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HPE StoreEver MSL4048 Tape Libraries - Product Information Reference

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Abstract

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Revision history

Part number	Publication date	Edition	Summary of changes

Product features

Feature	Description
Key features	<ul style="list-style-type: none"> • Exceptional storage density: 1.44PB with an MSL4048 (2.5:1 Compression using LTO-8 tape cartridges) • Easy-to-use web-based remote management • Integrated bar code reader • Tool-free tape drive upgrades • Leverage tape drives in an MSL2024 or 4048 into an MSL3040 or 6480 for investment protection • User upgradeable redundant power supply in the MSL4048 • Multiple interface choices available (FC or SAS) • Removable magazines with user-configurable mail slots • Easy-to-enable AES 256-bit embedded hardware encryption with compression • Extensive OS and software compatibility testing • Proven high reliability • Achieve the highest level of encryption security to secure confidential business information while meeting compliance guidelines with the HPE 1/8 G2 and MSL encryption kit or KMIP 1.2 encryption key manager license • Proactively monitor utilization, operational performance, and overall life and health of the drives and media with Tape assure and Tape assure advanced
Drive technology supported	<ul style="list-style-type: none"> • LTO-8 Ultrium 30750 • LTO-7 Ultrium 15000 • LTO-6 Ultrium 6250 • LTO-5 Ultrium 3000
Maximum number of drives	4
Maximum capacity (2.5:1 compression)	1.44PB (LTO-8, 48 slots)
Maximum transfer rate (Native)	4.32 TB/hr (4 LTO-8 drives)
Drive interface	<ul style="list-style-type: none"> • 8Gb Native fibre channel • 6 Gb/s SAS

Feature	Description
HPE Command view for tape libraries	<p>HPE Command view for Tape Libraries Software (CVTL) is a single pane of glass management platform which allows users to manage, monitor and configure all of their tape libraries through a single console</p> <p>Key features include:</p> <ul style="list-style-type: none"> • View health summaries for the entire library environment • View library and autoloader utilization by slots, media, and drives • Search for media by barcode label • Upgrade firmware for all libraries in an entire library environment • View persistent event logs and drive support tickets for an entire library environment <p>Command view for Tape libraries is also the centralized location for Tape assure advance</p>
Tape assure advanced	<p>The HPE StoreEver MSL2024 and MSL4048 Tape Libraries are available with HPE StoreEver TapeAssure Advanced - Analytics software with automated, predictive monitoring of health and performance of tape drives and cartridges.</p> <p>please see the following URL: Click here to access "Compute".</p>
Easy installation	<p>The MSL Tape libraries are shipped as a rack-ready unit. The rack mount hardware included with the library allows installation in a variety of HPE Racks</p>
Partitioning	<ul style="list-style-type: none"> • The MSL tape libraries now include the ability to be configured as a partitioned library. MSL Libraries may be configured with up to one partition per drive; four partitions if four drives are installed • Partitioning allows each partitioned library to be presented to the host as an independent library, separate from other partitions in the library • Hosts for each partition own independent sets of media and can use ISV software that is different from the other partitions allowing maximum flexibility and utilization of the MSL library.

Feature	Description
LTO-7 Initialized LTO-8 type M media	<ul style="list-style-type: none"> • The MSL libraries support LTO-7 initialized LTO-8 type M media. • This is the ability of an LTO-8 drive to write 9TB (Native) on a brand new LTO-7 cartridge instead of 6TB (Native) as specified by the LTO-7 format. • LTO-7 Type M cartridges will be designated by an automation barcode label ending with the last 2 characters "M8". A standard 6TB LTO-7 cartridge is indicated with an automation barcode label ending in "L7". • An LTO-8 cartridge has a capacity of 12 TB (native), and is indicated with an automation barcode label ending in "L8". • Only unused LTO-7 cartridges may be initialized as LTO-7 Type M. Once a cartridge is initialized as Type M, it may not be changed back to a 6TB LTO-7 cartridge. Also, an LTO-7 Type M cartridge can only be written and read in an LTO-8 drive; LTO-7 drives are not capable of reading LTO-7 Type M cartridges. • LTO-7 Type M media supports existing LTO format features including data compression, encryption and partitioning enabling LTFS. LTO-7 Type M media is not supported on WORM cartridges.
Proven reliability	<ul style="list-style-type: none"> • With a rating of 2,000,000 robot load/unload cycles, the MSL Tape Libraries provides necessary high reliability for today's demanding environment. To improve reliability and longevity, all HPE Ultrium products feature Data Rate Matching (DRM). • This allows the tape drive to dynamically and continuously adjust the speed of the drive, to match the speed of the host or network. This increases performance, reduces mechanical wear on the tape drive and extends tape life.
Disaster recovery and security	<ul style="list-style-type: none"> • Removable media also has the advantage that data is held 'offline' which means that archive data on tape has the additional level of protection from the threats to on-line data from viruses, hackers and cyber-attacks. • LTO-8, 7 and 6 Ultrium tape drives include hardware based data encryption to prevent unauthorized access to data at rest and cartridges are available with write-once-read-many (WORM) capability to prevent accidental overwriting of data archived on the tape. • Both WORM and hardware data encryption features help organizations to comply with increased data security regulations.
Data encryption	<p>The HPE MSL Tape libraries offers multiple options for data encryption, depending on the requirements for policy, regulation, compliance, and centralized key management</p> <ul style="list-style-type: none"> • HPE 1/8 G2 and MSL encryption kit • KMIP <p><u>Click here to view more information on all supported key management servers.</u></p>

Feature	Description										
Service ability	Modular in design, the MSL Tape Libraries has easily replaceable components minimizing the Mean-Time-to-Repair on the unit. Replaceable components include the tape drive, the magazines, the power supply and the controller board										
LTO Ultrium technology	<ul style="list-style-type: none"> HPE Linear Tape Open (LTO) Ultrium Tape drives use best of breed technology. By taking the best features from other tape technologies and combining them into a single new technology, Ultrium tape drives are in a league of their own. LTO technology is an open industry standard format; thus data written on HPE Ultrium Tape Drives can be interchanged directly with Ultrium Tape Drives from other vendors. HPE LTO tape drives and automation products are founded on the LTO open standard and adhere to the published twelve-generation LTO format roadmap.. The LTO standard for backward compatibility up to generation seven is to write back one generation and read back two generations. Eighth-generation LTO Ultrium drives read and write LTO -7 and LTO-8 media. As part of the LTO open standard, all HPE tape drives and media offer the same standards of compatibility with tape drives and media manufactured by other LTO vendors. 										
DRM	<p>DRM combines sophisticated buffer management with variable tape drive motor speeds to match the tape drive transfer rate to the host output</p> <p>This feature ensures that the tape drive continues to stream data regardless of the environment, and brings three big advantages:</p> <ol style="list-style-type: none"> It optimizes performance and maximizes overall efficiency, allowing the drive to respond immediately to any data speed changes from the host It minimizes rewinding and repositioning of the tape, significantly reducing physical wear and increasing reliability It minimizes the power requirements for the drive by reducing the number of repositions needed <table> <tr> <th>LTO Ultrium tape drive</th><th>ATS data transfer rate range (Native)</th></tr> <tr> <td>HPE LTO-8 Ultrium 30750</td><td>101 to 300 MB/s</td></tr> <tr> <td>HPE LTO-7 Ultrium 15000</td><td>101 to 300 MB/s</td></tr> <tr> <td>HPE LTO-6 Ultrium 6250</td><td>54 to 160 MB/s</td></tr> <tr> <td>HPE LTO-5 Ultrium 3000</td><td>47 to 140 MB/s</td></tr> </table>	LTO Ultrium tape drive	ATS data transfer rate range (Native)	HPE LTO-8 Ultrium 30750	101 to 300 MB/s	HPE LTO-7 Ultrium 15000	101 to 300 MB/s	HPE LTO-6 Ultrium 6250	54 to 160 MB/s	HPE LTO-5 Ultrium 3000	47 to 140 MB/s
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HPE Ultrium WORM ¹	<p>Critical to the success of data retention policies in highly regulated environments is the ability to store and manage data in an unalterable state. Every generation of LTO Ultrium since LTO-3 tape drives feature the ability to archive and store data in a read-only, non-rewriteable format that meets the most stringent regulatory guidelines. Using a combination of integrated fail-safe features in the drive firmware, cartridge memory, and tape formatting.</p> <p>LTO Ultrium provides the ability to archive large amounts of data for periods of up to 30 years in a secure, untampered state. Ultrium tape drives include support for both rewritable and WORM media providing for a secure, long-term archiving solution into any data protection strategy. LTO Ultrium WORM provides the following advantages:</p> <ul style="list-style-type: none"> • A single drive to support all backup and archiving needs. • Two distinctive tape cartridges to easily distinguish and manage both rewriteable and WORM data cartridges. • A specially designed WORM data cartridge with multiple integrated fail-safe features to prevent accidental or intentional overwriting of data. • High-capacity, low-cost HPE WORM media that can store up to 6.25 TB (2.5:1 compression) of data on a single data cartridge. • Support from many backup and archiving software vendors, providing the most comprehensive and mainstream support in the industry. • The LTO open standard that offers greater choice and compatibility across all third- and later generation Ultrium products.
Micro focus data protector software	<p>Micro Focus Data Protector software automates high performance backup and recovery, from disk or tape, over unlimited distances, to enable 24x7x365 business continuity and improve IT resource utilization</p> <p>Click here to view more information on Micro Focus Data Protector software.</p>
HPE Library and tape tools	<ul style="list-style-type: none"> • The MSL2024 Tape Library is supported with HPE Library and Tape Tools (L and TT). L and TT is a free diagnostic tool for all of HPE's tape storage products. • This robust diagnostic tool is designed for both the experienced professional and the untrained administrator, and it allows customers to verify the installation, ensure product reliability, perform diagnostics and achieve faster resolution of tape device issues. • L&TT performs firmware upgrades, verification of device operation, failure analysis and a range of utility functions. Performance tools assist in troubleshooting issues and system configuration checks warn of common host issues. It also provides seamless integration with HPE support by generating and e-mailing test results and support tickets. • HPE Support will require the use of L&TT to troubleshoot most device issues, so it is recommended that a support ticket is pulled and the device assessment test is run before calling.
HPE Storage media	<p>Hewlett Packard Enterprise branded LTO Ultrium cartridges are designed, manufactured and tested to provide outstanding reliability for backing up, archiving and restoring user data</p>

Feature	Description
Factory express portfolio for servers and storage	HPE Factory Express offers configuration, customization, integration and deployment services for HPE servers and storage products
Compatibility	<ul style="list-style-type: none"> Hewlett Packard Enterprise's extensive compatibility testing program assures that HPE MSL Tape Libraries work with leading servers, operating systems, and backup software applications - And not just those sold by Hewlett Packard Enterprise For the complete and latest list of servers, workstations, operating systems, and backup software that support the MSL tape libraries, reference the HPE Data Agile DAPR Compatibility Matrix (Formerly EBS) <p>Click here to access the HPE Data Availability, Protection and Retention Compatibility Matrix.</p>
Related Services	<p>HPE MSL Tape Libraries Installation and Startup</p> <p>Deployment of your HPE Midrange Storage Library (MSL) products in SAN environments:</p> <ul style="list-style-type: none"> System installation and setup by an Hewlett Packard Enterprise technical specialist Verification prior to installation that all service prerequisites are met Delivery of the service at a mutually scheduled convenient time Provides product installation according to the product specifications Offers deployment activities that are designed to bring the Fibre Channel-based tape library into operation Helps improve performance Makes the most of the value of the HPE MSL libraries in an IT environment by leveraging Hewlett Packard Enterprise knowledge in implementing Fibre Channel-based systems and solutions Helps reduce implementation-related disruptions in the IT environment Helps increase system reliability and provides more effective data management
eSupport	<p>HPE eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.</p> <p>Support Portal</p> <p>The Hewlett Packard Enterprise support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.</p> <p>Features include:</p> <ul style="list-style-type: none"> Access to self-solve tools (including search technical knowledge base) Efficient logging and tracking of support cases Collaboration with other business and IT professionals Download of patches and drivers Access to diagnostic tools Proactive notification of relevant information.

**NOTE**

1. While all HPE LTO-3 and later generations Ultrium tape drives support LTO Ultrium WORM media, some LTO Ultrium tape drives from other manufacturers may not include read and write support for LTO Ultrium WORM media. For non-HPE LTO Ultrium tape drives, please check the manufacturers' specifications to ensure this support is provided if users are using WORM media. If WORM support is not provided, the drive will eject the WORM tape cartridge immediately upon insertion into the tape drive