CHAPTER 6

Troubleshooting

This chapter describes how to troubleshoot the installation of the Cisco ASR 1000 Series Modular Interface Processor on the Cisco ASR 1000 Series Aggregation Services Routers. This chapter contains the following sections:

- Troubleshooting Installation Issues, page 6-1
- Using debug Commands, page 6-3
- Packing a Cisco ASR 1000 Series Modular Interface Processor for Shipment, page 6-3

Troubleshooting Installation Issues

This section provides troubleshooting information pertaining to the installation of the Cisco ASR 1000 Series Modular Interface Processor. Possible problems, observations and comments, and solutions are indicated for the following troubleshooting symptoms:

- Cisco ASR 1000 Series Modular Interface Processor transitions repeatedly from on to off
- Cisco ASR 1000 Series Modular Interface Processor is deactivated

Cisco ASR 1000 Series Modular Interface Processor Transitions Repeatedly From On to Off

Possible Problem	Observations and Comments	Solutions
Cisco ASR 1000 Series Modular Interface Processor is booting up, which is a normal operation.	Cisco ASR 1000 Series Modular Interface Processor STATUS LED alternates between green, amber, or off.	Wait for 150 seconds until the boot process completes and the STATUS LED stays on.
Cisco ASR 1000 Series Modular Interface Processor does not go beyond the bootup stage.	Cisco ASR 1000 Series Modular Interface Processor STATUS LED transitions continue and alternate between green, amber, or off.	Follow the recommended action for the displayed error message.
Cisco ASR 1000 Series Modular Interface Processor is not up to date.	During the Cisco ASR 1000 Series Modular Interface Processor initialization, the need to update the field-programmable gate array (FPGA) is automatically detected.	Follow the system prompts to update the FPGA image. If the Cisco ASR 1000 Series Modular Interface Processor is cycling because of a field-programmable device (FPD) problem, the most likely cause is an FPD failure or that the FPD package file is not present.

Cisco ASR 1000 Series Modular Interface Processor is Deactivated

Possible Problem	Observations and Comments	Solutions
Cisco ASR 1000 Series Modular Interface Processor is not fully seated in the chassis slot.	Output of the **show diag** *slot* command. STATUS LED is off.	Follow this procedure: 1. Remove the Cisco ASR 1000 Series Modular Interface Processor from the slot. 2. Inspect the Cisco ASR 1000 Series Modular Interface Processor. Verify that there are no bent pins or parts and that there is nothing that could prevent a good connection. 3. Insert the Cisco ASR 1000 Series Modular Interface Processor into the chassis slot.
Cisco ASR 1000 Series Modular Interface Processor is not at the minimum hardware-programmable revision level.	Error message indicating that the Cisco ASR 1000 Series Modular Interface Processor is not at the minimum FPGA revision level. Output of the **show hw-module subslot fpd** command. Output of the **show diag slot** command. STATUS LED is off.	Follow the FPD upgrade process to update the FPGA.

Troubleshooting Line Card States

Table 6-1   Troubleshooting Line Card States

Problem	Observation
Various problems with the line card states.	• The LED on the line card front panel is green, indicating that the that line card is up and running with Cisco IOS. • The **show platform** command shows the status of line card slot as **ok**. • The **show hw-module subslot** *x/y* **oir** [*internal*] command indicates that the EPA operation status is **ok**. • The **show running-config** command shows interfaces for the line card. • The **show ip interface brief** command shows the configured interfaces for the line card if they are ready for configuration.

Using debug Commands

The **debug hw-module subslot** command is intended for use by Cisco Systems technical support personnel.

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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 staff. 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 information about the other **debug** commands supported on the Cisco ASR 1000 series router error messages, including messages related to the Cisco ASR 1000 Series Modular Interface Processor, refer to the following documents:

- *Cisco IOS Release 12.2 SR Command References*
- *Cisco ASR 1000 Series Modular Ethernet Line Card Software Configuration Guide*

Packing a Cisco ASR 1000 Series Modular Interface Processor for Shipment

This section provides step-by-step instructions for packing a Cisco ASR 1000 Series Modular Interface Processor 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

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Caution   The Cisco Systems original packaging is to be used for the shipment of all Cisco ASR 1000 native line cards. Failure to use Cisco Systems packaging properly may result in damage or loss of product.

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Caution   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 electrocute yourself.

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Note   The following instructions assume that the Cisco ASR 1000 Series Modular Interface Processor has been removed from the router according to the procedures specified in this guide.

To pack a Cisco ASR 1000 Series Modular Interface Processor for shipment, perform the following steps:

Step 1   Insert the Cisco ASR 1000 Series Modular Interface Processor into the static shielding bag.

Step 2   Insert the bagged Cisco ASR 1000 Series Modular Interface Processor into the smaller inner carton. Ensure that you position the Cisco ASR 1000 Series Modular Interface Processor such that the bottom motherboard lip is held by the packaging cutout.

Step 3   Close the smaller inner carton and tape the sides closed.

Step 4   Place the sealed smaller inner carton containing the Cisco ASR 1000 Series Modular Interface Processor 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.