



# Sun StorageTek™ 2510 Array

Simple, reliable, and affordable storage consolidation



The Sun StorageTek™ 2510 array affordably and simply meets the ever-increasing storage demands of a wide range of organizations. With iSCSI host interface connectivity and SAS back-end technology, the Sun StorageTek 2510 array will specifically benefit environments where flexibility, price/performance, and availability of administrative staff are critical IT decision factors. For SMBs and workgroups, the Sun StorageTek 2510 array is easy-to-use affordable primary storage to consolidate data and take overburdened Direct Attach Storage (DAS) to the next level. For the enterprise and larger organizations, the Sun StorageTek 2510 array is a reliable and robust system for their remote sites as well as a cost-effective Business Continuity/Disaster Recovery (BC/DR) solution.

## Highlights

- iSCSI connectivity – Integration into low-cost IP networks
  - Consolidate inefficient DAS configurations
  - Extend IP network connectivity to remote offices
- Utilize existing reliable Internet Protocol (IP) networks for connectivity around the globe, with great expandability and no distance limitations
- Support for high-performance SAS and/or high capacity drives within the same enclosure addresses the needs of tiered storage and ILM solutions
- Leverages Sun expertise in data storage development to assure “best-of-breed” technology
- Simple to implement and manage with intuitive easy-to-use storage CAM software
- iSCSI connectivity complements server virtualization technologies by removing SAN complexity

## Meeting the relentless demands of storage

The proliferation of servers and influx of data growth in today’s IT environments is not limited to just the enterprise, but is a common challenge across most organizations today. To leverage data to its fullest extent, it must be manageable as well as accessible when needed. The connecting of storage devices via a storage area network, or SAN, is generally recognized to provide substantially higher scalability, flexibility, availability and manageability than is possible than with DAS environments. Storage consolidation using iSCSI host connectivity allows simple, rapid set-up of a SAN without the cost and complexity of Fibre Channel switches.

Sun expertise in external storage system development was the intellectual ground work for the Sun StorageTek 2510 array—assuring best-of-breed technology and reliability. With four host-side 1 Gb/sec iSCSI interfaces, the Sun StorageTek 2510 array can attach to redundant IP switches—enabling capacity-efficient storage IP SAN consolidation without the need of an expensive or complicated storage network.

By leveraging iSCSI technology, the Sun StorageTek 2510 array supports a simple and commonplace technology. This ensures low

costs through commodity economics as well as leverages an enormous knowledge and experience base—as some level of network expertise is typically present in all sizes of organizations.

## Tiered storage solution

Where SAS drives are notable for high availability and typically utilized for mainstream transaction-based applications, SATA technology is generally deployed for near-line data and can drastically reduce the cost of a storage investment when cost/GB is the most important factor. By optimizing the right workload demand with the appropriate drive technology, the StorageTek 2510 array can cost-effectively support an organization’s entire range of data capacity requirements. Use your SAS drives for Input/Output (I/O) intensive applications and SATA for second tier (back-up) or large volume storage needs.

## Start small, grow big

Scalable by using up to three Ethernet switches for support of up to 48 SAS and/or SATA disks, the Sun StorageTek 2510 array’s modular design creates an affordable entry-point without sacrificing future scalability—enabling customers to start small and grow big when they’re ready.

## Simple installation and management

Common Array Manager's (CAM) web-like and task-based management interface significantly reduces the complexity of installation, configuration, management and diagnostic tasks. Online capacity expansion, data-volume creation and host-to-volume mappings, gives the user control of their array and the ability to make quick changes when necessary. Accessible from anywhere in the world with use if a secure internet connection, CAM includes automated diagnostics so users can focus on precise, predictable and repeatable results. CAM also scales across Sun's entire

modular disk portfolio and is provided and no additional cost.

Premium features provide additional functionality and replication features to an organization's storage system only when and if their storage demands call for it. As businesses continue to grow, administrators have the flexibility to add premium features to support data utilization and protection requirements.

- StorageTek storage domains logically divides a single array into multiple arrays by defining which host or host group can access each volume in the array. Additional

### Learn More.

For more information visit  
[sun.com/st2500](http://sun.com/st2500)

domains are available through a licensable upgrade.

- StorageTek data snapshot creates capacity-efficient, point-in-time volume images, providing a logical volume for such uses as file restoration and backup.

## Sun StorageTek 2510 Array Specifications

### Sun StorageTek 2510 array

Controller card	• Dual and single iSCSI RAID controller
Cache size (with ECC protection)	• 512 MB or 1 GB/controller (up to 2 GB/system)
Host interfaces / link speeds	• Two 1 Gb/sec iSCSI host ports per controller
Other interfaces	• Up to two 10/100 Base-T Ethernet • Up to two nine-pin RS232 serial ports per dual controller tray
RAID levels	• 0, 1, (1+0), 3, 5, 6 (p+q)
Cache battery backup	• Up to 72 hours (depending on cache size)
Integrated data services	• StorageTek Data Snapshot (optional) – Basic: 4 snaps/vol, Enhanced: 8 snaps/vol • Sun StorageTek Volume Copy (optional) • StorageTek Storage Domains – 2 domains included; (optional 4, 8, 16 or 32)
Dynamic capacity expansion	• Five to 48 drives – 730 GB to 48.0 TB
Expansion tray	• Up to three expansion trays
Drive depopulation	• Scales from five to 12 hard disk drives per tray
Volume	• Up to 256 (32/host)
Global hot spares	• Up to 30
Maximum array capacity	• 21.6 TB (450 GB SAS drives) • 48.0 TB (1.0 TB SATA drives)

### Disk drives

Form factor	• 3.5-in., low-profile
Interface	• Dual-ported SAS
Supported drives/system per tray capacity, raw, unformatted:	
SAS drives	• 146 GB 15,000 rpm 3 Gb/sec, 1.75 TB per tray • 300 GB 15,000 rpm 3 Gb/sec, 3.6 TB per tray • 400 GB 10,000 rpm 3 Gb/sec, 4.8 TB per tray • 450 GB 10,000 rpm 3 Gb/sec, 5.4 TB per tray
SATA drives	• 500 GB 7,200 rpm 3 Gb/sec, 6.0 TB per tray • 750 GB 7,200 rpm 3 Gb/sec, 9.0 TB per tray • 1.0 TB 7,200 rpm 3 Gb/sec, 12.0 TB per tray

### Supported software

- Sun Cluster Software
- StorageTek™ Enterprise Backup Software (EBS)
- Veritas NetBackup (NBU)
- Oracle® Database – Oracle Real Application Clusters (RAC)
- Red Hat Enterprise Linux – Red Hat Cluster Suite
- Windows Server 2003 – Server Cluster

### Management software support

StorageTek Common Array Manager (CAM) – included

### Operating system support

- Solaris™ Operating System 10 and x86
- Microsoft Windows 2003, 2008
- SUSE Linux 9.0, 10.0
- Red Hat Enterprise Linux 4.0, 5.0
- VMware ESX 3.5

### Host connectivity

- |                      |   |
|----------------------|---|
| Host/HBA/IP switches | • Any Ethernet device operating in a supported O/S (above)  |
| Multipath driver     | • The Solaris OS, as well as native drivers for other operating systems including Windows and RDAC drivers for Linux.<br>• All HBAs supported in SAN 4.4.12 |

### Warranty

Duration	• Three years (parts only)
Phone support	• 8 a.m.-8 p.m., Mon.-Fri.
On-site service	• N/A
On-site response time	• N/A
Other	• Additional support and extended on-site coverage available through Sun Services

### Dimensions

Height x width x depth	• 86.1 mm (3.39 in.) x 448.6 mm (17.66 in.) x 540 mm (21.26 in.)
Weight (maximum)	• 59.55 lbs.

### Power requirements

AC power	• 515 W (+5V @ 19A/+12V @35A)
DC power	• 17A max operating (-42 to -60 V DC)

### Environmental (operating)

Temperature	• 10°C to 40°C (50°F to 104°F) without battery • 10°C to 40°C (50°F to 104°F), 10°C to 35°C (50°F to 95°F) with battery
Relative humidity	• 20-80% noncondensing
Operating altitude	• 68.3 kPa (3,200m), 40°C, four-hour dwell
Operating shock	• 5.5Gs, 11 ms, half-sine, 10 shocks per direction, all six directions
Operating vibration	• All three axes: 0.25Gs, 5 to 500 Hz, swept-sine, five sweep cycles, one octave per minute
Heat output	• 460 W (1,570 BTU/hr.)

### Environmental (nonoperating)

Temperature (storage)	• 10°C to 50°C (-14°F to 122°F) without battery -10°C to 45°C (-14°F to 113°F), with battery (three month maximum)
Temperature (transit)	• 40°C to 60°C (-40°F to 140°F) without battery -20°C to 60°C (-4°F to 113°F) with battery (one week maximum)
Humidity (storage)	• 10-90%, max dew point is 26°C (79°F), 10% per hour gradient
Humidity (transit)	• 5-95%, max dew point is 26°C (79°F), 10% per hour gradient
Altitude	• 18.8 kPa (12,200m), 40°C, four-hour dwell
Shock (storage)	• 20G, 8.0 ms square wave in each direction along x, y, and z axes
Shock (transit)	• 33Gs, 11 ms, half-sine, three shocks per direction, all six directions
Vibration	• All three axes: 1.2 Gs, 5 to 500 Hz, swept-sine, five sweep cycles, one octave per minute

### Regulations

Safety and emissions	• FCC Class A, VCCI Class A, EN55022 Class A, EN 55024 UL BSM, C-Tick, RoHS, and WEEE
NEBS Level 3	• GR-63 CORE requirements, GR-1089 CORE requirements