

# SPARC T5-2 SERVER



Today, IT organizations around the world are facing critical challenges due to the massive explosion of data and increased requirements to deliver application services to users faster than ever. Companies seeking to drive out cost and complexity in operation while delivering faster application response times are choosing the SPARC T5-2 server as a fundamental building block of business computing today. In addition to delivering extreme performance and optimization across a wide range of Oracle database, business applications and middleware software, the SPARC T5-2 server helps lower TCO by offering virtualization, security and management technologies at no additional cost.



## KEY FEATURES

- Uses the fastest microprocessor in the world, delivering the best performance for JD Edwards and Siebel, and claiming application leadership in performance and price/performance over comparable competitor systems
- Available with either one or two SPARC T5 processors, with upgrade capability for the one processor system
- Built-in, no-cost virtualization technology with Oracle VM Server for SPARC and Oracle Solaris Zones simplifies server consolidation, improves utilization, and reduces operational overhead
- Runs Oracle Solaris 11, recommended by Oracle for enhanced performance and

## Product Overview

The SPARC T5-2 is an ideal platform for business-critical applications, middleware and database workloads that demand the highest levels of performance without draining strapped IT budgets. The SPARC T5-2 server represents the best combination of cost, performance, scalability, reliability and security in its class.

Utilizing modular design architecture, the SPARC T5-2 server is powered by one or two SPARC T5 processors—Oracle's most powerful SPARC processors ever—delivering exceptional single-thread and multi-thread performance. 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 1 TB of system memory all within a 3U enclosure. An upgrade kit is available for the one processor server.

Built-in virtualization capabilities with Oracle VM Server for SPARC allow the consolidation of many servers onto one machine, reducing a data center's physical footprint as well as lowering power and cooling costs. The advanced SPARC T5 processor includes integrated on-chip cryptographic support that provides wire speed encryption capabilities for secure data center operation - without paying a performance penalty or having to acquire additional hardware.

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.

functionality. Can also run Oracle Solaris 10, 9 and 8, with guaranteed binary compatibility and support for legacy applications

- Designed for the highest levels of mainframe-class reliability, availability and serviceability (RAS) in a dual processor mid-range server
- Smart and simple design offers greater energy and space optimization, increasing asset utilization while reducing operating costs
- Provides the most comprehensive lifecycle management framework available today through a unified portfolio of tools for systems and cloud
- Integrated on-chip cryptographic acceleration provides high levels of security without sacrificing application performance
- Optimized to accelerate Oracle database, business applications, and middleware software with extreme performance, mission-critical reliability and scale

The SPARC T5-2 server is part of Oracle's most powerful and efficient SPARC-based server family ever. Based on processors, which share the same 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 multi-tiered 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 sixteen 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

Three memory configurations supported with a one processor system:

- *128 GB (using 16 x 8 GB 1,066 MHz DDR3 DIMMs)*
- *256 GB (using 16 x 16 GB 1,066 MHz DDR3 DIMMs)*
- *512 GB (using 16 x 32 GB 1,066 MHz DDR3 DIMMs)*

Three memory configurations supported with a two processor system:

- *256 GB (using 32 x 8 GB 1,066 MHz DDR3 DIMMs)*
- *512 GB (using 32 x 16 GB 1,066 MHz DDR3 DIMMs)*
- *1 TB (using 32 x 32 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) , full duplex only, auto-negotiating
- 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 the front are USB 2.0), one RJ45 serial management port, Console 10/100 network port, VGA port

#### MASS STORAGE

Internal disk	Up to six 300 GB or 600 GB 2.5 in. SAS drives or 100 GB, 300 GB or 400 GB SSD drives. Optional Sun Flash Accelerator F40 PCIe Card or F80 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 <a href="http://oracle.com/storage">oracle.com/storage</a> .

#### POWER

- Two hot-swappable AC 2,060 W redundant (1+1) power supplies
- Voltage 200 to 240 VAC, frequency 50/60 Hz
- Maximum operating input current at 200 V AC: 9.8 A (Actual amperage draw may exceed rating by no more than 10%)
- Maximum operating input power at 200 V AC: 1927 W Actual power draw may exceed rating by no more than 10%)

#### 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/10
- Electronic prognostics
- Fault Management Architecture including Predictive Self Healing, a feature of Oracle Solaris

#### SOFTWARE

##### Operating System

Oracle recommends Oracle Solaris 11 for enhanced performance and functionality

- Oracle Solaris 11.1 and Oracle Solaris 10 1/13 plus patches
- Control domain: Oracle Solaris 11.1, Oracle Solaris 10 1/13 plus patches
- Guest domain:
  - Oracle Solaris 11.1
  - Oracle Solaris 10 1/13 \*
  - Oracle Solaris 10 8/11 \*
  - Oracle Solaris 10 9/10 \*

\* Plus required patches

- Applications certified only for Oracle Solaris 8 or Oracle Solaris 9 may be installed in an Oracle Solaris legacy zone in a Oracle Solaris 10 1/13 guest domain

##### Software Included

- Oracle Solaris 11.1 which includes Oracle VM Server for SPARC 3.0
- 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

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**ENVIRONMENT**


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**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)
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**Relative Humidity**

- Operating relative humidity: 10% to 90%, noncondensing, 27° C wet bulb
  - Nonoperating relative humidity: 93%, noncondensing, 38° C (100.4° F) wet bulb
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**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.)
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**Acoustic Noise**

- 7.7 B operating and 7.6 B idle (LwAd: 1 B = 10 dB)
  - 61.5 dB operating and 61.2 dB idle (LpAm: bystander positions)
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**COOLING**

- 4,953 BTU/hr, 230 cfm max
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**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 directives:** Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU
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**DIMENSIONS AND WEIGHT**

- Height: 129.85 mm (5.11 in.); 3U
  - Width: 436.5 mm (17.185 in.)
  - Depth: 752.5 mm (29.63 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/](http://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](http://oracle.com/support).



## CONTACT US

For more information about SPARC T5-2 SERVER, visit [oracle.com](http://oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.

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**Hardware and Software, Engineered to Work Together**

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