Sun™ SPARC® Enterprise T5140 Server

Scale more with less

Highlights

- Up to 128 compute threads per server and 5,120 threads per rack – 32x higher compute density than comparable x86 systems
- World's first dual-socket, general-purpose server powered by the 3rd generation UltraSPARC® T2 Plus "system on a chip" processor
- Multi-dimensional efficiency with world record throughput along with groundbreaking energy and space efficiency – without tradeoffs
- Integrated, flexible, open source, and no-cost virtualization technology enabling breakthrough virtualization and consolidation
- Integrated on-chip cryptographic acceleration and on-board 10-gigabit Ethernet for secure computing and high-speed networking
- The industry's most open platform, built on open source technologies and open standards
- Industry-standard systems management and no-cost development and deployment tools to speed time to service at lowest cost
- Extreme levels of reliability and uptime through integrated and simplified design, resulting in fewest parts in class
- Award-winning Sun Services to maximize eco-efficiency and virtualization

Introducing the world's most innovative server, designed with the highest compute density – up to 128 threads in one rack unit (1RU). The Sun SPARC® Enterprise T5140 server delivers multi-dimensional efficiency with world-record throughput, as well as ground-breaking energy and space efficiency – all at a low cost and without tradeoffs. No other server on the planet better empowers organizations to virtualize their compute infrastructures and build highly scalable, highly efficient, and robust internet infrastructures for the delivery of breakthrough services over the Web.

The Sun SPARC Enterprise T5140 server is the first dual-socket, general-purpose server powered by the 3rd generation UltraSPARC® T2 Plus "system on a chip" processor, featuring up to 128 compute threads and running on the free and open source Solaris™ Operating System. Each processor 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, security, and I/O.

The innovative design and reliability features of the Sun SPARC Enterprise T5140 server significantly increase uptime and reduce unplanned service actions. Extreme integration at both the processor and system level deliver a part count reduction of up to 20 percent compared to competitive 2-socket x86 platforms and 13x compared to legacy mid-range server platforms, directly reducing service interruptions due to component failure.

Maximize your server capacity, utilization, and infrastructure agility while minimizing energy, space, and cooling requirements, as well as reducing administrative overhead. The Sun SPARC Enterprise T5140 server offers the industry's only integrated, flexible, open source, and no-cost virtualization technologies, with a choice of Solaris Containers and Sun™ Logical Domains (LDoms). By enabling up to 128 isolated domains per server, you can deploy up to 5,120 isolated domains per rack, for ultimate server virtualization and consolidation.

The Sun SPARC Enterprise T5140 server is 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 offering a choice of open source operating systems and pre-loaded Sun Java™ Enterprise System middleware.

You can maximize your investment in the Sun SPARC Enterprise T5140 server by leveraging the Sun™ Eco Services Suite to optimize datacenter power, space, and cooling, or Sun Consolidation and Virtualization Suite of Services to help architect and deploy consolidation and virtualization projects. In addition, Sun offers a range of services to help you upgrade to Solaris 10. You may also purchase Sun System Packs, which provide world-class hardware and operating system support, or, alternatively, consider purchasing support for the Solaris OS, which entitles you to the latest Solaris Updates, Solaris Named Releases, Software Updates, and other Sun support.

Sun SPARC Enterprise T5140 Server Specifications

Key applications

- Virtualization and consolidation
- Data-intensive applications
- Security applications
- Web, middleware, and application tier workloads, especially Java environments
- OLTP databases
- Multithreaded HPC workloads with large instruction and data sets
- New web services deployments
- SOA infrastructure implementations

Processor

Processor	Four-, six-, and eight-core 1.2-GHz UltraSPARC T2 Plus processors; two processors per system, maximum 128 threads
Architecture	SPARC V9 architecture, ECC protected
Cache per processor	4-MB integrated L2

Other processor key features

- One floating-point unit per core, up to eight per processor
- Onboard cryptography supporting 10 embedded security industry-standard ciphers: 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
- Up to eight hot-swappable system fan modules
- Environmental monitoring
- Error correction and parity checking
- Easy component replacement
- Internal hardware drive mirroring (RAID 1)
- RAID 0 and 1 support
- Ultra-low part count with 20% fewer parts than competitive 2-socket x86 systems

Main memory

16 FB-DIMM slots, system maximum of 64 GB; support for 1-GB, 2-GB, and 4-GB DIMMs; minimum of 8 GB (8 x 1 GB)

Standard integration interfaces

Network	Four 10/100/1000 Mbps Ethernet; Up to 2x optional 10 GbE XAUI connections*
Expansion bus	• One dedicated eight-lane PCIe expansion slot • Two eight-lane PCIe or XAUI expansion slots
Ports	• Four USB 2.0 ports • One RJ-45 serial management port • One 10/100 Mbps ethernet network management port • One DB-9 serial port

Mass storage and media

Internal disk	• Up to four 73-GB or 146-GB SAS disks
Internal DVD	• One slimline 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/storagetek.

Software

Operating system	Solaris 10 8/07 OS plus patches or later
Preloaded software	• Solaris 10 8/07 OS plus patches or later • Sun Java™ Enterprise System Release 5 Update 1 (90-day evaluation) • Logical Domains Manager 1.0.2 • Logical Domains MIB 1.0.1 U1 • Sun Studio 12 • GCC for SPARC Systems Version 4.0.4 • CMT Developer Tools Version 1.0

Virtualization

- Integrated, open source, no-cost Logical Domains (LDoms) and Solaris Containers provides the flexibility and power of 128 virtual systems in a single server
- Preloaded software: Logical Domains 1.0.2 and Logical Domains MIB 1.0.1 U1, Solaris 10 8/07 OS plus patches or later

Power supplies

Two hot-swappable AC 720 W power supply units (PSUs), providing N + 1 redundancy

Environment

Operating temperature	• Sea level to 900 m (3,000 ft.) 50° to 35° C (41° F to 95° F) • Above 900 m (3,000 ft.), decrease maximum temperature as altitude increases by 1° C/300 m (1.6° F/1,000 ft.)
Nonoperating temperature	• Sea level to 900 m (3,000 ft.) -40° to 65° C • Above 900 m (3,000 ft.) -40° to 60° C (maximum altitude 40,000 ft)
Relative humidity	10 to 90 percent RH, 27° C maximum wet bulb, noncondensing
Nonoperating relative humidity	93 percent RH, 35° C maximum wet bulb, noncondensing
Operating altitude	3,000 m (10,000 ft.)
Nonoperating altitude	12,000 m (40,000 ft.)
Declared acoustics	• Operating/idling sound power level 7.3 B (LwAd, 1 B = 10 dB) • Operating/idling sound pressure level 62 dB (LpAm, bystander positions)

Regulations (meets or exceeds the following requirements)

Safety	UL/CSA-60950-1, EN60950-1, IEC60950-1 CB Scheme with all country deviations, IEC825-1, 2 CFR21 part 1040, CNS14336, GB4943
RFI/EMC	EN55022 Class A, 47 CFR 15B Class A, ICES-003 Class A, VCCI Class A, AS/NZ 3548 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 markings	CE, FCC, ICES-003, C-tick, VCCI, GOST-R, BSMI, MIC, UL/cUL, UL/LVD, UL/S-mark, CCC

Dimensions and weights

Height	44 mm (1.746 in.); one rack unit
Width	425 mm (16.75 in.)
Depth	714 mm (28.125 in.)
Weight	16.78 kg (37 lb.)

Upgrades

Sun SPARC Enterprise T5140 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 T5140 servers. For more details on the Upgrade Advantage Program, visit sun.com/ibb/coolthreads

Warranty

Hardware support	One year
Operating system	90-day warranty provided for installation telephone support and defective media replacement only
HW phone response time	Eight hours
Delivery	Next business day onsite or parts exchange for customer-replaceable units

Customer Ready Systems

Take advantage of Sun Customer Ready Systems program and have your system tailored to your specific requirements by our factory experts. Learn more at sun.com/crs.

* Installation of a XAUI card will disable one of the 10/100/1000 Mbps Ethernet ports

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