

Sun StorageTek™ SL8500 Modular Library System



Highlights

Consolidation

- Share across environments, including both mainframe and open systems
- Any Cartridge Any Slot™ technology — seamless mixed media
- Seamlessly supports any combination of Sun StorageTek enterprise and midrange drives
- Nearly unlimited scalability
- HandBot High Performance™ robotics — multi-threaded robotics
- Ideal for consolidating many smaller libraries into one high-performance system

Availability

- Redundant hot-swappable power supplies
- Optional redundant hot-swappable robotics
- RealTime Growth™ capability — add more slots, drives, and robotics to handle the increased workload without disruption

Environmentals

- Save space and energy
- Best in class footprint



If your storage requirements are rapidly outpacing your IT budget, you probably need to simplify your data access strategy while holding the line on staff. The Sun StorageTek™ SL8500 modular library system is the foundation of many such strategies. And as you'd expect, it's from the experts at Sun Microsystems, a global leader in scalable storage solutions. With the 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 StorageTek SL8500 modular library can accommodate growth up to 56* petabytes, making it an extremely flexible and compact option for intelligent archiving of vital corporate information. That's no surprise, since Sun archives more data than anyone else in the world.

Consolidation made easy

The StorageTek SL8500 modular library system is part of a series of offerings in the Sun StorageTek family of data protection and archive solutions. The library can be shared across supercomputer, mainframe, Solaris™ AS/400, Windows, Linux, and a variety of Unix® environments. Its Any Cartridge Any Slot™ technology enables any combination of supported drives and media — there is never a requirement to replace slots or to add special drive frames to accommodate different technologies. The choices include the enterprise Sun StorageTek T10000 tape drive, which can encrypt your data, as well as the enterprise fast access Sun StorageTek T9840 tape drive and high capacity Sun StorageTek T9940 tape drive, midrange Sun StorageTek LTO tape drives and the Sun StorageTek SDLT and DLT-S4 tape drives.

The StorageTek SL8500 has nearly limitless scalability — it can currently scale to 70,000 slots (56 PB native*). Many libraries can be consolidated into one SL8500 system with plenty of headroom for the most explosive future growth.

Availability, reliability, serviceability

There is no time for downtime in your demanding enterprise storage environment, so the SL8500 is designed to minimize both unscheduled and scheduled maintenance. Drives, power supplies, and robotics are hot-swappable. With the optional redundant robotics and integrated service safety door, the library can continue to operate while a failed robot is replaced. The optional service door is built into the library so that it does not require an outage to engage it. The power system is N+1 redundant and optionally 2N redundant — there is no loss of robot or drive power when losing a power supply or in the case of 2N power, losing an AC input.



Interior photo of StorageTek SL8500 modular library system

Since scheduled maintenance is also unacceptable in your enterprise datacenter, the SL8500 includes the ability to grow while operating. The RealTime Growth™ capability of the SL8500 means that additional slots, drives, and the robotics to serve them, can be added via pass-thru while the original SL8500 system continues to operate. Thus, the SL8500 can scale to accommodate your future growth, adding capacity and performance, without disruption.

To handle the asynchronous mount requests in a consolidated, enterprise environment, each SL8500 is equipped with 4 or 8 HandBot High Performance™ robotics, each working in parallel to provide a multi-threaded solution. This reduces queuing, especially during peak work periods. As the system scales, each additional SL8500 added to the system comes equipped with more robotics, so the performance can scale to stay ahead of your requirements as they grow.

Environmentally friendly and efficient

The cost of raised floor space can be expensive. The SL8500 offers very high density as it scales, and its space savings grows compared to competitive libraries. Each capacity module is only 37.5 inches long, but adds another 1728 slots to the system. Since multiple libraries can be consolidated into one SL8500, the SL8500 can also save on power and cooling.

Easy management

StorageTek Library Console software makes the SL8500 easy to manage and monitor via a remote, network-based operator panel or an optional local touch-screen operator panel. All of the basic functions available on the local operator panel are also available remotely via the ethernet-based remote interface.

Data protection and Secure archiving

This modular library system was designed to handle enterprise requirements for high-performance, high-reliability backup, and intelligent archiving, in both open systems and mainframe environments. Its fast robotics handle unpredictable peak workloads with ease, and the system also lets you add slots and drives for increased capacity and throughput, without any downtime requirements. Now with the Sun StorageTek Crypto-Ready T10000 tape drive, you can further enhance your data security needs with device-level encryption.

Options

- > Redundant robotics
- > N+1 or 2N power
- > Choice of one or two 39-slot cartridge access ports (CAPs)
- > Touch-screen operator panel
- > Partitioning capability
- > Remote monitoring via webcam

Engage the storage experts

Sun StorageTek service professionals help you address storage challenges by delivering integrated services and solutions that optimize and manage storage performance over the life of your data, including assessment, design, implementation and migration services. Our recognized, world-class service and customer care give you confidence that your technology investment is protected and that your business will be responsive to change. We can help you pinpoint opportunities to reduce costs, mitigate business risk, and better leverage information assets. Our consulting and managed services offer clear and simple choices in solutions that address your regulatory concerns, complex storage growth, resource management, and scalability challenges.

StorageTek Baseline Implementation Services

Achieve the full benefits of your storage solution investment, right from the start, with the Baseline level of Sun's StorageTek Implementation Services for enterprise-class tape library systems.

- > StorageTek SL8500 modular library systems operating in:
 - Mainframe environments requiring StorageTek Host Software Component (HSC) software
 - Open systems environments requiring StorageTek ACSLS Manager™ software
- > Existing library environments that require reconfigured HSC software or ACSLS Manager software in order to add an additional library

This service covers the installation and configuration/reconfiguration of library software, testing of library software utilities, as well as the operational tuning of the library in your environment. Sun also offers design validation, testing, documentation, project management, and knowledge transfer.

StorageTek Custom Implementation Services

The Custom level of Sun's StorageTek Implementation Services can help provide a seamless migration of your existing tape environment to an enterprise-class SL8500 library system. These services are custom tailored to maximize interoperability, functionality and availability of your new and existing storage assets.

Training, support, and other SL8500 services are also available worldwide from our certified partners. Financing and leasing programs are available through Sun Financial Services Corporation.

Covering over 125 countries, StorageTek service professionals can help you gain and sustain measurable results with the reliability and flexibility that you require.

Learn More

As a first step, we'd like to learn more about your needs, so we can propose a vendor-neutral, "best-of-breed" system that fits your exact requirements. We'll sit down with you and share our 35 years of industry experience in order to help you identify the best possible storage solution for your particular business challenges. To learn more about Sun — or how the Sun StorageTek SL8500 modular library system can help simplify your data access and management — please contact your Sun representative or visit sun.com/storagetek.

StorageTek SL8500 Modular Library System Specifications

| Performance | SL8500 (minimum configuration) | SL8500 (maximum configuration of 7 libraries*) |
|--|---|--|
| Throughput per hour, native (uncompressed) | T10000 (64 drives, 120 MB/sec) – 27.6 TB/hr T9840C (64 drives, 30 MB/sec) – 6.9 TB/hr T9840B (64 drives, 19 MB/sec) – 4.4 TB/hr T9840A (64 drives, 10 MB/sec) – 2.3 TB/hr T9940B (64 drives, 30 MB/sec) – 6.9 TB/hr LTO 4 (64 drives, 120 MB/sec) – 27.6 TB/hr LTO 3 (64 drives, 80 MB/sec) – 18.4 TB/hr DLT-S4 (64 drives, 60 MB/sec) – 13.8 TB/hr SDLT 600 (64 drives, 36 MB/sec) – 8.3 TB/hr | T10000 (448 drives, 120 MB/sec) – 193.5 TB/hr T9840C (448 drives, 30 MB/sec) – 48.3 TB/hr T9840B (448 drives, 19 MB/sec) – 30.8 TB/hr T9840A (448 drives, 10 MB/sec) – 16.1 TB/hr T9940B (448 drives, 30 MB/sec) – 48.3 TB/hr LTO 4 (448 drives, 120 MB/sec) – 193.2 TB/hr LTO 3 (448 drives, 80 MB/sec) – 128.8 TB/hr DLT-S4 (448 drives, 60 MB/sec) – 96.6 TB/hr SDLT 600 (448 drives, 36 MB/sec) – 58.1 TB/hr |
| Audit time (with redundant HandBots) | <12 min | <40 min |
| Average cell to drive time | <11 sec per HandBot | <11 sec per HandBot |
| Capacity | | |
| Capacity, native (uncompressed) | T10000 (1,448 carts, 500 GB/cart) – 724 TB T9840C (1,448 carts, 40 GB/cart) – 58 TB T9840B (1,448 carts, 20 GB/cart) – 29 TB T9840A (1,448 carts, 20 GB/cart) – 29 TB T9940B (1,448 carts, 200 GB/cart) – 290 TB LTO 4 (1,448 carts, 800 GB/cart) – 1.16 PB LTO 3 (1,448 carts, 400 GB/cart) – 579 TB DLT-S4 (1,448 carts, 800 GB/cart) – 1.16 PB SDLT 600 (1,448 carts, 300 GB/cart) – 434 TB | T10000 (70,000 carts, 500 GB/cart) – 35 PB T9840C (70,000 carts, 40 GB/cart) – 2.8 PB T9840B (70,000 carts, 20 GB/cart) – 1.4 PB T9840A (70,000 carts, 20 GB/cart) – 1.4 PB T9940B (70,000 carts, 200 GB/cart) – 1.4 PB LTO 4 (70,000 carts, 800 GB/cart) – 56 PB LTO 3 (70,000 carts, 400 GB/cart) – 28 PB DLT-S4 (70,000 carts, 800 GB/cart) – 56 PB SDLT 600 (70,000 carts, 300 GB/cart) – 21 PB |
| Number of cartridge slots | Starts at 1,448 customer-usable slots | 70,000 customer-usable slots* |
| Number of tape drives/types | Up to 64 drives of any combination of supported drives, including: T10000 Fibre Channel and FICON, T9840 ESCON, Fibre Channel and FICON, T9940 ESCON, Fibre Channel and FICON, LTO Fibre Channel, SDLT Fibre Channel, DLT-S4 Fibre Channel | Up to 448 drives* of any combination of supported drives, including: T10000 Fibre Channel and FICON, T9840 ESCON, Fibre Channel and FICON, T9940 ESCON, Fibre Channel and FICON, LTO Fibre Channel, SDLT Fibre Channel, DLT-S4 Fibre Channel |
| Cartridge access port (CAP) | Standard 39-cartridge slot CAP, optional 39 additional slots (78 total) | Up to 546 cartridge slots* |
| Availability | | |
| Non-disruptive serviceability | Standard N+1 power (optional 2N) for drives and robotics that can be replaced while the library is operating. | |
| Mean exchanges/swaps between failure (MEBF/MSBF) | 2,000,000 per HandBot | |
| Compatibility | | |
| Supported host platforms | A wide variety, including Solaris®, z/OS, AS/400, AIX, HP-UX, Windows, Linux. Please check with your Sun account rep for your specific environment | |
| Robotics control interfaces | TCP/IP (IEEE 802.3, 100 BaseT, 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 | |
| Management | | |
| Digital vision system | Unique digital vision camera system performs continuous calibration and reads bar codes | |
| Operator panel | TCP/IP remote monitoring is standard | |
| Automatic clean | Additional dedicated cleaning cartridge slots are included for tape drive cleaning for multiple drive types by library or software command | |
| Automatic self-discovery | Auto-discovery and auto-configuration for all drive, media types, slots, and CAP | |
| Continuous automation calibration | No periodic maintenance or alignment required | |
| Mechanical | | |
| Library | | |
| Height | 93.15 in. (236.6 cm) | 93.15 in. (236.6 cm) |
| Depth | 109 in. (276.9 cm) | 296.5 in. (753.0 cm) |
| Width | 67.3 in. (170.81 cm) | 537.1 in. (1392.4 cm) |
| Weight (library only) | 4,309 lb (1,954 kg) | 57,837 lb (26,232 kg) |
| Environmental | | |
| Temperature (operating) | +60° F to +90° F (+16° C to +32° C) | |
| Temperature (non-operating) | +40° F to +90° F (+4° C to +32° C) | |
| Relative humidity (operating) | 20% to 80% | |
| Relative humidity (non-operating) | 20% to 80% | |
| Power | | |
| Voltage | Choice of 220–240 VAC @ 50–60 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 | |
| Regulatory compliance | | |
| Safety | UL 1950; CAN/CSA 22.2 No. 950; EN60950 | |
| Emissions | FCC (47 CFR 15, Subpart B) Class A; CE (EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3)VCCI (CISPR 22) Class A; Canada (ICES-003) Class A | |
| Immunity | European Union CE immunity standards (CISPR24/EN55024) | |

*Future scalability is planned beyond 70,000 slots. Contact Sun Microsystems for roadmap information.

Sun Microsystems, Inc. 4150 Network Circle, Santa Clara, CA 95054 USA Phone 1-650-960-1300 or 1-800-555-9SUN Web sun.com



© 2007 Sun Microsystems, Inc. All rights reserved. Sun, Sun Microsystems, the Sun logo, StorageTek and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries. UNIX is a registered trademark in the United States and other countries, exclusively licensed through X/Open Company, Ltd.