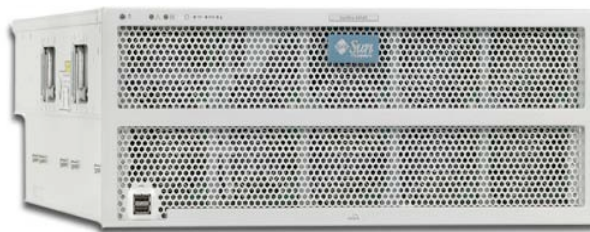


# SUN FIRE X4540 SERVER



- Delivers extreme value through industry-leading cost/GB for a storage system
- Offers the highest storage density available with 48 hot-swappable SATA HDDs (96 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 (achieved under specific benchmark configurations)
- 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 Windows

*Sun Fire X4540 storage server, integrates industry-standard compute and storage components in an open architecture and runs Oracle Solaris OS and Oracle 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, 12-way compute engine, at about half the cost and with up to 50 percent power savings compared to traditional servers and storage arrays.*



**The Sun Fire X4540 storage server is the industry's first open storage server.**

## 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. Oracle 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.

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 percent 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, the 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 Oracle Integrated Lights Out Manager (ILOM) as well as state-of-the-art remote automation that integrates at the data center 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, Oracle 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.

### Sun Fire X4540 Storage Server Specifications

| Architecture                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disk system                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Six onboard LSI disk controller chips each directly connects to 8 SATA drives for max data throughput</li> <li>• 48 hot-swappable, 3.5-in. SATA II HDD internal disks: 250 GB, 500 GB, 1TB and 2TB 7200-RPM disks available; 96 TB total capacity</li> <li>• Software RAID enabled by RAID-Z, RAID-Z2 in Solaris ZFS, other Linux, or Windows RAID code</li> </ul>                                                                                                                                                                                        |
| Processor                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Two Six-Core AMD Opteron processors</li> <li>• One 512 KB Level 2 cache per core 6 MB L3 cache for each CPU</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Main memory                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Sixteen DDR-2 DIMM slots (eight DIMM slots per CPU socket); 64 GB with 4 GB DIMMs and 128 GB with 8 GB DIMM</li> <li>• Four 10/100/1000Base-T Ethernet ports</li> <li>• Network management: One dedicated 10/100Base-T Ethernet port</li> <li>• Serial: One TIA/EIA-232-F asynchronous, RJ45 connector</li> <li>• USB: Four USB 2.0 ports (two front and two rear)</li> <li>• Video: VGA video port</li> <li>• Expansion slots: Three internal MD2 low-profile PCI-E slots, 8x wide each</li> <li>• One compact flash disk port for OS booting</li> </ul> |
| Software                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Operating systems                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Oracle Solaris 10 preinstalled</li> <li>• Standard Linux distributions, SLES10 SP1 64 bit, RHEL4.6 and 5.1 64 bit</li> <li>• Windows 2003 Standard and Enterprise editions 32 bit and 64 bit</li> <li>• Linux, RHEL 5.3 and SUSE Linux Enterprise Server 10 SP2</li> <li>• Windows 2008 32 and 64 bit</li> </ul>                                                                                                                                                                                                                                          |
| OS Booting                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• Booting from the flash disk is supported by Oracle Solaris, Linux, and Windows; the external flash disk OS booting saves up to 4 TB HDD capacity for data</li> <li>• Two mirrored OS drives are also configured on two different disk controllers for max availability</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Networking                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ONC, ONC+TM, NFS, WebNFS, TCP/IP, SunLink, OSI, MHS, IPXTM/SPX, SMB technologies, and XML                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                    |
| Management                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• Oracle 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)</li> <li>• Oracle xVM Ops Center—manage from one to hundreds of systems from a central location</li> </ul>                                                           |                                                                                                                                                                                                    |
| Environment                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                    |
| Operating temperature/humidity                                                                                                                                                                                                                                                                                                                                                   | 5°C to 32°C (37°F to 91°F), 10%–90% relative humidity, noncondensing, 27°C max. wet bulb                                                                                                           |
| Nonoperating temperature/humidity                                                                                                                                                                                                                                                                                                                                                | 40°C to 65°C (-40°F to 149°F), up to 93% relative humidity, noncondensing, 38°C max. wet bulb                                                                                                      |
| Operating altitude                                                                                                                                                                                                                                                                                                                                                               | Up to 3,048 m; maximum ambient temperature is derated by 1°C per 300 m above 900 m                                                                                                                 |
| Nonoperating altitude                                                                                                                                                                                                                                                                                                                                                            | Up to 12,000 m                                                                                                                                                                                     |
| Acoustic noise                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• LwAd (1 B = 10 dB): At or below 25°C, 7.5 B, at max. ambient, 8.5 B</li> <li>• LpAm bystander: At or below 25°C, 65 dB, at max. ambient, 75 dB</li> </ul> |
| Power                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• 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</li> <li>• Dual-redundant, hot-swappable power supply</li> <li>• Power supply output rating: 1,500 W</li> <li>• Maximum system consumption: 1,180 W relative humidity, noncondensing, 27°C max. wet bulb</li> </ul> |                                                                                                                                                                                                    |
| Regulations (meets or exceeds)                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                    |
| Safety                                                                                                                                                                                                                                                                                                                                                                           | IEC 60950, UL/CSA 60950, EN 60950, CB Scheme with all country differences                                                                                                                          |
| RFI/EMI                                                                                                                                                                                                                                                                                                                                                                          | FCC Class A, Part 15 47 CFR, EN 55022, CISPR 22, EN300-396: v1.31, ICES-003                                                                                                                        |
| Immunity                                                                                                                                                                                                                                                                                                                                                                         | EN 55024, 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       |
| Mounting Option       |                     |
| 19-inch rackmount kit |                     |

### Warranty

Visit [oracle.com/sun/warranty](http://oracle.com/sun/warranty) for Oracle's global warranty support information on Sun products.

### Services

Visit [oracle.com/sun/services](http://oracle.com/sun/services) for information on Oracle's service program offerings for Sun products.

### Contact Us

For more information about Oracle's Sun Fire X4540 storage server, please visit [oracle.com/sun](http://oracle.com/sun) or call +1.800.786.0404 to speak to an Oracle representative.



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