

SPARC T4-1 Overview and Frequently Asked Questions

Overview

The new SPARC T4-1 is the latest system in the Oracle SPARC T-series line of servers. It continues the Oracle strategy of being the platform of choice for Web infrastructure, middleware workloads, and application development.

The SPARC T4-1 employs the next generation SPARC T4 processor, which has been optimized for single-thread performance while maintaining the high throughput inherent in Oracle's Chip Multithreading technology. New crypto units and support over a dozen industry standard ciphers, enabling security conscious organizations such as telecommunications, healthcare, financial services and the public sector to keep their data safe with up to 3x faster Oracle Solaris ZFS file system encryption than the latest generation of x86 systems, and delivering 4x faster single-thread OpenSSL security than IBM Power7(6).

Like the SPARC systems that preceded it, the SPARC T4-1 is not just a server, it's a fully integrated system with the ability to run many virtual servers through built-in, no-cost virtualization technologies and high-bandwidth I/O. This helps drive up utilization, lower IT costs and keep server sprawl to a minimum.

The SPARC T4-1 boasts speed, scalability, and security in a sleek, compact design. Combined with Oracle enterprise software, the SPARC T4-1 is the ideal platform for running a broad expanse of mission critical applications while doing the job that was previously done by multiple servers.

Customer Benefits

The SPARC T4-1 server provides the following key customer benefits.

5x Single-Thread Performance Increase

A recognized, innovative leader in the development of cutting edge systems technology, Oracle's SPARC T4-1 server utilizes the new SPARC T4 server processor, offering a five times increase in single-thread performance over its predecessor, the

SPARC T3 – while maintaining the world-class throughput performance of the previous generation's chip. To achieve this, the SPARC T4 processor utilizes eight complex cores, deeper pipelines, out-of-order execution, sophisticated branch prediction, dedicated 128K L2 cache per core, a shared 4MB L3 cache, and a higher frequency 2.85GHz clock. Additionally, the SPARC T-4 processor core pipeline will automatically switch to single-thread mode when only a single-thread is active – meaning all of the resources of the core are dedicated to that thread's execution. With faster single-threaded processing, the T4-1 enables shorter application boot times and rapid batch processing, making it the ideal platform for consolidation and virtualization of legacy architectures.

Built-In Enterprise Class Virtualization

The SPARC T4-1 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. While customers may achieve the optimal results with one logical domain per core, the SPARC T4-1 server supports a maximum of 64 logical domains, allowing organizations to consolidate workloads and maximize their use of compute platforms, simplifying their IT infrastructure and bringing new levels of efficiency, manageability, and agility to the datacenter.

Protecting Your Assets with Outstanding Security

Unfortunately, cyber attacks and data hacking have become every day occurrences in today's world. Thousands of hours are wasted and millions of dollars are spent each year trying to prevent important data from falling into the wrong hands. The advanced SPARC T4 processor supports industry standard security cyphers via cryptographic stream processing units integrated directly into the processor core. These accelerators provide wire speed encryption capabilities directly inside the instruction pipeline, enabling secure datacenter operations and

SPARC T4-1 Overview and Frequently Asked Questions

allowing customers to encrypt large amounts of data without sacrificing performance.

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 IT flexibility.

For high performance system-wide cryptographic routines, the cryptographic framework in Oracle Solaris adds a standards-based common API that provides a single-point of administration for cryptographic management. Without sacrificing hardware and application compatibility, Oracle Solaris security with trusted extensions provides the application isolation and control required by those businesses and government institutions that need that extra layer of security.

Award Winning Oracle Solaris Operating System

The hardware features of the SPARC T4-1 server are only half the story. Oracle Solaris is the #1 Enterprise operating system for datacenters, developers, and service providers and is shipped pre-installed with every server. It's the only open operating system that has delivered proven results, running everything from mission-critical enterprise databases to high performance Web farms. Its innovative, built-in features deliver breakthrough virtualization, high availability, advanced security, and industry-leading performance. Best of all, the transition to the SPARC T4-1 server is streamlined for existing Oracle Sun customers because the new T4 processor is binary compatible with legacy SPARC processors at the instruction level. Oracle Solaris 8 and 9 applications run unchanged on Oracle Solaris 10, thus no recompilation of software is needed. This equates to savings that can be realized immediately. For more details regarding Oracle's binary compatibility guarantee, please visit this [site](#).

For a complete integrated business system, the SPARC T4-1 server allows companies seeking simplicity to avoid increasing IT infrastructure costs while accelerating business growth. The

SPARC T4-1 server is a powerful system you can trust to tackle the most demanding Web Infrastructure, Middleware workloads and Application development.

To learn more about specific Oracle Optimized Solutions featuring the SPARC T4-1 server, visit [here](#).

Frequently Asked Questions

What is the SPARC T4-1 Server?

The SPARC T4-1 server is the next generation T-series server based on the SPARC T4 processor. It offers world-class performance, scalability and virtualization capabilities ideal for web, middleware and application workloads. Oracle SPARC system benchmarks are available [here](#).

How does the new SPARC T4-1 compare with the SPARC T3-1?

The SPARC T4-1 has a higher frequency 2.85GHz SPARC T4 processor compared to the SPARC T3 1.65GHz processor found in the SPARC T3-1. Additionally the SPARC T4 processor has eight complex cores compared to the SPARC T3's sixteen smaller cores. The SPARC T4 also has other enhancements, such as a private 128K L2 cache per core; 4MB shared L3 cache, an out-of-order execution pipeline, and advanced branch prediction. All combined, the new SPARC T4-1 has increased single-thread performance by five times over the SPARC T3-1, while maintaining the throughput performance of the previous generation.

What Virtualization technologies are available for the SPARC T4-1 server?

Oracle offers the most complete portfolio of end-to-end virtualization solutions available today that can be used separately or together to tackle specific deployment challenges. This includes Oracle Solaris Containers and Oracle VM Server for SPARC. More information can be found [here](#).

What are the memory, storage and expansion options supported on the SPARC T4-1 server?

The SPARC T4-1 server supports sixteen DDR3 memory DIMM slots, which can be populated with 4GB, 8GB or 16GB DIMMs. There are also six low-profile PCI-Express Generation 2 slots and slots for eight hard disk drives or solid-state drives.

What are the operating systems that have been certified to run on the SPARC T4-1 server?

The SPARC T4-1 server supports Oracle Solaris 10. Oracle Solaris 10 is the strategic platform for today's demanding enterprise, delivering proven results on everything from mission-critical enterprise databases to high-performance Web farms. Oracle Solaris 10 has technologies such as Dtrace, ZFS, Containers and Predictive Self-Healing, making it the most safe and scalable UNIX operating system available. It will

support Oracle Solaris 11 when that becomes generally available.

What software is preinstalled on the SPARC T4-1 server?

The SPARC T4-1 server comes preinstalled with Oracle Solaris 10, Oracle VM Server for SPARC 2.1, Electronic Prognostics 1.2 and ZFS.

What are the system management options available for the SPARC T4-1 server?

The SPARC T4-1 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 KVM (Keyboard, Video, Mouse, Storage) support together with remote media functionality. Learn more about ILOM [here](#).

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 life cycle management and built-in automation. Click here to find out [more](#).

Is there a choice in system configurations?

Yes, the SPARC T4-1 server can be fully customized to the configurations specified through our factory's ATO (Assemble to Order) process.

What are the power and cooling requirements for the SPARC T4-1?

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

What support is available for Oracle's hardware products?

Oracle offers complete-system support including 24/7 hardware service, rapid onsite expert technical support, proactive tools, and updates to Oracle operating systems, Oracle VM, and integrated software (such as firmware) — all for a single price. For more information and related offerings, click [here](#).

Where can I find more information about Oracle's hardware warranty for the SPARC T4-1?

For more information on Oracle's technical support policies and the Oracle Hardware Warranty, visit this [site](#).

Where can I find more information about the SPARC T4-1?

For additional information on the SPARC T4-1, click [here](#), or contact your Oracle sales rep directly at: 1-800-ORACLE-1.



Oracle Corporation
Worldwide Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Worldwide Inquiries

Phone: +1.650.506.7000
+1.800.ORACLE1
Fax: +1.650.506.7200
oracle.com



Oracle is committed to developing practices and products that help protect the environment

Copyright © 2011, Oracle and/or its affiliates. All rights reserved. This document is provided for information purposes only and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. UNIX is a registered trademark licensed through X/Open Company, Ltd. 1010

Hardware and Software, Engineered to Work Together