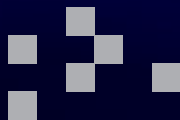


MIDRANGE LTO LIBRARY

GrowthDR™





THE BIG PICTURE

- One or two drives with 30 cartridge slots.
- Capacity: 6TB native (12TB compressed).
- Speed: 252GB/hour native (504GB/hour compressed).
- Growth: modular design up to 8 library modules.
- Mirrored Backup: supports disaster recovery.
- Backup Consolidation: supports two servers.
- Off-line copy with no penalty.
- Field upgrade from one to two drives.
- LTO-2 is read compatible to LTO-1.
- Roadmap to LTO-3 and LTO-4.
- LTO range: single drive to enterprise-wide libraries.
- Supports LVD, HVD, and FC connections.

GST's Midrange LTO Library is part of our GrowthDR™ family. The mid-sized library uses LTO-2 tape technology to provide 6TB native (12TB compressed) of automated unattended backup. Growth capability allows for expansion from one to eight library modules. A variety of unique capabilities not found in other tape backup systems include: Virtual Library Partitioning, Mirrored Backup and Off-line Copy.

The Midrange LTO Library holds up to two 15-cartridge magazines for a total capacity of 30 cartridges. Magazines facilitate organizing tapes for off-site storage. Magazines can be used in a 7- or 10-day tape rotation procedure, allowing a full week or more of unattended backup. Each Single-drive model of the Midrange LTO Library is field-upgradeable to two drives and can be configured with Mirrored Backup capability for improved disaster recovery or with Virtual Library Partitioning for backup consolidation.

This library supports a wide variety of servers. They connect natively with LVD (low voltage differential) and HVD (high voltage differential) SCSI connections, and with FC (Fibre Channel).

MODEL OVERVIEW

GST's Midrange LTO Library is available in a wide variety of desktop and rackmount models. Library configurations for four different functions are available in three types of SCSI or Fibre Channel interfaces.

Listed below are the four different functional configurations:

Single-Drive Library. Automated unattended backup for one server. One drive, 30 cartridges.

Two-Drive Library. Designed for one server; permits separate backup jobs to run simultaneously on each drive. Two drives, 30 cartridges allocated as needed.

Mirrored Library. Designed for one server; produces identical backup sets simultaneously; supports Disaster Recovery. Two drives, 30 cartridges (15 per drive).

Virtual Library. Designed for backing up two servers per module. Two drives: 30 cartridges allocated as needed.

LTO TECHNOLOGY

Native capacities for LTO-2 are 200GB (400GB compressed) with speeds of 108GB/hour (216GB/hour compressed). A 4-generation roadmap provides for a native capacity of 800GB per cartridge (1.6TB compressed) and a transfer rate of up to 576GB/hour (1,152GB/hour compressed).

Cartridges use linear (serpentine) tape format providing fewer moving parts, durability and reduced maintenance costs. The version of LTO technology that GST uses is best suited for high-capacity backup, restore and archiving. Enhancements in the areas of timing-based servos, hardware data compression, optimized track layouts and ECC error correction help improve capacities, performance and reliability.

KEY BENEFITS

Growth – The number of drives and cartridge slots can be scaled in 6TB increments using one to eight library modules. Each module is available in a variety of configurations, providing a high degree of granularity. A single module is a complete 6TB native (12TB compressed) midrange library; it scales to 48TB native (96TB compressed) when all eight modules are integrated together to function as one Midrange LTO Library.

Hardware Investment Protection – Upgrade paths, expansion from one to eight library modules, installing additional tape drives, competitive pricing and granularity of expansion options all contribute to strong economics for the Midrange LTO Library.

Backup Consolidation – Backups can be consolidated with GST's Virtual Library Partitioning that partitions a multiple-drive library to backup two different hosts or LPARs within a single tape library.

Improved DR – GST's Mirrored Backup function produces simultaneous sets of identical backup cartridges with no performance degradation and no software overhead; this provides off-site storage of one set to facilitate disaster recovery and a second set kept on-site for rapid restore.

Fault-tolerant Backup and Restore – In the event of a drive failure within a mirrored module, the second drive will continue to operate, ensuring the backup is completed successfully.

Media Investment Protection – LTO-2 is backward-read compatible to LTO-1, and forward-read compatible to future generations.

High Transfer Rates – LTO-2 native transfer rates up to 252GB/hour on Virtual Library models are increased to 504GB/hour with compression reducing time required for backups.

KEY FEATURES

Virtual Library Partitioning – Cartridge slots can be assigned to a particular drive so the Midrange LTO Library is divided into two partitions. Each partition can be assigned to a host server or LPAR; permits backup consolidation of two servers/partitions using one GST library.

LCD Display Panel – This multi-function LCD Display Panel continuously displays key drive, robotics and backup job conditions; operator controls are issued via a touch screen graphical interface.

Barcode Selective Restore – Barcode reader permits cartridge scanning and supports random access for selective restore from specified cartridges.

Intra-module Cartridge Handling – A separate Mailslot (IO slot) in each library permits importing and exporting individual tape cartridges under application control, for viewing cartridges by other drives in the same library or different modules, and for passing cartridges between modules.

Secure Cartridge Removal – Host-controlled lockable I/O Door prevents unauthorized inserting and removing of magazines; controls check that magazines have been inserted or removed when the I/O Door is opened.

Hardware Reliability – Automated media alignment, positive-pressure filtered air flow, brushless motors, self-calibrating digital servo controls, pre-wired tape drive mounting slots.

Convenient Drive Interface – RS232 interface on the GST Library Controller permits updating firmware and optimizing drive performance.

Field-Replaceable Unit (FRU) Design – Many Midrange LTO Library components are packaged in easily-installed FRUs requiring no wiring; Quick Swap drives, power supplies, controllers and robotics are easily installed and removed, simplifying field servicing.

Service and Support – A variety of support programs provide installation and onsite service; includes GST's Accelerated Ship Program (GASP) to get replacement units on the scene rapidly.

Warranty – Purchase price includes a built-in manufacturer's warranty of three years.

MIDRANGE LTO LIBRARY



SPECIFICATIONS	ONE DRIVE	TWO DRIVE	MIRRORED	VIRTUAL
Capacity				
Native	6 TB	6 TB	3 TB	up to 6 TB
Compressed ¹	12 TB	12 TB	6 TB	up to 12 TB
Sustained Transfer Rate - MB/s				
Native	35 MB/s	35 MB/s	35 MB/s	35 MB/s
Compressed ¹	70 MB/s	70 MB/s	70 MB/s	70 MB/s
Sustained Transfer Rate - GB/hr				
Native	126 GB/hr	126 GB/hr	126 GB/hr	252 GB/hr
Compressed ¹	252 GB/hr	252 GB/hr	252 GB/hr	504 GB/hr
Drives and Media				
Drive Type	LTO-2	LTO-2	LTO-2	LTO-2
Media	Ultrium 2	Ultrium 2	Ultrium 2	Ultrium 2
Module Configuration				
Number of Drives	1	2	2	2
Number of Cartridges	30	30	15	30
Magazines per Module	2	2	2	2
Slots per Magazine	15	15	15	15
Mail Slots	1	1	1	1
Server and Module Partitions				
Server Attachment	1	1	1	2
Module Partitions	1	1	1	2
Module Specifications				
Robotics MSBF	>2,000,000	>2,000,000	>2,000,000	>2,000,000
Physical Specs, Module Only				
Dimensions (H x W x D), Desk	8.75" x 17" x 32"	8.75" x 17" x 32"	8.75" x 17" x 32"	8.75" x 17" x 32"
Weight, Desk	65 lbs	65 lbs	65 lbs	65 lbs
Dimensions (H x W x D x U), Rack	8.75" x 17" x 32" x 5U	8.75" x 17" x 32" x 5U	8.75" x 17" x 32" x 5U	8.75" x 17" x 32" x 5U
Weight (unpopulated), Rack	65 lbs	65 lbs	65 lbs	65 lbs
Warranty	3 Years	3 Years	3 Years	3 Years

1. Compressed Capacity & Transfer Rate Assumes 2:1 Ratio.



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GST, Inc. engineers, manufactures, markets and sells a full line of innovative storage backup and restore products to meet today's need for high-performance, fail-safe reliability and cost-effective data storage. Products include single and dual tape subsystems, autoloaders, midrange tape libraries and modular enterprise-wide libraries. Complete information about the company, its products and support can be found at: www.gstinc.com