IBM TS2900 Tape Autoloader

Product Guide

IBM TS2900 Tape Autoloader for Lenovo (Machine Type 6171) is an entry-level compact 1U tape unit that offers IBM tape reliability, density, and performance for entry-level and compact tape libraries at a cost-effective price.

With a capacity of nine cartridges, the TS2900 Tape Autoloader is a rack-mountable or deskside unit that contains a single IBM LTO Ultrium half-high SAS tape drive. The choice of the tape drives includes:

- IBM LTO Ultrium 9 Half-High SAS Tape Drive (Model S9H)
- IBM LTO Ultrium 8 Half-High SAS Tape Drive (Model S8H)
- IBM LTO Ultrium 7 Half-High SAS Tape Drive (Model S7H)

The TS2900 is an ideal solution if you need an entry-level larger capacity or higher performance tape backup with or without random access and for tape automation used along with Lenovo servers.

Figure 1. TS2900 Tape Autoloader

Did you know?

The TS2900 Tape Autoloader uses high-density slot technology that allows you to maximize available backup storage capacity by offering the nine-cartridge magazine in only 1U of rack space.

Featuring the latest LTO Ultrium 9 technology, the TS2900 Tape Autoloader provides up to 405 TB of 2.5:1 compressed backup storage capacity using nine 18 TB LTO 9 cartridges.

With IBM LTO Tape offerings that are available from Lenovo, Lenovo can be your trusted partner that offers "one stop shop" and single point of contact for delivery of leading edge technologies and innovations from Lenovo and other leading IT vendors. These offerings can satisfy the wide range of your end-to-end IT infrastructure needs, including handheld devices, notebooks, personal computers, servers, storage, networking, services, management software, and financing.

Key features

The TS2900 delivers the following features:

- Adherence to LTO specifications.
- Support for one half-height LTO Ultrium 9, 8, 7 SAS tape drive.
- Native cartridge capacity of up to 18 TB (Ultrium 9), 12 TB (Ultrium 8), 9 TB (Ultrium 7 initialized LTO 8 Type M), 6 TB (Ultrium 7).
- Native data transfer rate of up to 300 MB/s (Ultrium 9, 8 or 7) .
- Support for LTO 9 media specification tape cartridge compressed capacity of up to 45 TB, 30 TB for LTO8, and 15 TB for LTO7 with 2.5 to 1 compression per cartridge
- 12 Gbps SAS interface attachment
- Support for media partitioning and self-describing tape
- Support for encryption capabilities with IBM SecurityTM Guardium(R) Key Lifecycle Manager (GKLM)
- One removable magazine providing nine cartridge slots, including a single I/O station
- A bar code reader that is standard and enables operation of the TS2900 in sequential or random access mode
- Remote management capabilities to enable remote administration of the TS2900 through a web interface
- Optional features such as rack mount kits and additional cartridge magazines
- Adherence to LTO Generation 9 media specifications

The features in the IBM LTO 9 tape drive:

- Servo and track layout technology: There are 6,656 data tracks in LTO 9 versus 3,584 data tracks in LTO 8. The high-bandwidth servo system features a low-mass servo to help more effectively track servo bands and improve data throughput with damaged media in less-than-optimal shock and vibration environments.
- Surface Control Guiding Mechanism: Designed to guide the tape along the tape path in the LTO 9, 8, 7, and 6 tape drive. This method is designed to use the surface of the tape, rather than the edges, to control tape motion to reduce tape damage (especially to the edges of the tape) and tape debris, which comes from the damaged edges and accumulation in the head area.
- Robust drive components optimized for automation environments: With the most robust components available, steel ball bearings in loader, robust leader block design, and single circuit card, the drives offer enhanced reliability and prolonged life.
- Separate writing of multiple filemarks: This is designed to cause any write command of two or more filemarks to cause a separate data set to be written containing all filemarks after the first.
- LTO Data Compression (LTO-DC): The LTO 9 uses LTO-DC, which is an implementation of a Lempel-Ziv class 1 (LZ-1) data compression algorithm. LTO-DC is an extension of Adaptive Lossless Data Compression (ALDC) and an improvement over previous IBM lossless compression algorithms. Patented "Scheme-Swapping" compression from IBM is designed to look ahead at incoming data and determine the most efficient storage method (either ALDC or pass-through mode) to help optimize data compression and increase data throughput. The compressed ratio is up to 2.5 to 1 for LTO 9.
- LTO Cartridge Memory (LTO-CM): Contained within the LTO data cartridge is the LTO-CM, which is a passive, contactless silicon storage device that is physically a part of the cartridge. The LTO-CM is designed to hold information about that specific cartridge, the media in the cartridge, and the data on the media. The storage capacity of the Generation 9 LTO-CM is 16,320 bytes. Communication between the drive and the LTO-CM is through a low-level RF field transmitted by the drive to the cartridge.

- Statistical Analysis and Reporting System (SARS): The LTO 9 tape drive uses SARS to help isolate failures between media and hardware. SARS uses the cartridge performance history saved in the Cartridge Memory module and the drive performance history kept in the drive flash to help determine the likely cause of failure. SARS is designed to cause the drive to request a cleaner tape, to mark the media as degraded, and to indicate that the hardware has degraded.
- Highly integrated electronics using IBM-engineered copper technology: This technology is designed to reduce the total number of components in the drive, help lower chip temperatures, and reduce power requirements, resulting in a more reliable drive. The ninth-generation drive electronics are designed to provide error correction of soft errors in the memory arrays in data and control paths.

Components and connectors

The following figure shows the front of the TS2900 Tape Autoloader.

Figure 2. Front view of the TS2900 Tape Autoloader

The following figure shows the rear of the TS2900 Tape Autoloader.

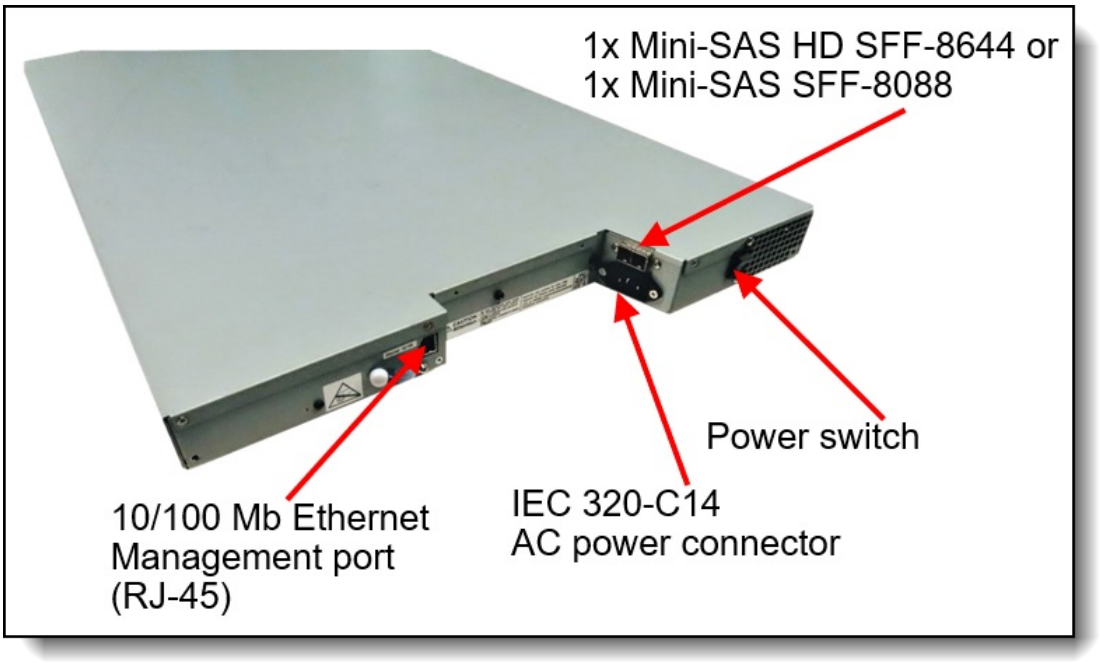

Figure 3. Rear view of the TS2900 Tape Autoloader

System specifications

The following table lists the TS2900 Tape Autoloader system specifications.

Table 1. System specifications

Attribute	Specification

Attribute	Specification
Form factor	1U rack mount or standalone
Drive technology	LTO Ultrium 9, 8, 7 half-high drives
Drive interface	The Ultrium 9 SAS drive uses the SFF-8644 connection at the drive end and a SFF-8644 connection at the host adapter end. The Ultrium 8 and 7 SAS drives use the SFF-8088 connection at the drive end and the SFF-8088 connection at the host adapter end.
Number of drives	1
Number of cartridge slots	9
Cartridge capacity (native / compressed)	• LTO 9 (L9): 18 TB/ 45 TB* • LTO 8 (L8): 12 TB / 30 TB* • LTO 7 initialized LTO 8 Type M (M8): 9 TB / 22.5 TB* • LTO 7 (L7): 6 TB / 15 TB*
Total backup capacity (native / compressed)	• LTO 9 (L9): Up to 162 TB / up to 405 TB* • LTO 8 (L8): Up to 108 TB / up to 270 TB* • LTO 7 (M8): Up to 81 TB / up to 202.5 TB* • LTO 7 (L7): Up to 54 TB / up to 135 TB*
Data transfer rate (native / compressed)	• LTO 9: Up to 300 MB/s up to 750 MB/s* • LTO 8: Up to 300 MB/s / up to 750 MB/s* • LTO 7: Up to 300 MB/s / up to 750 MB/s*
Software features	Transparent LTO encryption (optional).
Security features	Secure Socket Layer (SSL), user level security, LTO encryption (optional).
Management interfaces	• Operator panel • 1x 10/100 Mbps Ethernet port (UTP, RJ-45) for remote management: Web-based GUI; SNMP and email notifications
Cooling	Fixed internal fans
Power supply	One 82 W AC fixed power supply with IEC 320-C14 power connector
Hot-swap parts	None
Dimensions	Height: 44 mm (1.7 in.); width: 483 mm (19.0 in.), depth: 850 mm (33.5 in.)
Weight	13 kg (28.7 lb)
Warranty	One-year customer-replaceable unit and onsite warranty with 9x5 next business day terms.
Service and support	Optional warranty service upgrades are available through Lenovo Services: 24x7 coverage, 2-hour or 4-hour response time, committed repair (select countries), up to 5 years of warranty extension, installation services.
Host operating systems	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES). For a full list of supported operating systems, refer to the System Storage Interoperation Center

* With 2.5:1 compression ratio
* With 2:1 compression ratio

Models

The following table lists the ordering information for the TS2900 Tape Autoloader models.

Table 2. TS2900 models

Description	Part number	Machine Type-Model	Feature code
IBM TS2900 Tape Autoloader w/LTO9 HH SAS	6171S9R	6171-S9H	BLVX
IBM TS2900 Tape Autoloader w/LTO8 HH SAS	6171S8R	6171-S8H	B1EU
IBM TS2900 Tape Autoloader w/LTO7 HH SAS	6171S7R	6171-S7H	ATNY

The part numbers for the TS2900 Tape Autoloader models include the following items:

- One TS2900 Tape Autoloader with the half-height LTO SAS tape drive (LTO 9, LTO 8, LTO 7) and with the Bar Code Reader
- One removable nine-cartridge magazine
- One universal cleaning cartridge
- Documentation package

Configuration notes:

- Rack mount kit or standalone installation kit are not included; one of the kits must be ordered with the TS2900 unit (for ordering information, see the following table).
- Rack mount kit includes one 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable, and a line cord also can be ordered, if needed (for ordering information, see Power cables).
- Standalone kit does not include a power cable; it must be ordered with the TS2900 unit (for ordering information, see Power cables).

The following table lists the rack mount and stand-alone (deskside) kits for the TS2900 unit (one of the kits must be ordered with the autoloader).

Table 3. Rack mount and standalone kits

Description	Part number	Feature code	Maximum quantity
6171 Rack Mount Kit	00NA013	7006	1
6171 Deskside Covers	00NA015	AS1D	1

A SAS cable is required to attach an LTO Ultrium SAS Tape Drive to a SAS host adapter.

The SAS Half-High tape drives that are installed into the TS2900 tape autoloader come with either one SFF-8644 interface for model S9H or one SFF-8088 interface for all other models. This interface is on the rear of the TS2900, above the power connection. on the back of the TS2900 tape drive. Verify that the HBA of your server is supported. Check the IBM interoperability matrix at the IBM System Storage Interoperation Center (SSIC).

The following table lists the supported cable options for the TS2900 Tape Autoloader with an LTO9 tape drive installed.

Table 4. SAS cables for LTO9

Description	Part number	Feature code	Maximum quantity
SAS connectivity cables: Mini-SAS HD (HBA SFF-8644 host) to Mini-SAS HD (HBA SFF-8644 tape drive)			
3 m Mini-SAS HD/Mini-SAS HD 1x Cable (from HBA with SFF-8644 to tape drive (LTO-9) with SFF-8644)	02JH830	BLW3	1
1.5 m Mini-SAS HD/Mini-SAS HD 1x Cable (from HBA with SFF-8644 to tape drive (LTO-9) with SFF-8644)	02JH831	BLW4	1
SAS connectivity cables: Mini-SAS HD (HBA SFF-8644 host) to Mini-SAS (HBA SFF-8088 tape)			
4m Mini-SAS HD/Mini-SAS 1X Cable (from tape drive (LTO-9) with SFF-8644 to HBA with SFF-8088).	00NV419	AS10	1

The following table lists the supported cable options for the TS2900 Tape Autoloader with an LTO8 or earlier tape drive installed.

Table 5. SAS cables for LTO8 and LTO7

Description	Part number	Feature code	Maximum quantity
SAS connectivity cables: Mini-SAS (SFF-8088 host) to Mini-SAS (SFF-8088 tape)			
2 m Mini-SAS/Mini-SAS 1x Cable (host SFF-8088 to target SFF-8088)	00NA009	AS0Z	1
Mini-SAS to Mini-SAS Cable (5.5 m)	00NV418	AS11	1*
SAS connectivity cables: Mini-SAS HD (SFF-8644 host) to Mini-SAS (SFF-8088 tape)			
HD-SAS Cable to Mini-SAS (4 m)	00NV419	AS10	1

* Not supported with the TS2900 with the LTO 8 tape drive.

Tape media

The TS2900 ships with one removable tape magazine with nine cartridge slots that include a single I/O station (if enabled). Extra removable tape magazines can be ordered with the TS2900, if needed.

The following table lists tape media options and extra magazines that can be ordered for the TS2900.

Table 6. Tape media and extra magazines

Description	Part number	Feature code	Supported tape drive types
Cleaning cartridge			
Ultrium Cleaning Cartridge (universal)	00NA017	AS1E	All drives
Data cartridges			
Ultrium 9 Data Cartridges 5-Pack	02JH833	BLW1	LTO 9
Ultrium 9 Data Cartridge (single)	02JH834	BLW2	LTO 9
Ultrium 8 Data Cartridges 5-Pack	01KP955	B1EW	LTO 9, LTO 8
LTO M8 Uninitialized Data Cartridges 5-Pack	02JH005	B5XL	LTO 8
Ultrium 7 Data Cartridges 5-Pack	00WF771	ATNZ	LTO 8, LTO 7
Optional magazines			
6171 Additional Tape Magazine	00NA019	AS1K	All drives

LTO Ultrium tape drives support the following backward compatibility for the previous generations of tape media:

- LTO 9 Tape Drives can read and write LTO 9 and LTO 8 data cartridges.
- LTO 8 tape drives can read and write LTO 8, LTO 7, and LTO 7 initialized LTO 8 Type M data cartridges.
- LTO 7 tape drives can read and write LTO 7 and LTO 6 data cartridges, and can read LTO 5 data cartridges.

Configuration notes:

- A 5-Pack of the Ultrium 9, 8 or 7 Data Cartridges includes five unattached barcode labels.
- An LTO 7 initialized LTO 8 Type M data cartridge is a new (unused) LTO 7 data cartridge labelled and initialized to support 9 TB native storage capacity in the LTO 8 tape drive. Once initialized, an LTO 8 Type M cartridge cannot be used in the LTO 7 tape drives, and it cannot be changed back to a 6 TB LTO 7 cartridge.
- LTO M8 Uninitialized Data Cartridges 5-Pack (02JH005) includes five uninitialized LTO 7 data cartridges and five M8 barcode labels. These cartridges will be automatically initialized by the tape library firmware while under the control of ISV applications that recognize the M8 barcode label.

Software

IBM Ultrium 9, 8, and 7 SAS tape drives are encryption-capable and support the following modes of encryption management:

- Application Managed (available with third-party software such as IBM Spectrum Protect)
- Library Managed (available for Linux and Windows; requires the IBM Security Key Lifecycle Manager (SKLM)

Application Managed Encryption does not require a license. Library Managed Encryption requires an optional Transparent LTO Encryption license that is listed in the following table.

Table 7. Software options

Description	Part number	Feature code	Maximum quantity
6171 Transparent LTO Encryption	00NA011	AS19	1

Power cables

If the TS2900 is ordered with the rack mount kit, it includes one 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable. A line cord also can be ordered, if needed.

If the TS2900 is ordered with the stand-alone (deskside) kit, it does not include a power cable. A line cord or a rack power cable must be ordered with the TS2900.

The part numbers and feature codes to order the power cables (one power cable per TS2900) are listed in the following table.

Table 8. Power cables

Description	Part number	Feature code
Line cords		
2.8m, 10A/120V, C13 to NEMA 5-15P (US) Line Cord	00NA027	AS29
2.8m, 10A/230V, C13 to CEE7-VII (Europe) Line Cord	00NA029	AS2A
2.8m, 10A/230V, C13 to DK2-5a (Denmark) Line Cord	00NA031	AS2B
2.8m, 10A/230V, C13 to BS 1363/A (UK) Line Cord	00NA033	AS2C
2.8m, 10A/230V, C13 to SI 32 (Israel) Line Cord	00NA035	AS2D
2.8m, 10A/230V, C13 to SEV 1011-S24507 (Sws) Line Cord	00NA037	AS2E
2.8m, 10A/230V, C13 to SABS 164 (South Africa) Line Cord	00NA039	AS2F
2.8m, 10A/230V, C13 to CEI 23-16 (Italy) Line Cord	00NA041	AS2G
2.8m, 10A/230V, C13 to AS/NZS 3112 (Aus/NZ) Line Cord	00NA043	AS2H
2.8m, 10A/208V, C13 to NEMA 6-15P (US) Line Cord	00NA045	AS2J
2.8m, 10A/220V, C13 to IRAM 2073 (Argentina) Line Cord	00NA047	AS2K
2.8m, 10A/220V, C13 to CNS 10917-3 (Taiwan) Line Cord	00NA049	AS2L
2.8m, 10A/220V, C13 to GB 2099.1 (China) Line Cord	00NA051	AS2M
2.8m, 10A/110V, C13 to CNS 10917-3 (Taiwan) Line Cord	00NA053	AS2N
2.8m, 12A/100V, C13 to JIS C-8303 (Japan) Line Cord	00NA055	AS2P
2.8m, 12A/220V, C13 to KSC 8305 (S. Korea) Line Cord	00NA057	AS2Q
2.8m, 10A/240V, C13 to IS 6538 (India) Line Cord	00NA059	AS2R
2.8m, 10A/220V, C13 to NBR 6147 (Brazil) Line Cord	00NA061	AS2T

Description	Part number	Feature code
Rack power cord		
4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	00NA063	AS2U

Physical specifications

The TS2900 Tape Autoloader has the following dimensions and weight (approximate):

- Height: 44 mm (1.7 in.)
- Width: Bezel: 483 mm (19.0 in.); chassis: 445 mm (17.5 in.)
- Depth: 850 mm (3.5 in.)
- Weight: 13 kg (28.7 lb)

Operating environment

The TS2900 Tape Autoloader is supported in the following environment:

- Air temperature:
  - Operating: 10 °C - 38 °C (50 °F - 100 °F)
  - Non-operating: 1 °C - 60 °C (34 °F - 140 °F)
  - Maximum altitude: 2,500 m (8,202 ft)
- Humidity:
  - Operating: 20% - 80%
  - Non-operating: 10% - 90%
- Electrical power:
  - 100 V AC - 240 V AC (4.0 A to 1.5 A)
  - Frequency: 50 Hz / 60 Hz
  - Power consumption: 110 watts
- Acoustical noise emission:
  - 6.6 bels (idling)
  - 6.8 bels (operating)

Warranty services and upgrades

The TS2900 Tape Autoloader (machine type 6171) has a one-year CRU and onsite limited warranty.

The standard warranty terms are customer-replaceable unit (CRU) and onsite (for field-replaceable units FRUs only) with standard call center support during normal business hours and 9x5 Next Business Day Parts Delivered.

Lenovo’s additional support services provide a sophisticated, unified support structure for your data center, with an experience consistently ranked number one in customer satisfaction worldwide. Available offerings include:

- **Warranty Upgrade (Preconfigured Support)**

  Services are available to meet the on-site response time targets that match the criticality of your systems.

  - 3, 4, or 5 years of service coverage
  - 1-year or 2-year post-warranty extensions
  - **Foundation Service**: 9x5 service coverage with next business day onsite response
  - **Essential Service:** 24x7 service coverage with 4-hour onsite response or 24-hour committed repair (available only in select markets)
  - **Advanced Service:** 24x7 service coverage with 2-hour onsite response or 6-hour committed repair (available only in select markets)

- **Managed Services**

  Lenovo Managed Services provides continuous 24x7 remote monitoring (plus 24x7 call center availability) and proactive management of your data center using state-of-the-art tools, systems, and practices by a team of highly skilled and experienced Lenovo services professionals.

  Quarterly reviews check error logs, verify firmware & OS device driver levels, and software as needed. We'll also maintain records of latest patches, critical updates, and firmware levels, to ensure you systems are providing business value through optimized performance.

- **Technical Account Management (TAM)**

  A Lenovo Technical Account Manager helps you optimize the operation of your data center based on a deep understanding of your business. You gain direct access to your Lenovo TAM, who serves as your single point of contact to expedite service requests, provide status updates, and furnish reports to track incidents over time. In addition, your TAM will help proactively make service recommendations and manage your service relationship with Lenovo to make certain your needs are met.

- **Enterprise Server Software Support**

  Enterprise Software Support is an additional support service providing customers with software support on Microsoft, Red Hat, SUSE, and VMware applications and systems. Around the clock availability for critical problems plus unlimited calls and incidents helps customers address challenges fast, without incremental costs. Support staff can answer troubleshooting and diagnostic questions, address product comparability and interoperability issues, isolate causes of problems, report defects to software vendors, and more.

- **Health Check**

  Having a trusted partner who can perform regular and detailed health checks is central to maintaining efficiency and ensuring that your systems and business are always running at their best. Health Check supports Lenovo-branded server, storage, and networking devices, as well as select Lenovo-supported products from other vendors that are sold by Lenovo or a Lenovo-Authorized Reseller.

Examples of region-specific warranty terms are second or longer business day parts delivery or parts-only base warranty.

If warranty terms and conditions include onsite labor for repair or replacement of parts, Lenovo will dispatch a service technician to the customer site to perform the replacement. Onsite labor under base warranty is limited to labor for replacement of parts that have been determined to be field-replaceable units (FRUs). Parts that are determined to be customer-replaceable units (CRUs) do not include onsite labor under base warranty.

If warranty terms include parts-only base warranty, Lenovo is responsible for delivering only replacement parts that are under base warranty (including FRUs) that will be sent to a requested location for self-service. Parts-only service does not include a service technician being dispatched onsite. Parts must be changed at customer's own cost and labor and defective parts must be returned following the instructions supplied with the spare parts.

Lenovo Service offerings are region-specific. Not all preconfigured support and upgrade options are available in every region. For information about Lenovo service upgrade offerings that are available in your region, refer to the following resources:

- Service part numbers in Lenovo Data Center Solution Configurator (DCSC):
  http://dcsc.lenovo.com/#/services
- Lenovo Services Availability Locator
  http://lenovolocator.com/

For service definitions, region-specific details, and service limitations, please refer to the following documents:

- Lenovo Statement of Limited Warranty for Infrastructure Solutions Group (ISG) Servers and System Storage
  http://pcsupport.lenovo.com/us/en/solutions/ht503310
- Lenovo Data Center Services Agreement
  http://support.lenovo.com/us/en/solutions/ht116628

Regulatory compliance

The TS2900 Tape Autoloader conforms to the following regulations:

- FCC: Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES-003, Class A
- European Union Council Directive 2004/108/EC
- EN 55022, Class A
- Japan VCCI Class A statement
- People's Republic of China Class A statement
- Taiwan Class A statement
- Korea KCC Class A statement

Interoperability

Lenovo provides end-to-end storage compatibility testing to deliver interoperability throughout the network. The TS2900 Tape Autoloader supports attachment to Lenovo servers by using SAS storage connectivity.

Note: End-to-end storage configuration support (including adapters and operating systems) *must* be verified through the System Storage Interoperation Center (SSIC) for the TS2900.

Operating systems

For the list of supported operating systems, refer to the IBM System Storage Interoperation Center (SSIC)

Note: The LTO tape drives are supported when attached and run from the host operating system, however, in virtualization environments (for example, Hyper-V, KVM, Xen), the tape drives are not supported in the guest operating systems.

ISV backup software compatibility

The Independent Software Vendors (ISVs) indicate support for the LTO Ultrium Tape Drives for the following ISV backup software:

- Acronis Backup Advanced
- Arcserve Backup
- ASG Time Navigator
- CommVault Simpana
- Dell/EMC NetWorker
- Echoleaf Systems Virtual Drive
- Gemalto SafeNet
- HPE/Micro Focus Data Protector
- IBM High Performance Storage System
- IBM RMS
- IBM Security Key Lifecycle Manager
- IBM Spectrum Archive Drive Edition
- IBM Spectrum Archive Library Edition
- IBM Spectrum Archive Enterprise Edition
- IBM Spectrum Protect
- Microsoft System Center Data Protection Manager
- NetApp Data Storage
- Oracle DIVA
- Oracle OSB
- Oracle SAM-QFS-HSM
- Point Archival Gateway
- Quest NetVault
- Qstar
- Veritas Backup Exec
- Veritas NetBackup
- Veeam Backup and Retention
- Versity Storage Manager

For more information, see the Independent Software Vendor matrix for IBM LTO

Lenovo Financial Services

Lenovo Financial Services reinforces Lenovo's commitment to deliver pioneering products and services that are recognized for their quality, excellence, and trustworthiness. Lenovo Financial Services offers financing solutions and services that complement your technology solution anywhere in the world.

We are dedicated to delivering a positive finance experience for customers like you who want to maximize your purchase power by obtaining the technology you need today, protect against technology obsolescence, and preserve your capital for other uses.

We work with businesses, non-profit organizations, governments and educational institutions to finance their entire technology solution. We focus on making it easy to do business with us. Our highly experienced team of finance professionals operates in a work culture that emphasizes the importance of providing outstanding customer service. Our systems, processes and flexible policies support our goal of providing customers with a positive experience.

We finance your entire solution. Unlike others, we allow you to bundle everything you need from hardware and software to service contracts, installation costs, training fees, and sales tax. If you decide weeks or months later to add to your solution, we can consolidate everything into a single invoice.

Our Premier Client services provide large accounts with special handling services to ensure these complex transactions are serviced properly. As a premier client, you have a dedicated finance specialist who manages your account through its life, from first invoice through asset return or purchase. This specialist develops an in-depth understanding of your invoice and payment requirements. For you, this dedication provides a high-quality, easy, and positive financing experience.

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https://www.lenovo.com/us/en/landingpage/lenovo-financial-services/

Seller training courses

The following sales training courses are offered for employees and partners (login required). Courses are listed in date order.

1. **Lenovo Data Center Product Portfolio**
   2024-04-22 | 20 minutes | Employees and Partners

   This course introduces the Lenovo data center portfolio, and covers servers, storage, storage networking, and software-defined infrastructure products. After completing this course about Lenovo data center products, you will be able to identify product types within each data center family, describe Lenovo innovations that this product family or category uses, and recognize when a specific product should be selected.

   Published: 2024-04-22
   Length: 20 minutes
   Employee link: Grow@Lenovo
   Partner link: Lenovo Partner Learning
   Course code: SXXW1110r7
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   This course introduces the Lenovo data center portfolio, and covers servers, storage, storage networking, and software-defined infrastructure products. After completing this course about Lenovo data center products, you will be able to identify product types within each data center family, describe Lenovo innovations that this product family or category uses, and recognize when a specific product should be selected.

   Published: 2023-07-21
   Length: 15 minutes
   Employee link: Grow@Lenovo
   Partner link: Lenovo Partner Learning
   Course code: SXXW1110r6

Related publications and links

For more information, see the following resources:

- Storage Options for ThinkSystem Servers
  https://lenovopress.com/lp0761-storage-options-for-thinksystem-servers
- Lenovo Data Center Solution Configurator (DCSC)
  http://dcsc.lenovo.com/
- IBM System Storage Interoperation Center (SSIC)
  http://ibm.com/systems/support/storage/ssic
- IBM Redbooks publication, IBM Tape Library Guide for Open Systems
  http://www.redbooks.ibm.com/abstracts/sg245946.html?Open

Related product families

Product families related to this document are the following:

- Backup Units
- Tape Autoloaders and Libraries

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