

# Netra Server X5-2



## KEY FEATURES

- Energy-efficient 2U rackmount server
- Two Intel® Xeon® processor E5-2600 v3 product family CPUs
- Twenty-four DIMM slots with maximum memory of 768 GB (with 32 GB DIMM)
- Six PCIeGen3 slots (2x16 and 4x8)
- NVM Express SSD-enabled slots
- Oracle ILOM and Oracle System Assistant

## KEY BENEFITS

- Operate reliably in severe environmental conditions
- Improve reliability with built-in diagnostics and fault detection from Oracle Linux and Oracle Solaris
- Maximize system power efficiency with Oracle's optimized memory implementation
- Maximize IT productivity by running Oracle software on Oracle hardware

Oracle's Netra Server X5-2 is a next-generation Netra x86 dual-socket carrier-grade rackmount server. It is ideal for high-performance communication workloads and cloud infrastructure deployments requiring continuous system availability. The server has 2.25x the number of cores, 1.5x more memory capacity, and 2x the storage capacity compared to the previous generation. Netra Server X5-2 combines cutting-edge performance with the ruggedness, reliability, and long system lifecycles of the Netra server family. Customers can gain even better time to new services and cost savings by using preinstalled, no-cost virtualization and OSs.

## Product Overview

Powered by two Intel Xeon processor E5-2600 v3 series-based CPUs, Netra Server X5-2 combines cutting-edge performance with the reliability of the Netra server family.

The server doubles the number of CPU cores and storage capacity compared to the previous-generation server with support for up to 18 cores and eight internal drive bays to deliver a considerable 2.5x increase in compute power. For even more flexibility, Netra Server X5-2 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 disks 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 Premier Support customers have access to My Oracle Support and multiserver management tools in Oracle Enterprise Manager Ops Center. Oracle Enterprise Manager Ops Center, a critical component of Oracle's application-to-disk system management tools, coordinates servers, storage, and networking to enable customers to build 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.

Netra Server X5-2 is the most versatile two-socket server for enterprise data centers, packing the optimal balance of compute power, memory capacity, and I/O capacity into a compact 2U ruggedized enclosure.

#### RELATED PRODUCTS

Oracle Server X5-2

#### RELATED SERVICES

The following services are available from Oracle:

- Support
- Installation
- Eco-optimization services

Building on the firmware-level problem detection, Oracle Linux and Oracle Solaris have been enhanced to provide fault detection capabilities when running on Netra Server X5-2. In addition, exhaustive system diagnostics and hardware-assisted error reporting and logging enable identification of failed components for ease of service.

With an advanced cooling system unique to Oracle, Netra Server X5-2 achieves system efficiencies that result in power savings and maximum uptime.

Oracle's x86 systems are the best enterprise x86 platforms for running Oracle software. Every x86 system from Oracle comes complete with virtualization, choice of operating systems, cloud provisioning, and Oracle's unique application-to-disk management environment—all at no extra charge.

## Netra Server X5-2 System Specifications

### Processor

- Two processors from the Intel® Xeon® processor E5-2600 v3 product family (two processors required for maximum memory and I/O configurations)

### Cache

- Level 1: 64 KB cache per core including 32 KB L1 data + 32 KB L1 instruction
- Level 2: 256 KB shared data and instruction L2 cache per core
- Level 3: Up to 8 MB shared inclusive L3 cache per processor

### Main Memory

- Twenty-four DIMM slots provide up to 768 GB of DDR4, 2,133 Mhz DIMM memory (12 DIMMs per CPU)
- RDIMM options: 16 GB at DDR4-2133 and 32 GB at DDR4-2133

## INTERFACES

### Standard I/O

- Four on-board auto-sensing 100/1000/10000 Mb Base-T Ethernet ports
- Six USB ports: two on front panel (USB 2.0), two on rear panel (USB3.0) and two internal on motherboard (USB 2.0)
- Expansion bus: Six PCIe 3.0 slots: two x16 and four x8 slots
- Supports LP-PCIe cards including Ethernet, InfiniBand, FC, FCoE, and SAS HBAs

### Storage

- Eight-disk chassis, eight 2.5-inch SAS-3 front-accessible, hot-swappable disk bays with no DVD-RW (Optional: This configuration can support up to 4xNVMe — with NVMe card required — with four disk bays).
- Six-disk chassis, six 2.5-inch SAS-3 front-accessible, hot-swappable disk bays and DVD-RW (Optional: This configuration can support up to 4xNVMe — with NVMe card required — with two disk bays).
- All 2.5-inch disk bays can be populated with either HDDs or SSDs.
- Optional RAID levels supported with optional battery backup write cache (BBWC) via optional SAS HBA PCIe card.

### Graphics

- VGA 2D graphics controller embedded (video memory to be added)
- Resolution: 1,600 x 1,200 x 16 bits @ 60 Hz via the rear HD15 VGA port (1,024 x 768 when viewed remotely via Oracle ILOM)

## SYSTEMS MANAGEMENT

### Interfaces

- Dedicated 10/100/1000 Base-T network management port
- In-band, out-of-band, and side-band network management access
- RJ45 serial management port

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### Service Processor

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Oracle Integrated Lights Out Manager (Oracle ILOM) provides:

- Remote keyboard, video, mouse redirection
  - Full remote management through command-line, IPMI, and browser interfaces
  - Remote media capability (USB, DVD, CD, ISO image)
  - Advanced power management and monitoring
  - Dual Oracle ILOM flash
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### Installation

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- 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 Oracle ILOM configuration
  - Cross-OS firmware updating tool
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### Monitoring

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- Comprehensive fault detection and notification
  - In-band, out-of-band, and side-band SNMP monitoring with v1, v2c, and v3
  - Syslog and SMTP alerts
  - Automatically create a service request for key hardware faults with Oracle's automated service request (ASR)
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### Oracle Enterprise Manager Ops Center

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- Deployment and provisioning of server bare metal
  - Cloud and virtualization management
  - Inventory control and patch management
  - OS observability for performance monitoring and tuning
  - Automated service request (ASR) generation
  - Connects to Oracle Enterprise Manager Cloud Control application management
  - Enables control of native Oracle Solaris, Oracle Linux, Red Hat Linux, SUSE Linux, and Microsoft Windows when running in virtual machines
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## SOFTWARE

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### Operating Systems

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- Oracle Solaris (preinstalled option)
- Oracle Linux (preinstalled option)
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server
- Microsoft Windows Server

For more information on software go to: [Systems Wiki](#)

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### VIRTUALIZATION

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- Oracle VM (preinstalled option)
  - VMware
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## ENVIRONMENT

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- 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% to 85% RH, noncondensing, but not to exceed 0.024 Kg water/Kg dry air (0.053 lb. water/2.205 lb. dry air)
  - Short-term relative humidity: 5%-90% RH, noncondensing, but not to exceed 0.024 Kg water/Kg dry air (0.053 lb. water/2.205 lb. dry air)
  - Operating altitude: meets NEBS 4,000 m (13,123 ft.) requirement
  - Nonoperating temperature: -40°C to 70°C (-40°F to 158°F)
  - Nonoperating relative humidity: 93%, noncondensing, 40°C (104°F)
  - Nonoperating altitude: up to 12,000 m (39,370 ft)
  - Acoustic Noise: operating/idling less than 7.2 dB @ 23°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
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## POWER

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- Two N+1 AC redundant hot-swappable AC or DC power supplies, rated 91% efficiency
  - AC power supplies: 100, 10 A max, 50 to 60 Hz (for Japan only) 110 to 127/200 to 240 V AC, 9/5.5 A max, 50 to 60 Hz
  - DC power supplies: -48/-60 V DC, 21.5/17 A max

For more information on power consumption, go to: [Netra Server X5-2 Power Calculator](#)

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#### REGULATIONS<sup>1,2</sup>

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- Product safety: UL/CSA-60950-1, EN60950-1-2006, IEC60950-1 CB scheme with all country differences
  - EMC
  - Emissions: FCC CFR 47 Part 15, ICES-003, EN55024, EN61000-3-2 and EN61000-3-3, EN300-386
  - Immunity: EM55024
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#### CERTIFICATIONS

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- North America Safety (NRTL)
  - European Union (EU)
  - International CB Scheme
  - BIS (India)
  - BSMI (Taiwan)
  - RCM (Australia)
  - CCC (PRC)
  - MSIP (Korea)
  - VCCI (Japan)
  - EAC (Russia)
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#### EUROPEAN UNION DIRECTIVES

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- 2006/95/EC Low Voltage Directive
  - 2004/108/EC EMC Directive
  - 2011/65/EU RoHS Directive
  - 2012/19/EU WEEE Directive
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#### DIMENSIONS AND WEIGHT

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- Height: 87.1 mm (3.43 in.)
  - Width (including bezel): 445 mm (17.52 in.) and without bezel 425.4 mm (16.75 in.)
  - Depth: 640.0 mm (25.2 in.) with power supplies, or 609.45 mm (24 in.) without power supplies
  - Weight: 17.5 kg (38.5 lb.) fully populated
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<sup>1</sup> All standards and certifications referenced are to the latest official version. For additional detail, please contact your sales representative.

<sup>2</sup> Other country regulations/certifications may apply.

## Warranty

Oracle's Netra Server X5-2 system comes with a one-year warranty. For more information, visit [oracle.com/sun/warranty](http://oracle.com/sun/warranty) for Oracle's global warranty support.

## Services





Only Oracle offers a 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. Visit [oracle.com/sun/services](http://oracle.com/sun/services) for information on Oracle's service program offerings for Oracle's products.



### CONTACT US

For more information about Netra Server X5-2, visit [oracle.com](http://oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.

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### Hardware and Software, Engineered to Work Together

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