

Product Brief

X25-S V3 LTO Archive Appliance

Combines S3 Object Storage and File Interfaces



Core Functionality

- ✓ **Access as a network share or as S3 object storage**
- ✓ **Manages LTO libraries with up to 4 LTO SAS drives**
- ✓ **Create SMB or NFS network shares or S3 buckets**
- ✓ **S3 interface supports cloud workflows and creation of a private cloud**
- ✓ **Automatic cartridge replication**
- ✓ **Manages unlimited externalized LTO cartridges**
- ✓ **LTFS or TAR Formats**

The X25-S Appliance manages one or more LTO libraries to create a feature-rich on-premises archive which can be accessed simultaneously as a single highly scalable file system and as S3 object storage.

It is a 1 RU rack mounted unit that connects to one or more LTO libraries via SAS cables and to the local network via 1 GbE, 10 GbE or 25 GbE ports.

The X25-S runs XenData Archive Series software on a Windows Server 2025 operating system and includes a managed SSD cache with a 12 TB usable capacity. The SSD cache greatly enhances performance and allows the system to do more with less LTO drives.

Functionality

Standard File System Interface

The appliance accepts all file types and presents them in a single Windows file/folder structure. Files are written to and retrieved as though from a standard disk drive.

Standard Network Protocols

The archive may be accessed as SMB and NFS shares, as well as local file transfers.

S3 Object Storage Interface

Access as S3 object storage using HTTPS. This is ideal for secure remote access and object storage workflows.

LTFS and TAR

May be configured with tape pools using the LTFS or TAR format.

LTO Cartridge Replication

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

Manages Unlimited Offline LTO

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

SSD Enhances Performance

It provides high-performance caching and greatly enhances performance in a networked and multi-user environment.

End-to-End Verification

Provides an automated checksum operation for all data written to LTO.

Multiple Tape Pool Support

The software allows groups of files or objects to be allocated to specified groups of LTO cartridges.

LTO Cartridge Spanning

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

Auto-Expansion of LTO Pools

The system will dynamically expand LTO cartridge pools to meet capacity demands, minimizing system administration.

Optimized Restores

The system restores a queue of files/objects in the shortest possible time. The restore requests are processed in an order that minimizes unnecessary tape movement.

File Version Control

The software provides comprehensive file and object version control. Deleted and old versions may be restored from LTO. This enhances ransomware protection.

Supports WORM Tape

XenData systems support both standard rewritable cartridges and unalterable WORM cartridges.

Industry Standard File Security

The appliance runs a Windows Server 2025 operating system and integrates fully with the Microsoft Windows security model based on Active Directory.

Metadata Backup and Restore

Provides rapid system restore in case of rebuild after RAID failure.

Alert Module

A software module is included which provides e-mail and on-screen alerts. These are tailored to the needs of archive system operators, system administrators and IT support personnel.

Cartridge Contents and Search Reports

The files and objects contained on any cartridge, including offline cartridges, can be listed in a report. Additionally, search reports list all the files/objects and their LTO cartridge barcode locations that match a search term.

Easy LTO Migration

XenData archive software makes for easy system upgrades, going from an older to a later generation of LTO.

Access as a File System and as Object Storage

XenData V3 appliances may be accessed as a highly scalable file system and simultaneously as S3 object storage. The key concepts are as follows.

- ❖ **File System Interface:** This can be accessed as a single standard Windows logical drive letter which scales to 100+ PB and up to 2 billion files. Furthermore, it may be shared as standard SMB or NFS network shares with standard Windows permissions.
- ❖ **S3 Object Storage:** Any folder in the file system may be designated as an S3 bucket. An appliance administrator defines S3 users and assigns an access key and secret key to each user. He or she then assigns permissions for each user to the S3 buckets.
- ❖ **S3 Access via HTTPS:** The S3 object storage interface is accessed via HTTPS. And by adding an SSL certificate, the appliance can be securely accessed by remote users.
- ❖ **File and Object Equivalence:** Files and objects are equivalent. Like any file system, each file has a file name and a path. When it is treated as an S3 object, the object key (the official term for the name of an S3 object) consists of the same path and file name.

XenData V3 appliances combine file and object storage, allowing simultaneous usage. Even if you are only using file system access today, the S3 interface gives you a path for future object storage workflows.

SSD Enhances Performance

The appliance includes a 12 TB SSD which acts as a high-performance cache and provides an online disk storage tier. The SSD allows files and objects to be written to the system even when an LTO drive is not available as the files/objects will be cached on SSD until an LTO drive becomes available. It also means that the LTO drives are always prioritized for restore requests, as archive operations can always be buffered on the SSD cache.

Automated Tiered Storage Management

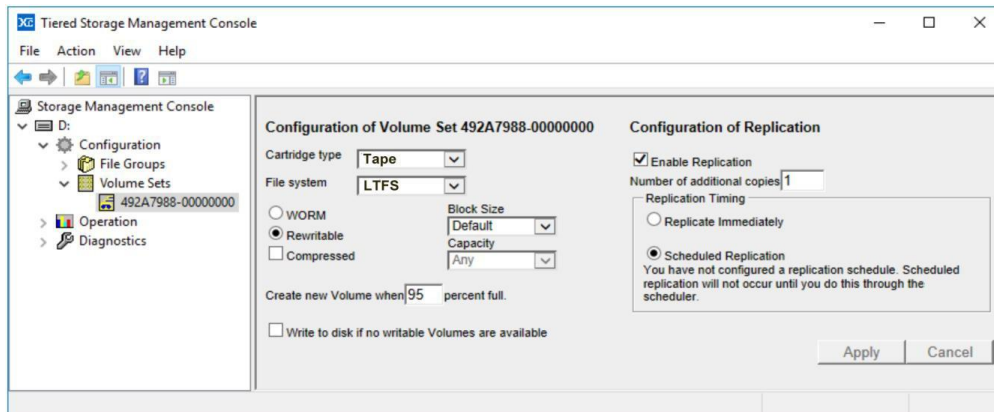
An appliance administrator defines policies that automatically determine where files/objects will be physically stored. These policies support tiered storage management and automatic LTO cartridge replication. The appliance supports three levels of storage hierarchy:

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

No matter where a file/object is held in the storage hierarchy, its position in the archive file/folder system or its object key (object name) does not change. When a file/object transitions from disk to nearline LTO and to offline LTO, the file path and name or object key do not change.

Automatic Cartridge Replication for Data Protection

The XenData software provides a Tiered Storage Management Console which is used to define storage policies. Using the console, automatic cartridge replication can be configured for any group of LTO cartridges. This is an easy way to create extra copies for export from the library. Exported replica cartridges may be held off-site retention which provides very cost-effective data protection.



Version Management Provides Ransomware Protection

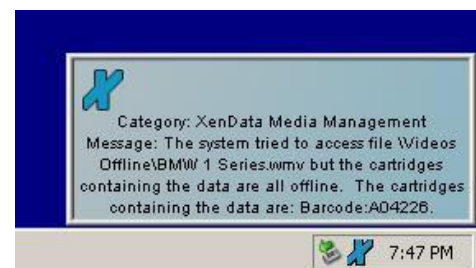
When an archived file or object is overwritten, the file system and S3 interfaces presents the latest version of the file/object and when a file or object is deleted, it is hidden from the file system and S3 interfaces. Unlike standard disk-based file systems, old versions and deleted files or objects continue to be retained on LTO. The XenData software allows access to these deleted and old file or object versions.

XenData version management has saved many organizations from ransomware attacks because the original file and object versions are available for restore – without paying a ransom!

Manage Unlimited Externalized LTO Cartridges

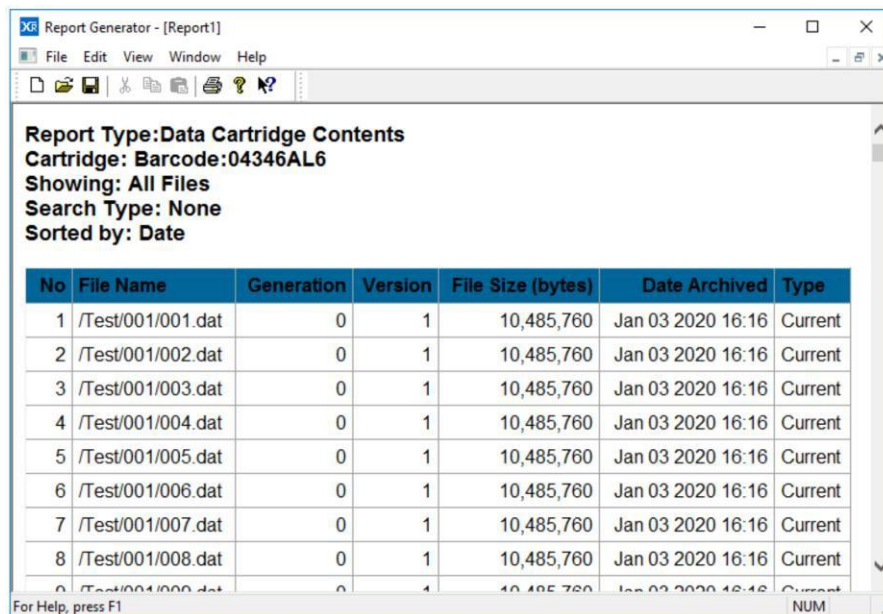
The appliance manages an unlimited number of LTO cartridges that have been externalized by being exported from the library. The XenData software is licensed to support an unlimited number of externalized cartridges.

When a file or object moves from nearline LTO to being offline because the LTO cartridge(s) on which it is stored have been exported from the tape library, the file/object remains unchanged in the archive file system. However, this is not the complete file or object; it is a representation which has the same attributes as the complete file/object, such as reported size, modification date, etc. When an offline file/object is accessed, the XenData 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/object. This notification allows the correct cartridge to be easily identified and then imported back into the LTO library.



Search and Cartridge Contents Reports

The XenData software allows the user to run reports including LTO cartridge contents and file/object search listings. Reports can be saved in different formats including tab delimited plain text (.txt) or XML. The text format is useful for exporting the results to Microsoft Excel or other applications.



The screenshot shows the 'Report Generator - [Report1]' window. It displays the following report details:

- Report Type: Data Cartridge Contents
- Cartridge: Barcode:04346AL6
- Showing: All Files
- Search Type: None
- Sorted by: Date

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
9	/Test/001/009.dat	0	1	10,485,760	Jan 03 2020 16:16	Current

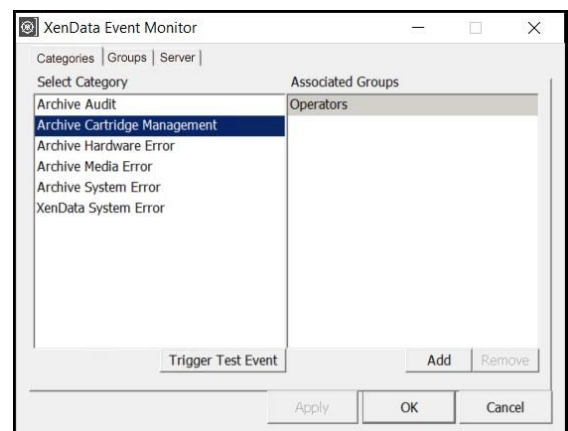
For Help, press F1

System Monitoring

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

- ❖ Archive Audit: This category of event messages describes the successful completion of routine operations.
- ❖ Archive Media Management: This category of event messages may require routine action from the archive operators.
- ❖ Archive Media Error: This event category consists of error messages associated with LTO cartridges.
- ❖ Archive Hardware Error: This event category consists of error messages associated with the LTO library and drives.
- ❖ Archive System Error: This event category consists of error messages associated with a system problem.

The XenData Alert Module provides email alerts to designated groups of recipients. The messages received by the different groups may be tailored to their specific needs. For example, operators may receive messages related to Archive Media Management, such as notifications related to management of externalized LTO cartridges. Whereas another group of support engineers may receive media, hardware and system error messages. In addition to sending email alerts, the system may be configured to provide on-screen notifications.



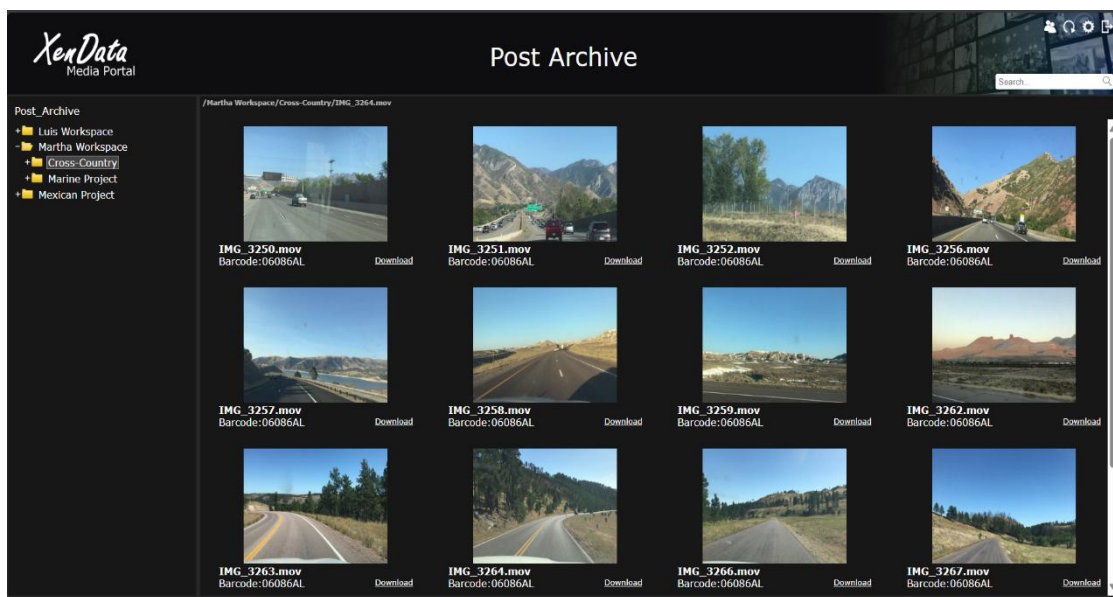
Easily Migrate to Later LTO Generations

The contents of cartridges and groups of cartridges can be automatically migrated from one generation of LTO to another, for example from LTO-6 to LTO-10. It is an operation that has zero downtime for the system. All the files stay in the same place in the file system but are moved from one generation of cartridges to another in background.

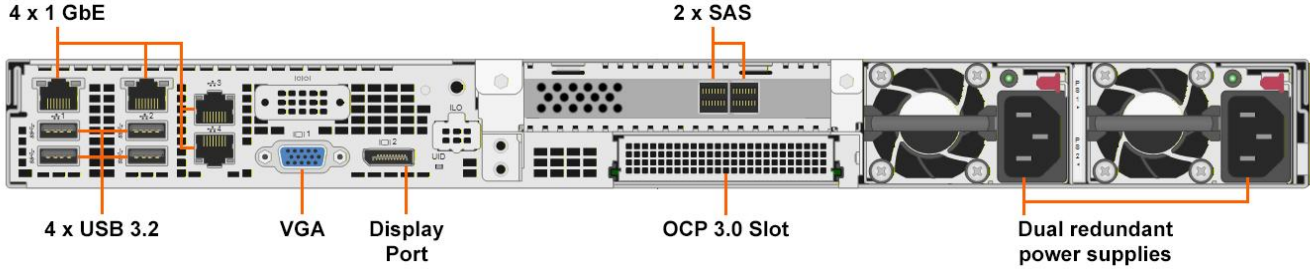
Other LTO archive solutions make the job of migrating to a later generation of LTO very difficult. But with XenData software, it is a seamless background task.

Media Portal Option

The XenData Media Portal option adds a web interface that can be accessed remotely or on-premises. It allows a user to browse the archive file-folder structure and see previews of video and image files and objects within the selected folder. An authorized user can also use the portal's web interface to download any selected file or object. By previewing, users can be sure that they are selecting the correct content before restoring.



Rear View



Base System Specification

XenData Part Number: 239283

Management Software:	XenData Archive Series, LTO Server Edition S3 Server Interface XenData Alert Module
Supported LTO library configuration:	A single LTO library with up to 25 active slots and one LTO drive is licensed in the base system. May be upgraded to support additional slots and up to 4 LTO drives.
Operating System:	Microsoft Server 2025
Processor:	4-core Xeon
RAM:	32 GB
System Volume:	480 GB SSD
Managed Local Disk Cache:	3 x 4 TB SSDs providing 12 TB usable capacity.
Connections to SAS library:	2 x SFF-8644 12 Gb/s SAS ports for connection to SAS LTO drives within the library. 1:2 fanout SAS cables may be used to connect to up to 4 SAS LTO drives.
Base Model Network Ports:	4 x 1 GbE ports
Network expansion slots:	OCP 3 at rear. See hardware upgrade options.
Network Protocols:	CIFS/SMB
USB Connections:	Four USB 3.2 in rear One USB 3.2 in front
Video Interfaces:	VGA and Display Port on rear
Spare PCIe slots.	None
Number of Power Supplies:	Two, providing dual redundant power supplies.
Power (per power supply):	US and International models: 100-240V; 50-60 Hz 500W EU and UK models: 200-240V; 50-60 Hz 800W
19 Inch Rack Form Factor:	1U
Depth	387 mm (15.25 inches)
Weight:	9.5 Kg (20.95 lbs)
Rack Rails:	Included

Upgrade Options

Software Upgrades

XenData Part Number	Description
XAS-25/50-LM	Perpetual software license upgrade for the X25-S to increase the number of LTO library slots from 25 to 50.
XAS-UPG-20-LM	Perpetual software license upgrade for the X25-S to support an additional 20 LTO library slots. Applicable above 50 slots.
XAS-DRIVE-LM	Perpetual software license upgrade for the X25-S increasing the number of supported LTO drives by one.
XAS-MP-LM	Perpetual software license for Media Portal.

Hardware Upgrades

XenData Part Number	Description
239017	Dual port 10 GbE Base-T network adapter for use with CAT6 or UTP cabling. Uses the OCP 3 slot.
239016	Dual port 10/25GbE SFP+ Adapter. Uses the OCP 3 slot. Does not include transceivers. (SKU 101081 or 101172) not included.
101081	SFP+ 10 GbE Transceiver. Quantity 2 required to use both ports in a dual port adapter. Suitable for use with item 239016.
101172	SFP28 25 GbE Transceiver (JL484A Compatible). Quantity 2 required to use both ports in a dual port adapter. Suitable for use with item 239016.

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