

SOLUTION BRIEF

IP TAPE LIBRARY

SOLUTION OVERVIEW

The volume of data is growing exponentially, driven by the rapid adoption of AI, analytics, and connected technologies that continuously generate, collect, and process vast amounts of information. As data volumes continue to grow, organizations rely on tape libraries for cost-effective and long term data retention. However, traditional methods of integrating tape backups into modern, data-driven IT environments—especially those supporting AI and advanced analytics workflows—are increasingly cumbersome, leading to inefficiencies, higher costs, and reduced agility in data protection and lifecycle management.

Ethernet connectivity delivers the flexibility and standardization required for operating modern data centers. LTZero's IP Tape Library consists of an IP Bridging Module which delivers a reliable and robust iSCSI-to-SAS bridge solution designed to seamlessly integrate tape libraries into Ethernet-based environments. This intelligent bridging architecture allows up to four servers to connect to as many as four SAS-based tape drives over standard IP networks, presenting the tape drives as native iSCSI targets. This enables efficient backups, restores, and data migrations—even across long distances—using existing Ethernet infrastructure. For scalability, multiple bridge modules can be stacked to support additional servers and drives as storage demands grow.

Solution Benefits

Flexibility to Tape Connectivity

A Direct Attached SAS tape drive offers limited flexibility. The iSCSI-to-SAS bridge overcomes these limitations by allowing multiple servers to share a tape library and eliminating single points of failure and performance bottlenecks. This approach allows data centers to reduce risk and streamline backup workflows, with redundant sources collaborating efficiently on backups, restores, and data migrations.

Networked Tape Efficiency

Leverage the economic benefits of SAS tape storage while realising the shareability, scalability and remote connection capabilities of networked tape storage.

Extending Tape for Virtual and Hyperconverged Infrastructures

Organizations of all sizes increasingly rely on server virtualization to support diverse applications and services. However, most virtualization apps do not support direct path IO to allow tape drives to be connected directly to Hypervisors. Multiple separate backup and tape servers must be added to manage backups. This adds cost, power, cooling, licenses, rack space, and IT resources.

Instead, the IP Bridging module can be used to connect the LTZERO tape drives to the Ethernet network that runs across the Hypervisors. Provision virtual machines to manage backup operations across the network. In the event of a VM migration to another physical hypervisor, secure connections to bridges and tape drives remain persistent.

As infrastructure demands increase, additional bridges, tape libraries, and virtual machines can be easily scaled and integrated.

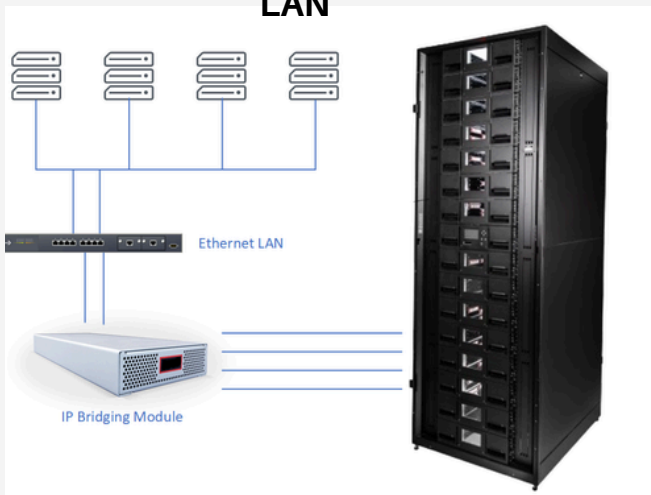
Long Distance backups/restores

IP tape libraries are connected to the network, allowing remote data access from multiple locations without the need for physical proximity. This scalability is crucial for organizations with geographically dispersed data centers or branch offices.

Improve Infrastructure Standardisation

IP Tape library use standard network infrastructure eliminating the need for multiple different network setup. The libraries support drive- level encryption, ensuring data is securely written and stored. It also offers air gap capabilities to ensure safety and protection of data.

TAPE Storage Connectivity over LAN



IP Tape Library allows remote connections to SAS tape drives over standard Ethernet networks using iSCSI protocols. Enhancing infrastructure sharing while retaining direct-attach performance. This allows server resources to be installed at remote locations, extending the reach of tape libraries.

Easily map tape drives to one or more hosts - and remap if necessary due to failures or maintenance downtime using a command line interface or the web based management console. The tape drives respond as if directly connected to the hosts.



IP Bridging Module Back Plane

IP Bridge Specs	
Protocol	10Gb iSCSI
SAS devices supported	4 SAS Tape Drives
Max. performance	2000 MB/s
Form factor	9.4" L x 4" W x 1.75"H
Input Connections	Optical SFP+
Output Connectors	One 12 Gb SAS x4 fanout

USE CASES

- Edge Data Collection
- Remote Location
- Ethernet only DC
- Virtual Environments
- HPC
- M&E
- Hyperconverged
- Data Protection
- Finance