Troubleshooting Hardware Components

This appendix describes how to identify and resolve problems that might occur with the hardware components of a Cisco NCS 5000 Series routers.

Overview

The key to success when troubleshooting the system hardware is to isolate the problem to a specific system component. The first step is to compare what the system is doing to what it should be doing. Because a startup problem can usually be attributed to a single component, it is more efficient to isolate the problem to a subsystem rather than troubleshoot each separate component in the system.

Problems with the initial power up are often caused by a module that is not firmly connected to the backplane or a power supply that has been disconnected from the power cord connector.

Overheating can also cause problems with the system, though typically only after the system has been operating for an extended period of time. The most common cause of overheating is the failure of a fan module.

Router Hardware Best Practices

Use the recommendations in this section to ensure the proper installation, initialization, and operation of the router.

This section includes the following topics:

Installation Best Practices

When installing the router, follow these best practices:

- Plan your site configuration and prepare the site before installing the chassis.
- Verify that you have the appropriate power supplies for your chassis configuration.
- Install the chassis following the rack and airflow guidelines presented in this guide.
- Verify that the chassis is adequately grounded.

Initialization Best Practice

When the initial system boot is complete, verify the following:

- Power supplies are supplying power to the system.
- Fan modules are operating normally.
- The system software boots successfully.

Router Operation Best Practices

To ensure proper operation of your router, take the following actions:

- Make a copy of the running configuration to CompactFlash for a safe backup.
- Always enter the **copy running-config startup-config CLI** command after you modify the running configuration and ensure that the system is operating properly.
- Never use the **init system** CLI command unless you understand that you will lose the running and startup configuration as well as the files stored on bootflash.
- Keep backup copies of the running kickstart and the system images on CompactFlash.

Power Supply Conditions

The two LEDs on each power supply indicate the power status for each power supply. To determine the current status for a power supply unit, note which LED is on, blinking, or off and refer the following table.

Table 1: Power Supply Condition

Power Supply Condition	Power LED Status	Fail LED Status
No power to all power status.	Off	Off
Power supply failure, including overvoltage, overcurrent, overtemperature, and fan failure.	Off	On
Power supply warning events where the power supply continues to operate. These events include high temperature, high power, and slow fan.	Off	Blinking

Power Supply Condition	Power LED Status	Fail LED Status
AC present, 3.3 voltage standby (VSB) on, and the power supply unit is off.	Blinking	Off
Power supply on and OK.	On	Off

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