SPARC T5-2 SERVER

Oracle's SPARC T5 servers extend the current SPARC T-Series line of server offerings by delivering even more extreme optimization for performance, scale, and availability. Running Oracle Solaris, the SPARC T5-2 server delivers 2.3x the throughput over previous generation servers, 20 percent improvement in single-thread performance, and twice the I/O bandwidth.

Product Overview

The SPARC T5-2 is a server that is optimized for small to midsize Web-tier workloads and database applications and is a great platform for consolidation and virtualization projects. It is the latest two-socket, three rack unit (3U) server in Oracle's lineup of SPARC servers and is based on the SPARC T5 processor, which offers the best single-thread performance in the SPARC T-Series line.

The SPARC T5-2 server comes with up to 512 GB of DDR3 1066 memory, eight PCIe 3.0 slots, and six slots supporting 2.5-inch HDD or SSD drives. Four 10 Gb Ethernet ports are built into the chassis.

Utilizing a modular design architecture, the SPARC T5-2 server is powered by two SPARC T5 processors—Oracle's most powerful SPARC processors ever—delivering 1.2x improvement in single-thread performance and 2.3x improvement in throughput over the previous generation. With 16 cores and 16 memory slots per SPARC T5 processor, the SPARC T5-2 server provides extreme compute density with up to 32 cores and 512 GB of system memory all within a 3U enclosure.

This SPARC T5 processor-based server is capable of consolidating multiple virtual machines, from one virtual machine per core all the way to 128 virtual machines on a single system at no additional cost thanks to Oracle Solaris and Oracle VM Server for SPARC, which are preinstalled on the server.

Designed by Oracle, and running Oracle Solaris, this server is engineered from the ground up (from silicon all the way up to the application) to run smoothly and efficiently in every data center. Moreover, the server offers industry-unmatched, built-in, no-cost security designed right into the processor.

All Oracle servers ship with full-function server management tools at no additional cost. Oracle Integrated Lights Out Manager (Oracle ILOM) utilizes industry-standard protocols to provide secure and comprehensive local and remote management. Oracle ILOM features also include power management and monitoring, fault detection, and notification. The integrated Oracle System Assistant guides system administrators through rapid server deployment, firmware updates, hardware configuration, and operating system installation with Oracle certified hardware drivers.

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The SPARC T5-2 server is part of Oracle's most powerful and efficient SPARC-based server family ever. Based on SPARC T5, SPARC T4, and SPARC M5 processors—which all share the same processor core—the SPARC-based server family provides seamless scalability from 1 up to 32 processors and is designed with mission-critical applications in mind. All of the servers in the SPARC-based family run the Oracle Solaris operating system—the best UNIX system for Oracle deployments. They share the same virtualization capabilities through Oracle VM Server for SPARC and leverage the same systems management framework through Oracle Enterprise Manager Ops Center. This leads to unprecedented simplicity in the deployment of all enterprise workloads, enabling reduction of business risk, delivering savings in management costs, and unlocking flexibility to grow your business to any scale, while maximizing reliability and uptime.

Oracle's Premier Support customers have access to My Oracle Support and multiserver management tools in Oracle Enterprise Manager Ops Center. Oracle Enterprise Manager Ops Center, a critical-to-disk system management tool, coordinates servers, storage, and networking for a complete cloud infrastructure as a service (IaaS). Oracle Enterprise Manager Ops Center also features an automated service request capability, whereby potential issues are detected and reported to Oracle's support center without user intervention, assuring the maximum service levels and simplified support.

SPARC T5-2 Server Specifications

Key Applications
• Departmental business applications
• Specialized application for billing, supply chain, engineering, and manufacturing
• Middleware and multitiered applications
• Application consolidation and virtualization
• Web serving and Web services
• Security applications
• Database and analytics

Architecture
Processor
• Sixteen-core 3.6 GHz SPARC T5 processor
• Up to 128 threads per processor for a maximum of 256 threads per system
• Sixteen floating-point units per SPARC T5 processor
• Sixteen cryptography units per SPARC T5 processor
• On-chip Encryption Instruction Accelerators with direct nonprivileged support for 16 industry-standard cryptographic algorithms plus random number generation in each of the eight cores: AES, Camellia, CRC32c, DES, 3DES, DH, DSA, ECC, Kasumi, MD5, RSA, SHA-1, SHA-224, SHA-256, SHA-384, SHA-512
Cache per Processor
• Shared 8 MB, 8 banked, Level 3 Cache; 128 KB Level 2 unified cache per core
Main Memory
Two memory configurations supported:
• 256 GB (using 32x 8 GB 1,066 MHz DDR3 DIMMs)
• 512 GB (using 32x 16 GB 1,066 MHz DDR3 DIMMs)
System Architecture
• SPARC V9 architecture, ECC protected

Standard/Integration Interfaces
• Network: Four 10 GbE (100 Mbps/1 Gbps/10 Gbps)

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- Expansion Bus: Eight low-profile PCIe 3.0 (x8 wired) slots
- Ports: Four external USB ports (two in the rear are USB 3.0, two in front are USB 2.0, and one internal is USB 3.0)
- One VGA port

Mass Storage	
Internal disk	Up to six 300 GB or 600 GB 2.5 in. SAS drives or 100 GB or 300 GB SSD drives.
	Optional Sun Flash Accelerator F40 PCIe Card
	Internal DVD: One slim line SATA DVD+/-RW.
External storage	Oracle offers a complete line of best-in-class, innovative storage, hardware, and software solutions, along with renowned world-class service and support. For more information, please refer to oracle.com/storage.

Power
- Two hot-swappable AC 2,060 W redundant (1+1) power supplies
- Maximum operating input current at 200 V AC: 10.1A
- Maximum operating input power at 200 V AC: 1927.7 W

Key RAS Features
- Hot-pluggable disk drives
- Redundant, hot-swappable power supplies and fans
- Environmental monitoring
- Extended ECC, error correction, and parity checking memory
- Easy component replacement
- Two integrated disk controllers with RAID 0, 1, and 1E
- Electronic prognostics
- Fault Management Architecture including Predictive Self Healing, a feature of Oracle Solaris

Software
Operating System
- Preinstalled: Oracle Solaris 11.1
- Supported options as control domain: Oracle Solaris 11.1 and Oracle Solaris 10 1/13
- Minimum version of Oracle Solaris supported as a guest domain: Oracle Solaris 10 9/10 plus Oracle Solaris 10 1/13 SPARC Bundle
Software Included
- Oracle Solaris 11.1 which includes Oracle VM Server for SPARC 3.0 and Oracle Electronic Prognostics
- Oracle Solaris ZFS (default file system)
Virtualization
- Built-in, no-cost Oracle VM Server for SPARC and Oracle Solaris Zones provide the flexibility and power of up to 128 virtual systems in a single SPARC T5-2 server

Environment
Temperature
- Operating temperature: 5° C to 35° C (41° F to 95° F)
- Nonoperating temperature: -40° C to 65° C (-40° F to 149° F)
Relative Humidity
- Operating relative humidity: 10% to 90%, noncondensing, 27° C wet bulb

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- Nonoperating relative humidity: 93%, noncondensing, 38°C (100.4° F) wet bulb

Altitude

- Operating altitude: 0 m to 3,000 m* (0 ft. to 9,840 ft.) maximum ambient temperature is derated by 1° C per 300 m above 900 m
  * Except in China markets where regulations may limit installations to a maximum altitude of 2,000 m

- Nonoperating altitude: 0 m to 12,000 m (0 ft. to 39,370 ft.)

Acoustic Noise

- 7.7 B operating and 7.6 B idle (LwAd: 1 B = 10 dB)

- 61.5 dB operating and 61.2 idle (LpAm: bystander positions)

Cooling

- 4,953 BTU/hr, 230 cfm max

Regulations (Meets or Exceeds the Following Requirements)

- **Safety:** UL/CSA 60950-1 (2nd Ed), EN 60950-1(2nd Ed), IEC 60950-1(2nd Ed) CB Scheme with all country deviations, CNS 14336-1

- **EMI/EMC:** EN 55022 Class A, 47 CFR 15B Class A, ICES-003 Class A, VCCI Class A, CISPR22 Class A, CNS 13438 Class A, KN22 Class A, EN 61000-3-2, EN 61000-3-3

- **Immunity:** EN 55024 and KN24

- **Regulatory markings:** CE, FCC, ICES-003, C-Tick, VCCI, GOST-R, BSMI, KCC, cTUVus or cULus, S-Mark

- **European Union directive**s: Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU

Dimensions and Weight

- Height: 129.85 mm (5.11 in); 3U

- Width: 436.5 mm (17.185 in.)

- Depth: 732 mm (28.82 in.)

- Weight: Approx. 36.28 kg (80 lbs.) max., without rackmount kit

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Warranty

The SPARC T5-2 server comes with a one-year warranty. Visit oracle.com/us/support/policies/ for more information about Oracle's hardware warranty.

Complete Support

With Oracle Premier Support, you'll get the services you need to maximize the return on your Oracle SPARC server investment—our complete system support includes 24/7 hardware service, expert technical support, proactive tools, and updates to Oracle Solaris, Oracle VM, and integrated software (such as firmware) — all for a single price. Learn more at oracle.com/support.

Contact Us

For more information about Oracle's SPARC T5-2 server, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative

Hardware and Software, Engineered to Work Together

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