

# Netra SPARC S7-2 Server

Oracle's Netra SPARC S7-2 dual-socket, carrier-grade rackmount server designed for scale-out architectures. Netra SPARC S7-2 has a compact 2U footprint that offers efficiency, security, and simplicity. This latest generation of carrier-grade Netra system leverages Oracle's Software in Silicon features that allow acceleration capabilities, integrated near-zero overhead security, and ease of management. The server supports the most advanced and secure Oracle Solaris operating system, making it ideal for telecommunications- embedded industrial, public sector, cloud and on-premises infrastructures.



## Key Benefits

- Reliable operation in severe environmental conditions
- Superior per-core and overall performance in cloud environments, minimizing software licensing costs
- Hardware security validation and end-to-end encryption of data with near-zero performance impact
- Extreme performance and database acceleration by using Data Analytics Accelerator

## PRODUCT OVERVIEW

Telecommunications customers have to innovate rapidly, scale their infrastructures efficiently, bring services to market and grow their business quickly, while reducing their TCO with industry-standard technologies.

Oracle's Netra SPARC S7-2 is designed to address these needs optimally by offering the most secure, efficient, and reliable server for mission-critical deployments.

Software in Silicon features are breakthroughs in microprocessor and server design. They enable databases and applications to run fast, with unprecedented security and reliability, by implementing encryption, hardware security features, and software acceleration.

The SPARC S7 processor is the most advanced engineered microprocessor for efficient cloud infrastructure and distributed computing applications. It combines eight powerful fourth generation cores that leverage the superior SPARC M7 processor, and each handles up to eight threads using unique dynamic threading technology. The processor is designed to maximize efficiency by integrating most of the hardware interfaces on the processor, thereby allowing the server to achieve

## Key Features

- NEBS Level 3 certification and ETSI compliance

unmatched per-core utilization levels. This translates into optimal performance and minimum software licensing costs.

All Oracle servers ship with comprehensive 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, including power management and monitoring, fault detection, and notification. Oracle Premier Support customers have access to My Oracle Support and multi-server management tools in Oracle Enterprise Manager Ops Center, a system management tool which, in conjunction with Oracle Enterprise Manager, coordinates servers, storage, and networking for a complete cloud infrastructure as a service (IaaS). Oracle Enterprise Manager Ops Center also features an automated service request capability, whereby potential issues are detected and reported to Oracle's support center without user intervention, assuring the maximum service levels and simplified support.

Netra SPARC S7-2 and Oracle Solaris offer a superior and easy-to-manage platform for developers and users. Oracle Solaris 11 is a secure, integrated, and open platform for mission-critical environments. It provides extraordinary uptime and offers capabilities that enable customers to accelerate time to new services, lower business risks, and improve business agility.

- Configured with one or two processors per server and up to 9.6 TB SAS-3 storage
- Resilient server system with high level of reliability, availability, and serviceability (RAS) in a compact, energy-efficient
- Hardware-implemented security and analytics acceleration with Software in Silicon features
- Redundant hot-swappable AC or DC power supplies and hot-pluggable disk drives
- Runs the Oracle Solaris 11 OS for secure, compliant application deployment through single-step patching and immutable zones
- Guaranteed binary compatibility and support for legacy applications that run under Oracle Solaris 10, 9, and 8

## NETRA SPARC S7-2 SERVER SPECIFICATIONS

### ARCHITECTURE

#### Processor

- Eight core, 3.33GHz (NEBS mode)/4.27GHz (Non NEBS mode) SPARC S7 processor
- Up to 64 threads per processor (up to 8 threads per core)
- Eight Data Analytics Accelerator units per processor, each supporting four concurrent in-memory analytics engines with decompression
- Eight on-chip encryption instruction accelerators with direct nonprivileged support for 15 industry-standard cryptographic algorithms: AES, Camellia, CRC32c, DES, 3DES, DH, DSA, ECC, MD5, RSA, SHA-1, SHA-224, SHA-256, SHA-384, SHA-512 (one per core)
- Eight floating-point units per processor (one per core)
- One random number generator (one per processor)

#### Cache per Processor

- Level 1: 16 KB instruction and 16 KB data per core
- Level 2: 256 KB L2 I\$ per four cores, 256 KB L2 D\$ per core pair
- Level 3: 16 MB L3\$ on chip

#### System Configuration

- Netra SPARC S7-2 servers are configured with one or two SPARC S7 processors; not expandable
- Eight dual inline memory module (DIMM) slots per processor supporting half and fully populated memory configurations using 16, 32, or 64 GB DDR4 DIMMs
  - 1 TB maximum memory configuration with 64 GB DIMMs

## System Architecture

- SPARC V9 architecture, ECC protected

## INTERFACES

- Network: Four 10GBase-T ports (100 Mb/sec, 1 Gb/sec, 10 Gb/sec), full duplex only, auto-negotiating
- Expansion bus: Six low-profile PCIe 3.0 x8 slots (four x8 and two x16 mechanical)
- Ports: Two front USB 2.0 ports and one rear USB 3.0 port
- Management ports: One RJ45 serial management port and one 1000Base-T (100 Mb/sec, 1 Gb/sec) network port

## MASS STORAGE AND MEDIA

### Internal storage:

- One 12 Gb/sec SAS-3 controller
- Mixng of SAS drive types is supported
- Up to eight 2.5-inch SAS-3 drives
  - 1,200 GB SAS-3 hard disk drives (HDD) ), maximum of eight
  - 800 GB SAS-3 solid state drive (SSD) ), maximum of eight

### External storage:

- □ External DVD drive available (not NEBS certified)
- Oracle offers a complete line of best-in-class, innovative storage, hardware, and software solutions, along with renowned world-class service and support. For more information, please refer to [oracle.com/storage](https://oracle.com/storage)

## POWER SUPPLIES

- Two hot-swappable AC or DC 1,200 W redundant (1 + 1) power supplies
- AC power supplies: Voltage 100 to 240 VAC, frequency 50/60 Hz
  - Maximum operating input current at 100/200 VAC: 8.6/4.1 A
  - Maximum operating input power at 100/200 VAC: 851/819 W
- DC power supplies: Voltage -48/-60 V DC
  - Maximum operating input current at -48/-60 V DC: 18/14 A
  - Maximum operating input power at -48/-60 V DC: 850 W

## KEY RAS FEATURES

- Hot-pluggable disk drives
- Redundant, hot-swappable power supplies and fans
- Environmental monitoring
- Message retry, cache, and memory error correction
- Oracle Solaris ZFS storage RAID
- Fault Management Architecture and Predictive Self Healing

## SOFTWARE

### Operating System

Oracle recommends the latest version of Oracle Solaris 11.4 for enhanced performance and functionality, including features enabled by Software in Silicon technology

- Control domain: Oracle Solaris 11.3 or later

- The following versions are supported within guest domains:
  - Oracle Solaris 11.3 or later
  - Oracle Solaris 10 1/13 plus required patches

Applications certified for Oracle Solaris 9 or 8 only may run in an Oracle Solaris 9 or 8 branded zone running within an Oracle Solaris 10 guest domain.

#### Software Included

- Oracle Solaris 11.4 (latest version), which includes Oracle VM Server for SPARC
- Oracle Solaris ZFS (default file system)

#### Virtualization

Built-in, no-cost Oracle VM Server for SPARC provides the flexibility and power for running multiple logical domains in a single server. Multiple Oracle Solaris Zones may be run within a single Oracle VM Server for SPARC logical domain.

### ENVIRONMENT

#### Operating temperature:

- 5° C to 45° C (41° F to 113° F); short term: 5° C to 55° C (23° C to 131° F)

#### Nonoperating temperature:

- -40° C to 70° C (-40° F to 158° F)

Operating relative humidity: 5% to 85% relative humidity, noncondensing, but not to exceed 0.024 Kg water/Kg dry air (0.053 lb. water/2.205 lb. dry air)

Nonoperating relative humidity: 5% to 93% relative humidity, noncondensing, 40° C (104° F) max wet bulb

Short-term relative humidity: 5% to 90% relative humidity, 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 requirement: 400 m to 4,000 m (5,905 ft. to 13,123 ft.) at 30° C (86° F)

Nonoperating altitude: Up to 12,000 m (Up to 39,370 ft.)

Acoustic noise: operating/idling less than 72 dB @ 23° C (LwAd: 1 B = 10 dB)

### REGULATIONS (MEETS OR EXCEEDS THE FOLLOWING REQUIREMENTS)

#### Safety:

- UL/CSA 60950-1, EN 60950-1, and IEC 60950-1 CB Scheme with all country differences

#### EMC:

- Emissions: FCC 47 CFR 15, ICES-003, EN 55032, EN 61000-3-2, and EN 61000-3-3, EN 300-386
- Immunity: EN 55024

**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

**Certifications:**

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

**European Union directives:**

- Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU, Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, and WEEE Directive 2012/19/EUEU

All standards and certifications referenced are to the latest official version. For additional detail, please contact your sales representative.

Other country regulations/certifications may apply.

**DIMENSIONS AND WEIGHT**

- Height: 88 mm (3.46 in.); 2U
- Width: 445 mm (17.52 in.)
- Depth: 640 mm (25.2 in.) with power supplies, or 609.45 mm (24 in.) without power supplies
- Weight: approx. 21.5 kg (47 lb.) fully populated

## WARRANTY

The Netra SPARC S7-2 server comes with a one-year warranty. Visit [oracle.com/us/support/policies/](https://oracle.com/us/support/policies/) for more information about Oracle's hardware warranty.

## COMPLETE SUPPORT

With Oracle Premier Support, you will get the services you need to maximize the return on your investment in Oracle's Netra SPARC S7-2 server. Complete system support includes 24/7 hardware service, expert technical support, proactive tools, and updates to Oracle Solaris, Oracle VM, and integrated software (such as firmware)—all for a single price. Learn more at [oracle.com/support](https://oracle.com/support)

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