

Overview and Frequently Asked Questions

Oracle SPARC T4-4

Overview

The SPARC T4-4 is a high performing two or four-socket server based on the SPARC T4 processor and optimized for data-intensive and enterprise workloads.

The SPARC T4-4 is the most powerful server in the T-Series product family delivering unsurpassed single and multi-thread throughput performance. With several world record [benchmarks](#), the SPARC T4-4 has set yet another milestone for the SPARC based industry leading server platforms.

The SPARC T4-4 server boasts speed, security, and unmatched availability to data in a modular and compact 5 RU design. It is an optimal server platform for Oracle database with enterprise reliability, availability and security along with outstanding single thread performance.

SPARC T4-4 server nodes are the high performance system building blocks for fault tolerant SPARC Supercluster servers supporting business critical and performance sensitive workloads on Oracle Solaris.

Customer Benefits

Balanced Workload Performance Optimized for Full Range of Oracle Applications

Building on the industry leading multi-threaded performance of the prior SPARC T3 processor, and adding x5 single-thread, and x7 floating point performance increase, the SPARC T4-4 server is extremely well equipped to perform a broad range of business critical applications.

The SPARC T4-4 server is the ideal platform for virtualization and consolidation. Consolidation of legacy SPARC systems lowers total cost of ownership, hardware, software, service, power/cooling, floor space. Move to Oracle Solaris 10 or Oracle Solaris 11 with the [Oracle Solaris Binary Application Guarantee Program](#) to take advantage of the most proven and feature-rich enterprise OS.

SPARC T4-4 together with Oracle Service Bus and Event Driven Architecture are an ideal platform to run a consolidated, highly reliable real time service-oriented architecture (SOA.)

Accelerated Application Performance and Scalability

The SPARC T4-4 maintains excellent memory IO bandwidth of the previous award winning generation server, while doubling the memory size and providing additional level of caching all to accelerate workload processing. Its flexible design with a choice of two or four processors allows for easy scalability.

With its massive memory SPARC T4-4 is an ideal host for the Oracle TimesTen In-Memory Database enabling 1TB of data at microsecond response times.

You can ensure network bandwidth for Active Data Guard for Standby & Backup with SPARC T4-4 600 Gigabit of IO throughput and built-in 10 Gigabit Ethernet networking.

Enterprise Class Virtualization to Capture Business Value

The SPARC T4-4 server offers built-in no cost virtualization technologies that enable organizations to extract maximum value from IT assets while creating an infrastructure capable of rapidly adapting to today's dynamic business environment.

Oracle VM Server for SPARC provides highly efficient, enterprise-class virtualization capabilities by creating partitions called logical (or virtual) domains. Each logical domain can run an independent operating system, and the live migration feature of the new release 2.1 allows customers to quickly and easily migrate running Oracle Solaris 10 or Oracle Solaris 11 domains from one physical server to another, eliminating application outages and server downtime.

Outstanding Security to Protect Your Assets

New encryption instruction accelerators are 5x better than IBM Power7 and 3x better than x86, and support sixteen industry standard ciphers, enabling security conscious organizations such as telecommunications, healthcare, financial services and the public sector to support thousands of simultaneous secure web connections.

In addition to the cryptographic features of the SPARC T4 processor and built on more than 20 years of experience, Oracle Solaris security provides all the unmatched enterprise-class features that you depend on to protect your applications. Coupled with this operating system, Oracle Solaris with trusted extensions enhances existing Oracle Solaris security, preserves application investment, and provides for IT flexibility.

Efficient and Flexible Design

Smart and simple designs offer greater energy and space optimization, increasing asset utilization while reducing operating costs. Occupying just 5 RU of rack space, the SPARC T4-4 server supports two or four 8-core 3.0 GHz processors, up to eight hard disk drives, and 1TB of memory based on 16GB DIMMs.

Award Winning Oracle Solaris Operating System

Oracle Solaris is the #1 Enterprise operating system with proven results, running mission-critical enterprise databases to high performance enterprise infrastructure applications. Oracle Solaris innovative, built-in features deliver breakthrough virtualization, high availability, advanced security, and industry-leading performance.

The proven reliability of Oracle Solaris gives customers built-in fault tolerance through features such as ZFS, DTrace and Fault Management Architecture, delivered in large part with Oracle's Predictive Self Healing technology. Oracle Solaris delivers the highest levels of enterprise-class security with Common Criteria Certification.

Oracle Solaris 11 raises the bar on the functionality introduced in Oracle Solaris 10, continuing Oracle's leadership for providing the best choice for mission critical operating system enterprise environments, with a fully production ready release that previews much of the technology that will be introduced with Oracle Solaris 11.

Frequently Asked Questions

What is the SPARC T4-4 server?

The SPARC T4-4 is a two or four-socket server powered by the latest SPARC T4 processor in a 5 rack unit (RU) form factor.

The SPARC T4-4 server supports 64 DDR3 memory DIMM slots, sixteen Express Module form factor PCI-Express Gen2 slots, and up to eight 2.5-inch hard disks.

How does the new SPARC T4-4 server compare to the SPARC T3-4 server?

Compared to the previous generation system, the SPARC T4-4 delivers up to 5x higher single thread, and 7x higher floating point performance, it has 8 as opposed to 16 cores per processor, it supports twice as much memory, all while maintaining world record multithreaded performance.

What are the changes in the SPARC T4 CPU that lead to the dramatic improvements in the single threaded performance of SPARC T4-4?

The SPARC T4 processor incorporates new features such as Out-Of-Order (OOO) execution of instructions, branch prediction using a simple neural net algorithm, cryptographic processing integrated directly within the instruction pipeline with user-level access, and longer pipelines that enable a higher clock rate. These new features enable the SPARC T4 to perform up to 5x faster on single threaded workloads, yet maintain comparable performance on network throughput workloads compared to the SPARC T3.

What is Chip Multithreading Technology?

Chip Multithreading (CMT) Technology is a processor and architecture design approach that maximizes computational throughput and delivered performance by implementing hardware multithreaded processor cores on a single chip. This innovative approach is redefining the way IT managers solve complex business issues. With large memory support and the breakthrough performance of the SPARC T4 processor, the SPARC T4-4 server is ideally suited for compute, data, and transaction-intensive applications, making it an ideal platform for database, network, and security servers.

What are the system management options available for the SPARC T4-4 server?

The SPARC T4-4 server includes the [Oracle Integrated Lights Out Manager \(ILOM\)](#), which is driven by an integrated system service processor that also has power management and power capping capability to help reduce energy cost.

ILOM provides full remote KVMs (Keyboard, Video, Mouse, Storage) support together with remote media functionality.

ILOM is an integral part of the Oracle Enterprise Manager Ops Center, which provides the most comprehensive management across Oracle servers, operating systems, and Oracle Solaris virtualization technologies, and dramatically improves the efficiency of IT operations with its integrated lifecycle management and built-in automation.

What are the operating systems that have been certified to run on the SPARC T4-4 server?

The SPARC T4-4 server supports Oracle Solaris 10 and Oracle Solaris 11. Oracle Solaris is the strategic platform for today's demanding enterprise, delivering proven results on everything from mission-critical enterprise databases to high-performance Web farms, on industry-leading SPARC and industry-standard x86 systems. Oracle Solaris has technologies such as DTrace, ZFS, Containers and Predictive Self-Healing, making it the most safest and scalable UNIX operating system available.

What software is pre-installed on the SPARC T4-4 server?

The SPARC T4-4 server comes pre-installed with a choice of Oracle Solaris 10 or 11, Oracle VM for SPARC 2.1, and Oracle Electronic Prognostics 1.2.

What are the power and cooling requirements for the SPARC T4-4?

The online [power calculator](#) provides guidance for estimating the electrical and heat loads for typical operating conditions.

Where can I obtain information about performance benchmarks?

Oracle SPARC system benchmarks are available [here](#).

Is there a choice in system configurations?

Yes, the SPARC T4-4 server can be customized to the configuration required through the Oracle Assemble to Order process.

Can I order the SPARC T4-4 server today?

The SPARC T4-4 will be available to order in October 2011.

Where can I obtain additional information?

Contact your Oracle Sales representative directly or call 1-800-Oracle1.

Additional information about the SPARC T4-4 a server on the web is available [here](#).



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