



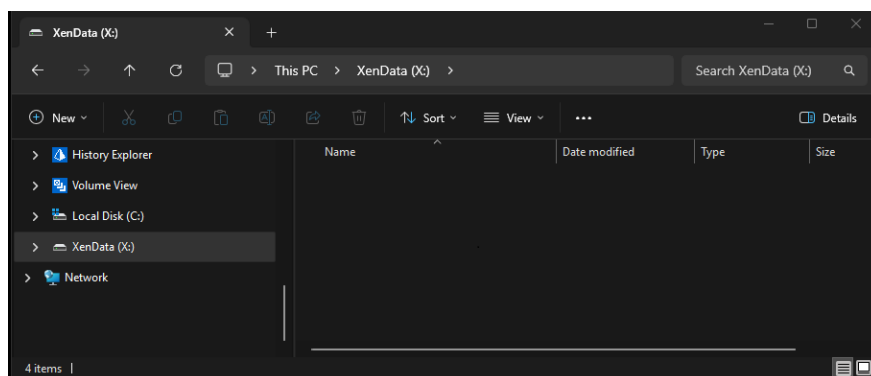
Polar-Arc 10 Archive Appliances

Multi-PetaByte Archive TAA Compliant Appliances



The Polar-Arc10 Appliance has one or two connected external LTO drives and may be used stand-alone or connected to your network. It manages an unlimited number of offline LTO cartridges, providing a cost-effective way to manage a highly scalable media archive.

The Polar-Arc10 runs a Windows 11 Pro operating system and presents the LTO archive locally as a single logical drive named X:. When the Polar-Arc10 is first installed, the X: drive is empty and then you create folders and write files, just like writing to a disk-based logical drive.



If you are connected to a network, you can create shares to make folders available across the LAN. The system adheres to the Microsoft security model based on Active Directory which means it is easy to add the Polar-Arc10 Appliance to an existing Domain or to a Workgroup.

Files and folders are easily restored from LTO. If a file is on a tape within the external LTO drive, simply read or copy the file, as though from a disk-based volume. There will be a delay before the file starts to transfer while the tape is wound to the beginning of the file. And, if you attempt to restore a file that is stored on an offline tape, your application will provide notifications saying that the file is not available and a XenData message will identify the name of the tape cartridge on which the file is stored.

Cartridge Formats: LTFS and TAR

Polar-Arc10 supports both LTFS (Linear Tape File System) and TAR (Tape ARchive) formats. These formats define how data is written to the tape. When configuring a new group of LTO cartridges, the user selects either TAR or LTFS format. In either case, the file restored from the system is identical to the original archived file. For example, if an MXF file is written to the archive, the same MXF will be restored.

The choice of cartridge file system format is important when transferring cartridges from one system to another. The LTFS format allows cartridges to be moved between systems created by different vendors. LTFS tapes written on other systems, including non-XenData systems, are easily imported into the Polar-Arc10 archive.

The Polar-Arc10 can also be used with unalterable WORM cartridges. TAR format is used cartridges as LTFS does not support WORM cartridges.

Highlighted Functionality

- ❖ Manages unlimited externalized LTO cartridges
- ❖ Mounts LTO archive as SMB share
- ❖ Automatically replicates LTO Cartridges
- ❖ LTFS or TAR Formats
- ❖ 4TB to 20 TB internal RAID1 cache
- ❖ Requires minimal operator intervention

Powered by Xen Data, the **Polar-Arc** Appliances are feature-rich LTO archives. The appliance is a small form factor desktop unit that connects to the LTO drives via SAS, Fibre Channel, or Ethernet cables and connects to the local network via 1 GbE or 10 GbE ports. It supports LTO libraries from a wide range of manufacturers including Dell, HPE, IBM, Magstor, Overland Storage, Qualstar, Quantum and Spectra Logic. Please refer to the XenData web site for a list of supported models.

The **Polar-Arc** server runs XenData Archive Series software on a Windows 11 PRO operating system. The managed files and folders are presented as a Windows logical drive letter. You can access the archive locally, as an SMB or NFS share or via FTP. Archiving to and restoring files from the archive is like writing to and reading from disk.

Functionality

Standard File System Interface

Polar-Arc accepts all file types. Files are written to and retrieved as though from a standard disk drive.

Standard Network Protocols

Optimized for SMB, NFS and FTP, as well as local file transfers.

LTFS and TAR

May be configured with LTFS or TAR format tape pools.

LTO Cartridge Replication

Automatically generates replica LTO cartridges that may be exported from the library for off-site retention.

Near-line and Offline LTO

Manages LTO cartridges in a library and an unlimited number of cartridges offline.

Alert Module

Provides e-mail and on-screen alerts, tailored to the needs of operators, system administrators and support.

SSD RAID Cache Enhances Performance

User defines disk caching policies can be tailored for different file types and folders.

Easy LTO Migration

Easy system upgrades, going from older to later generations.

LTO End-to-End Verification

Provides an automated check-sum operation for all data written to LTO.

LTO Cartridge Spanning

Can be set to allow or prevent files being spanned across multiple LTO cartridges.

Multiple Tape Pool Support

Allows groups of files to be allocated to specified groups of LTO cartridges.

Metadata Backup and Restore

Provides rapid system restore in case of server upgrade or rebuild.

Auto-Expansion of LTO Pools

Dynamically expands LTO cartridge pools to meet capacity demands, minimizing system administration.

Optimized Restores

Restores a queue of files in the shortest possible time. Restore requests are processed to minimize tape movement.

File Version Control

Provides comprehensive file version control. Deleted files and old file versions may be restored from LTO.

Partial File Restore

An XML interface is available with partial file restore (PFR) based on timecodes.

Cartridge Contents and Search Reports

Files contained on any cartridge, including offline, can be listed in a report. Search reports list all the files and their LTO cartridge barcode locations that match a filter.

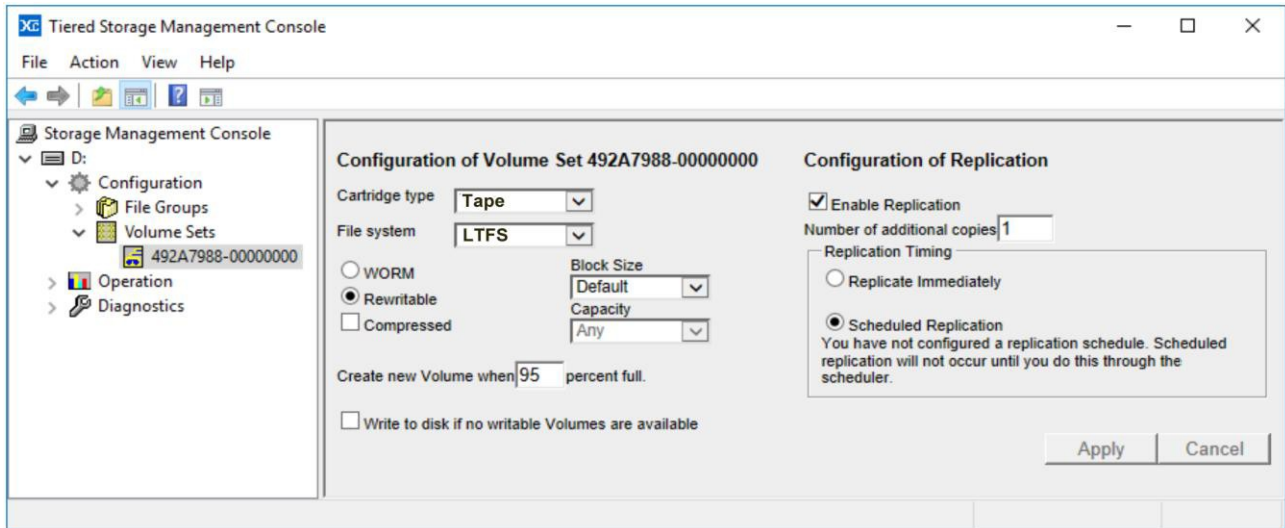
Automated Tiered Storage Management

Polar-Arc Servers support three levels of storage hierarchy:

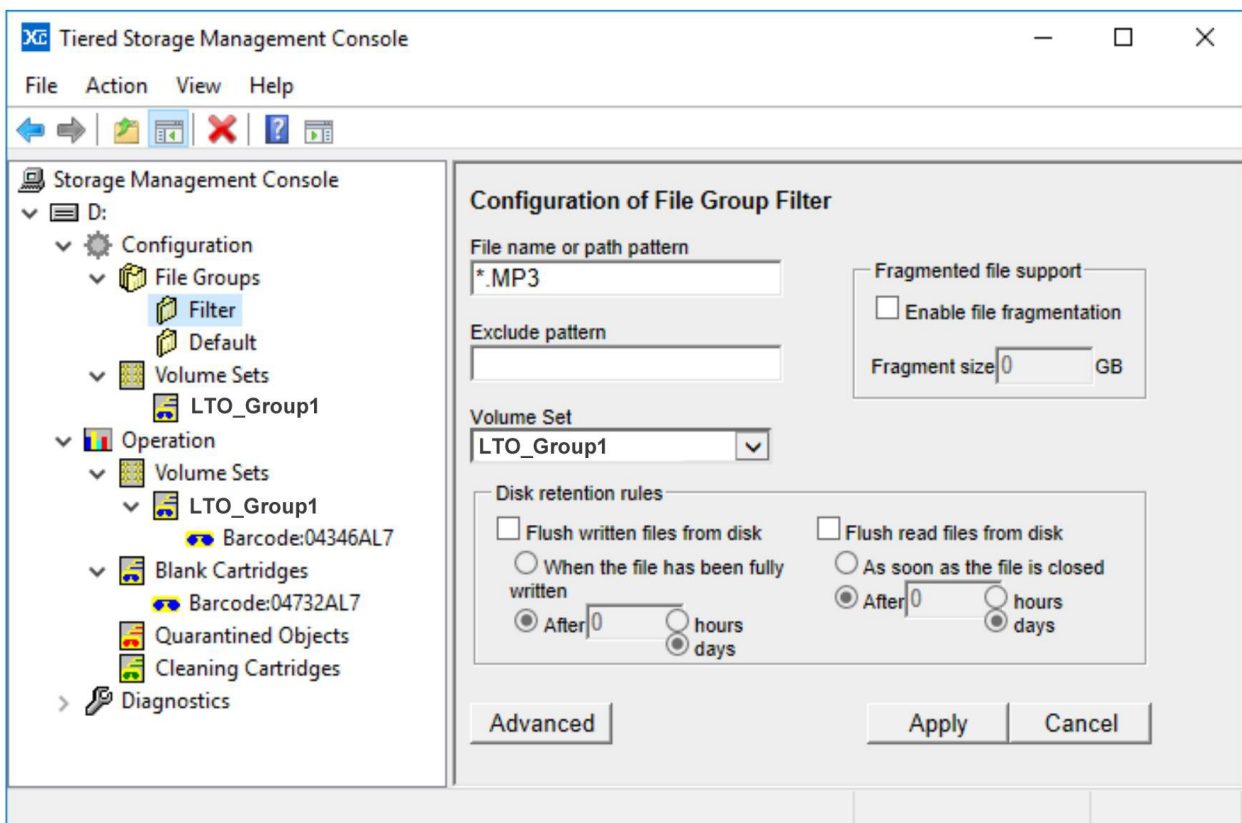
- ❖ **Online disk** with one instance of a file on the managed disk volume and, in addition, there will typically be one or more instances on LTO. In this case, the file will be retrieved from disk when accessed over the network.
- ❖ **Near-line LTO** with at least one instance of a file on an LTO cartridge within the drive and no instances on disk. When a file on near-line LTO is accessed over the network, the XenData software automatically transfers the file over the network directly from LTO in response to the network read request.
- ❖ **Offline** with no instances on disk and instances of a file on one or more LTO cartridges, all of which have been exported from the tape drive(s).

Defining Storage Policies

The Archive Series software provides a Tiered Storage Management Console which is used to define storage policies.



The LTO format, LTFS or TAR, is defined for the group of LTO cartridges, together with replication. The system can be configured to replicate LTO cartridges immediately or at a scheduled time.



The Tiered Storage Management Console is also used to perform many LTO cartridge management functions, including:

- ❖ Exporting cartridges from the drive(s)
- ❖ Write protecting cartridges
- ❖ Status and cartridge properties
- ❖ Management of cleaning cartridges
- ❖ Repacking cartridge contents, as described below

Migrate to Later LTO Generations

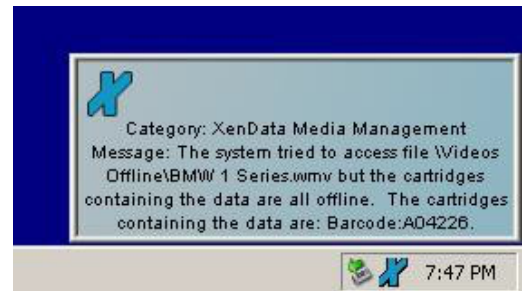
The repack operation may be performed using the Tiered Storage Management Console. This allows the contents of cartridges and groups of cartridges to be moved from one generation of LTO to another, for example from LTO-6 to LTO-9.

Other LTO archive solutions make the job of migrating to a later generation of LTO very difficult. But with XenData Archive Series software, it is a seamless background task.

Externalized LTO Management

The **Polar-Arc** server manages an unlimited number of LTO cartridges that have been externalized by being exported from the drive(s).

The software puts a message in the Windows Event Log and optionally sends an e-mail and/or on-screen message that identifies which LTO cartridges contain the requested file.



File Version Management

When an archived file is overwritten, the file system interface presents the latest version of the file and when a file is deleted, it is hidden from the file system interface. Unlike standard disk-based file systems, old versions of files and deleted files continue to be retained on LTO. The Polar-Arc software allows access to these deleted files and old file versions.

File Search and Cartridge Contents Reports

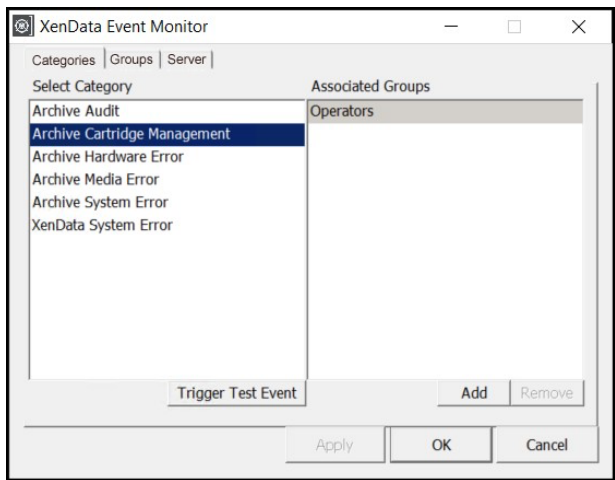
The Archive Series software allows the user to run reports including LTO cartridge contents and file search listings. Reports can be saved in different formats including tab delimited plain text (.txt) or XML.

A screenshot of the "Report Generator - [Report1]" window. The window displays a report titled "Report Type: Data Cartridge Contents" for "Cartridge: Barcode:04346AL6". The report shows "Showing: All Files", "Search Type: None", and "Sorted by: Date". The report is presented as a table with the following columns: No, File Name, Generation, Version, File Size (bytes), Date Archived, and Type. The table contains 8 rows of data, all with a "Current" type and a date of "Jan 03 2020 16:16".

No	File Name	Generation	Version	File Size (bytes)	Date Archived	Type
1	/Test/001/001.dat	0	1	10,485,760	Jan 03 2020 16:16	Current
2	/Test/001/002.dat	0	1	10,485,760	Jan 03 2020 16:16	Current
3	/Test/001/003.dat	0	1	10,485,760	Jan 03 2020 16:16	Current
4	/Test/001/004.dat	0	1	10,485,760	Jan 03 2020 16:16	Current
5	/Test/001/005.dat	0	1	10,485,760	Jan 03 2020 16:16	Current
6	/Test/001/006.dat	0	1	10,485,760	Jan 03 2020 16:16	Current
7	/Test/001/007.dat	0	1	10,485,760	Jan 03 2020 16:16	Current
8	/Test/001/008.dat	0	1	10,485,760	Jan 03 2020 16:16	Current

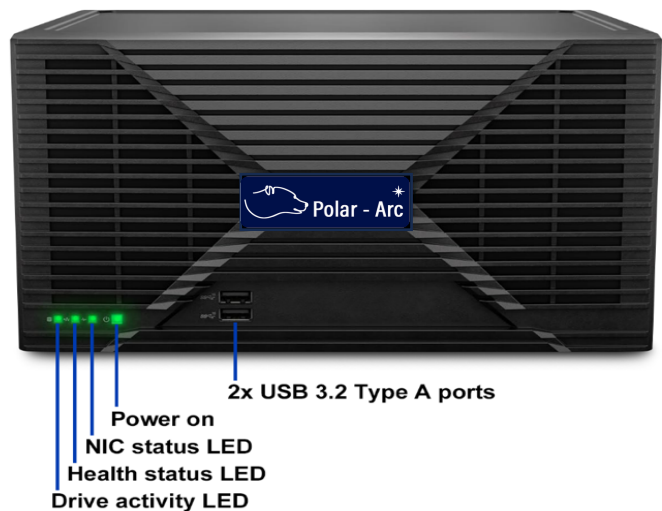
System Monitoring

The Archive Series software monitors error messages issued by the LTO drives and libraries, creating alerts and notifications which are logged in the Windows Event Log. The software includes an Alert Module which characterizes these alerts and notifications into five categories:

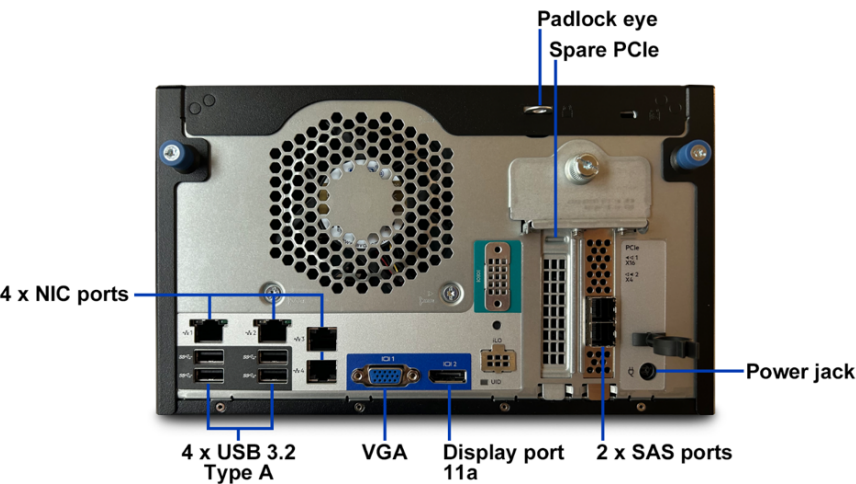


Connections

Front



Rear



Single Desktop LTO-7, LTO-8, LTO9 Tape Drives



Read/Write Speeds (Native) 300 MB/s

Built-in PSU, 100/240 VAC 50/60 Hz Auto-sensing

LTO-9 12G SAS with SFF-8644 Interface

LTO-8 6G SAS with SFF-8644 Interface (used for 12G HBAs)

LTO-7 6G SAS with SFF-8644 Interface (used for 12G HBAs)

TAA Compliant (drive made in Japan)

3 Year Warranty

259 x 204 x 68 mm (L x W x H) / 3.18 kg

Dual Desktop LTO-7, LTO-8, LTO9 Tape Drives



Read/Write Speeds (Native) 300 MB/s

Built-in PSU, 100/240 VAC 50/60 Hz Auto-sensing

LTO-9 12G SAS with SFF-8644 Interface

LTO-8 6G SAS with SFF-8644 Interface (used for 12G HBAs)

LTO-7 6G SAS with SFF-8644 Interface (used for 12G HBAs)

TAA Compliant (drive made in Japan)

3 Year Warranty

340 x 147 x 173mm (L x W x H) / 5.9kg

Single and Dual Rackmount LTO-7, LTO-8, LTO9 Tape Drives



Single and Dual LTO-7,-8,-9 Tape Drives
in a 1U enclosure with a SAS Interface
for use in 19" rack.

300 MB/s Read/Write Speeds

Power Supply 100/240 VAC 50/60 Hz, 300W auto

TAA Compliant (Tape Drives Made in Japan)

12G SAS SFF-8644 Interface

3 Year Warranty

Base Server Specification

Polar-Arc10-Series	
Management software:	XenData Archive Series, LTO Server Edition
Licensed number of external LTO drives:	1
Maximum number of external LTO drives	2 (requires a license upgrade)
Licensed number of external LTO cartridges:	Unlimited
Operating system:	Microsoft Windows 11, Professional Edition
Processor:	Pentium G7400 3.7 GHz 2-core processor
RAM:	16 GB
System disk:	500 GB SSD
Cache disk:	2 x 4TB - mirrored
Security	Embedded TPM (Trusted Platform Module) 2.0 support
SAS ports for connection to LTO drives	2 x SFF-8644 12 Gb/s
Network ethernet connection:	4 x RJ45 connector (1GbE)
USB connections:	2 x USB 3.2 gen 2 Type-A (front mounted) 4 x USB 3.2 gen 2 Type-A (rear mounted)
Display connection:	1 x Rear VGA port 1 x Rear DisplayPort 1.1a See Notes 1, 2
PCIe expansion slot	1 x PCIe Gen5 low-profile slot x16 See Note 3
Power:	180 W
Included power brick voltage range:	100 – 240 V
Dimensions (HxWxD):	6.06" x 10.28" x 9.82" (154 mm x 261 mm x 249 mm)
Operating Temperature	50 - 95°F (10°C - 35°C)
Weight:	14.5 lbs. (6.6 Kg)

1. When connecting two display devices to the VGA port and DisplayPort, the same image is shown on both displays.
2. Use active type HDMI or DVI adapters for the DisplayPort. Passive-type adapters are not supported.
3. The PCIe expansion slot is used when a 10 GbE upgrade is installed.

Upgrade Options

Hardware Upgrades

Upgrade Description	
Ethernet 10Gb 2-port BASE-T Adapter	
Ethernet 10Gb 2-port SFP+ Adapter - Optical transceivers not included.	
SFP+ 10 Gb/s LC Short Range Transceiver for insertion in SKU	
Upgrade of the XenData X10 software license to add support for an additional LTO drive.	
Upgrade to 2 x 8TB XenData Cache Disk	
Upgrade to 2 x 12TB XenData Cache Disk	
Upgrade to 2 x 20 TB XenData Cache Disk	

Contact Us

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