



Sun™ SNMP Management Agent Addendum for the Netra™ 240 Server

Sun Microsystems, Inc.
www.sun.com

Part No. 817-6238-10
February 2004, Revision A

Submit comments about this document at: <http://www.sun.com/hwdocs/feedback>

Copyright 2004 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, U.S.A. All rights reserved.

Sun Microsystems, Inc. has intellectual property rights relating to technology that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the U.S. patents listed at <http://www.sun.com/patents> and one or more additional patents or pending patent applications in the U.S. and in other countries.

This document and the product to which it pertains are distributed under licenses restricting their use, copying, distribution, and decompilation. No part of the product or of this document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any.

Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and in other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, AnswerBook2, docs.sun.com, Sun Fire, OpenBoot, Netra, and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and in other countries.

All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and in other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

U.S. Government Rights—Commercial use. Government users are subject to the Sun Microsystems, Inc. standard license agreement and applicable provisions of the FAR and its supplements.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2004 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, Californie 95054, Etats-Unis. Tous droits réservés.

Sun Microsystems, Inc. a les droits de propriété intellectuels relatants à la technologie qui est décrit dans ce document. En particulier, et sans la limitation, ces droits de propriété intellectuels peuvent inclure un ou plus des brevets américains énumérés à <http://www.sun.com/patents> et un ou les brevets plus supplémentaires ou les applications de brevet en attente dans les Etats-Unis et dans les autres pays.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a.

Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, AnswerBook2, docs.sun.com, Sun Fire, OpenBoot, Netra, et Solaris sont des marques de fabrique ou des marques déposées de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays.

Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciées de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

LA DOCUMENTATION EST FOURNIE "EN L'ÉTAT" ET TOUTES AUTRES CONDITIONS, DECLARATIONS ET GARANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES, DANS LA MESURE AUTORISEE PAR LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE A LA QUALITE MARCHANDE, A L'APTITUDE A UNE UTILISATION PARTICULIERE OU A L'ABSENCE DE CONTREFAÇON.

Contents

Sun SNMP Management Agent Addendum for the Netra 240 Server	1
Sun SNMP Management Agent	2
Netra 240 Server SNMP Containment Model	2
Component and Indicator Identification	7
Fans	11
Fan Failures	11
Detecting Fan Status	13
Power Supplies	14
Power Supply Failures	14
Detecting Power Supply Status	17
Dry Contact Alarm Relays and LED Indicators	18
Alarm State Changes	18

Sun SNMP Management Agent Addendum for the Netra 240 Server

This document describes how the Netra™ 240 server fans, power supplies, and LED indicators are represented in the Sun™ Simple Network Management Protocol (SNMP) Agent for Sun Fire™ and Netra Systems. This document contains the following sections:

- [“Sun SNMP Management Agent” on page 2](#)
- [“Netra 240 Server SNMP Containment Model” on page 2](#)
- [“Component and Indicator Identification” on page 7](#)
- [“Fans” on page 11](#)
- [“Power Supplies” on page 14](#)
- [“Dry Contact Alarm Relays and LED Indicators” on page 18](#)

Note – For instructions on installing and using the Sun SNMP Management Agent, refer to the *Sun SNMP Management Agent for Sun Fire and Netra Systems* (817-2559-xx) manual. See [“Sun SNMP Management Agent” on page 2](#) for more information.

Sun SNMP Management Agent

The Sun SNMP Management Agent for Sun Fire and Netra Systems provides the management of supported systems using the Simple Network Management Protocol (SNMP). Using the Sun SNMP Management Agent, you can monitor inventory, configuration, and service indicators, as well as environmental and fault reports.

You can download the Sun SNMP Management Agent for Sun Fire and Netra Systems software and documentation at the following web site:

http://www.sun.com/servers/entry/sun_management.html

For instructions on installing and configuring the software, refer to the *Sun SNMP Management Agent for Sun Fire and Netra Systems* (817-2559-xx). The SNMP management agent manual contains a detailed overview of the agent software, including an introduction to the SNMP environment and a description of how the agent models hardware platforms using the Sun Platform SNMP model (SunPSM). The manual also describes how the SNMP interface presents managed objects and their relationships using the ENTITY-MIB and SUN-PLATFORM-MIB management information bases (MIB).

This document supplements the *Sun SNMP Management Agent for Sun Fire and Netra Systems* manual by documenting how the agent represents the Netra 240 server fans, power supplies, and certain LED indicators. This document provides Netra 240 server-specific information only. For complete descriptions of the SNMP agent terminology, management models, and trap properties, refer to the *Sun SNMP Management Agent for Sun Fire and Netra Systems* manual.

For additional information about the Netra 240 server, refer to the server's documentation at the following web site:

http://www.sun.com/products-n-solutions/hardware/docs/Servers/Netra_Servers/Netra_240/

Netra 240 Server SNMP Containment Model

TABLE 1 presents an example of how the Sun SNMP agent models the Netra 240 server component hierarchy. Because this component hierarchy may vary depending on your server and the SNMP agent software version, query the SNMP agent to identify your server's hierarchy. To locate these server components, see the figures in "Component and Indicator Identification" on page 7.

TABLE 1 Netra 240 Server Containment Model (Hierarchy)

Model Description	For Location, See:
Netra 240 Chassis	
➔ Alarm Board	FIGURE 5 – item 4
➔ Critical Alarm Relay	
➔ Major Alarm Relay	
➔ Minor Alarm Relay	
➔ User Alarm Relay	
➔ Motherboard	FIGURE 4
➔ OpenBoot PROM	
➔ Battery	FIGURE 4 – item 1
➔ Battery Voltage Sensor	
➔ System Active Indicator (rear)	FIGURE 3 – item 11
➔ System Locator Indicator (rear)	FIGURE 3 – item 12
➔ System Service-Required Indicator (rear)	FIGURE 3 – item 13
➔ Hardware Cryptographic Module Slot	FIGURE 5 – item 1
➔ Hardware Cryptographic Module	FIGURE 5 – item 1
➔ CPU 0 Location (rear - viewed from front)	FIGURE 4 – item 7
➔ CPU 0 (rear - viewed from front)	FIGURE 4 – item 7
➔ CPU 0 Junction Temperature Sensor	
➔ CPU 0 Core Voltage Rail Sensor	
➔ CPU 0 Memory Bank 0 Location	FIGURE 4 – items 8 and 9
➔ CPU 0 Memory Bank 0 DIMM 0 Slot	FIGURE 4 – item 8
➔ CPU 0 Memory Bank 0 DIMM 0	FIGURE 4 – item 8
➔ CPU 0 Memory Bank 0 DIMM 1 Slot	FIGURE 4 – item 9
➔ CPU 0 Memory Bank 0 DIMM 1	FIGURE 4 – item 9
➔ CPU 0 Memory Bank 1 Location	FIGURE 4 – items 10 and 11
➔ CPU 0 Memory Bank 1 DIMM 0 Slot	FIGURE 4 – item 10
➔ CPU 0 Memory Bank 1 DIMM 0	FIGURE 4 – item 10
➔ CPU 0 Memory Bank 1 DIMM 1 Slot	FIGURE 4 – item 11
➔ CPU 0 Memory Bank 1 DIMM 1	FIGURE 4 – item 11

TABLE 1 Netra 240 Server Containment Model (Hierarchy) (*Continued*)

Model Description	For Location, See:
➤ CPU 1 Location (front - viewed from front)	FIGURE 4 – item 2
➤ CPU 1 (front - viewed from front)	FIGURE 4 – item 2
➤ CPU 1 Junction Temperature Sensor	
➤ CPU 1 Core Voltage Rail Sensor	
➤ CPU 1 Memory Bank 0 Location	FIGURE 4 – items 3 and 4
➤ CPU 1 Memory Bank 0 DIMM 0 Slot	FIGURE 4 – item 3
➤ CPU 1 Memory Bank 0 DIMM 0	FIGURE 4 – item 3
➤ CPU 1 Memory Bank 0 DIMM 1 Slot	FIGURE 4 – item 4
➤ CPU 1 Memory Bank 0 DIMM 1	FIGURE 4 – item 4
➤ CPU 1 Memory Bank 1 Location	FIGURE 4 – items 5 and 6
➤ CPU 1 Memory Bank 1 DIMM 0 Slot	FIGURE 4 – item 5
➤ CPU 0 Memory Bank 1 DIMM 0	FIGURE 4 – item 5
➤ CPU 1 Memory Bank 1 DIMM 1 Slot	FIGURE 4 – item 6
➤ CPU 0 Memory Bank 1 DIMM 1	FIGURE 4 – item 6
➤ Enclosure Temperature Sensor	
➤ +1.5V Rail Sensor	
➤ +2.5V Rail Sensor	
➤ Ethernet Controller +2.5V Rail Sensor	
➤ Ethernet Controller +1.2V Rail Sensor	
➤ Tomatillo 2.5V Rail Sensor	
➤ Memory Termination Voltage Rail Sensor	
➤ Ethernet SCSI Termination Power Rail Fault Monitor	
➤ SCSI Port	FIGURE 3 – item 22
➤ USB 0 Port (left viewed from rear)	FIGURE 3 – item 20
➤ USB 1 Port (right viewed from rear)	FIGURE 3 – item 21
➤ Management Network Port	FIGURE 3 – item 14
➤ Management Serial Port	FIGURE 3 – item 15
➤ Asynchronous Serial Port	FIGURE 3 – item 4
➤ Alarm Port	FIGURE 3 – item 3
➤ Front Fan Assembly	FIGURE 5 – item 3

TABLE 1 Netra 240 Server Containment Model (Hierarchy) (Continued)

Model Description	For Location, See:
➔ Fan 2	FIGURE 5 – item 3
➔ Fan 2 Tachometer	
➔ Fan 3	FIGURE 5 – item 3
➔ Fan 3 Tachometer	
➔ Rear Fan Assembly	FIGURE 5 – item 2
➔ Fan 0	FIGURE 5 – item 2
➔ Fan 0 Tachometer	
➔ Fan 1	FIGURE 5 – item 2
➔ Fan 1 Tachometer	
➔ System Active Indicator (front)	FIGURE 1 – item 3
➔ Critical Alarm Indicator (front)	FIGURE 1 – item 4
➔ Major Alarm Indicator (front)	FIGURE 1 – item 5
➔ Minor Alarm Indicator (front)	FIGURE 1 – item 6
➔ User Alarm Indicator (front)	FIGURE 1 – item 7
➔ System Locator Indicator (front)	FIGURE 1 – item 1
➔ System Service-Required Indicator (front)	FIGURE 1 – item 2
➔ Hard Disk Drive 0 Bay (left viewed from front)	FIGURE 2 – item 4
➔ HDD 0 Okay-To-Remove Indicator	FIGURE 2 – item 1
➔ HDD 0 Service-Required Indicator*	
➔ Hard Disk Drive 0 (left viewed from front)	FIGURE 2 – item 4
➔ Hard Disk Drive 1 Bay (right viewed from front)	FIGURE 2 – item 6
➔ HDD 1 Okay-To-Remove Indicator	FIGURE 2 – item 5
➔ HDD 1 Service-Required Indicator*	
➔ Hard Disk Drive 1 (right viewed from front)	FIGURE 2 – item 6
➔ PCI Card Slot 0	FIGURE 3 – item 25
➔ PCI Card Slot 1	FIGURE 3 – item 24
➔ PCI Card Slot 2	FIGURE 3 – item 23
➔ Power Supply 0 Bay	FIGURE 3 – item 1
➔ Power Supply 0 (left viewed from rear)	FIGURE 3 – item 1
➔ PS 0 Active Indicator	FIGURE 3 – item 5

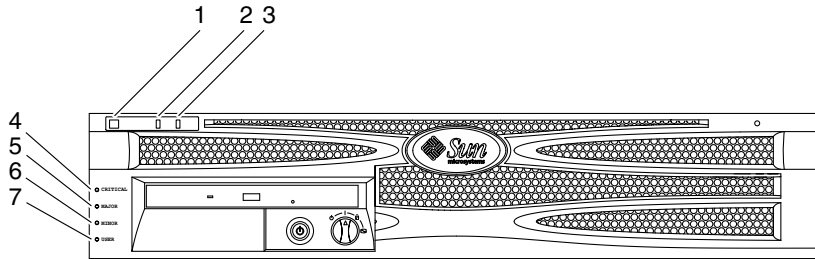
TABLE 1 Netra 240 Server Containment Model (Hierarchy) (*Continued*)

Model Description	For Location, See:
➔ PS 0 Okay-To-Remove Indicator	FIGURE 3 – item 7
➔ PS 0 Service-Required Indicator	FIGURE 3 – item 6
➔ PS 0 Over-Current Fault Monitor	
➔ PS 0 Fan Underspeed Fault Monitor	
➔ PS 0 Over-Voltage Fault Monitor	
➔ PS 0 Under-Voltage Fault Monitor	
➔ PS 0 Power Inlet Presence Monitor	
➔ PS 0 Over-Temperature Fault Monitor	
➔ Power Supply 1 Bay	FIGURE 3 – item 2
➔ Power Supply 1 (right viewed from rear)	FIGURE 3 – item 2
➔ PS 1 Active Indicator	FIGURE 3 – item 8
➔ PS 1 Okay-To-Remove Indicator	FIGURE 3 – item 10
➔ PS 1 Service-Required Indicator	FIGURE 3 – item 9
➔ PS 1 Over-Current Fault Monitor	
➔ PS 1 Fan Underspeed Fault Monitor	
➔ PS 1 Over-Voltage Fault Monitor	
➔ PS 1 Under-Voltage Fault Monitor	
➔ PS 1 Power Inlet Presence Monitor	
➔ PS 1 Over-Temperature Fault Monitor	
➔ System Configuration Card Slot	FIGURE 2 – item 3
➔ System Configuration Card	FIGURE 2 – item 3
➔ DVD Drive Bay	FIGURE 2 – item 2
➔ DVD Drive	FIGURE 2 – item 2
➔ NET 0 Network Interface (far left - viewed from rear)	FIGURE 3 – item 16
➔ NET 1 Network Interface (second left - viewed from rear)	FIGURE 3 – item 17
➔ NET 2 Network Interface (third left - viewed from rear)	FIGURE 3 – item 18
➔ NET 3 Network Interface (fourth left - viewed from rear)	FIGURE 3 – item 19

* While the service-required indicator is represented in the containment model, it is not supported.

Component and Indicator Identification

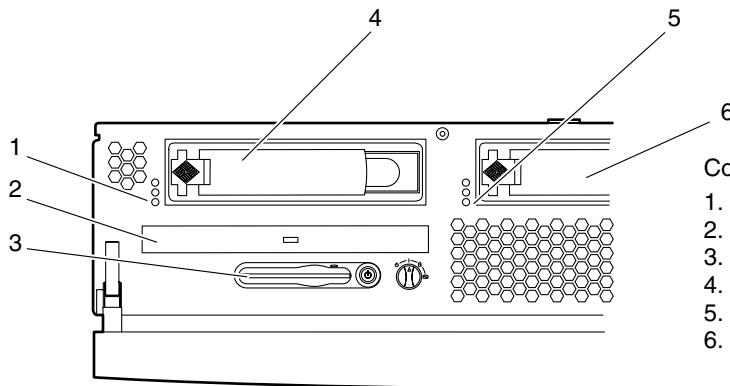
The following figures show the location of the Netra 240 server components. [TABLE 1](#) lists of how the agent models these components in an SNMP hierarchy.



Indicators:

1. System locator
2. System service-required
3. System active
4. Critical alarm
5. Major alarm
6. Minor alarm
7. User alarm

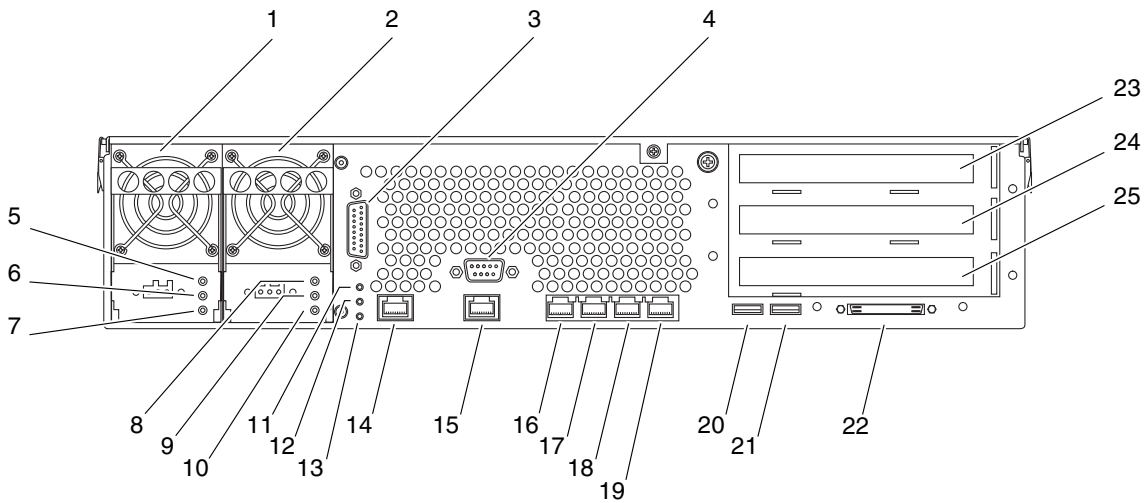
FIGURE 1 Front Panel Indicators



Components and indicators:

1. Hard disk drive (HDD) 0 okay-to-remove
2. DVD bay and drive
3. System configuration card and slot
4. HDD 0 drive and bay
5. HDD 1 okay-to-remove
6. HDD 1 drive and bay

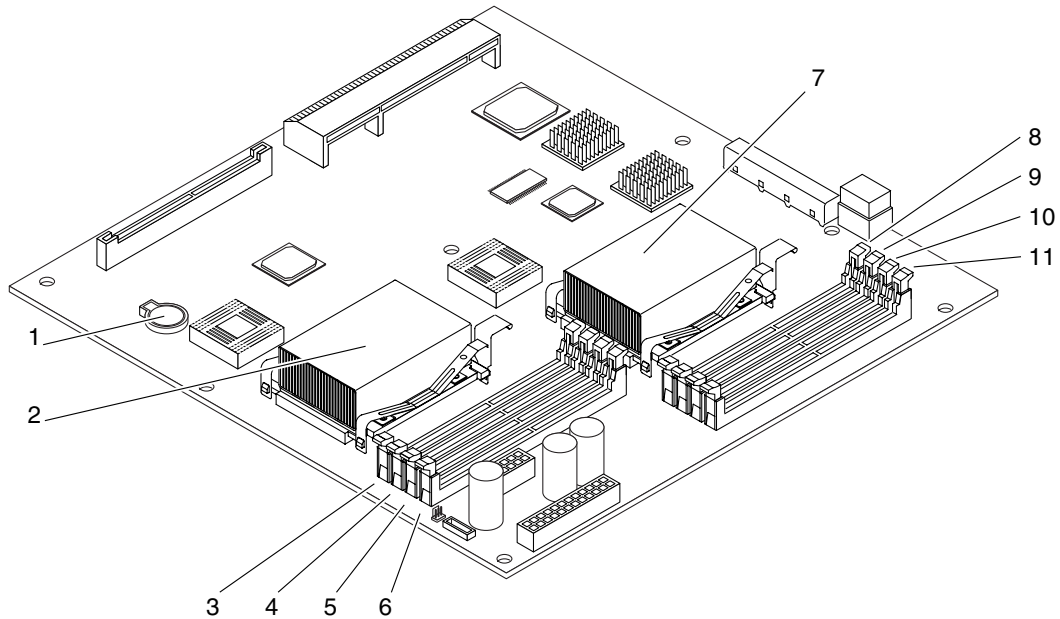
FIGURE 2 Front Panel Components and Indicators



Components, connectors, and indicators:

- | | |
|---------------------------------------|-----------------------------|
| 1. Power supply (PS) 0 bay and supply | 15. Management serial port |
| 2. PS 1 bay and supply | 16. NET 0 network interface |
| 3. Alarm port | 17. NET 1 network interface |
| 4. Asynchronous serial port | 18. NET 2 network interface |
| 5. PS 0 active | 19. NET 3 network interface |
| 6. PS 0 service required | 20. USB 0 port |
| 7. PS 0 okay-to-remove | 21. USB 1 port |
| 8. PS 1 activity | 22. SCSI port |
| 9. PS 1 service required | 23. PCI card slot 2 |
| 10. PS 1 okay-to-remove | 24. PCI card slot 1 |
| 11. System active | 25. PCI card slot 0 |
| 12. System service required | |
| 13. System locator | |
| 14. Management network port | |

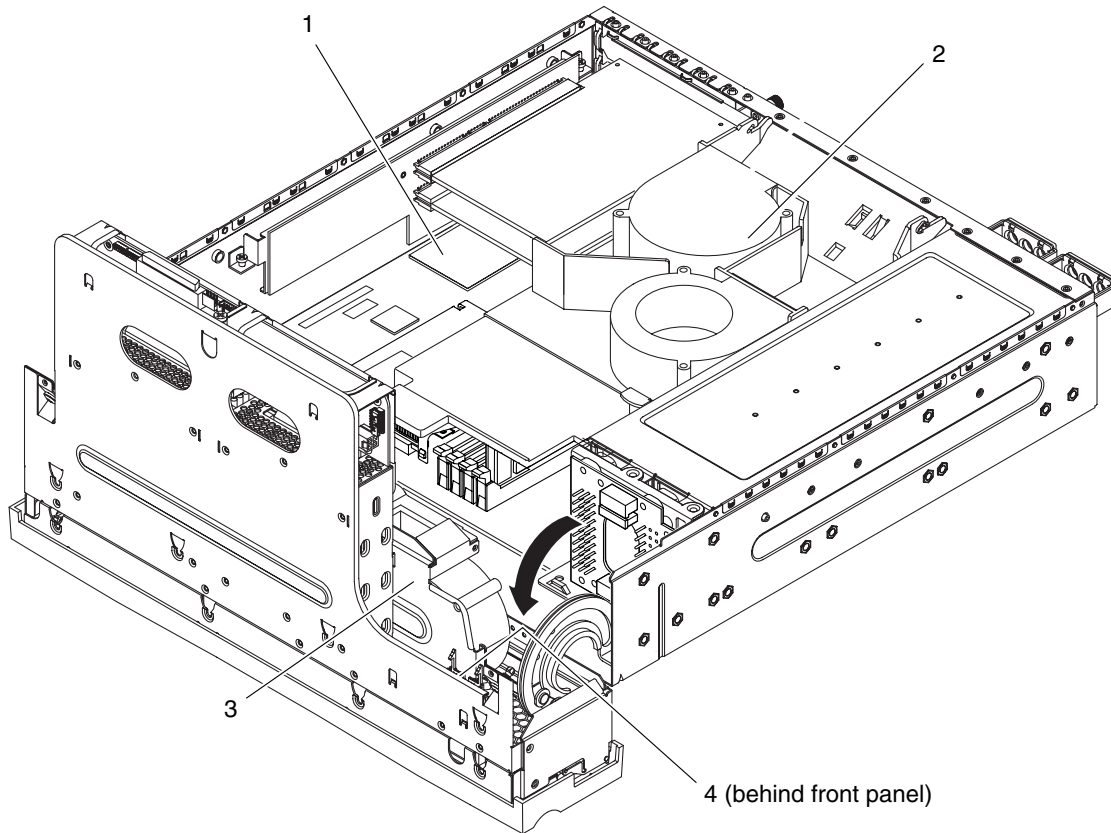
FIGURE 3 Rear Panel Components and Indicators



Motherboard components:

- | | |
|--|---|
| 1. Battery | 7. CPU 0 |
| 2. CPU 1 | 8. CPU 0 Memory bank 0 DIMM 0 and slot |
| 3. CPU 1 Memory bank 0 DIMM 0 and slot | 9. CPU 0 Memory bank 0 DIMM 1 and slot |
| 4. CPU 1 Memory bank 0 DIMM 1 and slot | 10. CPU 0 Memory bank 1 DIMM 0 and slot |
| 5. CPU 1 Memory bank 1 DIMM 0 and slot | 11. CPU 0 Memory bank 1 DIMM 1 and slot |
| 6. CPU 1 Memory bank 1 DIMM 1 and slot | |

FIGURE 4 Motherboard (System Board) Components



Internal Components

- 1. Hardware cryptographic module and slot
- 2. Rear fan tray assembly (containing fans 0 and 1)
- 3. Front fan assembly (containing fans 2 and 3)
- 4. Alarm board

FIGURE 5 Internal Components

Fans

The Netra 240 server fans are identified in the ENTITY-MIB::entPhysicalTable by the entPhysicalDescr of Fan *number*, where *number* is a number in the range from 0 to 3. The fans are represented in the following tables that extend the entPhysicalTable:

- SUN-PLATFORM-MIB::sunPlatEquipmentTable
- SUN-PLATFORM-MIB::sunPlatFanTable

Each fan contains a tachometer used to indicate the current speed of the fan expressed in revolutions per minute (RPM). The tachometers are identified by their entPhysicalDescr of Fan *number* Tachometer, where *number* is a number in the range from 0 to 3 corresponding to the fan being monitored. The fan tachometers are represented in the following tables that extend the entPhysicalTable:

- SUN-PLATFORM-MIB::sunPlatEquipmentTable
- SUN-PLATFORM-MIB::sunPlatSensorTable
- SUN-PLATFORM-MIB::sunPlatNumericSensorTable

Fan Failures

If the speed of a fan falls below the threshold indicated by its tachometer's sunPlatNumericSensorLowerThresholdNonCritical value, the fan is considered to have failed and the following will occur:

- The sunPlatEquipmentOperationalState value for the fan will change from enabled(2) to disabled(1) and a sunPlatStateChange trap will be generated with the form shown in [TABLE 2](#).
- A sunPlatEnvironmentalAlarm trap with a sunPlatNotificationPerceivedSeverity value of warning(5) will be generated for the fan with the form shown in [TABLE 3](#).
- The sunPlatEquipmentAlarmStatus value for the fan will change from cleared(7) to warning(5) and a sunPlatAttributeChangeInteger trap will be generated with the form shown in [TABLE 4](#).
- The sunPlatAlarmState values for the status LEDs will change and sunPlatAttributeChangeInteger traps will be generated with the form shown in [TABLE 5](#).

If the fan recovers from the failure, the following changes will occur:

- The sunPlatEquipmentOperationalState value for the fan will change from disabled(1) to enabled(2) and a sunPlatStateChange trap will be generated with the form shown in [TABLE 2](#).

- A sunPlatEnvironmentalAlarm trap with a sunPlatNotificationPerceivedSeverity value of cleared(6) will be generated for the fan with the form shown in TABLE 3.
- The sunPlatEquipmentAlarmStatus value for the fan will change from warning(5) to cleared(7) and a sunPlatAttributeChangeInteger trap will be generated with the form shown in TABLE 4.
- The sunPlatAlarmState values for the status LEDs will change and sunPlatAttributeChangeInteger traps will be generated with the form shown in TABLE 5.

TABLE 2 sunPlatStateChange Trap for a Fan Failure or Recovery

Variable	Value
sunPlatNotificationEventId	<i>unique numeric identifier</i>
sunPlatNotificationTime	<i>date time</i>
sunPlatNotificationObject	entPhysicalDescr, <i>fan instance</i> *
sunPlatNotificationCorrelatedNotifications	
sunPlatNotificationChangedOID	sunPlatEquipmentOperationalState, <i>fan instance</i> *
sunPlatNotificationOldInteger	disabled(1) or enabled(2)
sunPlatNotificationNewInteger	disabled(1) or enabled(2)

* *fan instance* indicates the row in the entPhysicalTable associated with the fan.

TABLE 3 sunPlatEnvironmentalAlarm Trap for a Fan Failure or Recovery

Variable	Value
sunPlatNotificationEventId	<i>unique numeric identifier</i>
sunPlatNotificationTime	<i>date time</i>
sunPlatNotificationObject	entPhysicalDescr, <i>fan instance</i> *
sunPlatNotificationCorrelatedNotifications	
sunPlatNotificationAdditionalInfo	0.0 (null)
sunPlatNotificationAdditionalText	<i>entPhysicalName of the fan tachometer</i> : Tachometer threshold crossed
sunPlatNotificationPerceivedSeverity	warning(5) or cleared(6)
sunPlatNotificationProbableCause	coolingFanFailure(107)
sunPlatNotificationSpecificProblem	coolingFanFailure
sunPlatNotificationRepairAction	

* *fan instance* indicates the row in the entPhysicalTable associated with the fan.

TABLE 4 sunPlatAttributeChangeInteger Trap for a sunPlatEquipmentAlarmStatus Change

Variable	Value
sunPlatNotificationEventId	<i>unique numeric identifier</i>
sunPlatNotificationTime	<i>date time</i>
sunPlatNotificationObject	entPhysicalDescr. <i>fan instance</i> *
sunPlatNotificationCorrelatedNotifications	
sunPlatNotificationChangedOID	sunPlatEquipmentAlarmStatus. <i>fan instance</i> *
sunPlatNotificationOldInteger	warning (5) or cleared (7)
sunPlatNotificationNewInteger	warning (5) or cleared (7)

* *fan instance* indicates the row in the entPhysicalTable associated with the fan.

TABLE 5 sunPlatAttributeChangeInteger Trap for a sunPlatAlarmState Change

Variable	Value
sunPlatNotificationEventId	<i>unique numeric identifier</i>
sunPlatNotificationTime	<i>date time</i>
sunPlatNotificationObject	entPhysicalDescr. <i>fan instance</i> *
sunPlatNotificationCorrelatedNotifications	
sunPlatNotificationChangedOID	sunPlatAlarmState. <i>LED instance</i> †
sunPlatNotificationOldInteger	off (2) or steady (3)
sunPlatNotificationNewInteger	off (2) or steady (3)

* *fan instance* indicates the row in the entPhysicalTable associated with the fan.

† *LED instance* indicates the row in the entPhysicalTable associated with the LED.

Detecting Fan Status

You can detect fan status using the following mechanisms:

- Polling sunPlatNumericSensorCurrent and sunPlatNumericSensorLowerThresholdNonCritical for the fan's tachometer and comparing their values.
- Polling the sunPlatEquipmentOperationalState of the fan.
- Receiving a sunPlatStateChange trap corresponding to the change of the sunPlatEquipmentOperationalState of the fan.
- Receiving a sunPlatEnvironmentalAlarm trap with a sunPlatNotificationProbableCause of coolingFanFailure (107).

Power Supplies

The power supplies are identified in the ENTITY-MIB::entPhysicalTable by the entPhysicalDescr of Power Supply *number* (*side* viewed from rear) where *number* is 0 or 1, and *side* is left when *number* is 0 and right when *number* is 1. The power supplies are represented in the SUN-PLATFORM-MIB::sunPlatEquipmentTable.

Each power supply contains the following sensors:

- Power Inlet Presence Monitor
- Fan Under-Speed Fault Monitor
- Over-Voltage Fault Monitor
- Under-Voltage Fault Monitor
- Over-Temperature Fault Monitor

These sensors are represented in the following tables:

- SUN-PLATFORM-MIB::sunPlatEquipmentTable
- SUN-PLATFORM-MIB::sunPlatSensorTable
- SUN-PLATFORM-MIB::sunPlatBinarySensorTable

Power Supply Failures

If any of the power supply sensors detect a fault the following changes will occur:

- The sunPlatBinarySensorCurrent value for the sensor that detected the fault will change from true(1) to false(2) and a sunPlatAttributeChangeInteger trap will be generated with the form shown in [TABLE 6](#).
- The sunPlatEquipmentOperationalState for the power supply will change from enabled(2) to disabled(1) and a sunPlatStateChange trap will be generated with the form shown in [TABLE 7](#).
- A sunPlatEquipmentAlarm trap for the power supply will be generated with the form shown in [TABLE 8](#).
- The sunPlatEquipmentAlarmStatus value for the power supply will change from cleared(7) to major(2) and a sunPlatAttributeChangeInteger trap will be generated with the form shown in [TABLE 9](#).
- The sunPlatAlarmState values for the status LEDs will change and sunPlatAttributeChangeInteger traps will be generated with the form shown in [TABLE 10](#).

Recovery from the power supply fault will result in the following changes:

- The `sunPlatBinarySensorCurrent` value for the sensor that detected the fault will change from `false(2)` to `true(1)` and a `sunPlatAttributeChangeInteger` trap will be generated with the form shown in [TABLE 6](#).
- The `sunPlatEquipmentOperationalState` for the power supply will change from `disabled(1)` to `enabled(2)` and a `sunPlatStateChange` trap will be generated with the form shown in [TABLE 7](#).
- A `sunPlatEquipmentAlarm` trap with a `sunPlatNotificationPerceivedSeverity` value of `cleared(6)` will be generated for the power supply with the form shown in [TABLE 8](#).
- The `sunPlatEquipmentAlarmStatus` value for the power supply will change from `major(2)` to `cleared(7)` and a `sunPlatAttributeChangeInteger` trap will be generated with the form shown in [TABLE 9](#).
- The `sunPlatAlarmState` values for the status LEDs will change and `sunPlatAttributeChangeInteger` traps will be generated with the form shown in [TABLE 10](#).

TABLE 6 `sunPlatAttributeChangeInteger` Trap for a Power Supply Sensor

Variable	Value
<code>sunPlatNotificationEventId</code>	<i>unique numeric identifier</i>
<code>sunPlatNotificationTime</code>	<i>date time</i>
<code>sunPlatNotificationObject</code>	<i>entPhysicalDescr.ps sensor instance*</i>
<code>sunPlatNotificationCorrelatedNotifications</code>	
<code>sunPlatNotificationChangedOID</code>	<i>sunPlatBinarySensorCurrent.ps sensor instance*</i>
<code>sunPlatNotificationOldInteger</code>	<code>true(1)</code> or <code>false(2)</code>
<code>sunPlatNotificationNewInteger</code>	<code>true(1)</code> or <code>false(2)</code>

* *ps sensor instance* indicates the row in the `entPhysicalTable` associated with the power supply sensor.

TABLE 7 sunPlatStateChange Trap for a Power Supply Fault or Recovery

Variable	Value
sunPlatNotificationEventId	<i>unique numeric identifier</i>
sunPlatNotificationTime	<i>date time</i>
sunPlatNotificationObject	entPhysicalDescr. <i>ps instance</i> *
sunPlatNotificationCorrelatedNotifications	
sunPlatNotificationChangedOID	sunPlatEquipmentOperationalState. <i>ps instance</i> *
sunPlatNotificationOldInteger	disabled(1) or enabled(2)
sunPlatNotificationNewInteger	disabled(1) or enabled(2)

* *ps instance* indicates the row in the entPhysicalTable associated with the power supply.

TABLE 8 sunPlatEquipmentAlarm Trap for a Power Supply Fault or Recovery

Variable	Value
sunPlatNotificationEventId	<i>unique numeric identifier</i>
sunPlatNotificationTime	<i>date time</i>
sunPlatNotificationObject	entPhysicalDescr. <i>ps instance</i> *
sunPlatNotificationCorrelatedNotifications	
sunPlatNotificationAdditionalInfo	0.0 (null)
sunPlatNotificationAdditionalText	<i>entPhysicalName of the sensor: Voltage threshold crossed</i>
sunPlatNotificationPerceivedSeverity	major(3) or cleared(6)
sunPlatNotificationProbableCause	powerProblem(58)
sunPlatNotificationSpecificProblem	powerProblem
sunPlatNotificationRepairAction	

* *ps instance* indicates the row in the entPhysicalTable associated with the power supply.

TABLE 9 *sunPlatAttributeChangeInteger* Trap for a sunPlatEquipmentAlarmStatus Change

Variable	Value
sunPlatNotificationEventId	<i>unique numeric identifier</i>
sunPlatNotificationTime	<i>date time</i>
sunPlatNotificationObject	<i>entPhysicalDescr.ps instance*</i>
sunPlatNotificationCorrelatedNotifications	
sunPlatNotificationChangedOID	<i>sunPlatEquipmentAlarmStatus.ps instance*</i>
sunPlatNotificationOldInteger	<i>major (2) or cleared (7)</i>
sunPlatNotificationNewInteger	<i>major (2) or cleared (7)</i>

* *ps instance* indicates the row in the entPhysicalTable associated with the power supply.

TABLE 10 *sunPlatAttributeChangeInteger* Trap for a sunPlatAlarmState Change

Variable	Value
sunPlatNotificationEventId	<i>unique numeric identifier</i>
sunPlatNotificationTime	<i>date time</i>
sunPlatNotificationObject	<i>entPhysicalDescr.LED instance*</i>
sunPlatNotificationCorrelatedNotifications	
sunPlatNotificationChangedOID	<i>sunPlatAlarmState.LED instance*</i>
sunPlatNotificationOldInteger	<i>off (2) or steady (3)</i>
sunPlatNotificationNewInteger	<i>off (2) or steady (3)</i>

* *LED instance* indicates the row in the entPhysicalTable associated with the LED.

Detecting Power Supply Status

You can use the following mechanisms to detect power supply status:

- Poll the value of sunPlatBinarySensorCurrent for each of the power supply sensors.
- Poll the value of sunPlatEquipmentOperationalState for the power supply.
- Receiving a sunPlatAttributeChangeInteger trap corresponding to a change in the sunPlatBinarySensorCurrent value for one of the power supply sensors.
- Receiving a sunPlatStateChange trap corresponding to a change in the sunPlatEquipmentOperationalState for the power supply.
- Receiving a sunPlatEquipmentAlarm trap with a sunPlatNotificationProbableCause value of powerProblem(58).

Dry Contact Alarm Relays and LED Indicators

The Netra 240 server has four dry contact alarm relays and four corresponding LED indicators. The alarm relays are identified in the ENTITY-MIB::entPhysicalTable by the following entPhysicalDescr values:

- Critical Alarm Relay
- Major Alarm Relay
- Minor Alarm Relay
- User Alarm Relay

The alarm LED indicators are identified in the ENTITY-MIB::entPhysicalTable by the following entPhysicalDescr values:

- Critical Alarm Indicator (front)
- Major Alarm Indicator (front)
- Minor Alarm Indicator (front)
- User Alarm Indicator (front)

The alarm relays and the alarm LED indicators are represented in the SUN-PLATFORM-MIB::sunPlatAlarmTable which extends the ENTITY-MIB::entPhysicalTable.

Alarm State Changes

The alarm relay state cannot be changed using SNMP set commands. However, the alarm relay state can be changed using the Sun Advanced Lights Out Manager (ALOM) setalarm command. For more information about ALOM commands, refer to the *Sun Advanced Lights Out Manager Software User's Guide for the Netra 240 Server* (817-3174-xx).

The alarm relay states can also be changed using the alarm relay output application programming interface (API). For information about this API, refer to the *Netra 240 Server System Administration Guide* (817-2700-xx).

If one of the alarm relays changes its state, the sunPlatAlarmState values associated with the relay and its corresponding indicator change state, and sunPlatAttributeChangeInteger traps will be generated in the format shown in [TABLE 11](#).

TABLE 11 sunPlatAttributeChangeInteger Trap for a sunPlatAlarmState Change

Variable	Value
sunPlatNotificationEventId	<i>unique numeric identifier</i>
sunPlatNotificationTime	<i>date time</i>
sunPlatNotificationObject	entPhysicalDescr. <i>instance</i> *
sunPlatNotificationCorrelatedNotifications	
sunPlatNotificationChangedOID	sunPlatAlarmState. <i>instance</i> *
sunPlatNotificationOldInteger	off (2) or steady (3)
sunPlatNotificationNewInteger	off (2) or steady (3)

* *instance* indicates the row in the entPhysicalTable associated with the alarm relay or the alarm indicator.

