

Sun StorEdge™ 3510 FC Array



Powerful, rack-dense, scalable, super-rugged Fibre Channel RAID disk array

Spend your IT dollars wisely

Multi-host connectivity helps eliminate costly switches.

Simply put, you can have your life back

No more spending long hours configuring, installing, reconfiguring, monitoring, and diagnosing. Sets up in minutes. Time-saving features help reduce administrative overhead. A single, highly intuitive GUI provides local or remote control with automatic alerting.

Save valuable space with unprecedented density and scalability

Packs 1.7TB into a fully hot-swap redundant, multi-port, multi-LUN, highly serviceable 2RU enclosure. RAID arrays can be quickly scaled to over 15.7TB of raw capacity. Space-saving trays pack over 30TB inside a single cabinet.

Adapts to your unique requirements

Highly flexible arrays with hundreds of possible configurations can be cost-matched to most any application workload and data criticality requirement.

Built tough to last for years

Designed to withstand harsh environments, the ruggedized array meets full NEBS Level 3 certification and complies with the air, land, and sea components of the MIL-STD-810F specification.

Do more for less with powerful, yet affordable enterprise-class high-density modular array.

Good things come in small packages. The powerful Sun StorEdge™ 3510 FC array uses a high port count modular, building-block approach to help reduce SAN costs by thousands of dollars. Up to six dual path or twelve single path servers can be connected to one dual controller RAID array tray without using costly external edge switches. With its highly intuitive management interface, this array is extremely easy to deploy, configure, manage, and monitor. Using cost effective expansion trays, a RAID array can be scaled to 108 drives—that's almost 16TB of raw capacity. With affordable enterprise-class features and functionality, the powerful, reliable, available, ruggedized Sun StorEdge 3510 FC Array provides unparalleled outstanding value.

Sun storage—providing you with comprehensive hardware, software, and services to solve your business challenges enterprise-wide.



Sun StorEdge™ 3510 FC Array Specifications

Standard Interfaces

Host Interface	2Gb Fibre Channel
Drives	Dual-ported active-active 2Gb Fibre Channel; 3.5 in. low profile
Supported drives	36GB 15k rpm; 73GB 10k rpm; 73GB 15k rpm; 146GB 10k rpm
Maximum number of host ports	Dual RAID controllers: 12x2Gb FC host ports (no expansion); 8x2Gb FC host ports with expansion trays
Maximum cable length	250m
Maximum point-to-point length	250m

Tray and RAID Array Storage Capacities

36GB 15k rpm HDDs	436GB max. raw capacity per 2U tray; expandable to 3.9TB per RAID array (108 HDDs)
73GB 10k/15k rpm HDDs	876GB max. raw capacity per 2U tray; expandable to 7.8TB per RAID array (108 HDDs)
146GB 10k rpm HDDs	1.72TB max. raw capacity per 2U tray; expandable to 15.7TB per RAID array (108 HDDs)

RAID Controller Card

RAID configurations per tray	JBOD/Expansion (no controller); single RAID controller; dual (mirrored) RAID controllers
RAID levels	0, 1, 0+1, 1+0, 3, 5, 3+0, and 5+0
Max. LUNS	Up to 1,024 per RAID array
Max. local and/or global hot spares	Up to 20 (RAID set and disk quantity dependent) per RAID array
Cache size (read and write)	1GB per controller
Cache battery backup	Up to 72 hours
Cache write policy	Write Back–default; Write Through–user configurable
Cache selectable block sizes	32K (random file transfer); 128K (sequential file transfer)
Operating environments	Sun Solaris™ Operating System v.8, 9, 10, x86 10; Microsoft Windows NT EE 4.0/2000/2003 server; Red Hat Linux, Enterprise Edition, 32-bit and 64-bit; Novell SuSE Linux Enterprise server 8 Kernel 2.4.19-64GB; U3 Kernel 2.4.21-138; U3 Kernel 2.6.5-7.97 Novell SuSE Linux 9; Novell NetWare 5.1, 6.0, 6.5; HP-UX 11.0 and 11i; IBM-AIX 4.3.3 and 5.1L (32 and 64 bit)
Included Management software support	Sun StorEdge™ Configuration Service software Sun StorEdge™ Diagnostic Reporter software

Supported Hardware

Supported hosts	All Sun Enterprise™, Sun Netra™, and Sun Fire™ SPARC-based and Sun Fire x86-based (Intel and AMD) servers; x86-based (Intel and AMD) third-party servers; IBM RISC-based servers; HP RISC-based servers
Supported host bus adapters	X6727A, X6767A, X6768A, SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, Sun Solaris (8, 9, 10) Sun Solaris (x86 10) X9279A (Sun Fire V20Z and V40z servers)
MS Windows/Red Hat Linux/Novell SuSE Linux/Novell NetWare	QLA23XX 2Gb FC PCI*
HP-UX and IBM-AIX	Emulex LP9XXX 2Gb FC PCI* and compatible
Storage Area Network (SAN)	Sun SAN 4.1 or greater
Fibre Channel configurations	Fibre Channel arbitrated public, Fibre Channel private loop, point-to-point, switched fabric

*Note: All non-Sun host bus adapters supported by third-party vendor.

Reliability, Availability, Serviceability (RAS)

Non-disruptive controller firmware upgrades using dual RAID controllers via SCS
Hot-swap RAID controllers with battery-backed mirrored 1GB cache, (with dual RAID controllers)
Up to twelve hot-swap disk drives per RAID array tray and per expansion tray
Dual hot-swap, redundant, load-sharing power supplies with dual independent AC inputs
Hot-swap, redundant electrically-isolated redundant cooling fans
Non-disruptive firmware upgrades (with dual RAID controllers via SCS)

Electrical Requirements

AC Voltage	100 to 240 VAC, single phase
AC Power requirement	90 to 132 VAC, 180 to 264 VAC (47 to 63 Hz)
AC Current per input	100 to 240 VAC (50 to 60 Hz) 5.0–7.1A
DC Voltage	–48 or –60 VDC, 18A
DC Power requirement	–36 to –75 VDC
DC Current per input	–48 or –60 VDC, 18A

Environment

Operating	5° C to 40° C (41° F to 104° F); 10% to 90% relative humidity to 38° C, noncondensing; altitude: –30 to 3048 m (–100 to 10,000 ft.); shock: 5.0 G, 11-ms, half-sine; vibration: 0.2 G, 5 to 500 Hz, swept-sine; noise*: LWAD = 6.6 bels
Non-operating	–40° C to 65° C (–40° F to 149° F); 0% to 90% relative humidity to 27° C max. wet bulb, noncondensing; altitude: –30 to 12,192 m (–100 to 40,000 ft.); shock: 15.0 G, 11-ms, half-sine; vibration: 1.0 G, 5-500 Hz, swept-sine

*LWAD (1 bel = 10 dB) Declared noise emissions in accordance with ISO 9296, measured at 23° C

Regulations

Ruggedized	NEBS Level 3 (GR-63-CORE; GR-1089-CORE, GR-78-CORE), MIL-STD-810F, ETSI EN 300 386
Meets or exceeds the following requirements:	
Safety	UL listed UL 60950:2000, CSA-C22.2 No. 60950-00, EN 60950:2000, IEC 60950, TUV, CB Scheme, GOST-R Mark; S-Mark, FCC Part 15 Class B, CISPR 22 55022:1998 Class B, ICES-003
Emission	VCCI Class B, EN AS/NZS 3548:1996, BSMI CNS 13438 Class B, S-Mark
Harmonics & Flicker	IEC 61000-3-2:2000, IEC1000-3-3:1995/A1:2001
Immunity	CSIPR 24 EN 55024

Dimensions and Weight

Height, Width, Depth	H: 8.8 cm (3.5 in.), W: 44.7 cm (17.6 in.), D: 53.3 cm (21 in.)
Weight (fully populated)	22.7 kg (50.0 lb.)

Warranty

Two year	Sun two-year standard warranty, (1st year on site, 2nd year return to depot)
Service Upgrades	SunSpectrum™ service upgrades are available

Get the details. For more information on this product, go to:
www.sun.com/storage/workgroup/3000/3500/3510/