

# Netra X1 Server Just the Facts

[\(SunWIN token# 129025\)](#)



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# Netra™ X1 Server Positioning

## Introduction

The Netra X1 server is Sun's newest entrant into the low-end server marketplace. The Netra X1 server is a low cost, rack-optimized, single processor server targeted at a broad market which includes service providers, enterprises, OEMs, resellers, systems integrators, and small- to medium-sized businesses. With a 1 U form factor and a low, entry-level list price, the Netra X1 server is a general-purpose platform with features that include lights-out management, automatic server restart, a removable system configuration card, and visual power, fault, and link status indicators. The Netra X1 server is an alternative to Intel-based solutions and can be used for low-end and utility functions.

## Product Family Placement

The Netra X1 server is part of the Netra product line, which consists of specialized servers developed specifically for rack environments. Netra servers are designed to be small and rugged as data center space is often limited.

The Netra X1 server is suitable for the cost-conscious consumer who values a reliable platform designed for long-term growth. The Netra X1 server shares many of the same attributes as other Netra-branded servers but at a breakthrough price point.

## Netra X1 Server and Netra T1 Server Feature Comparison

The following table compares the features of the Netra X1 server to those of the Netra T1 AC200 server.

Table 1. Feature Comparison: Netra X1 servers and Netra T1 AC200 servers

Feature	Netra X1 Server	Netra T1 AC200 Server
<b>Packaging</b>		
- Rackmounted	Yes	Yes
- Density/rack (72" rack)	32	32
<b>Disk</b>		
- Subsystem	IDE	SCSI
- Capacity	2 x 40GB (80GB max)	2 x 36GB (80GB max)
- Accessibility	No	Front
- Hot-pluggable	No	Yes
- Number	2	2
<b>Maximum memory</b>	2 GB	2 GB
<b>Base network connectivity</b>	2 Ethernet 10/100BASE-T ports	2 Ethernet 10/100BASE-T ports
<b>Lights-out management (LOM)</b>	LOMLite2	LOMLite2
<b>Expandability</b>	No	1 PCI slot, full length
<b>Frame-buffer</b>	No	No
<b>Ports</b>		



Feature	Netra X1 Server	Netra T1 AC200 Server
- Keyboard	No	No
- Mouse	No	No
- Parallel	No	No
- USB	2	2

## Key Messages

The Netra X1 server is ideal for running cost sensitive utility functions, which allow customers to extend the SPARC™/Solaris™ platform to the low end of their network. Netra X1 servers are general purpose servers, which means customers can create their own solutions with off-the-shelf software while leveraging all the advantages Sun™ and Sun products have to offer.

In addition to the service provider market, the Netra X1 server provides new opportunities to sell into the Intel-based (Windows NT and Linux) marketplace. Key messages for the Netra X1 server include:

- Lowest priced SPARC/Solaris server ever:
  - Fully functional, sub-\$1000 Solaris server
  - Complete with drives, memory, processor, operating environment and LOM preinstalled
  - SPARC/Solaris server at PC prices
- Remarkable manageability and serviceability
  - Front and rear indicator LEDs for power, fault, and network link status
  - Single system FRU for easy serviceability and replacement of units
  - Lights-out management for comprehensive remote management
- Provides excellent reliability and availability
  - Comes with Solaris 8 Operating Environment preinstalled
  - Low price and small footprint enables redundant deployment
  - System configuration card (SCC) reduces downtime by enabling replacement units to be brought online quickly

## Availability

General availability is August 21, 2001. Launch is scheduled for August 21, 2001.

## Target Users

The Netra X1 server is a general-purpose server suitable for many types of applications. Additional target users of the Netra X1 server include:

- Anyone currently using Intel-based platforms (Linux or Windows)
- Service Providers
- ISVs, system integrators, OEMs, and resellers
- Enterprises
- Small- and medium-sized businesses



- Anyone currently using Intel-based platforms (Linux or Windows)
- Anyone who wants to use Sun servers but is under budget constraints



## Target Markets

The table below identifies some of the target industries and customers and the corresponding key features to highlight for the Netra X1 server.

Industry/Customer	Key Features to Highlight
Service providers	<ul style="list-style-type: none"> <li>• High system count per rack</li> <li>• True server functionality at a competitive price</li> <li>• Dependable Sun hardware</li> </ul>
Enterprises Small- and medium-sized businesses	<ul style="list-style-type: none"> <li>• True server functionality at a competitive price</li> <li>• Alternative to Intel-based solutions</li> <li>• Single-system FRU for easy maintenance</li> </ul>
ISVs/System Integrators OEMs Resellers	<ul style="list-style-type: none"> <li>• Inexpensive platform for designing new services and products</li> <li>• Solaris Operating Environment reliability</li> <li>• Reduce time-to-market to gain competitive advantages</li> </ul>
Customers currently using or considering using Linux, Windows NT, or UNIX platforms other than Sun's	<ul style="list-style-type: none"> <li>• General-purpose, SPARC/Solaris servers at PC prices</li> <li>• Reliability, availability, and serviceability benefits connected with the Netra brand</li> </ul>
Customers with rackmount computer equipment environments	<ul style="list-style-type: none"> <li>• Fits into rackmount environments (1 U height)</li> <li>• Flexible mounting options help ensure that Netra X1 servers will install in their racks</li> </ul>
Sites where real estate generates income and/or space is at a premium	<ul style="list-style-type: none"> <li>• Compact footprint means that many servers can fit into a small space</li> </ul>
Customers with remote installations	<ul style="list-style-type: none"> <li>• Lights out management capabilities are preinstalled as part of the operating environment</li> <li>• Allow the Netra X1 server to be managed remotely</li> </ul>





# Selling Highlights

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## Market Value Proposition

With its low price point and attractive form factor, the Netra X1 server addresses cost sensitivity issues found in a variety of market segments. For example, service providers can offer dedicated Web-hosting services at a very attractive price. Position the Netra X1 server as an alternative to Intel-based solutions. For ISVs, resellers, and systems integrators, the Netra X1 server is a low-cost platform on which to develop new products and services. For service providers and business customers, the Netra X1 server can be used for low-end and utility functions.

- **Density:** The Netra X1 server is a thin, 1 RU, single processor, SPARC/Solaris server with a compact footprint—13" deep. Higher density servers decrease operating costs by using data center space more efficiently.
- **Affordability:** The Netra X1 server provides the reliability of SPARC/Solaris at PC prices. The Netra X1 server presents the lowest cost, full-featured SPARC/Solaris server from Sun.
- **Familiarity:** Netra X1 servers allow Sun customers to leverage their SPARC/Solaris expertise to low-end functions and standardize on one operating system for their operating environment.
- **Availability:** Netra X1 servers provide an economical approach to deploying services redundantly. The Netra X1 server's small size and low cost allow it to be used as the basis for redundantly deploying services for higher availability.
- **Reliability:** Netra X1 servers provide the standard Sun and Solaris Operating Environment reliability that is well established in the service provider marketplace.
- **Flexibility:** Netra X1 servers can be installed in 19-inch (2-post or 4-post) racks. This provides customers with a powerful Solaris solution with the flexibility to fit in virtually any server network environment.

## Applications

The Netra X1 server is a general-purpose server suitable for the following applications:

- Web server
- Firewall
- Print server
- E-commerce server
- Technical computer farm
- File server
- Proxy cache server

Applications developed to operate on the Netra X1 server will also run on other Netra-branded servers.

## Compatibility

Netra X1 servers have been qualified to be compatible with zip drives.



# Enabling Technology

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## Technology Overview

Part of the design rationale of the Netra X1 servers was to improve cost performance. So wherever possible, the technology leverages PC components. Netra X1 servers have the following architectural features:

- 500 MHz processor with integrated cache
- Industry standard DRAM DIMMs
- Component reduction and single PCB design
- IDE hard disk drives
- Commercial–grade chassis and power supply

## System Configuration Card and Reader

A system configuration card contains the unique network identity information necessary to configure the host system. The card is housed in a card reader mounted on the motherboard at the rear of the enclosure. During initialization, if a card is found in the reader, the network information on the card is copied onto the motherboard and the system is configured accordingly. If a card is not found, then the system does not boot for security reasons.

A removable system configuration card helps maximize uptime because a replacement server does not need to be configured.

## USB Ports

The netra X1 USB ports are located at the rear of the system. Also, the ports that are provided to support config management from a hand–held device is the Serial A (LOM) port – NOT the USB port. The USB port can be used to connect printers and scanners.

## DIMMs

The Netra X1 server has four sockets that accept industry–standard DIMMs.

## Lights–out Management

Lights–out management is provided by LOMlite2 software, which comes as a standard, pre–installed with the operating environment.



# System Architecture

## Overview

The Netra X1 servers can be mounted in industry standard 19" racks and come with front-mounting flanges. The system is 13" deep from the rear face of the mounting flanges to the rear of the system. The air flow direction is from front to back and internal fans are included. Access to the system configuration card and I/O and power connections are at the rear of the chassis.

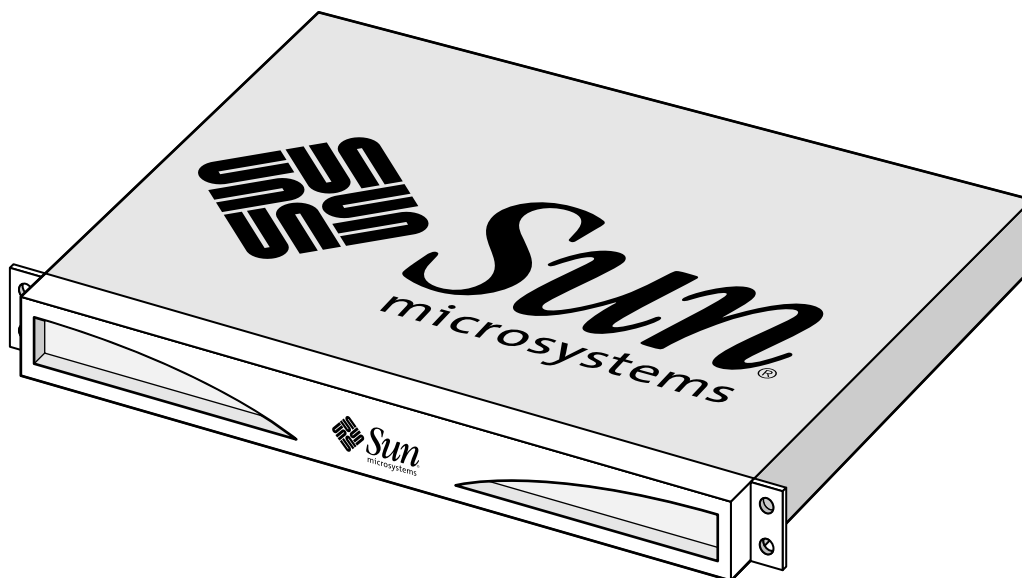


Figure 1. The Netra X1 Server

Features and their corresponding benefits of the Netra X1 server include:

Features	Benefits
<ul style="list-style-type: none"><li>• General-purpose server</li></ul>	<ul style="list-style-type: none"><li>• Allows for custom-built and off-the-shelf solutions</li></ul>
<ul style="list-style-type: none"><li>• Low cost</li></ul>	<ul style="list-style-type: none"><li>• Helps enable Netra X1 servers to be used as the basis for redundantly deploying services for higher availability</li></ul>
<ul style="list-style-type: none"><li>• System is a field replaceable unit</li></ul>	<ul style="list-style-type: none"><li>• Minimizes downtime because the server can be replaced instead of repaired, which can be time consuming</li></ul>
<ul style="list-style-type: none"><li>• 1 U form factor, 19" rackmountable, fits 13" deep racks</li></ul>	<ul style="list-style-type: none"><li>• Reduces operating costs because the small form factor helps enable multiple systems to be densely packed into existing racks</li></ul>
<ul style="list-style-type: none"><li>• 19" rackmounting flanges fitted as a standard</li></ul>	<ul style="list-style-type: none"><li>• Helps enable the Netra X1 server to be installed quickly and easily</li></ul>
<ul style="list-style-type: none"><li>• Single processor UltraSPARC-IIe, 500 MHz with integrated cache</li></ul>	<ul style="list-style-type: none"><li>• Provides performance and reliability at a low cost</li></ul>
<ul style="list-style-type: none"><li>• Binary compatible with all SPARC applications</li></ul>	<ul style="list-style-type: none"><li>• Helps enable faster time to market and high ROI</li></ul>



Features	Benefits
• RAM expandable to 2 GB	• Increase application performance
• Use of standard memory	• Reduces TCO
• Dual 10/100BASE-T Ethernet	<ul style="list-style-type: none"> <li>• Allows one Ethernet port to be used for network traffic and the other to be used for network backup</li> <li>• Deploys immediately in service provider environments</li> </ul>
• Front and rear visual indicators for power, and fault; rear indicator for network link status	• Helps minimize downtime because problems can be identified and resolved quickly
• Lights-out management	• Allows system administrators to locate and resolve problems quickly, either onsite or remotely
• Removable system configuration card	• Aids in swapping out a faulty server with a replacement without reconfiguration and with minimal downtime
• USB ports	<ul style="list-style-type: none"> <li>• Helps enable the Netra X1 server to be easily connected to a hand-held devices for configuration management</li> <li>• Helps enable the Netra X1 server top be connected to peripheral devices, for example, scanners, printers (if used as a print server) and other USB devices, such as DVD or CD-ROM drives</li> </ul>
• Rear serial number	• Maximizes uptime because servers can be easily identified while still in the rack



# Reliability, Availability, and Serviceability (RAS)

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## Reliability

- The Netra X1 server is based on Sun SPARC/Solaris platform with its characteristic reliability that is well established in the service provider market.

## Availability

- The Netra X1 server's low cost and small form factor allow redundant deployment in a compact space to increase overall service availability.
- Maximum availability is provided with features such as lights out management (LOM) and automatic server restart (ASR).
- The Netra X1 server can be deployed in 20 minutes.

## Serviceability

- Front and rear indicators for power and fault.
- Host identity information is located on a removable, rear-accessible, system configuration card.
- Front identification labeling area.
- The entire system is a field replaceable unit.
- Serial number is readable from the rear of the server.
- Rear power switch provides easy access.
- Rackmount kit is included for easy installation and removal of a unit.



# Installation Data

## Hardware Dimensions

	Imperial	Metric
Height	1.72 inches	43.6 mm
Width	17.55 inches	445 mm
Depth (includes bezel and rear cover)	13.21 inches	335 mm
Weight (fully configured system)	13.2 lb	6 kg
Shipping Weight (includes carton and documentation)	22 lb	10 kg

## Environment

### Power Requirements

	U.S.	International
Maximum Operating current	3 A at 115 V AC	3 A at 115 V AC
Maximum in-rush current (cold start)	40 A peak at 100 V, 77°F (25°C)	40 A peak at 100 V, 77°F (25°C)
Maximum in-rush current (warm start or restart 20–200 msec after power has been removed)	40 A peak at 100 V, 77°F (25°C)	40 A peak at 100 V, 77°F (25°C)
Operating input voltage range	90–264 V rms	90–264 V rms
Voltage frequency range	47–63 Hz	47–63 Hz
Maximum volt-ampere rating	150 VA	150 VA
Tolerance		

## Temperature

	Fahrenheit	Celsius
Operating	41° to 158°	5°C to 35°C
Nonoperating	–40° to 158°	–40° to 65°C

## Humidity (noncondensing)

Operating	10 to 90% RH, 27°C max wet bulb
Nonoperating	93% RH, 38°C max wet bulb



## Noise (in accordance with ISO 9296)

<b>Operating acoustic noise</b>	6.3 Bels maximum
<b>Idling acoustic noise</b>	6.0 Bels maximum

## Regulations

Meets or exceeds the following requirements

<b>Safety</b>	UL 1950 (third edition); EN60950
<b>Electro-magnetic compatibility</b> <ul style="list-style-type: none"><li>• Immunity</li><li>• Emissions</li></ul>	<ul style="list-style-type: none"><li>• EN55024</li><li>• EN55022 Class A, FCC Class A</li></ul>



# Requirements and Configuration

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## System Requirements

Because there is no VIDEO interface, all operations need to be performed via the network and/or the Serial A/Lights Out Management port.

## System Configuration

In order to reinstall the server, a jumpstart server in the network will have to provide the Operating System image. As another option, a CD-ROM drive can also be connected to the Netra X1 server using one of the USB ports.

## Licensing/Usage

The Netra X1 server comes with a Solaris 8 server license for unlimited users.

## Interconnect

The Netra X1 server is designed to be a server, therefore there is no parallel, keyboard, or mouse port. To perform management tasks, the Netra X1 server must be connected to the a terminal, which can be a Sun workstation, a laptop or a hand-held device using the Serial A/LOM port and the included RJ45 to DB9 or RJ45 to DB25 connectors.

The Netra X1 server comes standard with two Ethernet 10/100BASE-T ports. The most common deployment scenario for a server used by a service provider is to have two physical network connections for each server. One network interface may be used as the production network, the other as the administrative/backup network. This can provide either redundancy or added security.





# System Management

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## System Administration

Refer to <http://sp.eng> for information about system administration.

## MTBF

The MTBF for the Netra X1 server varies depending upon the configuration, but it is approximately 50K hours. Refer to <http://sp.eng> for more information.

## Performance Benchmarks—Reference

Refer to <http://sp.eng> for information about performance benchmarks.

## Software

The following software is used with the Netra X1 server:

- LOM driver support as required, preinstalled with Solaris 8 Operating Environment
- Sun Management Console/ICST
- SNMP
- MIBS
- SunVTS™
- SRS ready

## Operating System

The Netra X1 supports Solaris 8 10/00 or higher.



# Ordering Information

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The following are part numbers and descriptions for each Netra X1 server configuration.

Order Number	Title and Description
N19-UPE1-9S-128AXW	500 MHz/128 MB/40 GB (orderable through web only)
N19-UPE1-9S-128AX1	500 MHz/128 MB/40 GB
N19-UPE1-9S-512AX1	500 MHz/512 MB/40 GB
N19-UPE1-9S-102AX1	500 MHz/1 GB/2x40 GB
N19-UPE1-9S-202AX1	500 MHz/2 GB/2x40 GB

## Options

Order number	Option Description	Maximum number supported	Comments
X7090A	128 MB PC133	4	Memory can be installed by customer
X7091A	256 MB PC133	4	Memory can be installed by customer
X7092A	512 MB PC133	4	Memory can be installed by customer
X7096A	40 GB, 7200 RPM IDE hard drive	2	All configurations come with at least one 40 GB, 7200 RPM IDE hard drive; drive can be installed by customer



# Upgrades

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## Upgrade Paths

The Netra X1 server can have a memory and hard drive upgrade. The Netra X1 server supports 128 MB PC133 memory, 256 MB, and 512 MB PC133 memory. There are four slots for memory giving a total of 2 GB of supported memory. Memory upgrades can be ordered from Sun and installed by the customer.

All Netra X1 server configurations come with at least one 40 GB, 7200 RPM IDE hard drive. There is an option to install a second drive. The drive can be ordered from Sun and installed by the customer.

## Upgrade Ordering

Order Number	Title and Description
X7090A	128 MB PC133 memory
X7091A	256 MB PC133 memory
X7092A	512 MB PC133 memory
X7096A	40 GB, 7200 RPM IDE hard drive



# Service and Support

The SunSpectrum<sup>SM</sup> program is an innovative and flexible service offering that allows customers to choose the level of service best suited to their needs, ranging from mission-critical support for maximum solution availability to backup assistance for self-support customers. The SunSpectrum program provides a simple pricing structure in which a single fee covers support for an entire system, including related hardware and peripherals, the Solaris<sup>TM</sup> Operating Environment software, and telephone support for Sun<sup>TM</sup> software packages. The majority of Sun's customers today take advantage of the SunSpectrum program, underscoring the value that it represents. Customers should check with their local Sun Enterprise Services representatives for program and feature availability in their areas.

FEATURE	SUNSPECTRUM PLATINUM <sup>SM</sup> Mission-critical Support	SUNSPECTRUM GOLD <sup>SM</sup> Business-critical Support	SUNSPECTRUM SILVER <sup>SM</sup> Systems Support	SUNSPECTRUM BRONZE <sup>SM</sup> Self Support
<b>Systems Features</b>				
Systems approach coverage	Yes	Yes	Yes	Yes
System availability guarantee	Customized	No	No	No
<b>Account Support Features</b>				
Service account management team	Yes	No	No	No
Local customer support management	No	Yes	No	No
Personal technical account support	Yes	Yes	Option	No
SunStart <sup>SM</sup> installation service	Yes	No	No	No
Account support plan	Yes	Yes	No	No
Software release planning	Yes	No	No	No
On-site account reviews	Monthly	Semiannual	No	No
Skills assessment	Yes	No	No	No
Site activity log	Yes	Yes	No	No
<b>Coverage / Response Time</b>				
Standard telephone coverage hours	7 day/24 hour	7 day/24 hour	8 a.m.–8 p.m., Monday–Friday	8 a.m.–5 p.m., Monday–Friday
Standard on-site coverage hours	7 day/24 hour	8 a.m.–8 p.m., Monday–Friday	8 a.m.–5 p.m., Monday–Friday	N/A
7-day/24-hour telephone coverage	Yes	Yes	Option	Option
7-day/24-hour on-site coverage	Yes	Option	Option	N/A
7-day/12-hour on-site coverage	No	Option	No	No
5-day/24-hour on-site coverage	No	Option	No	No
Customer-defined priority setting	Yes	Yes	Yes	Option



FEATURE	SUNSPECTRUM PLATINUM <sup>SM</sup> Mission-critical Support	SUNSPECTRUM GOLD <sup>SM</sup> Business-critical Support	SUNSPECTRUM SILVER <sup>SM</sup> Systems Support	SUNSPECTRUM BRONZE <sup>SM</sup> Self Support
• Urgent (phone/on-site)	Live transfer/ 2 hour	Live transfer/ 4 hour	Live transfer/ 4 hour	4 hour / N/A
• Serious (phone/on-site)	Live transfer/ 4 hour	2 hour/next day	2 hour/next day	4 hour / N/A
• Not critical (phone/on-site)	Live transfer/ customer convenience	4 hour/ customer convenience	4 hour/ customer convenience	4 hour / N/A
2-hour on-site response	Yes	Option	Option	N/A
Additional contacts	Option	Option	Option	Option
<b>Premier Support Features</b>				
Mission-critical support team	Yes	For urgent problems	No	No
Sun Vendor Integration Program (SunVIP <sup>SM</sup> )	Yes	Yes	No	No
Software patch management assistance	Yes	No	No	No
Field change order (FCO) management assistance	Yes	No	No	No
<b>Hardware Support Delivery</b>				
Replacement hardware parts	On-site technician	On-site technician	On-site technician	Courier
Two day parts delivery	N/A	N/A	N/A	Yes
Overnight parts delivery	N/A	N/A	N/A	Option
Same-day parts delivery	Yes	Yes	Yes	Option
<b>Remote Systems Diagnostics</b>				
Remote dial-in analysis	Yes	Yes	Yes	Yes
Remote systems monitoring	Yes	Yes	No	No
Remote predictive failure reporting	Yes	Yes	No	No
<b>Software Enhancements and Maintenance Releases</b>				
Solaris Operating Environment enhancement releases	Yes	Yes	Yes	Yes
Patches and maintenance releases	Yes	Yes	Yes	Yes
Sun unbundled software enhancements	Option	Option	Option	Option
<b>Internet and CD-ROM Support Tools</b>				
SunSolve <sup>SM</sup> license	Yes	Yes	Yes	Yes
SunSolve EarlyNotifier <sup>SM</sup> Service	Yes	Yes	Yes	Yes

## Warranty

Netra X1 servers have a one year, return to depot warranty.



## Education

Classes may be required depending on customer interest and requirements. Refer to <http://suned.sun.com/> for more information.

## Professional Services

It is recommended that Sun Professional Services (SunPS) attend SRT classes to better understand how the Netra X1 server will fit into their current strategy. SunPS will then work with the product team to determine the need for any Professional Services offerings and their content. For more information, refer to <http://www.sun.com/service/sunps/index.html>.



# Glossary

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1U	One rack unit as defined by the Electronic Industries Alliances (EIA). A vertical measurement equal to 1.75 inches.
AC	Alternating current.
ASR	Automatic server restart. A feature of the LOM module that reduces downtime from system lock-up. ASR enables administrators to configure the Netra t1 AC200/DC200 server to restart automatically in case of a software lock-up.
ATM	Asynchronous transfer mode. ATM is a network technology that supports realtime voice, video, and data. ATM is used as a backbone technology by major enterprises and ISPs.
Carrier-grade	Ruggedized, rackmountable systems with features including remote alarm capabilities, front-back cooling, front accessibility of media, rear cabling, and rugged NEBS-compliant packaging.
Commodity server	A server that is replaced when it fails, instead of being repaired.
Density	Number of units in a given amount of space.
Ecache	External cache. Memory cache external to the CPU chip, also referred to as L2 cache.
Ethernet 10/100BASE-T	The most widely used LAN access method defined by the IEEE 802.3 standard; uses standard RJ-45 connectors and telephone wire. 100BASE-T is also referred to as Fast Ethernet.
FC-AL	Fibre channel arbitrated loop. A topology for Fibre Channel in which all devices are linked together in a loop.
Fixed-purpose server	A network-based device designed to perform a single or closely related set of server functions in an overall service-driven network architecture.
FRU	Field replaceable unit.
General-purpose server	A server designed to perform any type(s) of function(s). General-purpose servers typically require skilled IT professionals and system administrators to maintain them.
Gigabit Ethernet	An Ethernet technology with transmission speeds up to 1 Gbps.
Horizontal scalability	Increasing throughput and reliability by running the same service on several machines at the same time. Any applications run in a horizontally scaled configuration must be stateless.
Host ID	The unique identifier assigned to the host computer.
Hot-pluggable	A feature that allows an administrator to remove a drive without affecting hardware system integrity.
Hot-swappable	A feature that allows an administrator to remove and/or replace a device without affecting software integrity. This means that, while the system does not need to be rebooted, the new component is not automatically recognized by the system.
Infrastructure services	Services that an SP runs to provide revenue services to clients. Examples include: firewalls, DNS, log processing, authentication, mail-relay, distributed SNMP, and low-end cache server.
I/O	Input/output. Transferring data between the CPU and any peripherals.
ISP	Internet service provider.



L2 cache	See Ecache.
LOM	Lights out management. A service and availability feature that monitors the system board, fan power and rpm, and temperature via a dedicated LOM serial port, combined console/LOM serial port, or alarm software that can be tied into SNMP. The LOM module also has a remote power on/off and cycle.
MTBF	Mean time between failures. The average time a component works without failure.
MTTR	Mean time to repair. The average time it takes to repair a component.
NEBS	Network Equipment Building Standard. A stringent standard for durability, grounding cables, and hardware interfaces specified by Telcordia Technologies (formerly Bellcore) for equipment used in Telco central offices.
NEPs	Network equipment providers.
NSPs	Network service providers.
RAM	Random access memory.
Revenue services	Services for which an SP can collect payment from clients. Examples include: Web server, hosting server, and application server.
SCSI	Small computer systems interface. Pronounced “scuzzy.” A hardware interface that allows the connection of up to 15 peripheral devices to a single bus.
SPECint95	A benchmark for integer performance.
SPECfp95	A benchmark for floating point performance.
SPECWeb99	A benchmark for web performance.
SP	Service provider.
Sun Quad FastEthernet™	A Sun product that has four Fast Ethernet ports on the same I/O card.
TTY A	A serial port. Referred to as the console/LOM port.
TTY B	A serial port.





# Materials Abstract

All materials will be available on SunWIN except where noted otherwise.

Collateral (cont.)	Description	Purpose	Distribution	Token # or COMAC Order #
<b>Powerpack</b>				
– Netra X1 Server <i>Server Just the Facts</i>	Reference Guide for the Netra X1 Server (this document)	Training Sales Tool	SunWIN, Reseller Web	129025
<b>Product Literature</b>				
– <i>Product Family Chart</i>	Overview of all Netra products	Sales Tool, Training	SunWIN	112822
– <i>Netra Family Brochure</i>	Overview of all Netra products	Sales Tool, Training	SunWin, COMAC	117279, BE963–1
– <i>Netra Family Guide</i>	Overview of all Netra products	Sales Tool, Training	SunWin, COMAC	12769, BE1077–0
– <i>Resource Guide</i>	Listing of all Netra collateral	Sales Tool	SunWin, COMAC	122600, SE733–1
– <i>Netra X1 Server Data Sheet</i>	Data Sheet	Sales Tool, Training	SunWIN, COMAC	128983, DE1402–1
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<b>External Web Site</b>				
– <i>Netra X1 Server Web Site</i>	<a href="http://www.sun.com/netra">http://www.sun.com/netra</a>			
<b>Internal Web Site</b>				
– <i>Netra Internal Web Site</i>	<a href="http://netropolis.eng">http://netropolis.eng</a>			
<b>Reseller Web Site</b>				
– <i>Sun Reseller General Information</i>	<a href="http://partner.sun.com">http://partner.sun.com</a>			



# Internal Information

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## Competitive Information

Competitive analysis reports are posted quarterly to <http://nsp.eng/competitive/products/>. These reports contain information about the competitor's products, the strengths and weaknesses of the Netra X1 server versus competitors' products, and positioning information.

## Future/Roadmap

Refer to <http://sp.eng> for information about future enhancements.

