



CHAPTER 7

Troubleshooting the Installation

This chapter describes how to troubleshoot the installation of SIPs and SPAs on the Cisco 10000 series router. This chapter contains the following sections:

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Troubleshooting

This section describes troubleshooting the installation of the SIPs and SPAs. Possible problems, observations and comments, and solutions are indicated for the following troubleshooting symptoms:

- SIP transitions repeatedly from on to off
- SIP is deactivated
- SPA is down and the line protocol is down

SIP Transitions Repeatedly From On to Off

Possible Problem	Observations and Comments	Solutions
SIP is booting; this is normal operation	SIP FAIL LED is on	Wait 30 seconds until the boot process completes and the FAIL LED turns off.
SIP does not go beyond the bootup stage	SIP FAIL LED stays on	Follow the recommended action for the displayed error message.
SIP has experienced a failure	SIP FAIL LED remains on more than 5 seconds, or is on during normal operation	Follow the recommended action for the displayed error message.
SIP FPGA is not up to date The SIP FPGA update is not supported. Only SPA update is supported.	During SIP initialization, the need to update the FPGA is automatically detected	If the SIP is cycling because of an FPD problem, the most likely cause is a FPD failure or that the FPD package file is not present. For more information about performing FPD upgrades, refer to the “Upgrading Field-Programmable Devices” chapter in the <i>Cisco 10000 Series Router SIP and SPA Software Configuration Guide</i> .

SPA Is Deactivated

Possible Problem	Observations and Comments	Solutions
SPA is not fully seated in the SIP	Output of the show diag slot command SPA STATUS LED is off	Follow this procedure: <ul style="list-style-type: none"> Remove the SPA from the SIP. Inspect the SIP and the SPA. Verify there are no bent pins or parts and that there is nothing lodged in the two devices that could prevent a good connection. Insert the SPA in the SIP by sliding the SPA all the way into the SIP until the SPA is firmly seated in the SPA interface connector. When fully seated in the SIP, the SPA might be slightly behind the SIP faceplate.
SPA is not supported on the SIP	Output of the show diag slot command SIP STATUS LED is off	Install a SPA supported on the SIP.
SPA is not at the minimum hardware revision level	Output of the show hw-module subslot fpd command Output of the show diag command SPA STATUS LED is off	Follow the FPD upgrade process to update the FPGA. For more information about performing FPD upgrades, refer to the “Upgrading Field-Programmable Devices” chapter in the <i>Cisco 10000 Series Router SIP and SPA Software Configuration Guide</i> .
SPA is misconfigured	Output of the show log command	Refer to the configuration section of the specific SPA software configuration guide, or use the Cisco IOS software configuration documentation listed in the “ Obtaining Documentation, Obtaining Support, and Security Guidelines ” section on page ix.

Using debug Commands

Along with the other **debug** commands supported on the Cisco 10000 series router, you can obtain specific debug information for the SIP on the Cisco 10000 series router using the **debug hw-module** privileged EXEC command. The **debug hw-module** command is intended for use by Cisco Systems technical support personnel.



Caution

Because debugging output is assigned high priority in the CPU process, it can render the system unusable. For this reason, use **debug** commands only to troubleshoot specific problems or during troubleshooting sessions with Cisco technical support personnel. Moreover, it is best to use **debug** commands during periods of lower network traffic and fewer users. Debugging during these periods decreases the likelihood that increased **debug** command processing overhead will affect system use.

For more information about other debug commands supported on the Cisco 10000 series router, refer to the Cisco IOS Command Reference publication for your Cisco IOS software release.

Packing a SPA for Shipment

This section provides step-by-step instructions for packing a SPA and the cable-management brackets for shipment. Before beginning this procedure, you should have the following original Cisco Systems packaging materials:

- Thermoform container (transparent plastic-molded clamshell)
- Carton

**Caution**

Use Cisco Systems original packaging for the shipment of all SPAs and cable-management brackets. Failure to properly use Cisco Systems packaging can result in damage or loss of product.

**Warning**

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.

**Note**

These instructions assume that the SPA and cable-management brackets have been removed from the router according to the recommended procedures specified in this guide.

To pack a SPA and the cable-management brackets for shipment, follow these steps:

- Step 1** Open the thermoform container and place the SPA and each of the cable-management brackets into the appropriate cavities.

**Caution**

Always handle the SPA by the carrier edges and handle; never touch the SPA components or connector pins.

- Step 2** Close the thermoform container. Be sure to lock the snaps securely.
- Step 3** Check that the thermoform container is fully closed. Apply tape or a label closure over the opening to ensure that the container stays closed during shipping.
- Step 4** Place the thermoform container into the carton.
- Step 5** Close the carton.
- Step 6** Apply tape over the carton flap to ensure that the carton stays closed during shipping.

Packing a SIP for Shipment

This section provides step-by-step instructions for packing a SIP for shipment. Before beginning this procedure, you should have the following original Cisco Systems packaging materials:

- Static shielding bag
- Smaller inner carton
- Larger exterior carton

- Two foam packing cushions

**Caution**

Use Cisco Systems original packaging for the shipment of all SIPs. Failure to properly use Cisco Systems packaging can result in damage or loss of product.

**Warning**

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.

**Note**

These instructions assume that the SIP has been removed from the router according to the recommended procedures specified in this guide.

To pack a SIP for shipment, follow these steps:

- Step 1** Insert the SIP into the static shielding bag.
- Step 2** Insert the bagged SIP into the smaller inner carton. Be careful to position the SIP so that the faceplate is up against the cardboard cushions. Fold the small flaps first and then the big flaps.
- Step 3** Close the smaller inner carton and tape the sides closed.
- Step 4** Place the sealed smaller inner carton containing the SIP into the two foam packing cushions (they only fit one way).
- Step 5** Place the sealed smaller inner carton and packing cushions into the larger exterior carton, and seal the larger exterior carton with tape for shipment.