



Replacing Line Cards

This chapter provides information on replacing a failed line card.



Caution

During installation, maintenance, and/or removal, wear a grounding wrist strap to avoid ESD damage to the components. Failure to do so could result in damage to sensitive electronic components and potentially void your warranty.

This chapter includes the following sections:

- [Determining Whether a Line Card has Failed, page 1](#)
- [Removing the Line Card, page 3](#)
- [Installing the Line Card, page 4](#)
- [What to do with the Failed Line Card, page 6](#)

Determining Whether a Line Card has Failed

There are several ways the chassis indicates a line card failure. The first indicator is that the Status LED on the System Management Card (SMC) turns red to indicate the failure of a chassis component. Another is that the Run/Fail LED turns red or turns off on a line card that has a problem.

If you see either of these indicators, use the CLI or check the Simple Network Management Protocol (SNMP) traps to determine the nature of the problem.

Using the CLI

Enter the following CLI commands in Exec mode to monitor line cards:

```
show card diag slot_#
```

`slot_#` is the chassis slot number in which a particular card that you wish to monitor is installed. For line cards, `slot_#` would be an integer between 17 and 48. The following is a sample output for this command issued to monitor the card in chassis slot 24:

```
Card 24:
  Card Usable           : Yes
  Card Tests            : Pass
```

show card info slot_#



Important

Use the upper slot number to specify the location of an XGLC. Slot numbering for other installed half-height cards is maintained: 17 to 32 and 33 to 48, regardless of the number of installed XGLCs.

```
Card 24:
  Slot Type             : SPIO
  Card Type             : Switch Processing I/O Card
  Operational State    : Active
  Redundancy Mode      : Port Mode
  Last State Change    : Thursday January 27 16:28:49 EST 2011
  Administrative State : Enabled
  Card Lock            : Locked
  Halt Issued          : No
  Reboot Pending       : No
  Upgrade In Progress  : No
  Card Usable          : Yes
  Single Point of Failure : No
  Attachment           : 8 (Switch Management Card)
  Temperature          : 32 C (limit 85 C)
  Voltage              : Good
  Card LEDs            : Run/Fail: Green | Active: Green | Standby: Off
```

If any of the above information appears to be erroneous such as the operational state or an LED state, check for any of the SNMP alarms listed in [Using SNMP Traps, on page 2](#).

Using SNMP Traps

The system supports SNMP traps that are triggered for conditions that may indicate the need to replace a line card. The system provides the traps listed in the table below.

Table 1: SNMP Traps for Line Cards

SNMP Trap	Description
starCardVoltageFailure	A voltage regulation failure has been detected in a card.
starCardBootFailed	A card has failed to start up properly. The card is not operational.
starCardFailed	The card has failed and is no longer operational.
starCardSWFailed	An unrecoverable software error has occurred on the card.
starCardRCCFailed	The RCC has failed.

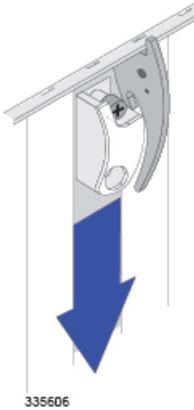
Removing the Line Card

This section describes how to remove a line card.

**Important**

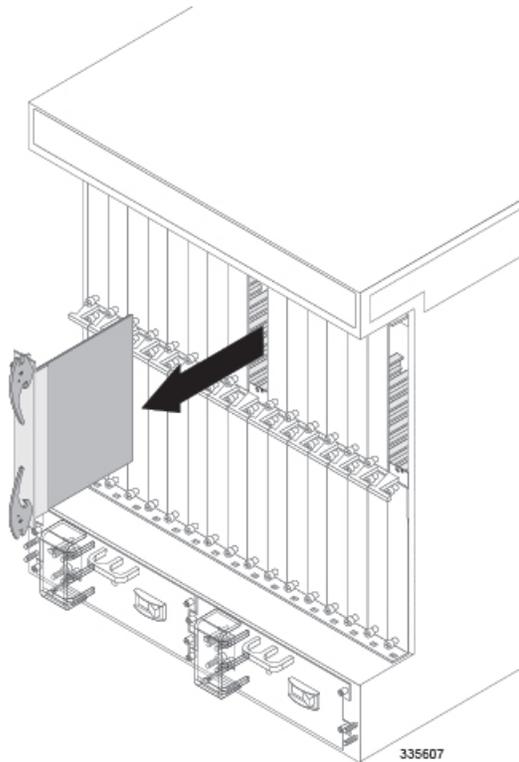
Before removing and replacing a line card on an active system, refer to the *System Administration Guide* for instructions on how to switch services to a redundant (standby) card.

- Step 1** Detach any cables that are attached to the line card. The end of each cable should be labelled with its destination. Replace any missing labels prior to removal.
- Step 2** Use a Phillips #2 screwdriver to loosen the screws at the top and bottom of the line card's front panel.
- Step 3** Slide the interlock switch on the front panel of the line card downward.



Caution To avoid damaging the card's interlock switch, ensure that it is completely down before proceeding. To minimize the risk of data loss, ensure that all LEDs on the line card are Off (extinguished) prior to removing the card from the chassis.

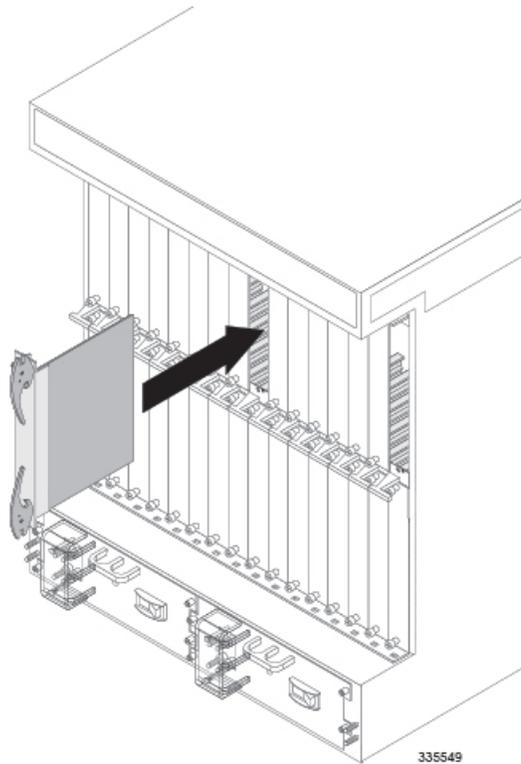
- Step 4** Pull the ejector levers outward, firmly and straight, until the card is unseated from the chassis.
- Step 5** Holding the card by its ejector levers, gently slide the card out of the chassis.



Caution Do not leave chassis slots uncovered for an extended period of time. This reduces airflow through the chassis and could cause it to overheat. Make sure that there is a card or blanking panel in every chassis slot at all times.

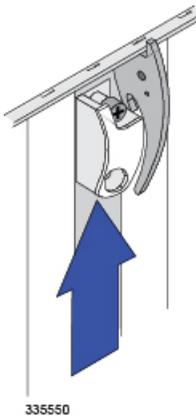
Installing the Line Card

- Step 1** Slide the interlock switch on the card fully downward. Flip the ejector levers outward and away from the card's faceplate.
- Step 2** Hold the card by its ejector levers and align it with the upper and lower card guides of the chassis slot. Gently slide the card into the slot until the levers touch the chassis frame.



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- Step 3** Push the ejector levers inward firmly and straight until the card is firmly seated in the chassis midplane and the ejector levers can be pushed in no further. Press firmly on the card's faceplate to ensure that it is fully seated. The card's front panel should be flush against the chassis' upper and lower card mounts for the slot.
- Step 4** Slide the interlock switch on the front panel of the line card upward to lock the ejector tab in place. The flange on the left-side of the interlock switch prevents movement of the ejector tab when raised completely.



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Important You must slide the interlock switch upward before securing the card's top screw to the mounting rail.

- Step 5** Use a Phillips #2 screwdriver to tighten the screws at the top and bottom of the line card's front panel to secure the card to the chassis.
- Step 6** Refer to the destination label on each cable and re-attach the cables to the line card. Refer to the following table to locate the chapter of this guide that provides information and instructions on cabling the line card.

Line Card	Chapter
Switch Processor Input/Output (SPIO)	Cabling the Switch Processor Input/Output Line Card
Fast Ethernet Line Card (FLC2)	Cabling the Ethernet 10/100 Line Card
Gigabit Ethernet Line Card (GLC2)	Cabling the Gigabit Ethernet Line Cards
Quad Gigabit Ethernet Line Card (QGLC)	
10 Gigabit Ethernet Line Card (XGLC)	
Optical (ATM) Line Card [OLC2]	Cabling the Optical (ATM) Line Card
Channelized Line Card (CLC2)	Cabling the Channelized Line Card

What to do with the Failed Line Card

If the failed line card is still under warranty, return it to the vendor for repair.

If the failed line card is out of warranty, contact Cisco to determine if you can send it in for repair at an additional cost.



Important Disposal of this product should be performed in accordance with all national laws and regulations

Refer to the support area of <http://www.cisco.com> for up-to-date product documentation pertaining to installation, configuration, and maintenance. A valid username and password are required to use this site. Please contact your local sales or service representative for additional information.



Important For additional information on the RMA process, see the *RMA Shipping Procedures* appendix.
