Overview and Frequently Asked Questions
Oracle SPARC SuperCluster T4-4

Overview

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The Oracle SPARC SuperCluster T4-4 is a multi-purpose engineered system for consolidating a wide range of mission critical applications and rapidly deploying cloud services. The SPARC SuperCluster T4-4 utilizes high performance technologies from Oracle Exadata Storage Servers and Oracle Exalogic Elastic Cloud combined with SPARC T4-4 servers, ZFS Storage Appliance, InfiniBand technology, Oracle Solaris 11, and the unified systems management of Oracle Enterprise Manager Ops Center 12c. With the addition of the SPARC SuperCluster, Oracle continues to set the standard for engineered systems: maximizing customer value with leading performance in a complete and tested package.

Customer Benefits

Extreme Consolidation and Rapid Cloud Services
The SPARC SuperCluster T4-4 server delivers high operating efficiency, cost savings, performance, availability, scalability and security across a wide range of enterprise applications, including Oracle and custom enterprise applications, database and middleware. Oracle has tested, tuned and optimized the integrated hardware and software configurations, resulting in a shorter deployment time, ease of maintenance and reduction of overall operational costs. Core system capabilities include:

- **Extreme Operating Efficiency:** Consolidate Oracle, 3rd party and custom applications with no cost, zero overhead virtualization and guaranteed binary compatibility

- **Reduced Deployment Costs:** Built-in expertise leverages hundreds of years to accelerate installation and simplify administration delivering up to 5x time to value

- **Versatile Design:** SPARC T4-4 servers provide high performance on both single threaded and highly concurrent workloads

- **Extreme Performance:** Realize performance benefits of up to 10x for query, data compression and OLTP response time and 10x for Java application performance

- **Integrated Zero Overhead Virtualization:** Enhance security, increase utilization and improve reliability through Oracle VM Server for SPARC and Oracle Solaris Zones

- **High Availability:** High application up time through hardware redundancy, multiple I/O paths and advanced clustering technologies provide mission critical levels of availability

- **Data Security:** Built in, hardware acceleration of encryption to provide enhanced data security and privacy without the performance penalty

- **Tremendous Performance Scalability:** Connect up to 8 racks of SPARC SuperCluster, Oracle Exadata, Exadata Storage Expansion Racks, or Oracle Exalogic

- **Rapid Cloud Services and Robust Management** made easy with Oracle Enterprise Manager Ops Center 12c

- **Oracle Platinum Services** available to Oracle Premier Support customers who maintain certified configurations. Features include 24/7 fault monitoring, faster response and restore time, and patch deployment services.

- **Designed, Tested and Delivered by Oracle** for greater efficiency, reduced cost, and improved performance
Frequently Asked Questions

What is new in SPARC SuperCluster software release v1.1?

Oracle has released a new software upgrade for SPARC SuperCluster T4-4 that enables customers to efficiently consolidate any combination of enterprise databases, middleware and application and rapidly deploy secure, self-service cloud services. SPARC SuperCluster engineered system’s new layered, zero-overhead virtualization combined with the database offload function of Oracle Exadata Storage Servers and efficient networking can deliver 10x application consolidation ratios. SPARC SuperCluster customers can now deploy multi-tenant and highly available applications without wasting resources on virtualization overhead. Oracle Databases can now run within Oracle Solaris Zones on the Exadata Storage Servers to enable secure, isolated database services. Multiple Oracle Database and enterprise application domains can be configured on each SPARC SuperCluster compute node to maximize deployment flexibility. Customers can dynamically reallocate processor and memory resources across existing SPARC SuperCluster domains and zones to meet changing working requirements.

The latest enhancements also enable organizations to quickly launch secure, multi-tenant cloud services for enterprise applications and Oracle Database. SPARC SuperCluster enables local administrators to provision multi-tenant application cloud services up to 5x faster and create an Oracle Database instance up to 32x faster. SPARC SuperCluster and Oracle Enterprise Manager 12c provides a complete cloud lifecycle management solution including self-service provisioning and integrated chargeback and capacity planning.

Can existing SPARC SuperCluster customers benefit from the new v1.1 software?

Yes, these enhancements are available as free upgrades for current SPARC SuperCluster customers and will be the standard software version for all new implementations.

What is the SPARC SuperCluster T4-4?

Oracle SPARC SuperCluster is a multi-purpose engineered system incorporating Oracle’s SPARC servers, Oracle Exadata Storage Servers, Sun ZFS Storage Appliance, InfiniBand technology, Oracle Solaris, and the unified systems management of Oracle Enterprise Manager Ops Center 12c to provide a versatile infrastructure solution for running a wide range of mission enterprise applications and cloud services. The high degree of software and hardware optimization and integration results in better performance than with standalone systems, and the fully-redundant hardware when combined with Oracle Solaris Cluster offers higher levels of availability. The SPARC SuperCluster T4-4 is also shipped pre-assembled and pre-installed resulting in unprecedented savings in both the time and effort required to bring a system to production.

How can SPARC SuperCluster be deployed in my existing data center?

The Oracle SPARC SuperCluster T4-4 is an excellent choice for consolidation of multiple tiers as well as dynamically resizing databases and applications during different periods. The SPARC SuperCluster T4-4 will be installed as a complete and integrated hardware and software engineered system in its own rack. Connectivity to other systems in the customer’s existing data center can be achieved over the supplied 10GbE Ethernet NICs included in each SPARC SuperCluster T4-4 node. It also allows for a gradual migration to Oracle engineered systems by supporting connectivity to an existing SAN infrastructure. Optional Fiber Channel connectivity is available to facilitate migration of data from legacy storage subsystems to the Exadata Storage Servers integrated with the SPARC SuperCluster T4-4.

What type of applications can run on the SPARC SuperCluster T4-4?

Any applications supported on Oracle Solaris 11 or Oracle Solaris 10 will run on SPARC SuperCluster T4-4. In addition, applications running on Oracle Solaris 8 and Oracle Solaris 9 can be deployed on SPARC SuperCluster using Oracle Solaris Legacy Containers on Oracle Solaris 10. Access to the Exadata Storage Servers included with SPARC SuperCluster requires a minimum of Oracle Database 11g Release 2 (11.2.0.3). Additional certification is not required unless an ISV routinely requires certification for all new platforms.

What versions of Oracle Solaris and virtualization technologies are supported on the SPARC SuperCluster T4-4?

Using Oracle VM Server for SPARC, multiple application stacks can be deployed on both Oracle Solaris 11 and Oracle Solaris 10 fully supported side by side. Additionally, individual Oracle Solaris 11 and Oracle Solaris 10 instances can be virtualized with Oracle Solaris Zones for optimal
utilization and application performance. Even applications running on Oracle Solaris 8 and Oracle Solaris 9 can be virtualized on Oracle Solaris Legacy Containers on Oracle Solaris 10 on SPARC SuperCluster.

Is SPARC SuperCluster optimized for Oracle Database?

Oracle SPARC SuperCluster T4-4 ships with the latest Oracle Exadata X3-2 Storage servers. For this reason it is well suited a wide range of high performance database deployments ranging from scan-intensive data warehouse applications to highly concurrent online transaction processing (OLTP) applications. Because of its support for both the latest Oracle database and early versions and its built-in zero overhead virtualization, the SPARC SuperCluster is an ideal platform for database consolidation. Additional Oracle Exadata Storage Expansion racks can be connected to a SPARC SuperCluster using high speed InfiniBand networking.

Is the new solution the right choice for all Oracle Database deployments?

The Oracle SPARC SuperCluster T4-4 is well suited for many database deployments. It is an ideal platform to consolidate small and large numbers of databases, or to deploy complex, multi-user development, test and deployment environments. The SPARC SuperCluster is an excellent choice for all database workloads, ranging from scan-intensive data warehouse applications to highly concurrent online transaction processing (OLTP) applications.

How does the Exadata Storage work with SPARC SuperCluster T4-4? What if I don't use Oracle Database 11g Release 2?

The full capabilities Oracle Exadata Storage Servers will be included with every SPARC SuperCluster T4-4. Exadata Storage Servers are specially optimized for Oracle Database 11g Release 2 operations and will provide outstanding performance for both transaction-based and decision support workloads. An optional external storage rack can be configured for additional performance and capacity. The minimum Oracle Database release required for Exadata and the Storage Servers is 11gR2 (specifically 11.2.0.3). Applications that are dependent on earlier releases of Oracle Database will need to be migrated to enjoy the benefits of the Exadata Storage Servers.

What are some of the other unique capabilities?

The SPARC SuperCluster T4-4 incorporates high-speed on-board encryption engines for data security, low latency QDR InfiniBand or 10 GbE networking for connection to application infrastructure, integrated server, network, and storage virtualization through Oracle Solaris Zones and the mission critical, Oracle Solaris operating system.

What benefits are there for running Oracle applications on SPARC SuperCluster T4-4?

The SPARC SuperCluster T4-4 provides a highly optimized and performing solution for mission critical applications that has been fully tested from software through to the hardware. SPARC SuperCluster provides the opportunity for significantly lower costs in deployment and operation of Oracle applications.

We run smaller databases, will this fit my needs?

The SPARC SuperCluster T4-4 currently includes the newest SPARC T4-4 servers that are suitable for consolidating smaller Oracle databases and comes with virtualization capabilities that allow you to run smaller applications in secure Oracle Solaris Zones or virtual machines supported by Oracle VM Server for SPARC.

Are Oracle Solaris Zones supported on the SPARC SuperCluster T4-4?

Yes, Oracle Solaris Zones are a great way to consolidation applications on SPARC SuperCluster. With software update v1.1, Oracle Database 11g Release 2 can run within Oracle Solaris Zones.

What are examples of application solutions that can benefit from the SPARC SuperCluster T4-4 high availability infrastructure?

The SPARC SuperCluster T4-4 is the best platform for Oracle Optimized Solutions. Its built in availability features address customer uptime requirements through hardware availability delivered via hot-swap capabilities and system partitioning options, through the Oracle Solaris operating system with predictive self-healing and fault management, and through the optional use of Oracle Solaris Cluster that provides even higher levels of availability by offering built-in, automated failover of virtual environments and applications across SuperCluster T4-4 servers as well as disaster recovery capabilities.

What Oracle Optimized Solutions are available for SPARC SuperCluster?
Why should I use Oracle Solaris Cluster on SPARC SuperCluster?

The SPARC SuperCluster is a highly optimized and reliable platform. However, some applications require an additional level of availability which can only be obtained by tightly coupling multiple server units through an advanced OS based clustering solution. Oracle Solaris Cluster is the clustering solution designed for Oracle Solaris and optimized to leverage the SPARC SuperCluster redundancy and reliability features. It provides built-in support for a large portfolio of applications and databases, with a wide range of options for virtualized deployment based on Oracle VM for SPARC and Oracle Solaris Zone which are compatible with the SPARC SuperCluster configurations. With SPARC SuperCluster you get the perfect environment for deploying high availability clustering: pre-integrated hardware cluster and pre-tested platform: no errors in cabling, no issues in hardware compatibility; built-in redundancy for network, storage, server and connectivity; seamless integration and thorough testing with operating system and clustering software. Together SPARC SuperCluster and Oracle Solaris Cluster deliver the highest service level for mission critical applications across all tiers of the data center.

How can SPARC SuperCluster T4-4 be managed effectively?

Oracle Enterprise Manger Ops Center 12c is included to manage all aspects of hardware and virtualization configuration, maintenance and provisioning. Oracle Enterprise Manager 12c provides a complete cloud lifecycle management solution including self-service provisioning and integrated chargeback and capacity planning.

Where can I find more information about Oracle Solaris, Oracle Solaris Cluster and Oracle Enterprise Manager Ops Center?

Visit the following web pages:
http://www.oracle.com/technetwork/server-storage/solaris/index.html