

IBM Storage Archive – Efficient Data Management

IBM Infra Champions

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Tape to the Rescue!



Long-Term Retention



Sustainable Infrastructure



Security & Compliance



Cost Optimization



High Performance

IBM Storage Archive Software Family

Single Drive Edition (SDE)

- File System for Standalone Tape Drive
- Linux, Mac, and Windows versions
- Open Source (Linux/Mac)

Library Edition (LE)

- File System with built-in tape library control
- Linux and Windows versions
- Commercial Software with Support Contract
- ... Free version available (no warranty and no support)

Enterprise Edition (EE)

- Hybrid Disk/Flash and Tape storage
- Policy automated tiering
- File backup with IBM Storage Protect
- External metadata search by IBM Storage Discover
- Commercial Software with Support Contract



+

Storage
Scale

+

Storage
Archive

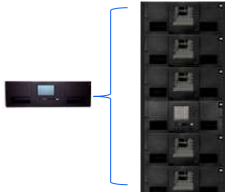


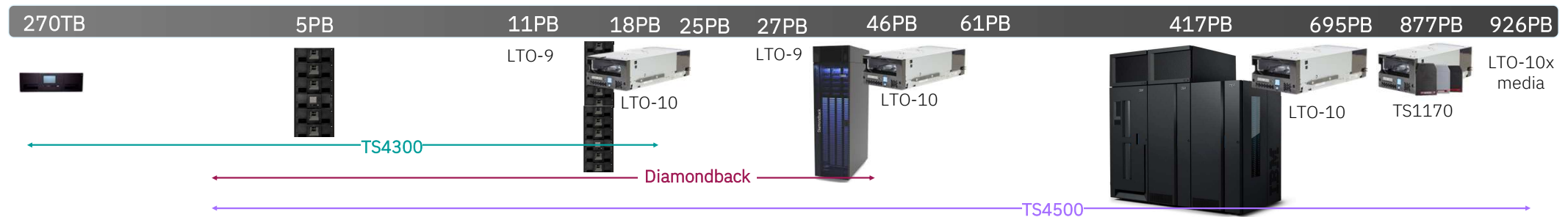
Storage SDK

Integrated Solution

Tape Format Compatibility (LTFS Technology)

IBM LTO Tape Portfolio – Capacity in the right solution

IBM Storage Archive						
Single Drive Edition			Library Edition		Enterprise Edition	
					IBM Deep Archive	
TS2290		7226	TS2900	TS4300	IBM Diamondback	TS4500
						
"Bridge Box"		Rackable tape drive Up to 2 independent drives	"Media Changer"	"Stackable Expansion"	"Scale-out"	"Scale-up"
Stand-Alone tape drive Single Cartridge AC Power		Single Cartridge AC Power	Rackable tape drive 1 tape drive Up to 162 TB	Up to 48 drives Up to 55.2TB per hour 3U modular expansion Up to 25.6PB	Up to 14 drives Up to 20.1TB per hour Simplified Service Up to 61.9PB	Up to 128 drives Up to 184TB per hour Intelligent optimization Up to 926PB
Capacity	LTO-8	12 TB	36-108 TB	120-7,680 TB	---	1.9-278PB
	LTO-9	18 TB	54-162 TB	180-11,520 TB	3.3-27. PB	3-417PB
	LTO-10	30 TB / 40 TB	90-270 TB / 120-360 TB	300-19,200 TB/ 400-25,600 TB	6-46 PB / 9-61.9 PB	4.8-695 PB / 6.4-926 PB
	TS1160					2-351 PB
	TS1170					5-877 PB



IBM Storage Archive Overview

- File system available with **LTO and IBM Enterprise tape drives**
 - IBM Enterprise Tape Drive TS1140 and newer generations supported
 - LTO 5 and newer generations supported
- File access on a tape like hard disk, CD/DVD-R disc or USB memory
 - File access on Explorer or drag & drop on desktop.
 - File Open, Write, Read, Append, Delete and Close from an application
- Faster access than traditional back up applications

File system info

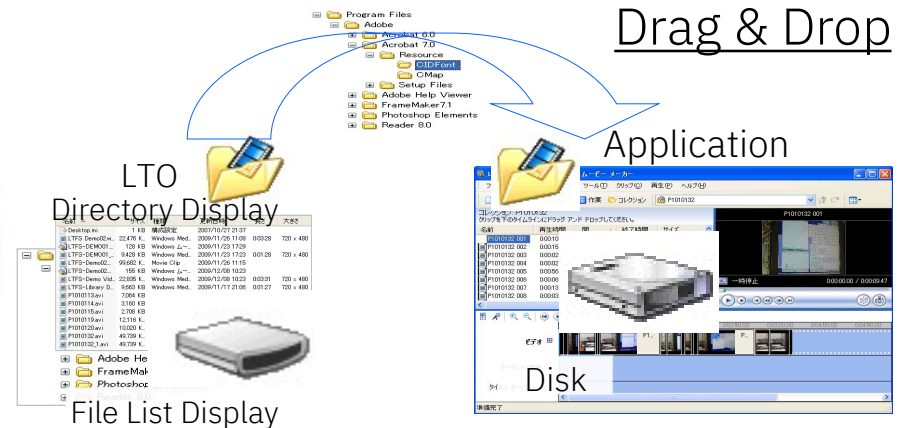
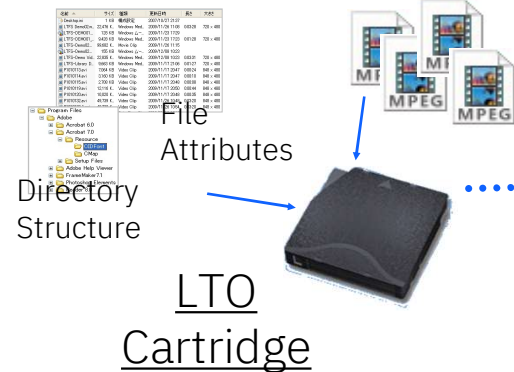
File bodies

Storage Archive installed PC

Storage Archive

PC

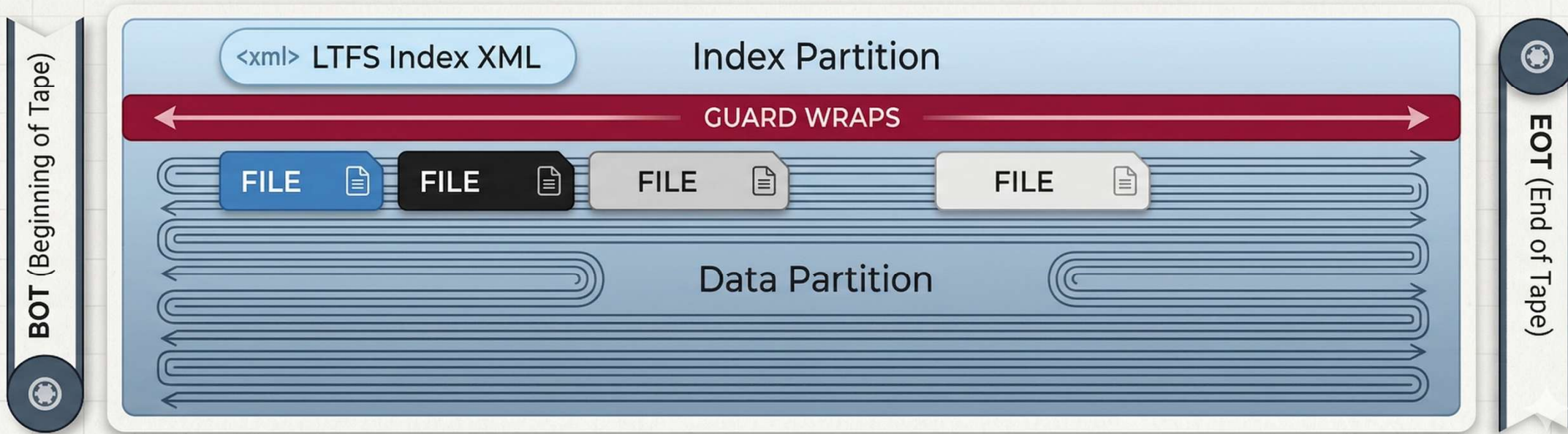
Exchangeable



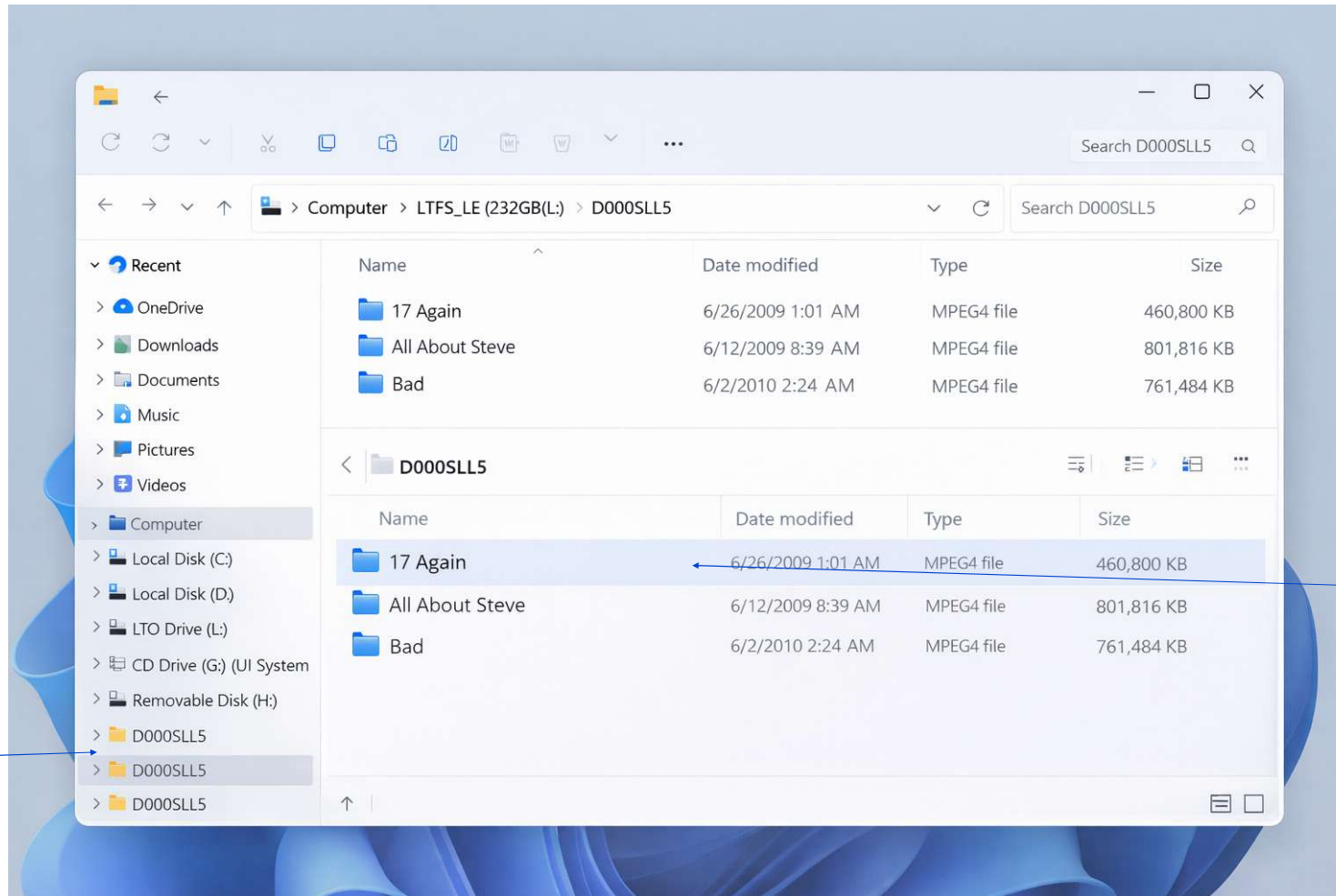
Linear Tape File System: Format Basics

- LTFS enables File System access against tape device
- LTFS utilizes media partitioning
- The tape is logically divided “lengthwise”
 - (think C: & D: drives on single hard disk unit)
- LTFS places the index on one partition and data on the other

LINEAR TAPE FILE SYSTEM (LTFS) DUAL-PARTITION LAYOUT



Fundamentally LTFS helps tape participate in unstructured data

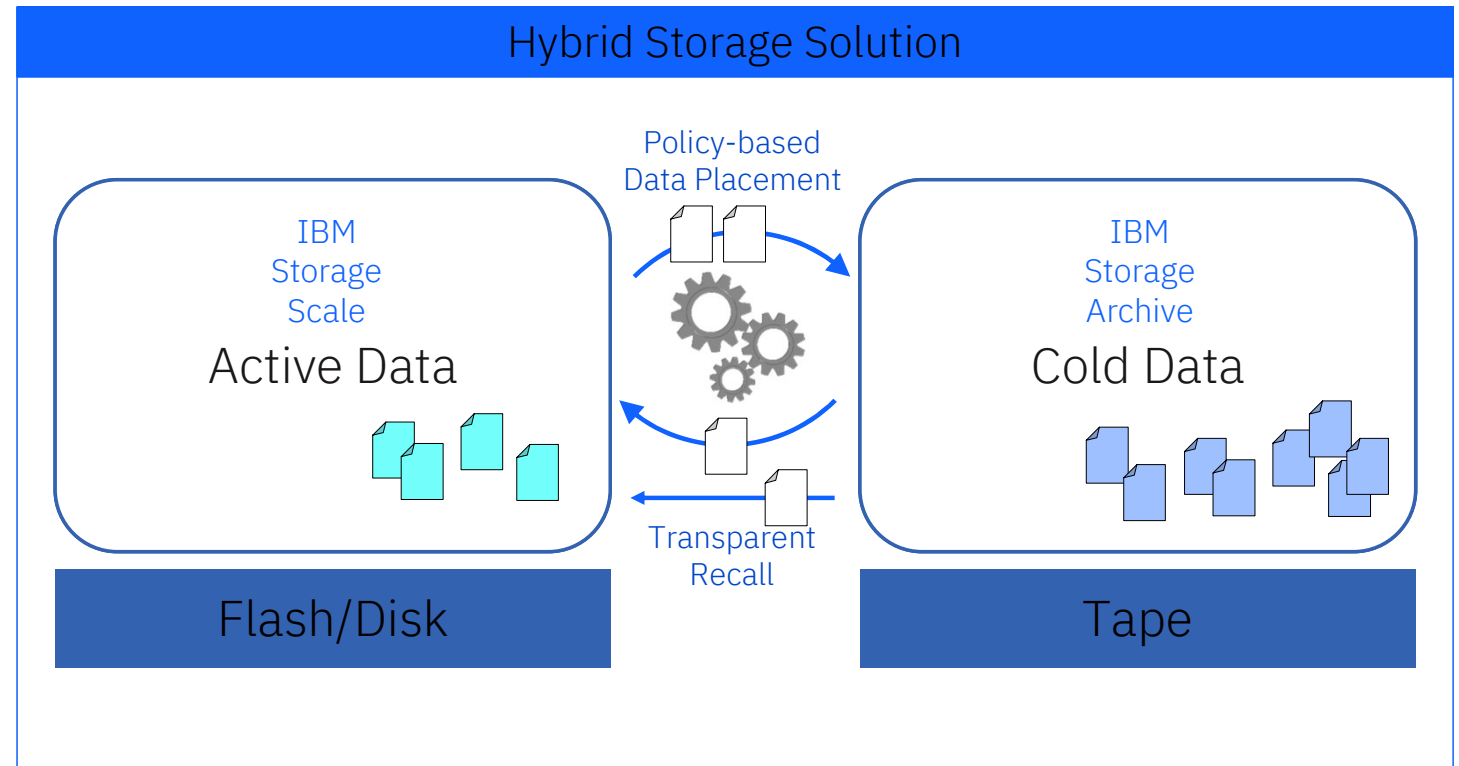
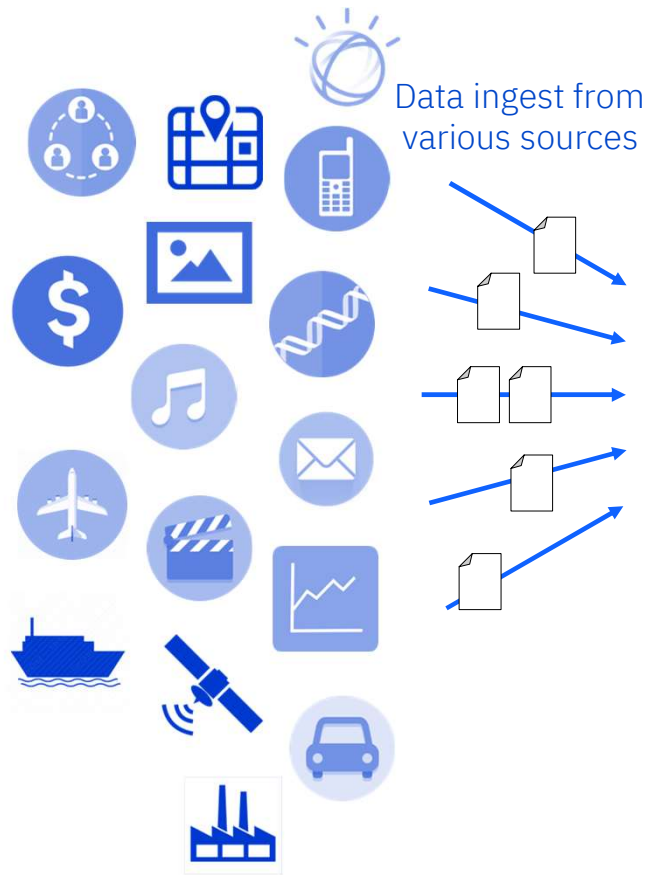


Files on tape are directly accessible from explorer

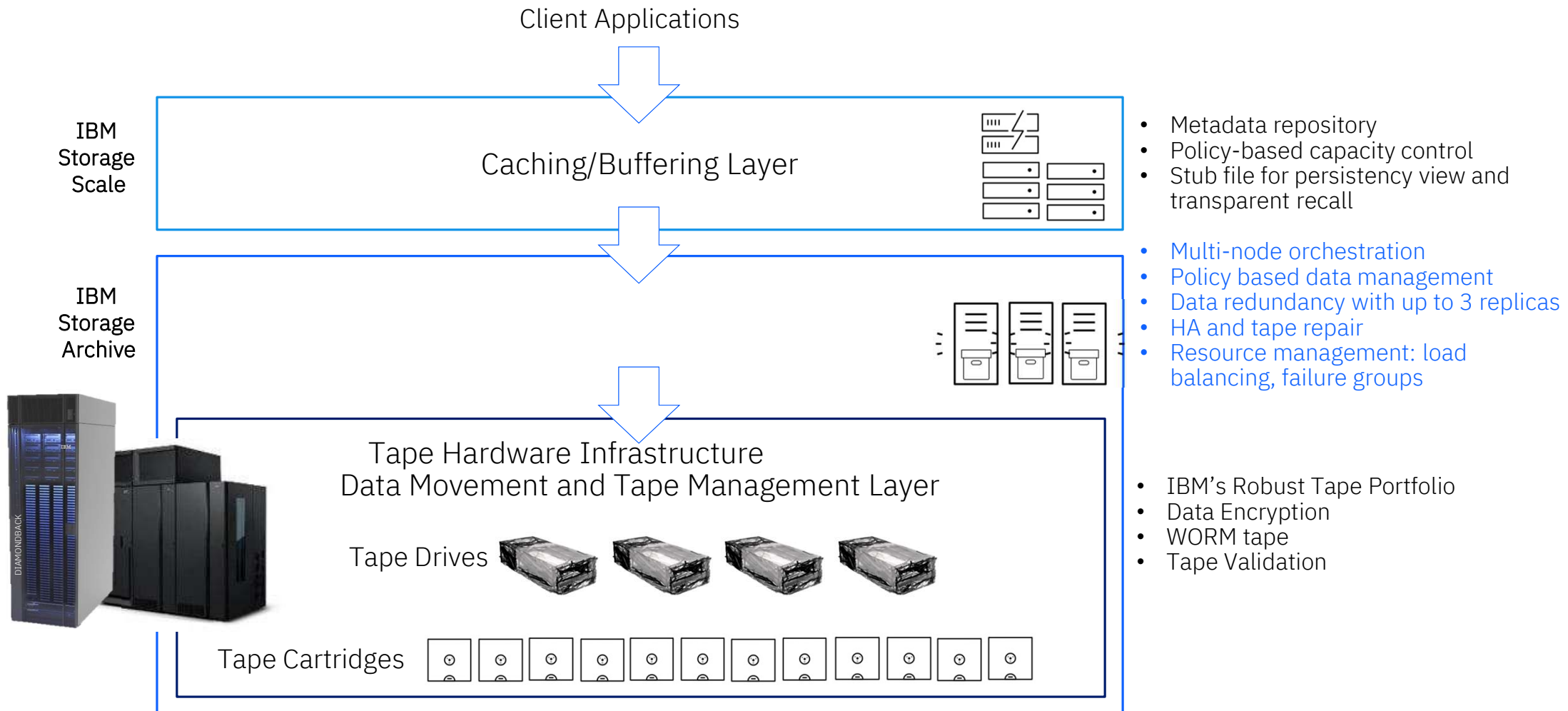
Tape in the library appear as directories in explorer

LTFS LE manages the library interface

Storage Economics: Right Place Right Time



Scalable Layered Architecture



IBM Storage Archive EE Components

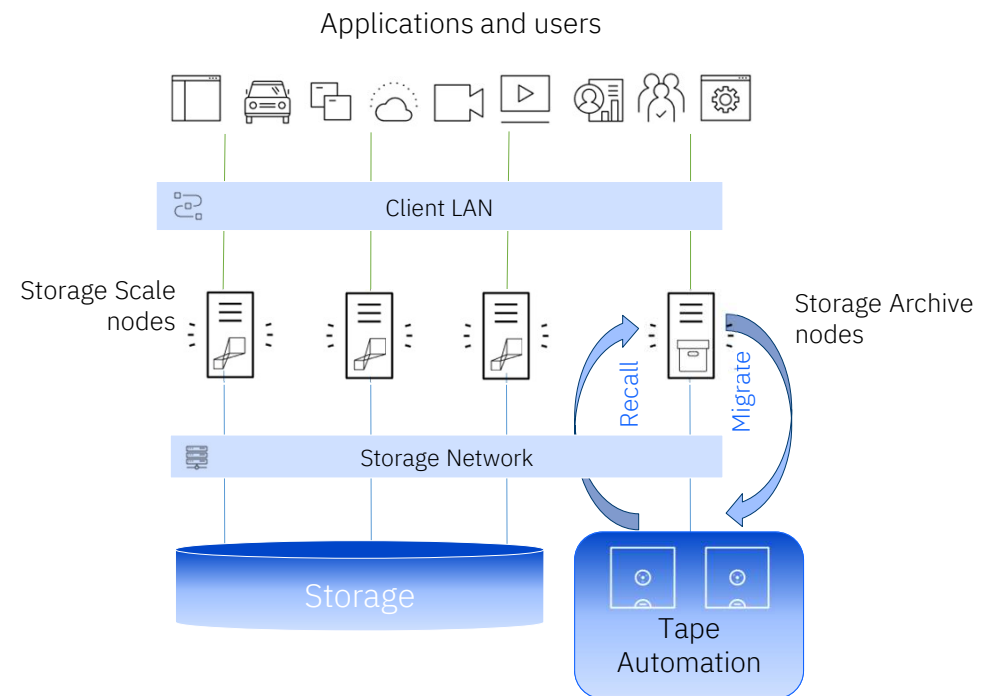
Hardware

- (x86) and IBM POWER server (ppc64le)
 - Storage Scale servers
 - Storage Archive servers
- Storage network
- Storage systems (Disk, ESS, Flash)
- Cluster network
- IBM Tape Systems
 - TS4500, IBM Diamondback, TS4300
 - LTO5 and greater, TS1140 and greater

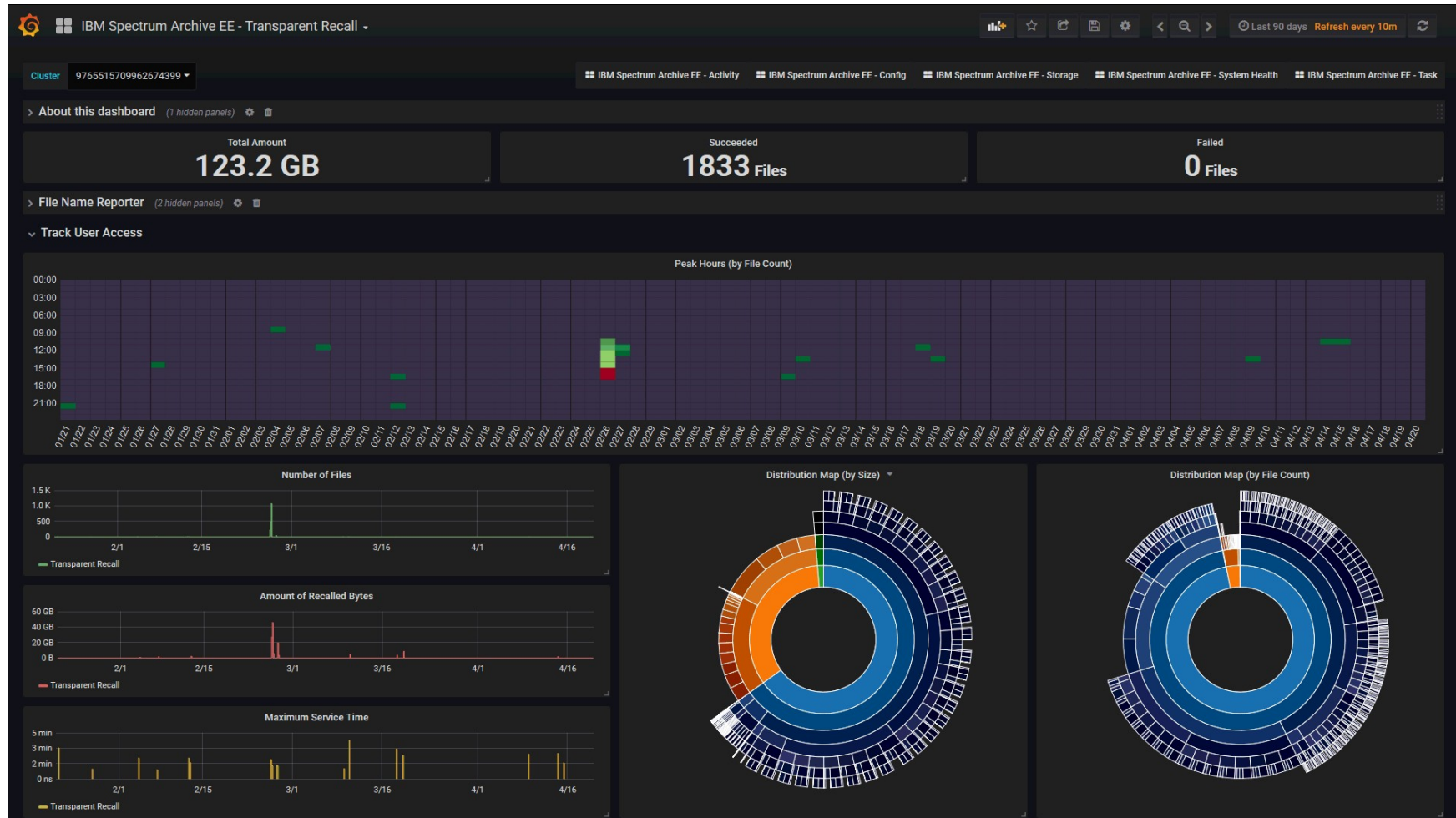
Software

- Operating system (RHEL)
- Storage Scale
- Storage Archive

Storage Archive can run on all or a subset of Storage Scale nodes



Track-User-Access APP on Grafana, for recall hotspot detection



Note: This GUI screen is illustrative purpose only, and the template and plugin won't be shipped with 1.3.0.7

