

# Sun Netra 6000 Chassis

## Frequently Asked Questions

November 14, 2011

### Overview

Oracle's Sun Netra 6000 Modular System is a highly reliable blade server system designed for telecom customers who need a high performance, cost-efficient platform for delivering IP services over Telecom Networks.

Oracle's Sun Netra 6000 chassis is more than a component within the Sun Netra Modular System family of products. It serves as the foundation and houses the infrastructure components that are leveraged by the server modules (blade servers) to provide customers with a network infrastructure solution that combines power, cooling, server, storage & networking capabilities. The chassis houses the blade server modules as well as infrastructure components such as networking, power, and cooling, and it manages these components as a single system.

The Netra 6000 Modular Chassis provides a network infrastructure solution with carrier-grade reliability leveraging the chassis based redundant, hot swappable components such as fan modules, high efficiency AC or DC power supply modules and PCIe ExpressModules. Each server module is equipped with an Oracle Integrated Lights Out Manager (ILOM) service processor that offers industry-standard protocols for standalone system management as well as integration with many industry leading management systems.

### Foundation for Sun Netra Modular Systems

The Sun Netra 6000 chassis fits into a compact form factor—10RU (AC version) or 11 RU (DC version)—while supporting up to 10 full-featured x86 or SPARC server modules. With 6.4 Terabit-per-second maximum I/O throughput and up to 20 computing nodes per chassis (up to 960 cores and 7.68 TB memory per 42RU rack), the Sun Netra 6000 chassis is a versatile solution for your data center needs.

The modular architecture and its ability to configure unique I/O on a per blade basis allows the Sun Netra 6000 chassis to

accommodate a broader range of telco data center applications than is possible with competing blade platforms. This dramatically lowers costs for virtualization and telecommunication applications while also facilitating accelerated deployment of production systems with high availability

Target applications for the Sun Netra 6000 include Media Service Delivery Platforms, OSS/BSS deployments and specific applications such as BRM and Service Broker deployments.

### World's Easiest Blade System to Deploy or Upgrade

Unique to the blade server market, all Sun Netra Modular Systems leverage industry standard PCIe ExpressModules to allow each individual server module to have its own unique "I/O personality." The ExpressModules are inserted in the rear of the Sun Netra 6000 chassis, are externally accessible and require no add-on mezzanine or daughter cards on the server modules. A benefit of this "out of the box" I/O design is that customers can tailor each individual server module's I/O to satisfy the specific workload characteristics of the application(s) it is running. In addition, all server modules can leverage "chassis-wide" Network Express Modules which provide common I/O to every installed server module should they all require the same standard I/O technology (such as GbE, 10GbE etc.). When it comes to I/O and Oracle's modular blade servers, unlike the competition, each server module has a choice.

### Simplified Chassis Management

Unlike competing blade solutions that use complex chassis management approaches, the simple design of the Sun Netra 6000 chassis streamlines administration, simplifies maintenance, and facilitates integration with existing legacy infrastructure to further reduce costs. With support for key industry-standard interfaces and a Java-based remote console, the Sun Netra 6000 chassis can be rapidly integrated into your existing management infrastructure using several third-party

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tools. This eliminates unnecessary complexity and enables the Sun Netra 6000 chassis to be managed within an existing multivendor, heterogeneous network infrastructure without any special training or tools. In addition, each chassis is shipped with a standard Chassis Monitoring Module (CMM) for greater control.

#### Carrier-Grade Reliability

The ruggedized NEBS Level 3 certified, Sun Netra 6000 modular system provides a high level of system reliability which helps ensure that the server continues to operate under the extreme of environmental conditions.

#### Customer Benefits

With the purpose-built design of the Sun Netra 6000 chassis, customers are able to deploy servers quickly and prevent downtime for future upgrades and service.

Sun Netra Modular System's flexible I/O design is unique in the market and therefore is the only platform that provides blade server I/O without compromise. The flexible I/O design of the Sun Netra 6000 chassis enables its customers to benefit from rapid time-to-revenue for initial deployments and future upgrades or service while the competition is suffering downtime and stuck in "install mode"

Reduced costs and faster time to production are the guiding design principles behind the Sun Netra 6000 chassis. The highly efficient chassis is easy to upgrade and includes power supply modules with the headroom for future growth. Using a superior design, the cooling and power infrastructure of multiple systems are consolidated into a single Sun Netra 6000 chassis to create a highly efficient, small footprint infrastructure that reduces overall space, cooling, and power costs in the data center.

#### How many ExpressModules can the Sun Netra 6000 chassis support?

The Sun Netra 6000 chassis supports up to 20 ExpressModules (EMs). Each blade server module can support up to two EMs. EMs, analogous to PCIe add-in cards found in rack-mounted servers, are based on (PCI-SIG) industry-standards and provide protocols such as Gigabit Ethernet, 10 Gigabit Ethernet, and SAS. EMs are installed in the back of the chassis

#### How many Network Express Modules can the Sun Netra 6000 chassis support?

The Sun Netra 6000 chassis support up to two Network Express Modules (NEMs). Unlike EMs, NEMs provide common I/O to every server module installed in the chassis, should they all require the same standard I/O technology (such as GbE, 10GbE, or SAS). Also, NEMs can be deployed in pairs to achieve redundancy. NEMs are also installed in the back of the chassis.

#### What is the Chassis Monitoring Module?

The Chassis Monitoring Module (CMM) provides full remote monitoring capabilities of the chassis power and cooling infrastructure and also facilitates complete control of the server modules within the chassis. It provides real-time feedback on many vital signs such as system power consumptions of each blade, voltage overshoot/undershoot of the power supply modules, as well as options for capping power consumption. The CMM, together with ILOM, provides manageability at the chassis-level and blade-level. Each Sun Netra 6000 chassis includes a CMM, standard.

#### What is ILOM?

Integrated Lights Out Manager (ILOM) is provides remote management capabilities to the Sun Netra 6000 Chassis using the service processor found in the Chassis Monitoring Module (CMM) and each server module.

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#### **What are power, cooling and RAS benefits of Sun Blade 6000 chassis?**

There are two separate front-to-rear airflows in the chassis. One is powered by its redundant front fan modules within the power supplies, while the other is powered by the rear fan modules that cool the server modules. The front-to-back cooling design and redundant power supply modules of the chassis prevent downtime and protect your investments. Additionally, all EMs and NEMs are externally accessible and support redundant configurations. In addition to the chassis components, the server modules and storage modules support hot swappable and redundant RAID enabled disks. Combining these RAS features with ILOM, the Sun Netra 6000 chassis is designed to maximize uptime, simplify system management and reduce administration costs.

#### **What software can be pre-installed on the Sun Netra 6000 chassis?**

The latest versions of ILOM software and firmware updates can be installed on the CMM, which is always installed in the chassis.

#### **Where can I find more information about the Sun Netra 6000 chassis and other Sun Netra Modular System offerings?**

Please see the product page here:

<http://www.oracle.com/us/products/servers-storage/servers/netra-carrier-grade/netra-6000-with-netra-t6340-066156.html>

You can contact your Oracle sales representative directly or call 1-800-Oracle1 or contact your Oracle authorized reseller.

#### **Where can I find more Sun Netra 6000 product information, including the Option Cards, Downloads and Firmware, OS's and External Storage Options?**

You will find this information on the external wiki at <http://wikis.sun.com/display/SystemsComm/Sun+Netra+6000+Modular+Systems+Products>



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