



## CHAPTER 5

# Maintaining the Cisco PGW 2200 Softswitch

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This chapter contains the recommended hardware maintenance procedures for the Cisco PGW 2200 Softswitch. The Cisco PGW 2200 Softswitch performs call-processing, trunk resource management, alarm management, and routing. The Cisco PGW 2200 Softswitch also provides various Cisco telephony solutions with Advanced Intelligent Network (AIN) capabilities. AIN capabilities include the ability to detect conditions that cause the Cisco PGW 2200 Softswitch to query service logic for further call-processing instructions. You can install the Cisco PGW 2200 Softswitch in simplex or continuous service configurations. In simplex configurations, only one Cisco PGW 2200 Softswitch is equipped. In continuous service configurations, two Cisco PGW 2200 Softswitches are equipped. Only one Cisco PGW 2200 Softswitch is active at a time in a continuous service configuration, while the other Cisco PGW 2200 Softswitch operates in standby mode. The Cisco PGW 2200 Softswitch runs on various Sun Netra UNIX systems.

This chapter briefly describes hardware maintenance for the Cisco PGW 2200 Softswitch. For more detailed information, see the documentation that Sun Microsystems provides for your hardware platform. For information on upgrading and maintaining Cisco PGW 2200 Softswitch software, see the *Cisco PGW 2200 Softswitch Release 9.8 Software Installation and Configuration Guide*.

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## Checking Equipment Status

You can determine the status of the Cisco PGW 2200 Softswitch by using the following methods:

- Reading the Cisco PGW 2200 Softswitch LEDs
- Querying the system using UNIX and Man-Machine Language MML commands.

The UNIX and MML commands for querying the status of the system are found in [Chapter 3, “Cisco PGW 2200 Softswitch Platform Operations.”](#) Information about the LEDs on the Cisco PGW 2200 Softswitch is in the following sections.

## LEDs

See Sun documentation for the specific Cisco PGW 2200 Softswitch hardware platform you are using.

### Sun Netra T 1120/1400 and Sun Netra T 1125/1405

The Sun Netra T 1120/1400 and Sun Netra T 1125/1405 have the following LEDs:

- POWER—Green LED is illuminated at all times when the system is on.
- SYSTEM—Green LED is off during power-up procedures and is illuminated when UNIX is running and the alarms driver is installed. A hardware watchdog timeout can reset this LED. Also, an asserted user-defined Alarm 3 (spare) can reset this LED.
- ALARM1—Amber LED is illuminated when the user-defined Alarm 1 is asserted.
- ALARM2—Amber LED is illuminated when the user-defined Alarm 2 is asserted.
- SPARE—Amber LED is reserved for future use.

The DC-powered Sun Netra T 1120/1400 displays the following additional LEDs:

- SUPPLY A—Green LED is illuminated when DC input A is present and the system is powered on.
- SUPPLY B—Green LED is illuminated when DC input B is present and the system is powered on.

### Sun Netra X4270

See the *Sun Netra™ X4270 Server Service Manual* from the Oracle website at:

<http://download.oracle.com/docs/cd/E19591-01/index.html>

### Sun Fire X4640

See the *Sun Fire™ X4640 Server Service Manual* from the Oracle website at:

<http://download.oracle.com/docs/cd/E19273-01/821-0243/index.html>

## Maintaining Technical Support Staff

### Skill Level of Personnel

The engineering staff must be trained to support the Sun Netra product in the field. To be certified by Sun, support personnel must successfully complete the Sun certification training courses and pass the Solaris administrator certification examinations.

All engineers must be able to perform the following tasks:

- User assistance
- Problem diagnosis and duplication
- Hardware replacement
- Patch distribution

The technical profile portion of the Sun audit analyzes the technical ability of service personnel and determines if the support staff is sufficient for quality customer support.

## Staff Software Troubleshooting Tools

The support engineers must have a current version of SunSolve to assist in troubleshooting and resolving problems.

## Maintaining Components

For more detailed information, see  
*Cisco PGW 2200 Softswitch Hardware Installation Guide (Release 7 & 9)*.

## Software Upgrades

See *Cisco PGW 2200 Softswitch Release 9.8 Software Installation and Configuration Guide* for a description of the procedures for software upgrades.

