



Troubleshooting 10-Gbps Uplink Card Problems

This chapter describes how to troubleshoot 10-Gbps uplink card problems. This chapter includes the following sections:

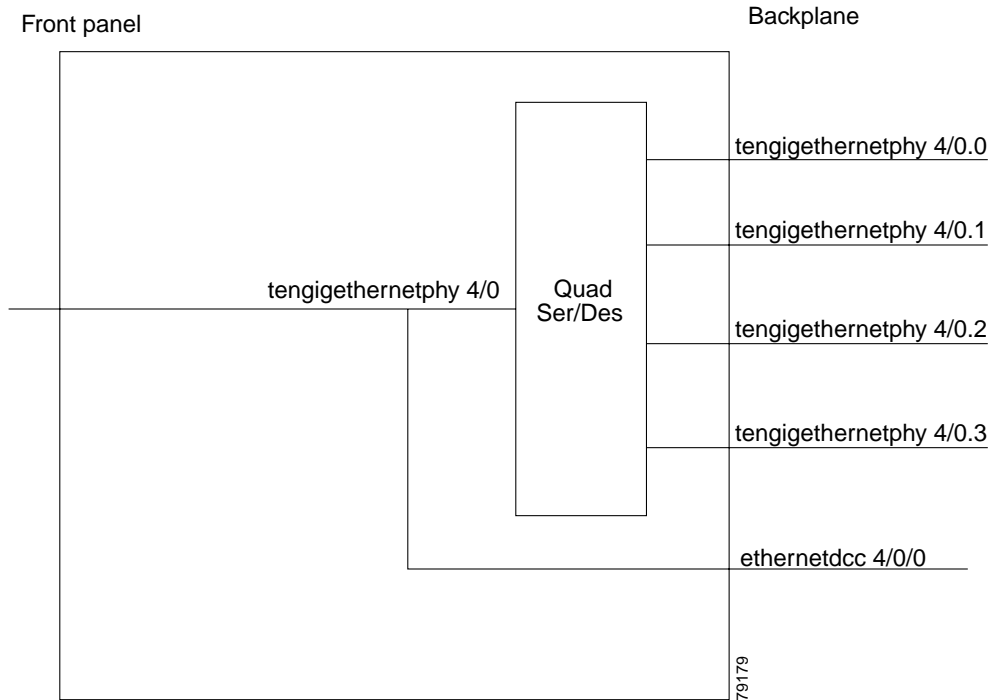
- [11.1 Overview, page 11-1](#)
- [11.2 Initial Troubleshooting Checklist, page 11-2](#)
- [11.3 Troubleshooting 10-Gbps Uplink Card Interface Problems, page 11-2](#)
- [11.4 Troubleshooting 10-Gbps Uplink Card Problems Using Loopbacks, page 11-4](#)

11.1 Overview

The 10-Gbps uplink card sends and receives a 10-Gbps 1310-nm signal to and from a 10-Gbps uplink card on another Cisco ONS 15530, or to and from a 10-GE transponder module on a Cisco ONS 15540 ESP or Cisco ONS 15540 ESPx. This card accepts up to four (3.125-Gbps line rate) electrical signals from 10-port ESCON aggregation cards and 8-port FC/GE aggregation cards and combines them into one 10-Gbps signal.

[Figure 11-1](#) shows the interfaces for the 10-Gbps uplink card.

Figure 11-1 10-Gbps Uplink Card Interfaces



11.2 Initial Troubleshooting Checklist

Follow this initial checklist before proceeding with the troubleshooting procedures:

- Check that the receive signal power level is between -13.23 dBm and 0.5 dBm.
- Issue **show interfaces** commands to ensure that the tengigethernephy interface is administratively up, that there are no errors on the interface, and that the laser is on.
- Issue a **show connect** command to verify the status of the cross connections to the aggregation cards.
- Check that the LEDs on the card show the proper state.
- Issue a **show facility-alarm status** command to display the alarms on the interfaces.
- Ensure that all optical connectors are clean. Refer to the [Cisco ONS 15530 Cleaning Procedures for Fiber Optic Connections](#) document.

11.3 Troubleshooting 10-Gbps Uplink Card Interface Problems

This section contains troubleshooting procedures for 10-Gbps uplink card interface problems.

11.3.1 Tengigethernephy Interface Down and Shows Loss of Lock

Symptom A tengigethernephy interface is down and the signal quality status shows Loss of Lock.

[Table 11-1](#) describes the potential causes of the symptom and the solutions.

Table 11-1 Tengigethernephy Interface Down and Shows Loss of Lock

Possible Problem	Solution
The optical connectors are dirty.	Refer to the Cisco ONS 15530 Cleaning Procedures for Fiber Optic Connections document.
The receive signal power is too low or too high.	Check the receive signal power. Ensure that it is between -13.23 dBm and 0.5 dBm. If not, adjust the attenuation.
The fiber is broken.	Check the receive signal power received. If below -13.23 dBm, check for fiber breaks.

11.3.2 Tengigethernephy Interface Down and Shows Loss of Sync

Symptom A tengigethernephy interface is down and the signal quality status shows Loss of Sync.

[Table 11-2](#) describes the potential cause of the symptom and the solution.

Table 11-2 Tengigethernephy Interface Down and Shows Loss of Sync

Possible Problem	Solution
The optical connectors are dirty.	Refer to the Cisco ONS 15530 Cleaning Procedures for Fiber Optic Connections document.
The receive signal power is too low.	Check the receive signal power received. Ensure that it is between -13.23 dBm and 0.5 dBm. If not, adjust the attenuation.

11.3.3 Ethernetdcc Interface Down

Symptom The ethernetdcc interface is down and pings across the interface fail.

[Table 11-3](#) describes the potential cause of the symptom and the solution.

Table 11-3 Ethernetdcc Interface Down

Possible Problem	Solution
The ethernetdcc interface is administratively shut down.	Issue the show interfaces command to determine the administrative status of the ethernetdcc interface. If it is administratively shut down, issue the no shutdown command to bring it up.

11.4 Troubleshooting 10-Gbps Uplink Card Problems Using Loopbacks

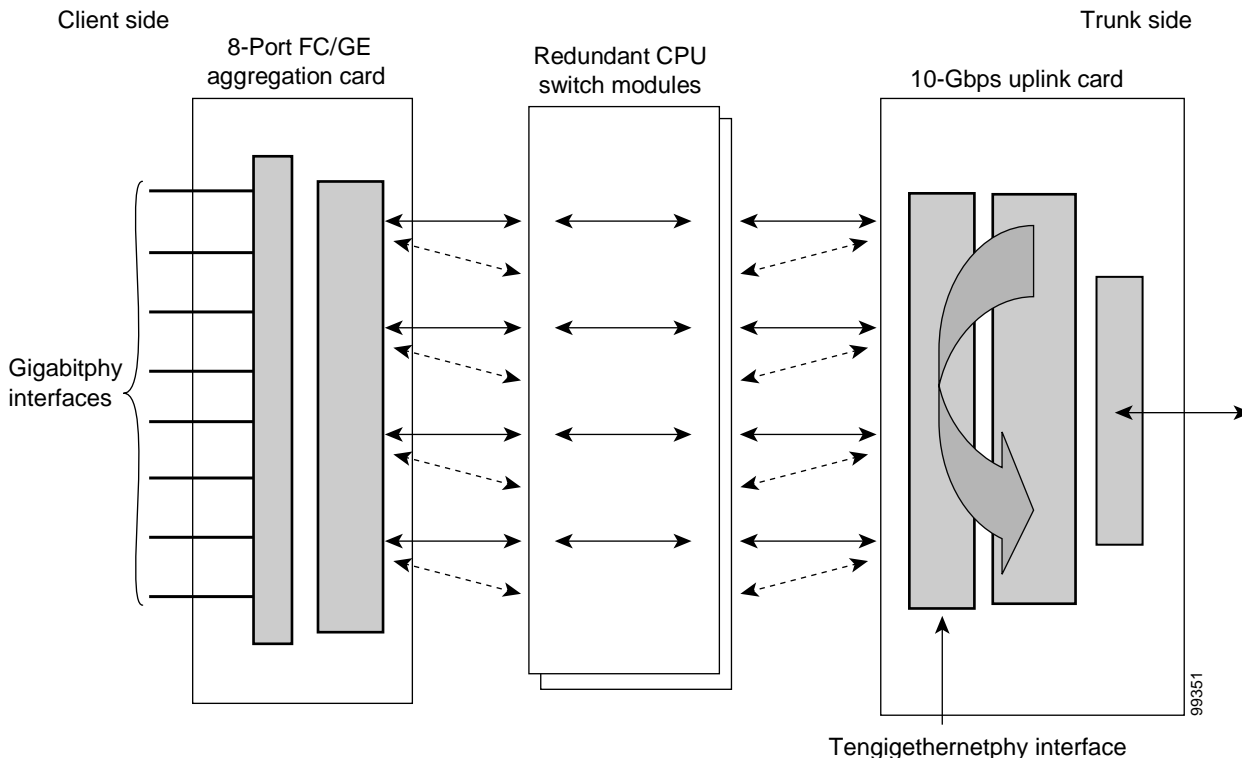
This section describes how to use software loopbacks to perform fault isolation for signals on 10-Gbps uplink cards. The 10-Gbps uplink card supports two types of software loopbacks:

- Facility loopbacks
- Terminal loopbacks

11.4.1 Facility Loopbacks

A facility loopback verifies the functioning of the 10-Gbps uplink card from the trunk side (see [Figure 11-2](#)).

Figure 11-2 Facility Loopback Example on a 10-Gbps Uplink Card



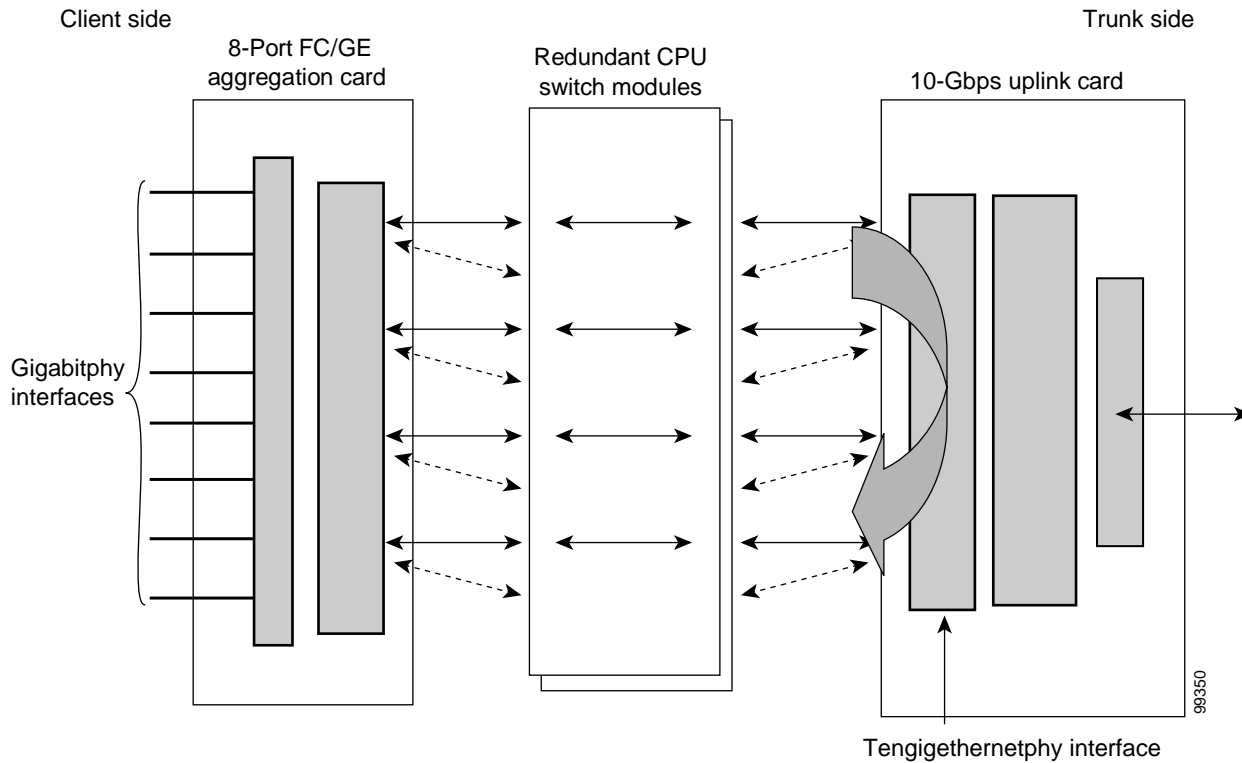
To create a facility loopback:

-
- Step 1** Issue a **loopback facility** command on the tengigethernephy interface.
 - Step 2** Check that the signal reaches the system at the far end.
 - Step 3** If the signal does not reach the far end, check the trunk fiber and the interfaces along the signal path. If the fiber is intact, replace the card.
-

11.4.2 Terminal Loopbacks

A terminal loopback verifies the functioning of the 10-Gbps uplink card from the switch fabric side (see Figure 11-3).

Figure 11-3 Terminal Loopback Example on a 10-Gbps Uplink Card



To create a terminal loopback:

-
- Step 1** Issue a **loopback terminal** command on the tengigethernephy interface.
 - Step 2** Check that the traffic is reaching the client equipment.
 - Step 3** If the signal does not reach the client equipment, replace the card.
-

11.4.2 Terminal Loopbacks