

## STORAGETEK SL8500 MODULAR LIBRARY SYSTEM

### KEY FEATURES

#### A COMPREHENSIVE, HIGHLY SCALABLE STORAGE SOLUTION

- Highest scalability and performance on the market with capacity up to 2.1 EB in a single complex with use of the StorageTek T10000D tape drive (assumes 2.5:1 compression)
- Connect up to 32 library complexes for up to 67 EB of storage, behind a single library control interface (assumes 2.5:1 compression)
- RealTime Growth capability to non-disruptively add more slots, drives, and robotics to handle increased workloads
- Easy consolidation with flexible partitioning and Any Cartridge Any Slot technology for seamless mixed media support
- Share across environments, including mainframe and open systems
- Industry-leading availability with redundant and hot-swappable robotics and library control cards
- Eco savings with 50% less floor space and reduced power and cooling

*If your storage requirements are rapidly outpacing your IT budget, you probably need to simplify your data access strategy, while maintaining current staff levels. Oracle's StorageTek SL8500 modular library system is the foundation of this strategy. With the StorageTek SL8500, your organization can streamline its operations while maximizing availability and compliance—all with minimal cost and disruption but with a maximum of security and flexibility.*



The cost-effective, scalable StorageTek SL8500 modular library system saves space and energy, helps streamline operations, and maximizes availability.

### Meet Data Growth Head On

The StorageTek SL8500 modular library system is the world's most scalable tape library, accommodating growth up to 857 PB native (or 2.1 exabytes with 2.5:1 compression), making it an extremely flexible and compact option for intelligent archiving of vital corporate information. This should come as no surprise, given that Oracle archives more data than anyone else in the world.

Because scheduled downtime is unacceptable in many enterprise data centers, the StorageTek SL8500 modular library system offers industry-leading ability to grow while operating. This RealTime Growth capability means that additional slots and drives—and the robotics to serve them—can be added while the original StorageTek SL8500 modular library system continues to operate. Capacity on Demand further allows you to tap into physical capacity incrementally, so you can grow at your own pace and pay only for the capacity you need. Thus, with the StorageTek SL8500 modular library system you can scale to accommodate future growth; adding capacity and performance, without disruption.

To meet the high performance needs of your enterprise data center, each StorageTek SL8500 library is equipped with four or eight robots working in parallel to provide a multithreaded solution. This reduces queuing, especially during peak work periods. As the system scales, each additional StorageTek SL8500 library added to the aggregate system comes equipped with more robotics, so the performance can scale to stay ahead of your requirements as they grow. Additionally with the StorageTek SL8500 modular library system's unique centerline architecture, drives are kept in the center of the library alleviating robot contention. Robots travel one-third to one-half the distance required by competitive libraries, improving cartridge-to-drive performance.

### Optimize Your Environment

To help your storage dollars go further, the StorageTek SL8500 modular library system offers the most flexible solution for partitioning, sharing, and managing. Native physical partitioning requires no extra hardware or software. You can create up to eight partitions in a single library or sixteen partitions in a complex; assign them for mainframe and/or open systems use; and address resources in any configuration including non-contiguous resource assignments. With Any Cartridge Any Slot technology, you can seamlessly use the drive types that make sense for your access and storage needs – there is never a requirement to replace slots or to add special drive frames to accommodate different technologies. Choose capacity-centric Oracle's StorageTek T10000 tape drives or Linear Tape Open (LTO) tape drives from HP and IBM.

The StorageTek SL8500 modular library system can be shared across heterogeneous environments, such as Oracle's Solaris, Linux, AS/400, mainframe, UNIX, and Windows NT environments, so you can easily match the library configuration to your backup requirements. What's more, with Oracle's StorageTek Virtual Storage Manager, you can use your library in a virtual enterprise mainframe environment.

Because multiple libraries can be consolidated into one unit, the StorageTek SL8500 modular library system can also save on power and cooling. And since floor space is often at a premium, the StorageTek SL8500 modular library system offers very high density, and its space savings grow as it scales. Each capacity module is only 37.5 inches long but adds another 1,728 slots to the system.

### Achieve 24x7 Availability

There is no time for downtime in your demanding enterprise storage environment, so the StorageTek SL8500 modular library system is designed to minimize both unscheduled and scheduled maintenance. The StorageTek SL8500 modular library system offers the highest level of component redundancy to support your 24x7 environment. Drives, power supplies, library control cards, and robotics are hot-swappable. With redundant robotics and an integrated service safety door, the library can continue to operate while a failed robot is replaced. The service door is built into the library, so it does not require an outage to engage it. Dedicated TCP/IP with optional dual or multi-control path technology provides control path failover. Yet to obtain the highest level of availability, redundant and hot-swappable library control cards minimize both planned and unplanned library outages.

To reduce the financial and legal risk associated with data loss, Oracle also offers solutions to protect data onsite, offsite, and in transit. StorageTek library media validation supporting StorageTek T10000 data integrity validation can periodically scan your data archives, ensuring the integrity of your data throughout its lifecycle. Oracle's StorageTek VolSafe secure media technology, which provides write-once, read-many (WORM) capability, is available for the StorageTek T10000 and StorageTek T9840 tape drives. VolSafe technology complies with strict electronic storage regulatory and legal requirements. WORM capable media is also available for LTO tape drives.

The StorageTek SL8500 modular library system also works with Oracle Key Manager, an appliance that provides a simple, centralized, scalable solution for managing the keys used to encrypt and decrypt data written by tape drives. The platform independent Oracle Key Manager complies with Federal Information Processing Standards Publications (FIPS PUBS) 140-2 and runs without regard

to application, operating platform, or primary storage device.

### Manage with Ease

Managing tape storage has never been easier. Oracle's StorageTek Tape Analytics software simplifies tape storage management because it takes a proactive approach to eliminate library, drive, and media errors through an intelligent monitoring software application available exclusively for Oracle's StorageTek tape libraries. A proactive approach to managing the health of a tape environment improves the performance and reliability of existing tape investments and helps executives make informed decisions about future expenditures.



StorageTek Tape Analytics software provides tape storage customers with access to leading-edge tape monitoring software that goes far beyond exposing a red, yellow, or green indicator. Rather, StorageTek Tape Analytics software provides insights into more than 100 detailed drive, media, and library health attributes that empower tape storage administrators to make proactive decisions about their tape environments prior to device failures.

For advanced tape management capabilities, Oracle's StorageTek Automates Cartridge System Library Software (ACSL) eases the administrative burden of managing complex tape environments by centralizing library management. Manage up to 67 exabytes behind a single library control interface by connecting to 32 library complexes (assumes 2.5:1 compression). With StorageTek ACSL, you can consolidate your library resources, optimize library performance, and fully utilize your available storage capacity. Through dynamic configuration capabilities and the queuing of commands during short-term outages, StorageTek ACSL reduces downtime.

### Engage the Storage Experts

Oracle Advanced Customer Services helps you address storage challenges by delivering installation, configuration, optimization and on-going monitoring and tailored support. Oracle service professionals help you achieve the highest levels of system performance and availability with diagnostic and monitoring tools that help anticipate, identify and remediate any potential issues. Oracle service experts help you realize more value from your storage infrastructure - with less disruption to your business. For more information contact your Oracle representative, email [acsdirect\\_us@oracle.com](mailto:acsdirect_us@oracle.com) or visit [oracle.com/acs](http://oracle.com/acs).

## StorageTek SL8500 Modular Library System Specifications

	StorageTek SL8500 Modular Library System (Minimum Configuration)	StorageTek SL8500 Modular Library System (Complex Configuration)
<b>Performance</b>		
Throughput per hour, native (uncompressed) <sup>2</sup>	T10000D <sup>1</sup> (64 drives, 252 MB/sec) – 58.1 TB/hr.	T10000D <sup>1</sup> (640 drives, 252 MB/sec) – 580.6TB/hr.
	LTO 6 (64 drives, 160 MB/sec) – 36.9TB/hr.	LTO 6 (640 drives, 160 MB/sec) – 368.64 TB/hr.
	LTO 5 (64 drives, 140 MB/sec) – 32.3 TB/hr.	LTO 5 (640 drives, 140 MB/sec) – 322.56 TB/hr.
Audit time (with redundant HandBots)	<12 min.	<40 min.
Average cell-to-drive time	<11 sec per HandBot	<11 sec per HandBot
<b>Capacity</b>		
Capacity, native (uncompressed) <sup>2</sup>	T10000D <sup>3</sup> (1,450 carts, 8.5 TB/cart) – 12.3 PB	T10000D <sup>3</sup> (100,880 carts, 8.5 TB/cart) – 857.5 PB
	LTO 6 (1,450 carts, 2.5 TB/cart) – 3.6 PB	LTO 6 (100,880 carts, 2.5 TB/cart) – 252.2 PB
	LTO 5 (1,450 carts, 1.5 TB/cart) – 2.2 PB	LTO 5 (100,880 carts, 1.5 TB/cart) – 151.3 PB
Number of cartridge slots	Starts at 1,450 customer-usable slots	100,880 customer-usable slots
Number of tape drives/types	Up to 64 drives of any combination of supported drives, including T10000: Fibre Channel, FCoE and FICON LTO: Fibre Channel	Up to 640 drives of any combination of supported drives, including T10000: Fibre Channel, FCoE and FICON LTO: Fibre Channel
Cartridge access port (CAP)	Standard: 39 CAP slots Optional: 39 additional slots (78 total)	Up to 780 CAP slots
<b>Availability</b>		
Non-disruptive serviceability	PDU (optional 2N), DC power supplies, tape drives, redundant robotics and library control cards	
Mean exchanges/swaps between failures (MEBF/MSBF)	2,000,000 per HandBot	
Library HW Availability	0.99996 (Includes 2N power, redundant robotics and redundant library electronics)	
<b>Compatibility</b>		
Supported host platforms	A wide variety, including Solaris, z/OS, AS/400, AIX, HP-UX, Windows, Linux; please check with your Oracle account rep for your specific environment.	
Robotics control interfaces	TCP/IP (IEEE 802.3, 100BASE-T, half-duplex)	
Any Cartridge Any Slot technology	Any supported cartridge type can be placed in any cell; no partitions or special drive or cartridge frames are required.	
<b>Management</b>		
StorageTek Library Console	TCP/IP remote monitoring is standard. Touch screen operator panel is optional.	
Digital vision system	A unique digital vision camera system performs continuous calibration and reads bar codes.	
Continuous automation calibration	No periodic maintenance or alignment is required.	
Automatic self-discovery	All drives, media types, slots, and CAP have auto-discovery and auto-configuration.	

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<b>Mechanical (Library)</b>		
Height	93.15 in. (236.6 cm)	93.15 in. (236.6 cm)
Depth	109 in. (276.9 cm)	296.5 in. (753.1 cm)
Width	67.3 in. (170.8 cm)	733.3 in. (1,862.5 cm)
Weight (library only)	3,300 lb. (1,497 kg)	77,894 lb. (35,339 kg)
<b>Environmental</b>		
Temperature (operating)	+60°F to +90°F (+16°C to +32°C)	
Temperature (non-operating)	+50°F to +104°F (+10°C to +40°C)	
Relative humidity (operating)	20% – 80%	
Relative humidity (non-operating)	20% – 80%	
<b>Power</b>		
Voltage	Choice of 220 VAC to 240 VAC @ 50 Hz – 60 Hz three-phase (Delta or Wye) or single-phase—optional redundant inputs of any of the above	
Drives	Drive power consumption varies (refer to individual drive specifications)	
Power consumption/dissipation	Varies by configuration	
<b>Regulatory Compliance</b>		
Safety	UL 60950-1; CAN/CSA-C22.2 No. 60950-1; EN/IEC 60950-1, -23	
Emissions	FCC (47 CFR 15, Subpart B) Class A; CE (EN55022 Class A, EN61000-3-2, EN61000-3-3); VCCI V-3 Class A; ICES-003 Class A, KN22 Class A, and AS/NZS CISPR22 Class A	
Immunity	, KN24, and CISPR24	

<sup>1</sup>StorageTek T10000C/D measured as native sustained throughput.

<sup>2</sup>Only currently sold drives are listed, however the following drives are also compatible with the StorageTek SL8500 modular library system: StorageTek T10000A/B/C, StorageTek T9840A/B/C/D, StorageTek T9940B, StorageTek LTO 2/ 3/4, StorageTek DLT-S4, and StorageTek SDLT 600.

<sup>3</sup>Assumes use of StorageTek T10000 maximum capacity feature, which supports up to 8.5TB per cartridge on StorageTek T10000D. Without the feature enabled, each cartridge supports 8TB native capacity on StorageTek T10000D.

## Contact Us

For more information about Oracle's StorageTek SL8500 modular library system, please visit [oracle.com/storage](http://oracle.com/storage) or call +1.800.ORACLE1 to speak to an Oracle representative.



Oracle is committed to developing practices and products that help protect the environment

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