

## SPARC T4-1B SERVER MODULE

### EXTREME SCALABILITY AND DENSITY IN EFFICIENT BLADE FORM FACTOR

#### KEY FEATURES AND BENEFITS

- 5x single-thread performance increase accelerates application performance and improves scalability
- SPARC T4-1B base server equipped with an 8-core, 64 thread SPARC T4 processor
- Extreme density with up to 10 SPARC T4-1B blades in a network integrated, highly efficient Sun Blade 6000 infrastructure
- Built-in, no-cost virtualization technology with Oracle VM Server for SPARC and Oracle Solaris Containers improves utilization and reduces operational overhead
- Integrated on-chip cryptographic acceleration provides high levels of security without sacrificing application performance.
- Runs Oracle Solaris 10 and 11 with guaranteed binary compatibility and support for legacy applications
- Onboard 10 Gigabit Ethernet (GbE) for secure computing and high-speed networking
- Massive I/O performance and expandability with the Sun Blade 6000 with up to 6.4 Terabit-per-second I/O throughput

*Oracle's SPARC T4-1B and Oracle's Sun Blade 6000 chassis deliver an integrated platform with a high degree of scalability, density, deployment flexibility, and energy efficiency to meet the high demands of secure, high availability, enterprise data center applications.*

*The highest-density SPARC T4 server available in a compact blade form factor, the SPARC T4-1B delivers a 5x improvement in single-thread performance, massive throughput, and no-cost virtualization running on the proven, mission-critical Oracle Solaris operating system.*



SPARC T4-1B

### Product Overview

The single-socket SPARC T4-1B server module delivers massive compute density with 8 cores and 64 simultaneous threads in a highly efficient blade server design.

The SPARC T4 processor is designed for a broad range of data center application workloads including database, middleware, and web tier applications. With a 5x single-thread performance improvement over the previous generation, the SPARC T4 systems now provide infrastructure for secure end-to-end data center deployments.

The SPARC T4-1B features one SPARC T4 processor, 16 DIMM slots for up to 512 GB memory, and two drive slots for hot-pluggable 2.5 inch drives. The SPARC T4-1B blade is both compact and powerful. With optional on-board 10 GbE and/or PCIe networking and built-in SAS2 RAID controller, the SPARC T4-1B has the power required to drive computing requirements for database, middleware, and web based applications.

The SPARC T4-1B, Oracle Solaris, and Oracle VM Server for SPARC are optimized for the enterprise for demanding workloads. The SPARC T4-1B comes ready with Oracle Solaris Containers and Oracle VM technology, for faster and more-reliable consolidation and virtualization in your IT infrastructure at no extra cost.

The Sun Blade 6000 and SPARC T4-1B are enterprise ready. Combining the chassis-based RAS features with Oracle Integrated Lights Out Management (ILOM), the Sun Blade 6000 and SPARC T4-1B are designed to maximize uptime and simplify system management in a highly cost-efficient blade infrastructure.

## Sun Blade 6000 Modular Architecture – Optimized Efficiency

The SPARC T4-1B installs in the highly efficient Sun Blade 6000 chassis supporting up to 10 full-featured, top-performance Oracle blade server modules, and PCIe Gen2, in a compact 10U chassis, with I/O throughput up to 282Gb/sec. The Sun Blade 6000 provides up to 6.4 terabit-per-second headroom for future CPU and I/O architectures.

Designed for high reliability and efficiency, the Sun Blade 6000 provides a flexible, modular network infrastructure. With the Sun Blade 6000 chassis and SPARC T4-1B blade server, customers are able to greatly reduce their time-to-revenue and virtually eliminate downtime for I/O upgrades.

### SPARC T4-1B Specifications

Key Applications
<ul style="list-style-type: none"> <li>Virtualization and consolidation</li> <li>Single-threaded workloads including database, OLTP, batch applications</li> <li>Multi-threaded workloads with high concurrency</li> <li>Web, middleware, and application tier workloads, especially Java environments</li> </ul>
Architecture
<b>Processor</b> <ul style="list-style-type: none"> <li>One eight-core 64 thread 2.85GHz SPARC T4 processor</li> <li>8 floating point units, 64 simultaneous threads</li> <li>New on-chip Encryption Instruction Accelerators with direct non-privileged support for 16 industry-standard cryptographic algorithms plus random number generation in each of the eight cores</li> <li>Oracle SPARC V9 architecture, ECC protected</li> </ul> <b>Cache</b> <ul style="list-style-type: none"> <li>Level 1 caches: 16KB instruction cache and 16K data cache per core</li> <li>128KB level 2 cache per core</li> <li>Shared 4MB level 3 cache</li> </ul> <b>Main Memory</b> <ul style="list-style-type: none"> <li>Supports 4GB, 8GB, 16GB or 32GB DDR3 DIMMs</li> <li>16 DIMM slots, supporting a maximum of 512GB</li> <li>Extended ECC, error correction and parity checking memory</li> </ul>
Interfaces
<b>Network</b> <ul style="list-style-type: none"> <li>Two 10/100/1000 Base-T Ethernet ports using the Intel 82571ED GbE transceiver</li> <li>One dedicated 10/100 Base-T Ethernet port for the management network which can be optionally shared with the main network ports if desired</li> <li>Two PCIe 2.0 x8 links to midplane through optional fabric expansion module</li> </ul> <b>Storage</b> <ul style="list-style-type: none"> <li>Six SAS2.0 interfaces using LSI SAS2008 Controller               <ul style="list-style-type: none"> <li>One SAS2.0 interface to each of the two small form factor (SFF) SAS drive bays with RAID 0,1 support</li> </ul> </li> <li>Up to 2 optional internal 300GB or 600GB 10,000 rpm SAS disk drives, or 100GB SATA solid state drive</li> </ul> <b>Midplane I/O</b> <ul style="list-style-type: none"> <li>Four x8 PCIe busses: Two dedicated to NEMs, two dedicated to EMs</li> <li>Four 3.0Gb/sec SAS interfaces, two per NEM</li> <li>Two 10/100/1000 GbE interfaces, one per NEM</li> <li>10/100 Ethernet management port to Chassis Monitoring Module (CMM)</li> </ul>

**Front Panel I/O Exposed via dongle cable:**

- One RJ-45 serial console to server module ILOM
- Three USB 2.0 ports (2 external via dongle and 1 internal accepting USB drive)
- One VGA port

**Software****Operating Systems**

- Oracle Solaris 11 or later 10/8/11 Update 10
- Oracle Solaris 10 8/11 Update 10
- Support for Solaris 10 9/10 Update 9 and Solaris 10 10/09 Update 8 + Oracle Solaris 10 8/11 Patch Bundle

**Software Included**

- Oracle Solaris
- Oracle VM Server
- Electronic Prognostics
- ZFS

**Management**

Built-in Oracle Integrated Lights Out Manager service processor delivers check

- Direct manageability—same as Oracle rack-mounted SPARC T4 servers
- Full monitoring of blade by SNMP
- Graphical user interface (GUI) and comprehensive command-line interface (CLI)
- Secure access and control
- Full-featured virtual console through remote KVMs feature
- Oracle Enterprise Manager, an advanced hardware management enabling discovery, grouping, bare metal provisioning, hardware and OS monitoring, and integrated LDoms management

**Regulations**

- Safety: UL/CSA-60950-1, 2<sup>nd</sup> Edition, EN60950-1-2006 + A11:2009 + A1:2010 + A12:2011, IEC60950-1:2005 + A1:2009 CB scheme with all country deviations, CNSI4336-1, GB4943
- EMI: EN55022:2006 + A1:2007/CISPR22:2008 Class A, 47 CFR 15B Class A, ICES-003 Class A, VCCI Class A, AS/NE 3548 Class A, CNS 13438 Class A, GB9254 Class A, EN61000-3-2, GB17625.1, EN61000-3-3
- Immunity: EN 55024:2010

**Certifications**

- Safety: UL/cUL, CE, BSMI, GOST R, S-Mark, CSA EMC: CCC, CE, FCC, VCCI, ICES, C-Tick, KCC, GOST R, BSMI Class A
- Other: Complies with WEEE Directive (2002/96/EC) and RoHS Directive (2011/65/EC)

**Environment**

Please see Sun Blade 6000 chassis data sheet -

<http://www.oracle.com/us/products/servers-storage/servers/blades/033613.pdf>

**Dimensions and Weight**

- Height: 327.2 mm (12.9 in.)
- Width: 44.5 mm (1.8 in.)
- Depth: 511.7 mm (20.1 in.)
- Weight: 7.4 kg (16.4 lb.) fully configured

**Power and Cooling**

SunBlade 6000 chassis power and cooling:

<http://www.oracle.com/us/products/servers-storage/servers/blades/033613.pdf>

**Warranty**

The SPARC T4-1B 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 T4-1B, visit [oracle.com](http://oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.



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