

SPARC T4-1B SERVER MODULE

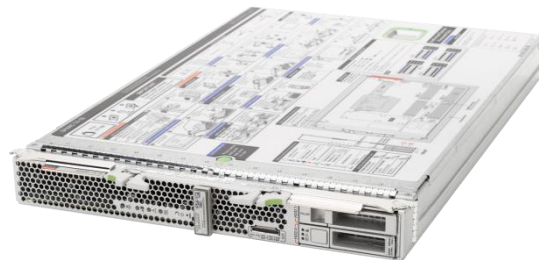
EXTREME SCALABILITY AND DENSITY IN EFFICIENT BLADE FORM FACTOR

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

- Virtualization and consolidation
- Single-threaded workloads including database, OLTP, batch applications
- Multi-threaded workloads with high concurrency
- Web, middleware, and application tier workloads, especially Java environments

Architecture

Processor

- One eight-core 64 thread 2.85GHz SPARC T4 processor
- 8 floating point units, 64 simultaneous threads
- 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
- Oracle SPARC V9 architecture, ECC protected

Cache

- Level 1 caches: 16KB instruction cache and 16K data cache per core
- 128KB level 2 cache per core
- Shared 4MB level 3 cache

Main Memory

- Supports 4GB, 8GB, 16GB or 32GB DDR3 DIMMs
- 16 DIMM slots, supporting a maximum of 512GB
- Extended ECC, error correction and parity checking memory

Interfaces

Network

- Two 10/100/1000 Base-T Ethernet ports using the Intel 82571ED GbE transceiver
- One dedicated 10/100 Base-T Ethernet port for the management network which can be optionally shared with the main network ports if desired
- Two PCIe 2.0 x8 links to midplane through optional fabric expansion module

Storage

- Six SAS2.0 interfaces using LSI SAS2008 Controller
 - One SAS2.0 interface to each of the two small form factor (SFF) SAS drive bays with RAID 0,1 support
- Up to 2 optional internal 300GB or 600GB 10,000 rpm SAS disk drives, or 100GB SATA solid state drive

Midplane I/O

- Four x8 PCIe busses: Two dedicated to NEMs, two dedicated to EMs
- Four 3.0Gb/sec SAS interfaces, two per NEM
- Two 10/100/1000 GbE interfaces, one per NEM
- 10/100 Ethernet management port to Chassis Monitoring Module (CMM)

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, 2nd 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/ 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 SPARC T4-1B, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.



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Hardware and Software, Engineered to Work Together