STORAGETEK 2540 ARRAY

KEY FEATURES

AFFORDABLE, RELIABLE, AND GREAT PRICE-TO-PERFORMANCE STORAGE

- Supports existing FC infrastructures and entry-level SANs for low-cost growth
- SAS technology ensures reliability with point-to-point architecture and dual-ported drives
- Investment protection with auto-negotiating 4 Gb/sec FC connectivity
- Support for high-performance SAS or high-capacity SATA drives within the same tray addresses the needs of tiered storage and ILM solutions
- StorageTek Common Array Manager software—simple to implement and manage with an intuitive and familiar user interface
- Premium key-enabled features offer additional functionality and flexibility

Oracle's StorageTek 2540 array is specifically designed for a wide range of users. It brings together 4 Gb/sec Fibre Channel (FC) host connectivity, SAS and SATA drive-side technology, and intuitive StorageTek Common Array software to create a robust solution that's equally adept in an entry-level storage area network (SAN) for the midsize business and integrating into an existing storage network within the enterprise.

The StorageTek 2540 array can scale to meet the storage needs of large and small organizations.

Satisfying a Wide Range of Storage Demands

Both large and small enterprises face their own distinct challenges. The large enterprise buyer, with departmental and remote offices, is searching for a reliable and self-administrable storage solution from a name they can trust. And the current small enterprise administrator, with unconsolidated Direct Attach Storage (DAS), requires a more-efficient and networked storage solution. While each of these organizations faces its own unique storage demands, Oracle can satisfy both of these markets' data requirements with the affordable, available, and high-performance StorageTek 2540 array.

Oracle's expertise in external storage system development provides the intellectual groundwork for the StorageTek 2540 array—ensuring best-of-breed technology and reliability. The StorageTek 2540 array combines Oracle's time-proven designs with advanced front-end 4 Gb/sec FC host connectivity and next-generation SAS back-end technology to enable an organization's productivity through data consolidation, availability, performance, and scalability.

With four auto-negotiating 4 Gb/sec FC host ports and 256 volumes per array, the StorageTek 2540 array supports direct attachment of two to four servers, or provides additional server attachment through FC SAN connectivity. This makes it a great array solution for businesses that want to initially deploy the StorageTek 2540 array as a directly attached array, and then seamlessly transition to a SAN when ready. Additionally, the StorageTek 2540 array is a great fit for existing SANs because it

can easily integrate into 1, 2, and 4 Gb/sec FC infrastructures and provide robust and reliable storage at an affordable price.

Start Small, Grow Big

The StorageTek 2540 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. Dual-active controllers and up to 12 SAS or SATA drives combine to create a full-featured and highly available storage system in a 2U enclosure. And when capacity or performance requirements change, the StorageTek 2540 array's scalability supports up to 36 additional drives.

Simple Installation and Management

StorageTek Common Array Manager's 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 give the users control of their array and the ability to make quick changes when necessary. Accessible from anywhere in the world with use of a secure internet connection, StorageTek Common Array Manager includes automated diagnostics so users can focus on precise, predictable, and repeatable results. StorageTek Common Array Manager also scales across Oracle's entire Sun modular disk portfolio.

Premium features offer 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 the following premium features to support data use and protection requirements.

- 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. Additional 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.
- StorageTek Data Volume Copy software creates a complete physical copy, or a clone, of a volume within a storage system. This unique entity can be assigned to any host and used for application testing, development, information analysis, or data mining.

StorageTek 2540 Array Specifications

StorageTek 2540 Array	
Controller Card	Cache Size (with ECC Protection)
Single and Dual FC RAID controller	512 MB or 1 GB/controller (up to 2 GB/system)
Host Interfaces/Link Speeds	
Two to four FC host ports per controller tray	
Other Interfaces	
• Up to two 10/100 BaseT Ethernet • Up to two nine-pin RS232 serial ports per dual controller tray	
RAID Levels	Cache Battery Backup
0, 1, (1+0), 3, 5, 6 (p+q)	Up to 72 hours (depending on cache size)
Integrated Data Services	
• StorageTekData Snapshot (optional)— Enhanced: 8 snaps/vol. • StorageTek Volume Copy (optional) • StorageTek Storage Domains: Two domains included (optional 4 and upgrade to 16)	

Dynamic Capacity Expansion	Expansion Trays
5 to 48 drives—1.5 TB to 96 TB	Up to three expansion trays
Drive Depopulation	Volume
Scales from 5 to 12 hard disk drives per tray	Up to 256 (32/host)
Maximum Array Capacity	Global Hot Spares
• 28.8 TB (600 GB SAS drives) • 96.0 TB (2.0 TB SATA drives)	Up to 30
Disk Drives	
Form Factor	Interface
3.5 in., low-profile	Dual-ported SAS
Supported Drives/System per Tray Capacity, Raw, Unformatted	
SAS drives • 300 GB 15,000 rpm, 3 Gb/sec, 3.6 TB per tray • 600 GB 15,000 rpm , 3 Gb/sec, 7.2 TB per tray	**SATA drives** • 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 • 2.0 TB 7,200 rpm, 3 Gb/sec, 24.0 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 - included
Operating System Support
• Oracle's Solaris Operating System 9, 10, and x86 • Microsoft Windows 2003, 2008 • SUSE Linux 9, 10 • Red Hat Enterprise Linux 4, 5 • VMware ESX 3.0.2 and higher • VMWare vSphere 4.0
Host Connectivity
• Host/HBA/IP switches multipath driver: The Solaris OS as well as native drivers for other operating systems, including Windows, RDAC drivers for Linux • All HBAs supported in SAN 4.4.12
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 lb.

Power Requirements
• AC power: 515 (+5 V @ 19 A/+12 V @ 35 A) • DC power: 17 A max. operating (− 42 V to − 60 V DC)
Environmental (Operating)
• Temperature: 10°C to 40°C (50°F to 104°F) without battery • Temperature: 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% to 80%, noncondensing • Operating altitude: 68.3 kPa (3,200 m), 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): 0.25 Gs, 5 Hz 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% to 90%, max. dew point is 26°C (79°F), 10% per hour gradient • Humidity (transit): 5% to 95%, max. dew point is 26°C (79°F), 10% per hour gradient • Altitude: 18.8 kPa (12,200 m), 40°C, four-hour dwell • Shock (storage): 20 G, 8.0 ms square wave in each direction along x, y, and z axes • Shock (transit): 33 Gs, 11 ms, half-sine, three shocks per direction, all six directions • Vibration (all three axes): 1.2 Gs, 5 Hz 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

Warranty

Visit oracle.com/sun/warranty for Oracle's global warranty support information on Sun Storage products.

Services

Visit oracle.com/sun/services for information on Oracle's service program offerings for Sun Storage products.

Contact Us

For more information about Oracle's StorageTek 2540 array, please visit oracle.com/storage or call +1.800.786.0404 to speak to an Oracle representative.

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