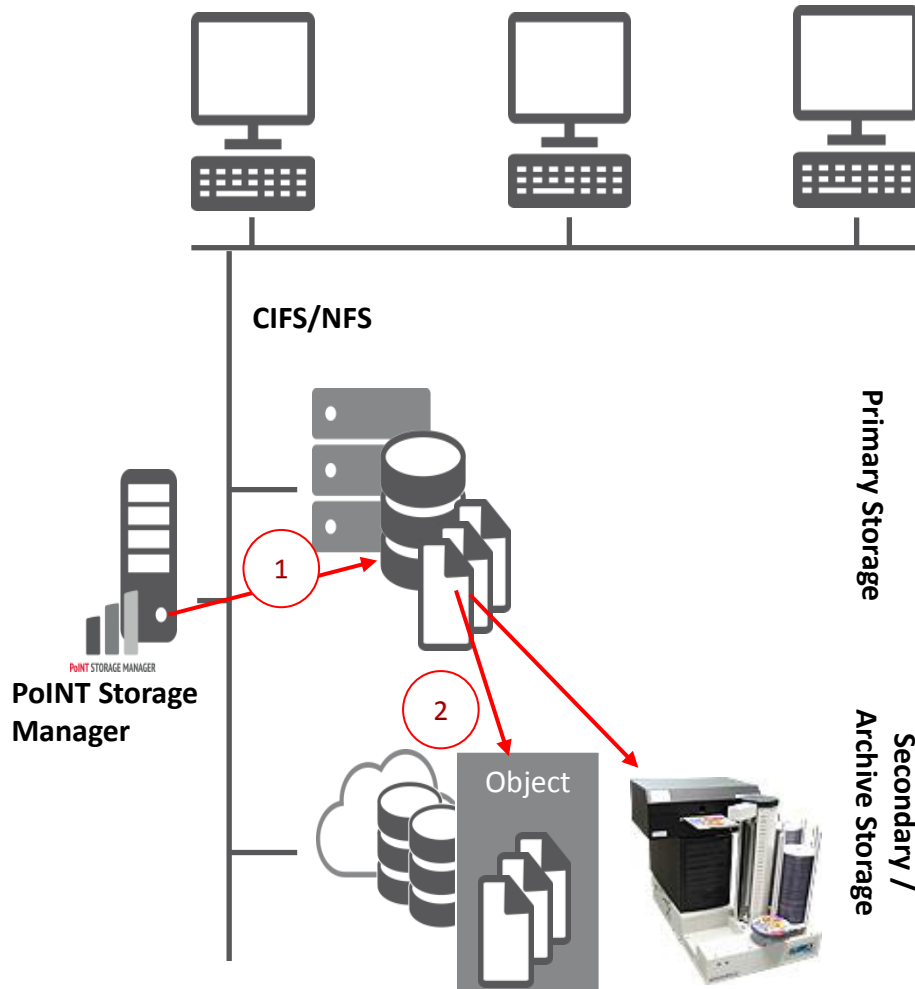
How It Works

- 1 – Monitoring primary storage and classifying files to be archived



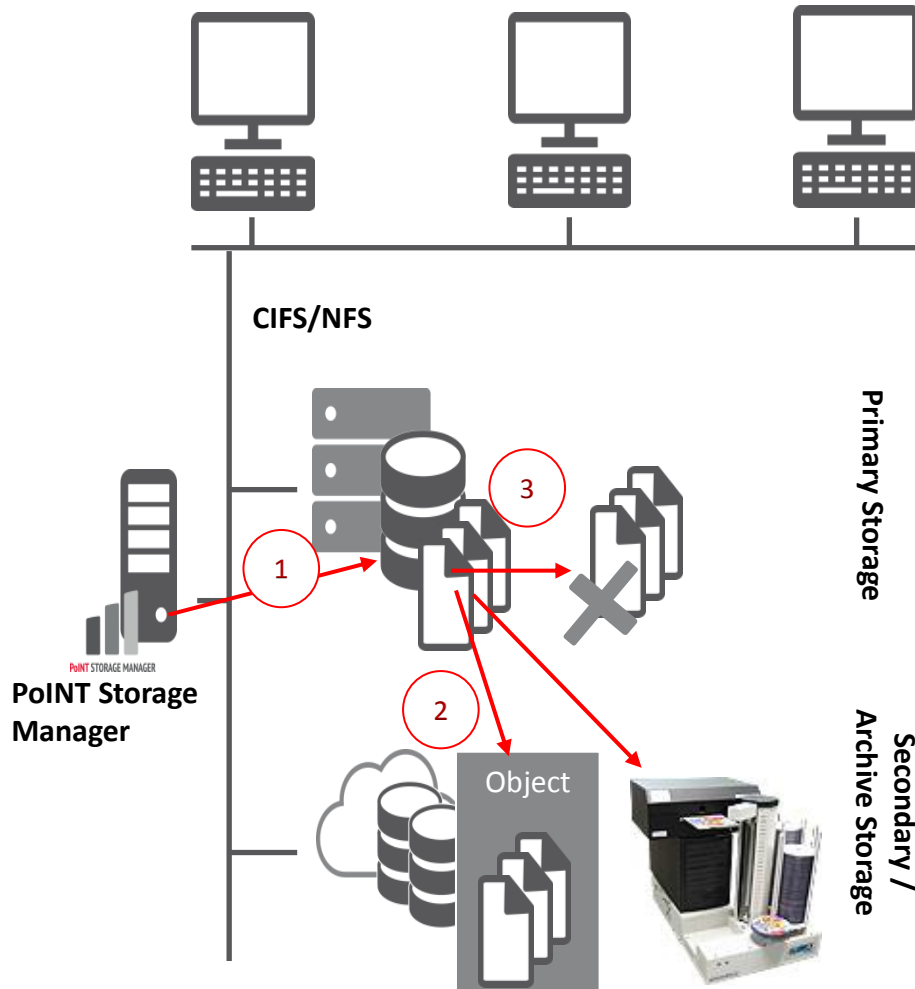
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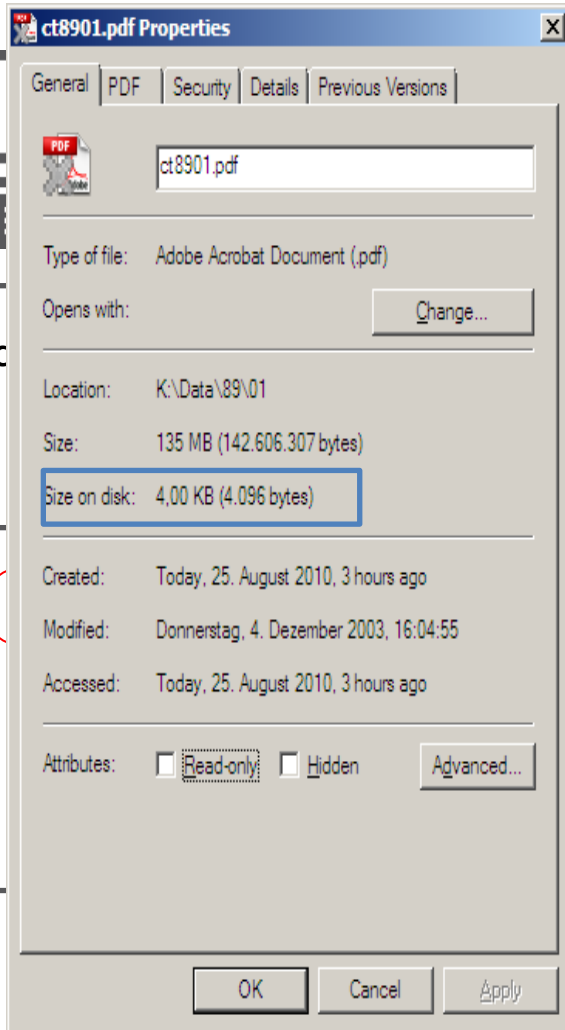
How It Works

- 1 – Monitoring primary storage and classifying files to be archived
- 2 – Copying classified files to secondary storage / archive device



How It Works

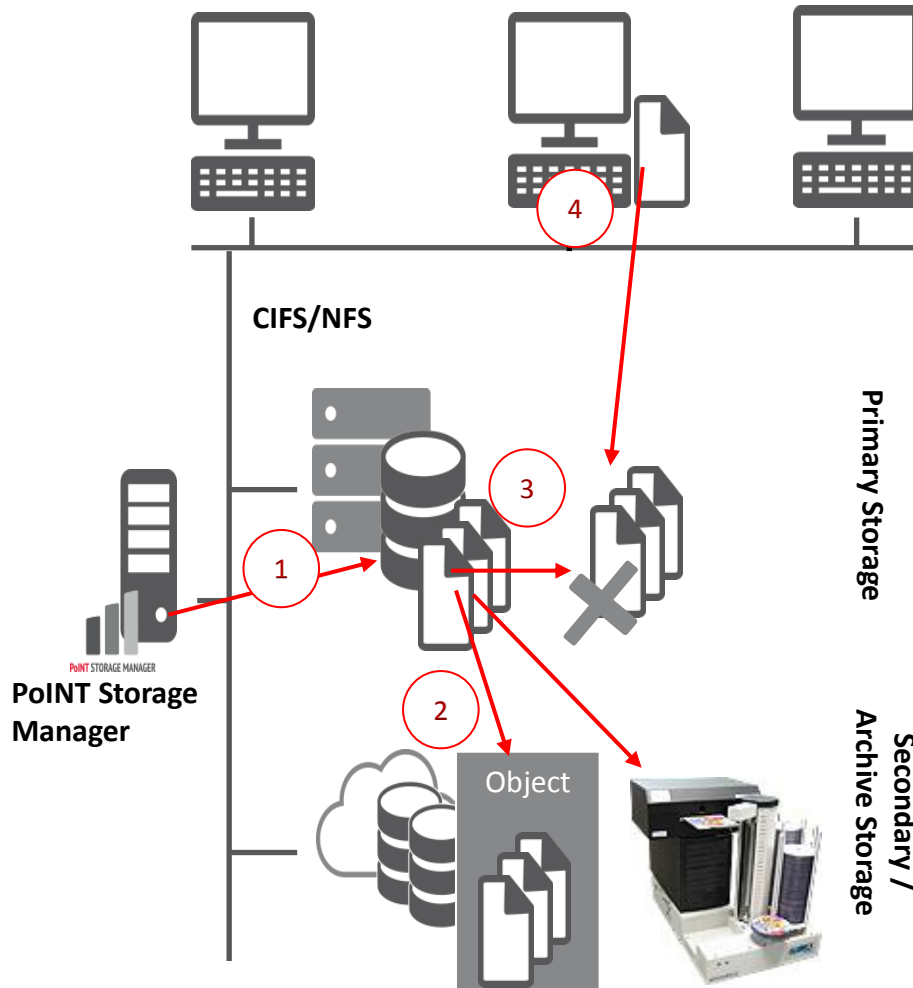
- 1 – Monitoring primary storage and classifying files to be archived
- 2 – Copying classified files to secondary storage / archive device
- 3 – Replacing original file by stub file and retain transparent access



POINT Storage Manager

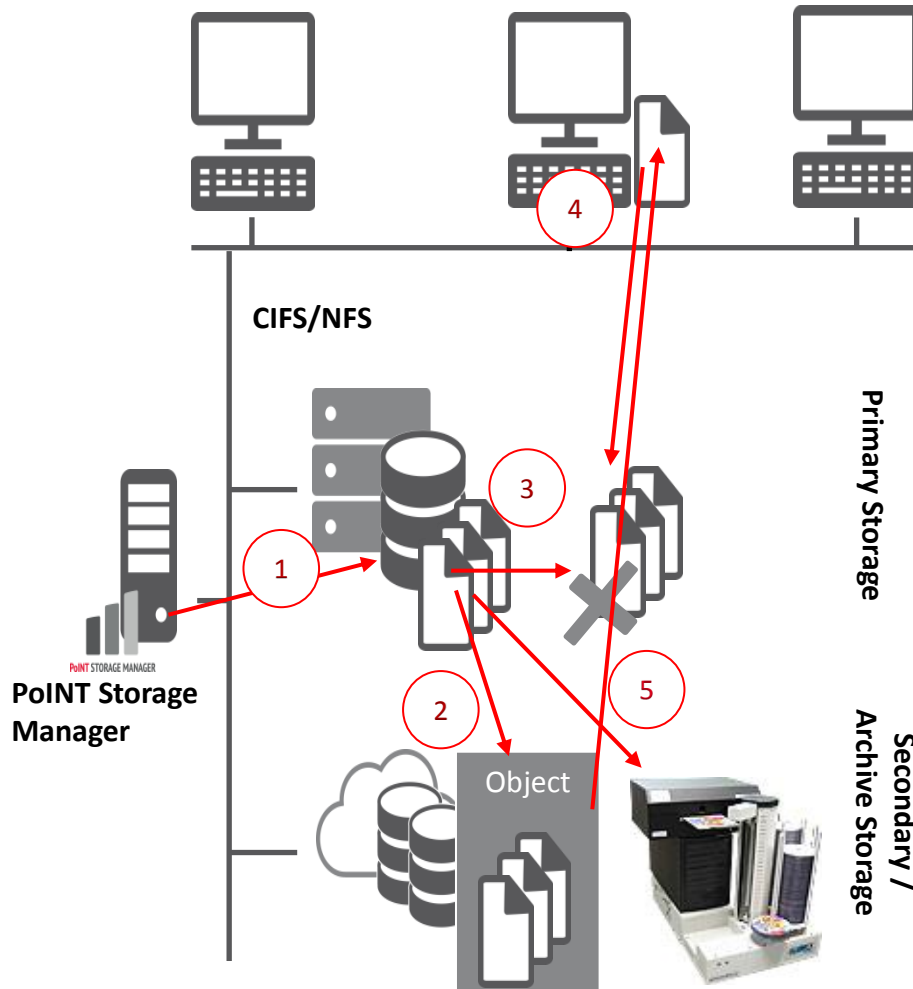
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- 1 – Monitoring primary storage and classifying files to be archived
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- 4 – Accessing archived / stubbed files by applications through primary storage



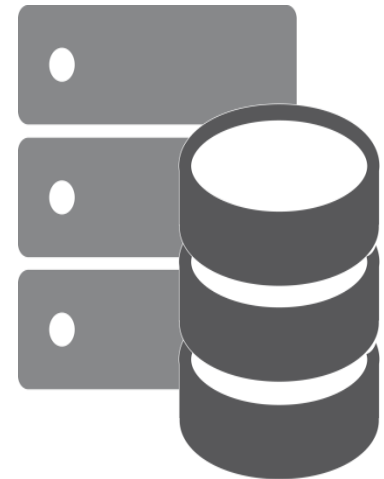
How It Works

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- 2 – Copying classified files to secondary storage / archive device
- 3 – Replacing original file by stub file and retain transparent access
- 4 – Accessing archived / stubbed files by applications through primary storage
- 5 – Providing archived file to application / "pass through read"



Primary Storage Systems Supported for Tiering

- **EMC Celerra / VNX**
 - Copy/Move/Stubbing Methods
 - EMC File Mover Support
- **Microsoft Windows NTFS/ReFS based Storage**
 - Copy/Move/Stubbing Methods
 - Windows Filter Driver based on “Reparse Points”
- **NetApp FAS (7-Mode, Cluster Mode)**
 - Copy/Move/Stubbing Methods
 - NetApp FPolicy Support
- **Other NAS Systems**
 - Copy/Move Methods





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Cloud/Object Storage Support

Native Connectors

- RESTful HTTP
- Amazon S3, Amplidata, AmpliStor, CDMI, Caringo Swarm, EMC Centera, Atmos, ECS, HDS HCP, HGST Active Archive, NetApp StorageGRID, Webscale, Quantum Lattus, Scality RING, ...

Replication

- e.g. parallel archiving Tape, Cloud ...
- Automatic synchronization



Archive Volumes

- “Containerization” of files in Archive Volumes (objects)
- UDF (Universal Disc Format)
- Adjustable size
- Authentication





Tape Support

Drives, Loaders, Libraries

- Native support (no additional software or appliance required)
- IBM, HP, Overland, Qualstar, Quantum, Spectra Logic, StorageTek (including ACSLS), ...

Archive Volume (“container”)

- includes authentication and encryption

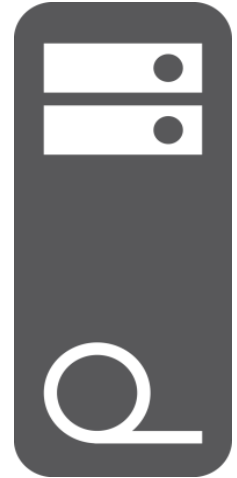
Versioning

Standard Formats

- Physical - LTO (Linear Tape Open)
- Logical - LTFS (Linear Tape File System) / MTF (Microsoft Tape Format)
- Volume - UDF (Universal Disc Format)

Replication

- e.g. parallel archiving to Tape Library, Optical Disc, Cloud ...





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Software Architecture

**Primary Storage
Performance Tier**



EMC VNX



Windows NAS Systems



NetApp FAS



Generic
Network Share



Virtual „WORM“ File
System

PSM Agents

PoINT EMC
FileMover Agent

PoINT NTFS Agent

PoINT NetApp FAS
Agent

PoINT Copy/Move
Agent

PoINT VFS Agent

PSM Services

Storage Agent Service and Storage Manager Core Service

**PSM Storage
Connectors**

PoINT Storage Manager

Object Store
Connectors

Tape Library
Connectors

Optical Library
Connectors

HDD / NAS
Connectors

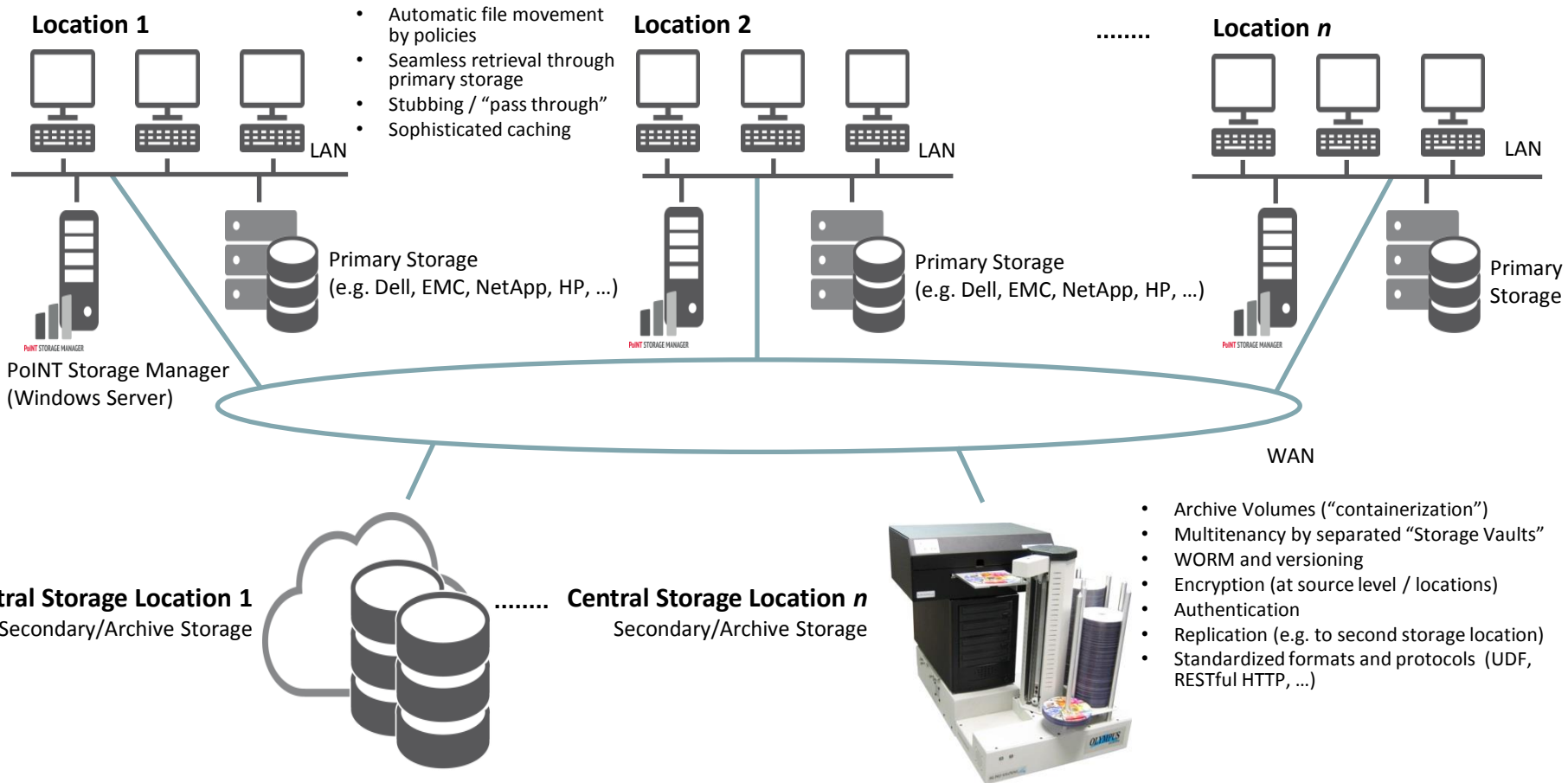
Appliance
Connectors

**Secondary /
Archive Storage**





Configuration Example





Benefits

- ✓ Cost savings by efficient use of primary storage
- ✓ High productivity by single path access to all data
- ✓ Reduced management effort by automation
- ✓ Cost and time savings by reduced backup volume
- ✓ Reduced risk of litigation by archiving of data
- ✓ Cost savings by homogenously integrated tiered storage



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