



## Sun StorageTek™ 2500 Array Family

Simple, reliable, affordable storage solutions



### Highlights

- Simple and cost-effective storage supporting a variety of configurations, and flexible for use with Sun x64 and SPARC® servers
- The StorageTek™ 2540 array's Fibre Channel (FC) model supports existing FC infrastructures and entry-level SANs
- The StorageTek™ 2530 array's serial-attached SCSI (SAS) model delivers optimal performance and reliability at lower costs for external DAS environments, overcoming SCSI's limitations
- Industry-leading value with high availability, flexibility (FC, SAS host connectivity), and density (six drives/rack unit)
- Financial value — Cost savings, pay-as-you-grow scalability
- Operational value — Easy to use and deploy, easy to service
- Sun StorageTek™ Common Array Manager (CAM) software — Simple to implement and manage, scalable across Sun's Modular disk portfolio
- Combine the StorageTek 2540 and 2530 arrays in a Sun™ System Pack for one optimized service offering



The Sun StorageTek 2540 array and Sun StorageTek 2530 array are ideal for primary and secondary storage within entry and workgroup application environments, and leverage Sun's expertise in data storage development to assure "best-of-breed" technology, reliability, and affordability. An affordable entry point into the Sun Modular family of arrays, the Sun StorageTek 2500 arrays utilize new-generation SAS point-to-point disk subsystem technology, allowing growing organizations to take advantage of improved performance and reliability at lower costs.

### Meeting storage demands

Workgroup, enterprise, and NEP/telecom customers each face their own distinct challenges. The workgroup customer struggles to keep pace with their applications' data growth, which often accounts for the majority of their business issues. Enterprise customers, with departmental and remote offices, seek secondary Tier 2 storage — reliable and centrally manageable, from a name they can trust. And NEP/telecom customers look for storage to address their ruggedization requirements and new application build-outs. While each user faces unique storage demands, Sun satisfies all three

markets' data requirements with affordable, available, high-performance Sun StorageTek 2500 arrays.

With a choice of Fibre Channel (FC) or serial-attach-SCSI (SAS) host interface options, Sun StorageTek 2500 arrays satisfy a wide range of storage requirements. Both arrays are ideal solutions for end users struggling with managing data growth within the limits of their current IT configurations. Both are strategically positioned for a wide range of customers, and each array has its own unique key value propositions.

### Sun StorageTek 2540 array (FC)

The Sun StorageTek 2540 array incorporates the latest four Gbps FC technology necessary when deploying in new enterprise/workgroup SAN environments. By combining FC host interface architecture with next-generation SAS drive and expansion technology, growing organizations can take advantage of improved performance and reliable data protection in an array that can be shared across an entire SAN. With up to four auto-negotiating four Gbps FC host ports and 256 volumes per array, the Sun StorageTek 2540 array supports the direct attachment of two to four servers, or support for additional servers through SAN connectivity. The Sun StorageTek 2540 array is an ideal choice for small storage consolidation environments, and it provides reliable storage at an affordable price.

### Sun StorageTek 2530 array (SAS)

With up to six host-side three Gbps SAS interfaces, the Sun StorageTek 2530 array can provide support for up to three servers with redundant connections — enabling capacity-efficient storage consolidation without the need of a storage network. The Sun StorageTek 2530 array provides an affordable, reliable, and robust storage solution designed to improve productivity through higher performance, availability, scalability, and functionality.

Entry-level and workgroup users may also be struggling with their internal DAS strategy. Newly purchased servers typically house several drives, and for an organization with a restrictive budget, this is often viewed as a convenient, low-cost solution. However, this distributed storage strategy leads to wasted data space, duplicated functions, inefficiencies in data protection, and availability inconsistencies. The Sun StorageTek 2530

## Sun StorageTek 2530 and 2540 arrays extend Sun's modular family

Customer needs	Sun StorageTek 2500 arrays deliver
<ul style="list-style-type: none"> <li>&gt; Simple management               <ul style="list-style-type: none"> <li>• As easy as provisioning a server</li> <li>• Ease application optimization</li> <li>• Common management with Modular</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>&gt; Simple management               <ul style="list-style-type: none"> <li>• Server-oriented management (CAM)</li> <li>• Application-oriented provisioning</li> <li>• Common management with Modular</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>&gt; Flexibility and small footprint               <ul style="list-style-type: none"> <li>• Maximum storage density (spindles/RU)</li> <li>• Multiple drive and connectivity options</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>&gt; Flexibility and small footprint               <ul style="list-style-type: none"> <li>• Six drives per RU</li> <li>• FC, SAS host options</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>&gt; Strong price/performance               <ul style="list-style-type: none"> <li>• Keep application and business running</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>&gt; Strong price/performance               <ul style="list-style-type: none"> <li>• Maximum of over 100K IOPS and one Gbps</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>&gt; Reliable, cost-effective data protection               <ul style="list-style-type: none"> <li>• Trusted solution with no points of failure</li> <li>• Data protection software and services</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>&gt; Reliable, cost-effective data protection               <ul style="list-style-type: none"> <li>• Fully redundant RAID array</li> <li>• Data snapshot capabilities</li> </ul> </li> </ul>

array breaks through the capacity barriers of internal storage and provides increased capacity and performance by taking storage externally.

### Start small, grow big

The Sun StorageTek 2540 and Sun StorageTek 2530 arrays' modular design creates an affordable entry point without sacrificing future scalability — enabling customers to start small and scale incrementally when they're ready to address data growth. Dual-active controllers and up to 12 drives combine to create a feature-rich and highly available storage system within a space-efficient 2U enclosure. When capacity or performance requirements change, the Sun StorageTek 2540 and StorageTek 2530 arrays support up to a total of 36 drives, allowing further investment protection and flexibility without the need to move to another platform architecture.

The Sun StorageTek 2540 and Sun StorageTek 2530 arrays are ideal for a server clustering environment. By utilizing up to two active/active RAID controllers with mirrored cache — redundant components including power and cooling, hot-spare drives that can be available as a spare to any virtual disk in any tray, and automated I/O path failover — the arrays are well suited for clusters where continuous application and data availability are key requirements.

### Simple installation and management

SMI-S-compliant Sun StorageTek Common Array Manager (CAM) software ensures a user-friendly interface from setup to administration. Its Web-like task-based management interface significantly reduces the complexity of installation, configuration, and management. Online capacity expansion, data volume creation, and host-to-volume mapping give the user control of their array and the ability to make quick changes when

necessary. Accessible from anywhere in the world with the use of a secure Internet connection, CAM includes automated diagnostics so users may focus on precise, predictable, repeatable results. CAM also scales across Sun's entire Modular disk portfolio, and is provided at no added cost to the user.

Premium features provide additional functionality only when and if 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:

- Sun StorageTek™ Storage Domains logically divide a single array into multiple arrays by defining which host or host group can access each volume in the array. This enables a wide range of servers — with different capacity, performance, or data protection demands — to effectively share a single array. Two domains are included with the array. Additional domains are available through a licensable upgrade.
- Sun StorageTek™ Data Snapshot creates capacity-efficient, point-in-time volume images, providing a logical volume for such uses as file restoration and backup. Snapshot is available through an licensable upgrade.

#### Added value and cost savings with Sun System Packs

Sun System Packs exceed the traditional warranty, and include 24-hour technical support by phone, extended on-site coverage hours, SunVIP™ cross-vendor/platform interoperability problem management, and access to online learning resources. Achieve flexible storage and services at a price that's less than purchasing the hardware and services separately.

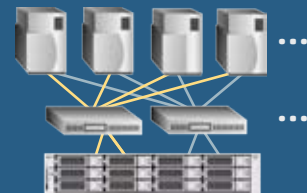


*Sun StorageTek 2500 array.*

#### Sun StorageTek 2540 array

> Up to 4 ports/array

SAN and external DAS connectivity  
DAS to SAN migration  
Small server storage consolidation



#### Sun StorageTek 2530 array

> Up to 6 ports/array

Shared external DAS connectivity  
External DAS environments  
2-3 node clusters



*Typical deployment topologies for Sun StorageTek 2500 arrays.*

## Sun StorageTek 2500 Array Specifications — 2530 and 2540 Models

Sun StorageTek 2500 array	2530	2540
Controller card	Dual and single SAS RAID controller	Dual and single Fibre Channel RAID controller
Cache size (with ECC protection)	512 MB/controller to 1 GB/system	512 MB/controller to 1 GB/system
Host interfaces/link speeds	Three to six 3 Gbps SAS host ports per controller tray	Two to four 4 Gbps FC host ports per controller tray
Other interfaces (FC or SAS)	Up to two 10/100 Base-T Ethernet Up to two-pin RS-232 ports serial ports per dual controller tray	Up to two 10/100 Base-T Ethernet Up to two nine-pin RS-232 ports serial ports per dual controller tray
RAID levels	0, 1, (1+0) 3, 5	0, 1, (1+0) 3, 5
Cache battery backup	Up to 72 hours (depending on cache size)	Up to 72 hours (depending on cache size)
Integrated data services	<ul style="list-style-type: none"> <li>Sun StorageTek Data Snapshot (optional) – supports four snaps per volume, 128 per array</li> <li>Sun StorageTek Storage Domains – two domains included; (optional) – four, eight, or 16</li> </ul>	<ul style="list-style-type: none"> <li>Sun StorageTek Data Snapshot (optional) – supports four snaps per volume, 128 per array</li> <li>Sun StorageTek Storage Domains – two domains included; (optional) – four, eight, or 16</li> </ul>
Dynamic capacity expansion	Five to 36 drives – 365 GB to 10.8 TB	Five to 36 drives – 365 GB to 10.8 TB
Expansion tray	Up to two expansion trays	Up to two expansion trays
Drive depopulation	Scales from five to 12 hard disk drives per tray	Scales from five to 12 hard disk drives per tray
Volume	Up to 256 (32/host)	Up to 256 (32/host)
Global hot spares	Up to 15	Up to 15
Maximum array capacity	10.8 TB (300 GB SAS drives)	10.8 TB (300 GB SAS drives)
<b>Disk drives</b>		
Form factor	3.5 in., low-profile	3.5 in., low-profile
Interface	Dual-ported SAS	Dual-ported SAS
Supported drives/system per tray capacity: raw, unformatted	73 GB 15,000-rpm three Gbps 876 GB per tray 146 GB 15,000-rpm three Gbps 1.75 TB per tray 300 GB 15,000-rpm three Gbps 3.6 TB per tray	73 GB 15,000-rpm three Gbps 876 GB per tray 146 GB 15,000-rpm three Gbps 1.75 TB per tray 300 GB 15,000-rpm three Gbps 3.6 TB per tray
<b>SAS drives</b>		
<b>Supported software</b>		
	<ul style="list-style-type: none"> <li>Sun™ Cluster Software 3.1 and 3.2</li> </ul>	<ul style="list-style-type: none"> <li>Sun Cluster Software 3.1 and 3.2</li> <li>VMware ESX 3.0.2 and higher</li> </ul>
<b>Management software support</b>		
	Sun StorageTek Common Array Manager — included	
<b>Operating system support</b>		
	<ul style="list-style-type: none"> <li>Solaris™ Operating System 10 and x86</li> <li>Microsoft Windows 2003</li> <li>Linux Red Hat 3.0, 4.0</li> <li>SUSE Linux 8.0, 9.0</li> </ul>	<ul style="list-style-type: none"> <li>Solaris™ Operating System 9, 10, and x86</li> <li>Microsoft Windows 2003</li> <li>Linux Red Hat 3.0, 4.0</li> <li>SUSE Linux 8.0, 9.0</li> </ul>

### Learn More

Learn more about Sun StorageTek 2500 arrays by contacting [sun.com/st2500](http://sun.com/st2500).

### Host connectivity

Host/HBA/FC switches	HTTPS://extranet.stortek.com/interop/interop
Multipath driver	All HBAs supported in SAN 4.4.12

### Warranty

Duration	One year
Phone support	8 a.m.-8 p.m., Mon-Fri
On-site service	Next business day, 8 a.m.-8 p.m., Mon-Fri
On-site response time	Next business day, local business hours
Other	Additional support and extended on-site coverage available through Sun System Pack

### Dimensions

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

### Power requirements

AC power	.515 watts (+5 V @ 19A/+12 V @ 35 A)
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### Environmental (operating)

Temperature	10° to 40° C (50° to 104° F), without battery 10-40° C (50 to 104° F) 10° to 35° C (50° to 95° F) with battery
Relative humidity	20-80 percent noncondensing
Operating altitude	68.3 kPa (3,200 m), 40° C, four-hour dwell <sup>1</sup>
Operating shock	5.5 Gs, 11 ms, half-sine, 10 shocks per direction, all six directions
Operating vibration	All three axes: 0.25 Gs, five to 500 Hz, swept-sine, five sweep cycles, one octave per minute
Heat output	460 watts (1,571 BTU/hr.)

### Environmental (nonoperating)

Temperature (storage)	-10° to 50° C (-14° to 122° F) without battery -10° to 45° C (-14° to 113° F) with battery (three-month maximum)
Temperature (transit)	-40° to 60° C (-40° to 140° F) without battery -20° to 60° C (-4° to 140° F) with battery (one-week maximum)
Humidity (storage)	10-90 percent, max dew point is 26° C (79° F), 10 percent per hour gradient
Humidity (transit)	5-95 percent, max dew point is 26° C (79° F), 10 percent per hour gradient
Altitude Shock	18.8 kPa (12,200 m), 0C, four-hour dwell <sup>1</sup> 20 G, 8.0 msec square wave in each direction along x, y, and z axis
Shock	33 Gs, 11 msec, half-sine, three shocks per direction, all six directions
Vibration	All three axes: 1.2 Gs, five 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 WEEE
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<sup>1</sup> Commencing upon product reaching temperature stability.

