

# Sun SPARC Enterprise® T5120 Server

World-record performance with  
unsurpassed eco and datacenter savings



## Highlights

- Designed for secure Web-scale and virtualized computing, and data-intensive applications
- World's first 64-thread, general-purpose server powered by the groundbreaking UltraSPARC® T2 “system on a chip” processor
- Record-breaking performance, maximum energy and space efficiency, delivering the industry's best performance per watt
- Drive up utilization, drive down costs, and massively consolidate workloads with built-in, no-cost virtualization technology with Logical Domains (LDoms) and Solaris™ Containers
- Integrated on-chip cryptographic acceleration and 10 Gigabit Ethernet enable secure computing at wire speed
- The industry's most open platform, built on open-source technologies and open standards
- Massive I/O performance and expandability with the Sun External I/O Expansion Unit, supporting up to 8 PCI Express (PCIe) slots
- Instantly speed up I/O intensive application performance with Flash technology



Introducing the world's first server designed to meet the demands of Web-scale performance and virtualization. The Sun SPARC Enterprise® T5120 server is the fastest server designed for secure, high throughput, high efficiency Web-scale and virtualized computing, with a combination of world record performance, performance per watt, and price/performance. And no other server better empowers organizations to build for Web scale and push the boundaries of network participation. Simply put, the Sun SPARC Enterprise T5120 server enables you to securely, reliably, and eco-efficiently serve millions of new users and communities—all while slashing operational costs.

The Sun SPARC Enterprise T5120 server is the first 64-thread, general-purpose server powered by the UltraSPARC T2 “system on a chip” processor. It packs up to eight cores and up to 64 simultaneous threads onto a single piece of silicon, together with the key functions of an entire system on a single chip—computing, networking, security, and I/O. And it's all delivered in a compact 1 RU form factor.

The Sun SPARC Enterprise T5120 server offers the industry's only built-in and no-cost virtualization technologies with a choice of Solaris Containers and Logical Domains (LDoms). By enabling up to 64 isolated domains per server, you can deploy more than 2,500 isolated domains per rack—for ultimate server virtualization and consolidation.

The Sun SPARC Enterprise T5120 server is also the industry's most open platform, built on open-source technologies and open standards,

packaging the only mainstream processor and virtualization hypervisor offered under the GPL, and having a choice of open-source operating systems and preinstalled Sun Java™ Enterprise System middleware. Linux distributions have been certified for the Sun SPARC Enterprise T5120 server, with support provided by the respective distribution communities. The Solaris™ Operating System is free, open, and the only open-source UNIX®-based OS to run on more than 900 platforms on multiple x86 and SPARC® processors.

You can maximize your investment in the Sun SPARC Enterprise T5120 server by leveraging the Sun™ Eco Services Suite to optimize your datacenter power, space, and cooling, or Sun Consolidation and Virtualization Services to help you architect and deploy your consolidation and virtualization projects.

# Sun SPARC Enterprise T5120 Server Specifications

## Key applications

- Consolidation and virtualization
- Web serving
- Streaming media
- Security applications
- Java™ application servers
- Java virtual machines
- Network infrastructure
- SOA and business integration platforms
- Compute and network node
- Multithreaded floating-point applications for manufacturing, pharmaceutical, and financial services industries

## Architecture

### Processor

- Four-, six-, and eight-core 1.2 GHz or eight-core 1.4 GHz UltraSPARC T2 processors; one processor per system, maximum 64 threads

### Cache

- 4 MB integrated L2

### Main memory

- 16 FB DIMM slots, system maximum of 128 GB; support for 1 GB, 2 GB, 4 GB, and 8 GB DIMMs; minimum of 4 GB (4x 1 GB)

## System architecture

- SPARC® V9 architecture, ECC protected

## Other processor key features

- Under 95W (nominal) and fewer than 2W per thread
- Dual, multithreaded, 10 GbE PCIe integrated onto chip
- Eight floating-point units
- Onboard cryptography supporting 10 embedded security industry-standard ciphers including: DES, 3DES, AES, RC4, SHA1, SHA256, MD5, RSA to 2048 key, ECC, CRC32

## Key RAS features

- Hot-pluggable disk drives
- Redundant hot-swappable power supplies
- Redundant hot-swappable fans
- Environmental monitoring
- Error correction and parity checking
- Easy component replacement
- Internal hardware drive mirroring (RAID 1)
- RAID 0 and 1 support

## Standard integrated interfaces

- Network: Four 10/100/1000 Mb/sec Ethernet ports; Up to 2x optional 10 GbE XAU1 connections
- Expansion bus: One eight-lane PCIe and two four-lane PCIe or XAU1
- USB: Four 2.0 USB ports

## Software

### Operating system

- Solaris 10 8/07 and Solaris 10 10/08

### Preloaded software

- Solaris 10 10/08
- Sun Logical Domains Manager 1.0.3
- Sun Logical Domains MIB 1.0.1
- Sun Studio™ 12
- CMT Developer Tools Version 1.0

### Mass storage and media

- Internal disk: Up to eight 73 GB, 146 GB, 300 GB 2.5 in. SAS drives or up to four 32 GB 2.5 in. SATA solid-state drives (SSD)
- Internal DVD: One slimline CD-RW/DVD-RW
- External storage: Sun offers a complete line of best-in-class, innovative storage hardware, software, and solutions—including tape drives, tape libraries, disk storage systems, data management software, and more—along with renowned world-class service and support. For more information, go to [sun.com/storage](http://sun.com/storage).

## Virtualization

- Built-in, no-cost virtualization technology providing the flexibility and power of 64 virtual systems in a single server
- Preloaded software: Sun Logical Domains Manager 1.0.3 and Sun Logical Domains MIB 1.0.1

## Environment

- Operating temperature: Sea level to 900m (2953 ft.): 5°C to 35°C (41°F to 95°F); above 900m (2953 ft.): decrease the maximum allowable temperature by 1°C/300m (1.6°F/1000 ft.); IEC 60068-2-1 Test Ad, and 60068-2-2 Test Bb
- Nonoperating temperature: -40°C to 65°C (-40°F to 149°F); IEC 60068-2-1 Test Ab and 60068-2-2 Test Bb
- Operating relative humidity: 10% to 90% RH, 27°C maximum wet bulb (noncondensing); IEC 60068-2-56 Test Cb
- Nonoperating relative humidity: 93% RH, 35°C maximum wet bulb (noncondensing); IEC 60068-2-56 Test Cb
- Operating altitude: 3,000m (10,000 ft.); IEC 60068-2-13 Test M, and 60068-2-41 Test Z/BM
- Nonoperating altitude: 12,000m (40,000 ft.); IEC 60068-2-13 Test M
- Acoustic noise: Operating/idling acoustic noise 7.0B (LwAd, 1B = 10 dB), operating/idling acoustic noise 59 dB (LpAm, bystander positions)

## Power

- Two hot-swappable AC 720 W “Climate Saver” power supply units (PSUs) providing N+1 redundancy come standard. Also available is a DC 660 W power supply unit.

## Regulations

- Safety: UL/CSA-60950-1, EN60950-1, IEC60950-1 CB Scheme with all country deviations, IEC825-1, 2, CFR21 part 1040, CNS14336, GB4943

## Learn More.

For more information on the Sun SPARC Enterprise T5120 server, go to [sun.com/t5120](http://sun.com/t5120).

To try the Sun SPARC Enterprise T5120 server risk-free for 60 days, go to [sun.com/tryandbuy](http://sun.com/tryandbuy).

- RFI/EMC: EN55022 Class A, 47 CFR 15B Class A, ICES-003 Class A, VCCI Class A, AS/NZ3548 Class A, CNS 13438 Class A, KSC 5858 Class A, GB9254 Class A, EN61000-3-2, GB17625.1, EN61000-3-3
- Immunity: EN55024, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11
- Regulatory: CE, FCC, ICES-003, C-tick, VCCI, GOST-R, BSMI, MIC, UL/cUL, UL/DEMKOI, UL/S-mark, CCC
- Ergonomics: EK1-ITB-2000

## Dimensions and weight

- Height: 44 mm (1.746 in.); 1 RU
- Width: 425 mm (16.75 in.)
- Depth: 714 mm (28.125 in.)
- Weight: Approximately 18 kg (40 lb.)

## Upgrades

Sun SPARC Enterprise servers are eligible for the Upgrade Advantage Program. Customers can trade in their old Sun or non-Sun servers and receive a discount toward the price of their new Sun SPARC Enterprise server. For more details on the Upgrade Advantage Program, visit: [sun.com/ibb/coolthreads](http://sun.com/ibb/coolthreads)

## Warranty

- Hardware support: 1 year
- Operating system support: 90-day warranty provided for installation telephone support and defective media replacement
- Call response: 8 hours
- Delivery: Next business day onsite or parts exchange for customer replaceable units

## Customer Ready program

Take advantage of the Sun Customer Ready program and have your system tailored to your specific requirements by our factory experts. Learn more at [sun.com/crs](http://sun.com/crs).