

## SUN NETRA 6000 CHASSIS

### MAXIMUM EFFICIENCY WITH CARRIER GRADE RELIABILITY

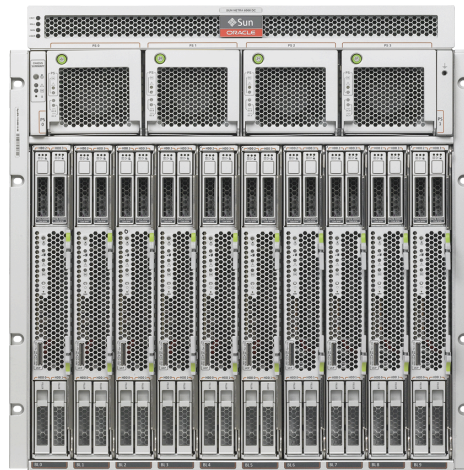
#### KEY FEATURES

- Space efficient form factor: 10 RU - AC version and 11 RU- DC version
- Up to ten server modules
- Up to 20 PCIe Express Modules (EMs)
- Up to two Network Express Modules (NEMS)
- Chassis Monitoring Module (CMM) with Integrated Lights Out Manager (ILOM)
- NEBS™ Level 3 certification and ETSI compliance
- Choice of AC or DC power
- Choice of SPARC and Intel-processor based modules
- Hot-pluggable, hot-swappable and redundant AC or DC power supply and fan modules

#### KEY BENEFITS

- High availability and reliability for telecom customers
- Reliable operation in severe environmental conditions
- Modular design allows easy upgrade and expansion
- Power and cooling efficiencies cut costs
- Fewer qualifications and simpler maintenance planning with longer product life cycles

*Oracle's Sun Netra 6000 modular system is a highly reliable blade server system designed for customers who need a cost-efficient platform for delivering IP services over Telecom Networks. The Sun Netra 6000 chassis, can be filled with a combination of SPARC or Intel processor based server modules and 10Gb Ethernet switching to handle the most demanding workloads, including advanced IP-based Telecom/Web services and Operations and Business Support Systems (OSS/BSS) applications.*



The Sun Netra 6000 modular system is designed for telecom customers

### Sun Netra 6000 Chassis

The Sun Netra 6000 combines the benefits of the Sun Blade 6000 modular system with the ruggedness and reliability of the Sun Netra server family.

The Sun Netra 6000 chassis fits in a compact form factor - only 10 RU (11RU for DC) while supporting up to 10 full-featured, top-performance blade server modules. The innovative modular design allows easy upgrade and expansion, high flexibility with a breadth of compute, storage, and networking options. The externally accessible, hot-pluggable Express Modules give each blade a unique I/O personality, while the network switch options dramatically help cut cabling, simplify inter-chassis storage and Ethernet connectivity, and redundancy reduces downtime.

As with other Sun Netra servers, the Sun Netra 6000 is NEBS Level 3 certified and ETSI compliant—making it ideal for the most demanding applications in the toughest environments.

## Sun Netra 6000 Chassis Specifications

<b>Architecture</b>
<b>Form Factor</b>
10 rack units high (AC chassis), 11 rack units high for the DC chassis (11U), holding up to 10 server modules per chassis.
<b>I/O Interfaces</b>
The Sun Netra 6000 chassis midplane supports the following protocols: PCI Express, SAS, and Gigabit Ethernet (GbE)  Each server module has a direct connection to two PCIe EMs for discrete I/O connectivity and two PCIe Network Express modules for aggregate I/O connectivity.
<b>I/O Modules</b>
Up to two industry-standard (PCI-SIG), hot-pluggable PCIe EMs per server module, maximum 20 per chassis  Up to two hot-pluggable NEMs per Sun Netra 6000 chassis
<b>Manageability</b>
<b>Chassis Monitoring Module (CMM)</b>
Helps enable direct remote connection to the service processor on each blade server  Reduces cabling by providing a single management connection to the chassis  Helps ensure complete remote lights-out manageability of the whole chassis  Provides an optional aggregate point for monitoring of chassis fans and power supplies with the CMM's own Integrated Lights Out Manager (iLOM) module
<b>Environment</b>
<b>Temperature</b>
Operating: 5°C to 45°C (41°F to 113°F) NEBS Short Term: -5°C to 55°C (23°F to 131°F) Non-operating: -40°C to 70°C (-40°F to 158°F)
<b>Relative Humidity</b>
Operating: 5%–85% RH, noncondensing, but not to exceed 0.024 kg water/kg dry air (0.053 lb. water/2.205 lbs. dry air)  Short Term: 5%–90% RH, noncondensing, but not to exceed 0.024 kg water/kg dry air (0.053 lb. water/2.205 lbs. dry air)  Nonoperating: 93%, noncondensing, 40°C (104°F)
<b>Altitude</b>
Operating: Meets NEBS 4000m (13,123 ft.) requirement Nonoperating: Up to 12,000 m (39,370 ft.)
<b>Additional Specifications</b>
ETSI: EN 300-019-2-1, 2, 3, Class 1.2, 2.3, 3.1E (except condensing humidity and rain) NEBS: NEBS Level 3 certified by Telcordia Seismic: GR-63-CORE requirements for Earthquake Zone 4
<b>Acoustic Noise</b>
LwAd (1 B = 10 dB) 7.5 B at or below 25°C, 9.2 B at max. ambient
<b>AC Power</b>
AC Power (1+1) high-efficiency, hot-swappable, load-sharing, load-balancing power supplies  AC input power: 1+1 PSU rating, 6,272 W, or 6,400 VA each power supply

<p>module</p> <p>AC Voltage: 200–240 V AC</p> <p>AC Frequency: 50 Hz–60 Hz</p> <p>AC Current: 16 A per power supply input, total four AC inputs (two per power supply)</p>
<p><b>DC Power</b></p> <p>DC Power: Four high-efficiency, hot-swappable, load-sharing, load-balancing power supplies</p> <p>DC input power: 3+1 power supply redundancy, DC input rating of 8,640W total for the chassis</p> <p>DC Input Voltage -48 VDC or -60VDC nominal</p> <p>DC Input Current: 60 A maximum per power supply input, total of 200A maximum for eight DC inputs (two per power supply)</p>
<p><b>AC / DC Input Connection</b></p> <p>Americas/domestic: NEMA L6-20P to IEC 320-C19</p> <p>International: IEC 309, 250 V, 16 A, 3Pin to IEC 320-C19</p> <p>DC input connection is lug and post. See Install Guide for specifications.</p>
<p><b>Regulations and Certifications</b></p> <p><b>Safety:</b></p> <p>EN 60950-1:2006 + A11:2009  IEC 60950-2005, 2nd Edition (Evaluated to all CB countries)  UL 60950-1, 2nd Edition  CSA C22.2 No. 60950-1-07</p> <p><b>EMC and Certifications:</b></p> <p>EN55022:2006 + A1:2007 Class A (European Union)  EN55024:2010 (Immunity)  EN61000-3-2:2006 + A1:2009 + A2:2009  EN61000-3-3: 2008  47CFR15 Subpart B (FCC) Class A (US)  EN300-386:2010 (V1.5.1) for Telecommunications Centers and for Other Than Telecommunications Centers EU.  ICES-003 Class A (Canada)  AS/NZS CISPR22:2006 Class A (Australia/New Zealand)  CISPR22:2008: Class A  KN-22 KC Certification (Korea)  VCCI:2008 Class A (Japan)  CNS-13438:2006 Class A (Taiwan)  GOST-R Certifications Russia  NEBS Level 3 (Netra 6000 AC and DC)  2004/108/EC (89/336/EEC) EMC Directive  2006/95/EC (73/23/EEC) Low Voltage Directive</p> <p><b>Other:</b></p> <p>2002/96/EC Waste Electrical and Electronic Equipment (WEEE) Directive  2002/95/EC Restriction of Hazardous Substances (RoHS) Directive</p>
<p><b>Chassis Dimensions and Weight</b></p> <p>Height: AC chassis 10U, DC chassis 11U  (AC chassis / DC chassis)</p> <p>Height: 441.0mm (17.4 in.) 485.5 mm (19.1 in.)</p> <p>Depth: 748.3 mm (29.5 in.) / 748.3 mm (29.5 in.)</p> <p>Width: 445.0 mm (17.5 in.) / 445.0 mm (17.5 in.)</p> <p>Weight of a fully configured system: 148.4 kg (327.1 lb) / 158 kg (348.3 lb)</p>

Weight of an empty system (no fillers): 56.1 kg (123.6 lb) / 65.7 kg (144.8 lb)
<b>Subassembly Weights</b>
(AC chassis / DC chassis)
Power supply module: 8.1 kg (17.8 lb.) / 3.9 kg (8.5 lb.)
Front fan module: 0.88 kg (1.95 lb.) (AC only)
NEM: 1.75 kg (3.85 lb.)
PCIe EM: 0.41 kg (0.90 lb.)
Rear fan module: 1.04 kg (2.31 lb.)
CMM: 0.52 kg (1.15 lb.)
Front indicator module: 0.34 kg (0.75 lb.)

For more information about Sun Netra 6000 Modular System visit [oracle.com](http://oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.



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