ORACLE®

SUN NETRA

NETRA SERVER X3-2

Oracle's Netra Server X3-2 is an x86-based carrier-grade server ideal for demanding network infrastructure workloads and cloud-based deployments. This reliable, scalable, and easy-to-manage server is designed to meet requirements of telco networks for increasing compute power, memory, and I/O bandwidth.

EXTREME SCALABILITY AND DENSITY WITH CARRIER-GRADE AVAILABILITY

KEY FEATURES

- 2U 20-inch deep compact form factor
- Two Intel Xeon processor E5-2600 product family CPUs
- NEBS™ Level 3 certification and ETSI compliance
- Sixteen dual inline memory modules (DIMM) slots supporting two low-voltage DDR3 1,600-MHz DIMMs per channel
- Six PCIe 3.0 slots
- Four 10 Gb Ethernet ports
- Redundant hot-swappable AC or DC power supplies and hot-pluggable disk drives
- Oracle ILOM, Oracle System Assistant, and Oracle Hardware Management Pack

KEY BENEFITS

- Reliable operation in severe environmental conditions
- High application performance and power savings with low-voltage DIMMs running at true 1,600 MHz
- Largest network bandwidth with four auto-sensing 10 GbE ports onboard
- Simplified systems and cloud-ready lifecycle management

Product Overview

Powered by two Intel Xeon processor E5-2600 Series-based Platform for Intelligent Systems, the carrier-grade Netra Server X3-2 combines cutting-edge performance with the ruggedness, reliability, and long system lifecycles of the Netra server family. The Netra Server X3-2 is the safe solution for high-performance communication workloads and cloud infrastructure deployments that require continuous system availability.

The server doubles the number of CPU cores and storage capacity from the previous-generation server with support for up to 16 cores and eight internal disk drives to deliver a considerable 2.5x increase in compute power. For even more flexibility, the Netra Server X3-2 provides six high-bandwidth PCIe 3.0 slots and integrates four 10 GbE ports to provide connectivity for high-speed, high-bandwidth networking. Redundant hot-swappable AC or DC power supplies and hot-pluggable hard disk drives enhance the system's uptime.

All Oracle servers ship with full function server management tools at no additional cost. Oracle Integrated Lights Out Manager (Oracle ILOM) utilizes industry-standard protocols to provide secure and comprehensive local and remote management. Oracle ILOM features include power management and monitoring, fault detection, and notification. The integrated Oracle System Assistant guides system administrators through rapid server deployment, firmware updates, hardware configuration, and operating system installation with Oracle-certified hardware drivers.

Oracle's Premier Support customers have access to My Oracle Support and multi-server management tools in Oracle Enterprise Manager Ops Center. Oracle Enterprise Manager Ops Center, a critical component of Oracle's application-to-disk system management tool, coordinates servers, storage, and networking for building a complete cloud infrastructure. Oracle Enterprise Manager Ops Center features an automated service request capability, which detects and reports potential issues to Oracle's support center without user intervention, assuring the maximum service levels and simplified support.

The Netra Server X3-2 helps cut costs and lower risks with comprehensive virtualization, a choice of world-class Oracle operating systems, and a complete cloud optimized infrastructure, all built in, at no extra charge. Proven effective across a wide range of applications and under the most demanding conditions, Oracle's Netra Server X3-2 allows telecommunication customers to shorten time to develop and deploy new services.

ORACLE®

Netra Server X3-2 Specifications

Architecture
Processor
• Two processors from the Intel Xeon processor E5-2600 product family
Cache
• Level 1: 32 KB instruction and 32 KB data L1 cache per core
• Level 2: 256 KB shared instruction/data L2 cache per core
• Level 3: Up to 20 MB shared inclusive L3 cache per processor
Main Memory
• Sixteen DIMM slots provide up to 256 GB of DDR3 registered (RDIMM) memory
• LV RDIMM options: 8 GB at up to 1,600 MHz, 16 GB at up to 1,600 MHz
Interfaces
Network
• Four 10/100/1000/10G Base-T Ethernet ports
USB
• Six 2.0 USB ports (two front, two rear, two internal)
Expansion Bus
• Expansion bus: Six PCIe 3.0 LP slots – six (6) x8-lane slots
Note: One slot dedicated to SAS HBA
Video
• VGA 2D graphics controller embedded
• Supports resolutions up to 1,280 x 1,024 x 16 bits @60 Hz (1,024 x 768 when viewed remotely via Oracle ILOM RKVMS)
• Rear HD15 VGA port
Storage
• Eight-disk chassis, eight 2.5" SAS-2 front-accessible, hot-swappable disk drives with no DVD-RW
• Six-disk chassis, six 2.5" SAS-2 front-accessible, hot-swappable disk drives and DVD-RW
• Optional RAID levels: 0, 1, 1E, 5, 5EE, 6, 10 with optional Battery Backup Write Cache (BBWC) via optional SAS HBA PCIe Card.
Alarms
• Four fail-safe, dry contact alarms—critical, major, minor, and user—DB-15
Software
Operating System
• Oracle Linux
• Oracle Solaris (pre-installed option)
• Red Hat Enterprise Linux
• SUSE Linux Enterprise Server
• Microsoft Windows Server
Virtualization
• Oracle VM (pre-installed option)
• VMware
Systems Management
Interfaces

ORACLE®

- Dedicated 10/100Base-T Ethernet network management port
- In-band, out-of-band and sideband network management access via any one of the four main ports of the server or the dedicated port
- RJ-45 serial management port

Service Processor

Oracle Integrated Lights Out Manager (ILOM) provides:

- Remote keyboard, video, mouse redirection
- Full remote management through command-line, IPMI, and browser interfaces
- Remote media capability (DVD, CD, ISO image, floppy)
- Advanced power management and monitoring
- Active Directory, LDAP, RADIUS support

Installation

- Oracle System Assistant provides:
  - Task-driven hardware updating and configuration
  - OS installation
  - Simple download of latest Oracle firmware, drivers, tools, and documentation
- Cross-OS command-line tools for RAID, BIOS, and ILOM configuration
- Cross-OS firmware updating tool

Monitoring

- Comprehensive fault detection and notification
- In-band and out-of-band SNMP monitoring V1, V2c, V3
- Syslog and SMTP alerts, WS-MAN
- Automatically create a service request for key hardware faults with Oracle automated service request (ASR)

Oracle Enterprise Manager Ops Center

- Deployment and provisioning of server bare metal
- Cloud and virtualization management for Oracle and third-party hardware
- Inventory control and patch management
- OS observability for performance monitoring and tuning
- Automated service request generation
- Connects to Oracle Enterprise Manager Cloud Control application management
- Enables control of native Oracle Solaris and Oracle Linux concurrently, as well as Red Hat Enterprise Linux and Microsoft Windows when running in Oracle Virtual Machines

Power Supplies

- Two 1+1 redundant AC or DC hot-swappable power supplies
- Maximum DC power supply rating of 660 W
- Maximum AC power supply rating of 760 W

Environment

ORACLE®

- DC Power: -48V DC or -60 V DC
- AC Power: 100-240 V AC, 50-60 Hz
- Operating Temperature: 5°C to 45°C (41°F to 113°F), short term -5°C to 55°C (23°F to 131°F)
- Operating Relative Humidity: 5%- 85% RH, non condensing, but not to exceed 0.024 kg water/kg dry air (0.053 lb. water/2.205 lbs. dry air)
- Short-Term Relative Humidity: 5%- 90% RH, non condensing, but not to exceed 0.024 kg water/kg dry air (0.053 lb. water/2.205 lbs. dry air)
- Operating Altitude: Meets NEBS 4,000 m (13,123 ft.) requirement
- Non-Operating Temperature: -40°C to 70°C (-40°F to 158°F)
- Non-Operating Relative Humidity: 93%, non condensing, 40°C (104°F)
- Non-Operating altitude: Up to 12,000 m (39,370 ft)
- Acoustic Noise: Operating/idling less than 7.2 B @ 25°C (LwAd: 1 B=10 dB)
- ETSI: EN 300019-2-1,2,3, Class 1.2, 2.3, 3.1E (except condensing humidity and rain)
- NEBS: NEBS Level 3 certified by Telecordia
- Seismic: GR-63-CORE requirements for earthquake Zone 4

Dimensions and Weight

- Height: 87 mm (3.43 in)
- Width: 445 mm (17.52 in) including mounting ears
- Depth: 527.8 mm (20.78 in) maximum to PSU handles
- Depth: 501.4 mm (19.74 in) maximum to rear I/O
- Weight: 18.5 kg (40.8 lbs) fully configured without PCI cards

Regulations

- Safety: EN 60950-1, IEC 60950-1 (Evaluated to all CB countries), UL 60950-1, CSA C22.2 No. 60950-1-07, IEC 825-1, 2 and CFR21 Part 1040
- EMI: EN55022 Class A, 47CFR15 Subpart B (FCC) Class A, ICES-003 Class A, AS/NZS CISPR22 Class A, CISPR22 Class A, EN300386 for Telecommunications Centers and for Other Than Telecommunications Centers
- EMC (immunity): EN55024, EN61000-3-2, EN61000-3-3, EN300386:2010 for Telecommunications Centers and for Other Than Telecommunications Centers
- Regulatory markings: CE, FCC, ICES-003, C-Tick, VCCI, GOST-R, KCC, UL/cUL, S-Mark, BSMI, CCC
- Other: Restriction of Hazardous Substances (RoHS) Directive and Waste Electrical and Electronics Equipment (WEEE) Directive

ORACLE®

Warranty

The Netra Server X3-2 comes with a one-year warranty. For more information visit oracle.com/sun/warranty for Oracle's global warranty support.

Services

Only Oracle offers single point of accountability and complete, integrated support for the entire Oracle stack including 24/7 hardware service, expert technical support, proactive tools, and software updates. In addition to award-winning system support, Oracle also offers a portfolio of services that help install, configure, monitor and support your new Oracle Sun Netra servers utilizing Oracle best practices for higher availability and optimized system performance.

Visit oracle.com/support for information on Oracle's service program offerings for Sun products.

Contact Us

For more information about Netra Server X3-2, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

Hardware and Software, Engineered to Work Together

ORACLE®