

# Sun Fire™ X4540 Storage Server

The industry's first open storage server



## Highlights

- Delivers extreme value through industry-leading cost/GB for a storage system
- Offers the highest storage density available with 48 hot-swappable SATA HDDs (48 TB in a 4U form factor)
- Provides unprecedented data integrity and dramatically simplified administration with the Solaris™ OS and Solaris ZFS
- Delivers incredibly high throughput rates — demonstrated up to 2 GB/sec from disk to network and up to 3 GB/sec from disk to memory\*
- Fits in a file-based storage, FC-based SAN storage as well as iSCSI storage environment
- Runs any x64 application directly under the Solaris 10 OS, standard Linux, and Microsoft Windows
- Try risk-free for 60 days. Sign up for a free trial at [sun.com/tryandbuy](http://sun.com/tryandbuy)

\* achieved under specific benchmark configurations



Sun is launching an open storage revolution. The Sun Fire™ x4540 storage server, the first open storage server, integrates industry-standard compute and storage components in an open architecture and runs the Solaris™ OS and Solaris ZFS. With state-of-the-art design, the Sun Fire x4540 storage server delivers the highest storage density and data throughput with a built-in, high-performance, eight-way compute engine, at about half the cost and with up to 50% power savings compared to traditional servers and storage arrays.

## Get ahead and stay ahead

Get started on the open storage movement and take advantage of total cost of ownership savings with this award-winning open storage server. Sun continues to offer breakthrough cost/performance advantages with the Sun Fire x4540 storage server, the next generation of the award-winning Sun Fire x4500 storage server.

Sun Fire x4540 storage server is the next generation of the award winning Sun Fire x4500 storage server. The Sun Fire x4540 storage server delivers two to three times the storage density of traditional solutions (servers plus storage arrays), the highest data throughput at 3 GB/sec from disk to memory, and 30% to 50% power savings — at almost half of the total cost. Plus, it runs any x64 application.

The Sun Fire X4540 storage server is a great fit for applications that take advantage of the close proximity of data to compute such as HPC storage clusters with Lustre™, high performance data warehouse and business intelligence, video streaming and video

surveillance, and data backup on disk.

As a versatile storage system, Sun Fire X4540 storage server fits in file-based storage with NFS and CIFS, iSCSI storage systems, as well as FC-based SAN storage environments.

The Sun Fire X4540 storage server runs Sun's Integrated Lights Out Manager (ILOM) as well as state-of-the-art remote automation that integrates at the datacenter level. With zero-touch capabilities managed through a variety of interface options, the architecture simplifies installation, deployment, and maintenance.

The Sun Fire X4540 storage server also features one of the most advanced file systems, Solaris ZFS, which delivers groundbreaking capabilities by automating administrative tasks, protecting data from silent corruption, and providing virtually unlimited scalability as well as the high data throughput.

You can enjoy additional savings when you purchase the Sun Fire X4540 storage server as a Sun™ System Pack, which combines the server with the right services, helping you to get the most value from your assets.

## Sun Fire X4540 Storage Server Specifications

### Architecture

#### Disk system

- Six on board LSI disk controller chips each directly connects to 8 SATA drives for max data throughput
- 48 hot-swappable, 3.5-in. SATA II HDD internal disks: 250 GB, 500 GB, 1000 GB 7200-RPM disks available; 48 TB total capacity
- Software RAID enabled by RAID-Z, RAID-Z2 in Solaris ZFS, other Linux, or Windows RAID code

#### Processor

- Two quad-core AMD™ Opteron processors, Model 2356
- One 512-KB Level 2 cache per core  
2 MB L3 cache per processor

#### Main memory

- Sixteen DDR-2 DIMM slots (eight DIMM slots per CPU socket); 32 GB with 2 GB DIMMs, 64 GB with 4 GB DIMMs and 128 GB when 8GB DIMM is qualified
- Four 10/100/1000Base-T Ethernet ports
- Network management: One dedicated 10/100Base-T Ethernet port
- Serial: One TIA/EIA-232-F asynchronous, RJ45 connector
- USB: Four USB 2.0 ports (two front and two rear)
- Video: VGA video port
- Expansion slots: Three internal MD2 low-profile PCI-E slots, 8x wide each
- One compact flash disk port for OS booting

### Software

#### Operating systems

- Solaris 10 05/08 preinstalled
- Standard Linux distributions, SLES10 SP1 64 bit, RHEL4.6 & 5.1 64 bit
- Windows 2003 Standard and Enterprise version 32 bit and 64 bit

### OS Booting

- Booting from the flash disk is supported by Solaris, Linux and windows, the external flash Disk OS booting saves up to 2 TB HDD capacity for data
- Two mirrored OS drives are also configured on two different disk controllers for max availability

### Networking

- ONC™, ONC+™, NFS, WebNFS, TCP/IP, SunLink™, OSI, MHS, IPXTM/SPX, SMB technologies, and XML

#### Management

- Integrated Lights Out Manager (ILOM) service processor providing: CLI (in-band and out-of-band), IPMI 2.0 (in-band and out-of-band), SNMP (out-of-band only)
- Sun xVM Ops Center — manage from one to hundreds of systems from a central location

### Environment

#### AC power

- 100-240 V AC, 50-60 Hz, 10 A, 100 V support is with 3 power supply unit configuration with 2+1 redundancy
- Operating temperature/humidity
- 5°C to 32°C (37°F to 91°F), 10-90 percent relative humidity, noncondensing, 27°C max. wet bulb
- Nonoperating temperature/humidity
- -40°C to 65°C (-40°F to 149°F), up to 93 percent relative humidity, noncondensing, 38°C max. wet bulb
- Operating altitude
- Up to 3048 m; maximum ambient temperature is derated by 1°C per 300 m above 900 m
- Nonoperating altitude
- Up to 12000 m
- Acoustic noise
- LwAd (1B = 10 dB): At or below 25°C, 7.5B, at max. ambient, 8.5B
- LpAm bystander: At or below 25°C, 65 dB, at max. ambient, 75 dB

### Mounting option

- 19-inch rackmount kit

### Power

- Dual-redundant, hot-swappable power supply
- Power supply output rating: 1,500 W
- Maximum system consumption 1,180 W

### Regulations (meets or exceeds)

- Safety: IEC60950, UL/CSA60950, EN60950, CB scheme with all country differences
- RFI/EMI: FCC Class A, Part 15 47 CFR, EN

### Learn More

Available as a Sun System Pack. Maximize IT value while lowering total cost of acquisition and ownership. For more information on the Sun Fire X4540 server, visit [sun.com/X4540](http://sun.com/X4540).

- 55022, CISPR 22, EN300-396: v1.31, ICES-003
- Immunity: EN55024, EN300-386:v1.3.2

### Certifications

- Safety: cULus Mark, CE Mark, GOST R, S-Mark
- EMC: CE Mark (93/68/3EEC); Emissions and Immunity — Class A Emissions Levels: FCC, VCCI, C-Tick, MIC, GOST R2, BSMI2
- Other: Labeled per WEEE (Waste Electrical and Electronic Equipment) Directive

### Dimensions and weight

#### Height

- 6.89 in./175.05 mm

#### Width

- 17.28 in./439 mm

#### Depth

- 29.52 in./749.90 mm

#### Weight

- 170 lbs./77 kg

#### Warranty

- Two-year, next business day