



# SXL-8 V2

## LTO-8 Archive System

*Eight cartridge library simplifies management of your offline files*



## Functionality

- ✓ Unlimited Offline LTO capacity
- ✓ 84 TB LTO Library capacity
- ✓ 2.4 TB – 18 TB Disk Cache
- ✓ File/folder Interface
- ✓ CIFS/SMB and FTP Network Protocols
- ✓ Writes to LTO in LTFS or TAR
- ✓ 6TB, 9TB (M8) & 12TB Cartridges
- ✓ Automatic LTO Tape Replication
- ✓ End to End Verification
- ✓ Optimized File Restores
- ✓ Supports Partial File Restores
- ✓ File and Folder Spanning
- ✓ Repack of LTO Tape Cartridges
- ✓ Tape Contents and File Search Reports
- ✓ E-mail Alerts and On-Screen Notifications
- ✓ Backed by Excellent Customer Support

## Overview

The SXL-8 LTO8 archive system includes a XenData SX-255 Archive Server and an eight-slot LTO-8 robotic library from Overland Storage. Seven of the slots are for LTO cartridges and the eighth is dedicated as a mail slot which allows convenient import and export of cartridges. In addition to the 7 cartridges within the library, the system will manage an unlimited number of offline cartridges. If file restores are infrequent, the SXL-8 is a very economical approach for managing large digital archives which can scale to many petabytes.

The SX-255 Archive Server runs a Windows 2012 R2 operating system and XenData Archive Series software. It has a 2.4 TB to 18 TB disk cache which is used intelligently to provide fast archive and restore operations. Archiving occurs at the speed of disk without any of the delays associated with the access time of LTO cartridges. Restoring multiple files is optimized in the system, as files are read from LTO in tape order, minimizing total tape movement.

The SXL-8 system has a network attached storage (NAS) architecture, connecting to the network via 1 GbE or 10 GbE. A choice of 10 GbE interface options is available. The SXL-8 can also connect to a SAN via fibre channel.

## Great Compatibility

Files are presented in a standard file/folder structure which is typically shared over the network. This means that the archive appears like disk. Files are transferred to and from the archive locally or using either the standard Windows network protocol (CIFS/SMB) or FTP file transfers. The system also provides an XML API which is used by many third party creative video applications.

These interface options mean that the system works directly with most applications. In addition, files may be archived and restored manually to a file-folder structure using Windows Explorer or FTP utilities.

# Key Functionality and Benefits

## Standard File Interface

The digital archive accepts all file types and presents them in a single Windows file/folder structure. Files are written to and retrieved from the archive as though from a standard disk-based volume or network share. **Benefit:** works with most applications natively.

## Disk Cache

The disk cache delivers high performance in a system that combines the access times of disk with all the dependability and cost-effectiveness of tape.

## LTO Cartridge Replication

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

## Standard Network Protocols

The solution is optimized for CIFS/SMB and FTP file transfers. Furthermore, it supports connectivity to a SAN. **Benefit:** works with the most common network protocols used in media and entertainment.

## Manages Near-line Disk, Near-line & Offline Tape

The administrator defines policies for disk caching that can be tailored for different file types and folders. **Benefit:** Frequently accessed files may be retained on disk.

## Supported Tape Formats

LTFS and TAR. **Benefit:** avoids proprietary formats and vendor lock-in.

## File Mover API

In addition to the file system interface, an XML driven API is available. The XML instructions include the ability to pull assets from and push assets to a specified location, the option to batch and prioritize jobs and obtain job

status. **Benefit:** easily allows applications to move files to and from the archive and provides a tight integration with the application.

## End to End Verification

A read head that follows the write head in the LTO drive is used to verify the data just written. **Benefit:** this provides an automated check-sum operation for all data written to LTO.

## Supports LTO Cartridge Spanning

The Administrator defined policies can be set to allow or prevent files being spanned across multiple LTO cartridges. **Benefit:** archive operations are not limited by the capacity of individual LTO cartridges unlike most basic LTFS systems.

## Dynamic Expansion of LTO Cartridge Groups

The system will dynamically expand LTO cartridge groups to meet capacity demands. **Benefit:** system runs automatically without need for administrator intervention.

## Optimized Restores

The system restores a queue of files in the shortest possible time. The restore requests are processed in an order that minimizes unnecessary tape movement. **Benefit:** greatly decreases total restore time when restoring multiple small files.

## File Version Control

The software provides comprehensive file version control. **Benefit:** deleted files and old file versions may be restored from LTO (unless the files have been purged using a repack operation).

## Partial File Restore

The XenData XML interface is available with partial file restore (PFR) based on timecodes. In addition, the

XenData file system interface supports PFR based on byte offset.

## Easy Migration from One Generation of LTO to Another

Repack function allows seamless migration from one LTO generation to another.

## Metadata Backup and Restore

A file system metadata backup and restore utility is provided. **Benefit:** rapid system restore in case of rebuild after disk failure.

## Alert Module

A software module is included which provides e-mail and on-screen alerts. **Benefit:** ideal for cartridge management and instant notification of any problems.

## Cartridge Contents and Search Reports

The files contained on any cartridge, including offline cartridges, can be listed in a report. Additionally, search reports list all the files and their LTO cartridge barcode locations that match a user-defined search term. **Benefit:** useful archive management tool.

## Cloud File Gateway

Allows files to be stored on Azure Blob storage as an alternative to LTO. This may be used to share files with remote sites and to move files instantly offline for data protection purposes.

## Industry Standard File Security

The appliance runs Windows Server 2012 R2 Standard Edition and integrates fully with the Microsoft Windows security model based on Active Directory. **Benefit:** easy integration into an existing Windows environment.

# Cartridge Compatibility

## LTFS and TAR

The archive system supports both LTFS (Linear Tape File System) and TAR (Tape ARchive) cartridge file system formats. These formats define how data is written to the tape: LTFS and TAR use different data structures for the file data and file system metadata that are written to tape. When configuring a group of LTO cartridges, the administrator selects either TAR or LTFS as the cartridge file system 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 was developed by IBM and announced in 2010. Since then, it has been widely adopted, making it an exchange standard which allows cartridges to be moved between systems created by different vendors.

## Compatible with LTO-8 and LTO-7 Cartridges

The archive system is compatible with LTO-8 and LTO-7 cartridges, and provides capacities per cartridge from 6 TB to 12 TB:

**12 TB** – write/read compatible with LTO-8 rewritable cartridges that have a native capacity of 12 TB.

**9 TB** – write/read compatible with LTO-7 rewritable cartridges which have been formatted using the LTO-8 SXL-8 system or another LTO-8 drive to provide 9 TB of native capacity.

**6 TB** – write/read compatible with LTO-7 rewritable cartridges which have been formatted using an LTO-7 or LTO-8 drive to provide 6 TB of native capacity.

### Notes

1. Quoted capacities are without compression. When using compressible files, the capacities typically increase by X 2.5 per cartridge.
2. 1 TB equals 1 x 10E12 bytes.

# Archive System Management

## Easy Management of Offline Files and LTO Cartridges

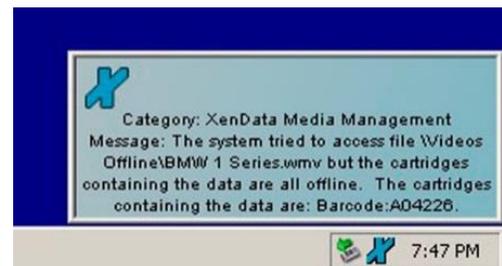
The archive system manages an unlimited number of LTO cartridges that have been taken entirely offline. This means that the capacity of the archive effectively becomes infinite. It also means that operator intervention is required to move LTO cartridges from the shelf to the autoloader when there is a need to restore an offline file.

When a file is taken offline by exporting all the LTO cartridges that contain that file, it continues to be shown in the archive file/folder structure. However, this is not the complete file; it is a sparse file which has the same attributes as the complete file, such as reported size, modification date, etc. When an offline file is accessed by a program, a message is returned immediately that identifies that the file is not available. Also, 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. This notification allows the correct cartridge to be easily identified and then imported back into the LTO library. The file will then be automatically restored when the read request is retried.

The system includes a plug-in to Windows Explorer and a report generator which allow display of the physical storage locations of any version of any file. These are particularly useful for managing offline files.

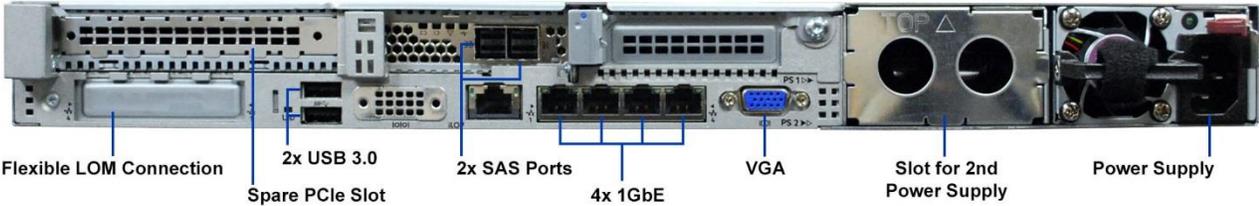
## Automatic Operation

The autoloader minimizes the need for operator intervention when compared to a system with external LTO drives. When blank cartridges are available within the autoloader, the system will automatically initialize and use these when cartridges become full. If automatic LTO cartridge replication is used, the system can be scheduled to update replica cartridges over-night to minimize unnecessary cartridge swaps. When operator intervention is required to exchange full LTO tapes for new blank cartridges, the system will issue email alerts.

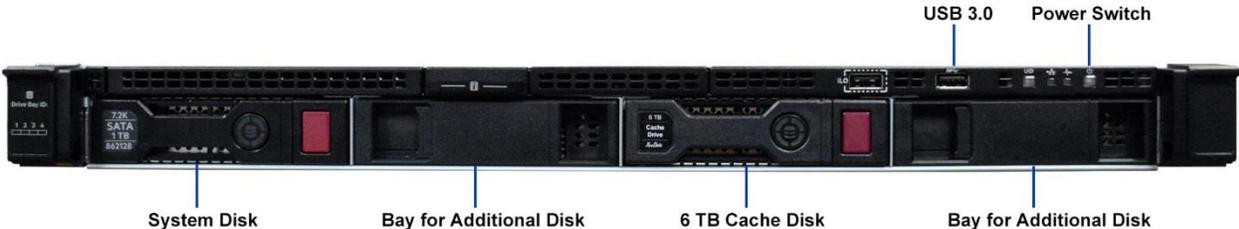


# Server Connections

Connections to the rear of the SX-255 archive server are shown below:



The front of the SX-255 includes a USB 3.0 connection, shown below:



# LTO Autoloader Front Panel

The front of the LTO-8 autoloader includes a mail slot which allows convenient import and export of LTO cartridges, one at a time:



# Specifications

## LTO-8 Library

Library Type:	Overland Storage NEOs StorageLoader
Tape drive type:	IBM LTO-8 half-height
Drive interface:	SFF-8088 connection; 6 Gb/s SAS - 2m cable for connection to SX-255 is included
Transfer rate – writing and reading:	300 Mbytes/s native
Number of tape drives:	1
Number of cartridge slots:	7
Number of mail slots:	1
Barcode reader:	Included
Interface to Medium Changer:	ADI
Mean Swaps Between Failures:	2 million robot load/unload cycles
<b>Electrical</b>	
Number of power supplies:	1
Voltage:	100-240VAC; 50-60Hz
Power:	110W max
<b>Dimensions &amp; Weight</b>	
Rack form factor:	1U, 31.9 inches (809 mm) deep
Weight:	25.4 lbs (11.5 Kg)
Dimensions (HxWxD):	1.7" x 19.0" x 31.9" (44mm x 482mm x 809mm)
Rack Rails:	Included

# Specifications

## SX-255 Archive Server

Management software:	XenData Archive Series, LTO Edition and Cloud File Gateway Extension
Operating system:	Microsoft Windows Server 2012 R2 Standard Edition
Processor:	Intel® Xeon® 6-core processor
RAM:	32 GB
System disk:	1 TB SATA 7,200 rpm
Cache disk:	6 TB SATA 7,200 rpm
Network connections:	4 x RJ45 connectors; 1000BASE-T, 100-BASE-TX, 10BASE-T,
USB connections:	2 x USB 3.0 (rear mounted); 1 USB 3.0 (front mounted)
SAS connections to library:	2 x SFF-8644 Mini-SAS-HD connectors; 12 Gb/s SAS
Spare PCIe slots:	1
Number of power supplies:	1 (Optional 2 <sup>nd</sup> power supply available)
Power:	100-240V; 50-60 Hz; 6.2-4.1 Amp max
Operation temperature / humidity:	50-95°F (10-35°C) / 8-90% non-condensing
Form factor / Dimensions (HxWxD):	1U / 1.69" x 17.11" x 29.5" (4.29 cm x 43.46 x 74.98 cm)
Weight:	30.36 lbs (13.77 Kg) – 37 lbs (16.78 Kg)
Rack rails:	Included

# SXL-8 Upgrade Options

XenData SKU	Description
	<b>Connectivity Options</b>
101092	Dual port 10 GbE SFP+ Flexible LOM network adapter pre-installed in SX-255. Optical transceivers (SKU 101081) not included.
101093	Dual port 10 GbE Flexible LOM network adapter for use with CAT6 or UTP cabling pre-installed in SX-255.
101081	SFP+ 10 Gb/s LC Short Range Transceiver for insertion in SKU 101092. Quantity 2 required to use both ports in the adapter.
101023	Fibre Channel adapter pre-installed in SX-255 for FC SAN connectivity. Provides two 8 Gb/s FC ports with LC type connectors. Uses the spare PCIe slot.
	<b>Redundancy Options</b>
107320	Additional power supply for SX-255, providing redundancy.
222850	Disk Redundancy Upgrade. Includes an additional 6TB cache disk and system disk which are pre-installed and configured as mirror disks.
	<b>Performance Options</b>
222056	SX-255 Disk Cache Upgrade. Includes an additional 6TB cache disk pre-installed and configured in RAID 0 (striped), taking the cache capacity to 12 TB.
222057	SX-255 Disk Cache Upgrade. Includes two additional 6TB cache disks pre-installed and configured in RAID 0 (striped), taking the cache capacity to 18 TB.
222077	SX-255 Disk Cache Upgrade. Replaces the 6 TB disk with three high endurance 800 GB SSDs in a RAID 0 configuration.

## Contact Us

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