Hewlett Packard Enterprise

HPE T950 Tape Library

Are your data storage requirements outstripping your backup, disaster recovery and archive requirements? Proven by the largest data users in the world, the HPE T950 tape libraries deliver simplified management and scalability to create the ultimate solution for data preservation. The HPE T950 Tape Library provides powerful library management, superior and proactive data integrity administration, and the best total cost of ownership of any tape solution.

The HPE T950 tape library combines field-proven reliability with storage innovation and gives you access to a full suite of enterprise capabilities. Once data expands beyond the limits of the initial configuration, you simply add up to, 120 drives, and 10,020 LTO slots (7,614 enterprise slots) in a total of eight frames to keep pace with growing data demands. With a versatile BlueScale® software interface built-in, you have intelligent command, control and data integrity functionality at the touch of a screen. The HPE T950, with its compact footprint, is installed in some of the world's most prestigious organizations to meet their backup, archive and deep storage requirements.

Key features and benefits

High performance
- HPE T950 tape libraries are built with the highest performance achievable in automated tape technology. From robotics, to drives, to software, to media, all performance innovations are included in these libraries.

- The transporter has been designed with two primary goals in mind: performance and reliability. Performance is accomplished by reduced cycle or tape mount time and reliability is achieved by increased mean time between failures.

- The HPE T950 provides superior flexibility by supporting either LTO-6 and LTO-7 or TS11x0 tape technology, freeing organizations from vendor lock-in.

High capacity
- When data center real-estate counts, HPE T950 offers you unsurpassed storage density and the smallest footprint through a unique and highly efficient library design, providing more storage capacity in less floor space.

- Using innovative "shelves" instead of slots, and TeraPack® containers in place of individual cartridges; HPE T950 tape library uses 20% less floor space required versus competing offerings.

- The highly compact library design is also built to fit into a standard rack-row layout, fitting standardized data center designs that do not easily accommodate non-standard equipment. These significant space-saving benefits allow you to use floor space for operations other than storage.

- Only buy what you need today and add storage capacity as you need it. Upgrade capacity in intervals of 10 LTO or 9 Enterprise tape slots at a time. Tape consolidation is made easy through capacity performance, partitioning, and reporting, resulting in a lower total cost of ownership.

Unique flexibility
- HPE T950 tape libraries, possess the ability to operate either LTO-6/LTO-7 or TS11x0 tape technologies. Paired with extensive software and hardware partners, organizations can develop customized workflows for every situation.

High reliability

- HPE T950 offers a sophisticated suite of standard features that allow you to actively check data already written to tape. Data Integrity Verification examines media health before and after data writes, when enabled. Integrated BlueScale Encryption provides automatic data protection.
- PreScan checks each imported tape and verifies that the tape can be safely written to. QuickScan scans a tape uni-directionally to provide a rapid indicator of integrity of data written. FullScan confirms that there are no media errors on the tape by reading the entire length of the tape.
- A high level of encryption security, with compression, for strong backup data privacy to secure confidential information and address compliance quickly. Supports WORM media (using LTO-7, LTO-6), providing a fail-safe method for permanently storing data records.

HPE Certified TeraPack Media

HPE Certified TeraPack Media is designed to ensure that customers have the most reliable and automated tape storage available. No other supplier places as much emphasis on continual enhancements and features that simplify all aspects of the media management process. From manufacturer selection to testing and customer shipment, every step of the certified media process is designed to ensure you have the most reliable and automated tape storage available.

1. **Quality:** Only the highest quality media available on the market becomes HPE Certified TeraPack Media. This ensures you have the most reliable and worry-free data protection possible.
2. **Clean:** The CarbideClean® process is a unique enhancement that extends the life of your tape drives and enhances the performance and capacity of your tapes. HPE Certified TeraPack Media with CarbideClean ensures your media is debris-free, allowing your system to run at peak performance.
3. **Intelligence:** Media lifecycle management (MLM) reduces the most common media-related failures. MLM allows you to proactively manage your tape inventory through simple monitoring of over 40 health statistics and automatically identifies at-risk tapes ready for retirement.
4. **Verification:** Certified Media assures data integrity using an integrated, intelligent, and comprehensive set of data integrity verification (DIV) tools when integrated with your tape library. PreScan verifies your tapes are safe prior to usage and QuickScan and FullScan verify your data has been properly written to tape.
5. **Protect:** When combining HPE Certified TeraPack Media and our tape library families integrated BlueScale Encryption Key Management, your data is protected with a straightforward, easily installed solution.
6. **Management:** Media arrives on customer's doorsteps, individual tapes unwrapped with pre-applied barcode labels bundled in TeraPack containers and ready for bulk-loading into your tape library.
7. **Warranty:** Lifetime Guarantee warrants our tapes to be free from defects in materials and workmanship for the life of the media. We will exchange any defective tape free of charge.

HPE T950 technical specifications

Drive type	LTO-6 Ultrium 6650 LTO-7 Ultrium 15000 TS1150 120 drives supported (maximum)
Number of cartridge slots	50–10,020 Maximum supported LTO Ultrium 45–7,614 Maximum supported TS11x0 Tape Technology
Capacity	150 PB (compressed 2.5:1) Maximum using LTO-7 190 PB (compressed 2.5:1) Maximum using TS1150
Transfer rate	324 TB/hr (Maximum using LTO-7) 302.4 TB/hr (Maximum using TS1150)
Host interface	8 Gb Fibre Channel Depending on drive type
Encryption capability	Hardware-Based Encryption through HPE ESKM (LTO only)
Form factor	29-in 42U free-standing frame (maximum of 8)

HPE T950 LTO configuration specifications

	HPE T950 1 Drive Bay Assembly Maximum 4 LTO Drives 1000 Slots	HPE T950 3 Drive Bay Assembly Maximum 12 LTO Drives 920 Slots	HPE T950 6 Drive Bay Assembly Maximum 24 LTO Drives 800 Slots
Model differentiator	1 Drive Bay Assembly Maximum 4 LTO Drives 1000 slots	3 Drive Bay Assembly Maximum 12 LTO Drives 920 slots	6 Drive Bay Assembly Maximum 24 LTO Drives 800 slots
Drive type	0 included 4 maximum drives per DBA	0 included 4 maximum drives per DBA	0 included 4 maximum drives per DBA
Number of cartridge slots	1000	920	800
Capacity	15 PB (compressed 2.5:1) Assumes LTO-7 media; dependent on media type	13.8 PB (compressed 2.5:1) Assumes LTO-7 media; dependent on media type	12 PB (compressed 2.5:1) Assumes LTO-7 media; dependent on media type
Transfer rate	10.8 TB/hr maximum	32.4 TB/hr maximum	64.8 TB/hr maximum
Host interface	8 Gb Fibre Channel	8 Gb Fibre Channel	8 Gb Fibre Channel
Encryption capability	Hardware-Based Encryption through HPE ESKM (LTO only)	Hardware-Based Encryption through HPE ESKM (LTO only)	Hardware-Based Encryption through HPE ESKM (LTO only)

HPE T950 LTO multi-frame configuration specifications

	HPE T950 1 Drive Bay Assembly for multi-frame configurations Maximum 4 LTO Drives 1000 Slots	HPE T950 3 Drive Bay Assembly for multi-frame configurations Maximum 12 LTO Drives 920 Slots	HPE T950 6 Drive Bay Assembly for multi-frame configurations Maximum 24 LTO Drives 800 Slots
Model differentiator	1 Drive Bay Assembly Maximum 4 LTO Drives for multi-frame configurations 1000 slots	3 Drive Bay Assembly Maximum 12 LTO Drives for multi-frame configurations 920 slots	6 Drive Bay Assembly Maximum 24 LTO Drives for multi-frame configurations 800 slots
Drive type	0 included 4 maximum drives per DBA	0 included 4 maximum drives per DBA	0 included 4 maximum drives per DBA
Number of cartridge slots	1000	920	800
Capacity	15 PB (compressed 2.5:1) Assumes LTO-7 media; dependent on media type	13.8 PB (compressed 2.5:1) Assumes LTO-7 media; dependent on media type	12 PB (compressed 2.5:1) Assumes LTO-7 media; dependent on media type
Transfer rate	10.8 TB/hr maximum	32.4 TB/hr maximum	64.8 TB/hr maximum
Host interface	8 Gb Fibre Channel	8 Gb Fibre Channel	8 Gb Fibre Channel
Encryption capability	Hardware-Based Encryption through HPE ESKM (LTO only)	Hardware-Based Encryption through HPE ESKM (LTO only)	Hardware-Based Encryption through HPE ESKM (LTO only)

HPE T950 TS Technology configuration specifications

	HPE T950 1 Drive Bay Assembly Maximum 4 TS Technology Drives 738 Slots	HPE T950 3 Drive Bay Assembly for multi-frame configurations Maximum 12 LTO Drives 920 Slots	HPE T950 6 Drive Bay Assembly for multi-frame configurations Maximum 24 LTO Drives 800 Slots
Model differentiator	1 Drive Bay Assembly Maximum 4 TS11x0 Technology Drives 738 slots	3 Drive Bay Assembly Maximum 12 TS11x0 Technology Drives 684 slots	6 Drive Bay Assembly Maximum 24 TS11x0 Technology Drives 594 slots
Drive type	0 included 4 maximum drives per DBA	0 included 4 maximum drives per DBA	0 included 4 maximum drives per DBA
Number of cartridge slots	738	684	594
Capacity	18.45 PB (compressed 2.5:1)	17.1 PB (compressed 2.5:1)	14.85 PB (compressed 2.5:1)
Transfer rate	10.1 TB/hr maximum	30.24 TB/hr maximum	60.48 TB/hr maximum
Host interface	8 Gb Fibre Channel	8 Gb Fibre Channel	8 Gb Fibre Channel

HPE T950 TS Technology multi-frame configuration specifications

	HPE T950 1 Drive Bay Assembly for multi-frame configurations Maximum 4 TS Technology Drives 738 Slots	**HPE T950 3 Drive Bay Assembly for multi-frame configurations Maximum 12 TS Technology Drives 684 Slots**	**HPE T950 6 Drive Bay Assembly for multi-frame configurations Maximum 24 TS Technology Drives 594 Slots**
Model differentiator	1 Drive Bay Assembly Maximum 4 TS11x0 Technology for multi-frame configurations 738 slots	3 Drive Bay Assembly Maximum 12 TS11x0 Technology Drives for multi-frame configurations 684 slots	6 Drive Bay Assembly Maximum 24 TS11x0 Technology Drives for multi-frame configurations 594 slots
Drive type	0 included 4 maximum drives per DBA	0 included 4 maximum drives per DBA	0 included 4 maximum drives per DBA
Number of cartridge slots	738	684	594
Capacity	18.45 PB (compressed 2.5:1)	17.1 PB (compressed 2.5:1)	14.85 PB (compressed 2.5:1)
Transfer rate	10.1 TB/hr maximum	30.24 TB/hr maximum	60.48 TB/hr maximum
Host interface	8 Gb Fibre Channel	8 Gb Fibre Channel	8 Gb Fibre Channel

**Additional resources
QuickSpecs:
hpe.com/h20195/v2/GetDocument.
aspx?docname=c05269704**

Warranty, service, and support

Warranty
The HPE T950 has a standard warranty that extends one year from the date of shipment from the factory. This warranty includes a Next Business Day service contract. Additional years of warranty service can be purchased.

Service and support
HPE offers a wide range of support options and professional services options. Support options include ongoing telephone and web support, an assisted self-maintenance (ASM) option that stores customer-replaceable spare parts onsite, a global spare drive option, and built-in "phone home" support through the library's AutoSupport feature. Professional Services further extends options through site visits and preventive maintenance options. Customers automatically receive complete installation and integration services. For more information about services and support please visit: **support.spectralogic.com/**

Learn more at
hpe.com/storage/t950

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