



## Troubleshooting PSM Problems

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This chapter describes how to troubleshoot PSM problems. This chapter includes the following sections:

- [13.1 Overview, page 13-1](#)
- [13.2 Initial Troubleshooting Checklist, page 13-1](#)
- [13.3 Troubleshooting PSM Interface Problems, page 13-1](#)

### 13.1 Overview

The PSM (protection switch module) provides trunk fiber protection for Cisco ONS 15530 systems configured in point-to-point topologies. The PSM sends the signal from an OADM module, a transponder line card, or an ITU trunk card to both the west and east directions. It receives both the west and east signals and selects one to send to the OADM module, the transponder line card, or ITU trunk card. When a trunk fiber cut occurs on the active path, the PSM switches the received signal to the standby path. The PSM can protect up to 32 data channels and the OSC.

The PSM also has an optical monitor port for testing the west and east receive signals. This port samples one percent of the receive signals that can be monitored with an optical power meter.

### 13.2 Initial Troubleshooting Checklist

Follow this initial checklist before proceeding with the troubleshooting procedures:

- Check that the LEDs on the cards show the proper state.
- Verify patch configuration.
- Ensure that all optical connectors are clean. Refer to the [Cisco ONS 15530 Cleaning Procedures for Fiber Optic Connections](#) document.

### 13.3 Troubleshooting PSM Interface Problems

This section contains troubleshooting procedures for PSM interface problems.

## 13.3.1 Wdmsplit Interface Down

**Symptom** The wdmsplit interface is down.

[Table 13-1](#) describes the potential causes of the symptom and the solutions.

*Table 13-1 Wdmsplit Interface Is Down*

Possible Problem	Solution
Interface administratively shut down.	Issue the <b>show interfaces wdmsplit</b> command to ensure the interface is active. If necessary, issue the <b>no shutdown</b> command to activate the interface.
Incoming power level is out of range.	Use a power meter to check the receive power level from the remote node. Issue the <b>show interfaces wdmsplit</b> command to verify the power level is within range.
The optical connectors are dirty.	Refer to the <a href="#">Cisco ONS 15530 Cleaning Procedures for Fiber Optic Connections document</a> .

## 13.3.2 Wdmsplit Interface Power Level Indicates Loss of Light

**Symptom** The wdmsplit interface is down and shows Loss of Light.

[Table 13-2](#) describes the potential causes of the symptom and the solutions.

*Table 13-2 Wdmsplit Interface Power Level Indicates Loss of Light*

Possible Problem	Solution
Incorrect cable connection.	Verify that the optical cables are connected correctly.
Incoming power level is low.	Issue the <b>show interfaces wdmsplit</b> command to verify the receive power level is within range.
The optical connectors are dirty.	Refer to the <a href="#">Cisco ONS 15530 Cleaning Procedures for Fiber Optic Connections document</a> .

## 13.3.3 Wdmsplit Interface Receives Light But End Wave Interface Shows Loss of Light

**Symptom** The wdmsplit interface receives light but the end wave interface shows Loss of Light.

[Table 13-3](#) describes the potential causes of the symptom and the solutions.

**Table 13-3** *Wdmsplit Interface Receives Light But End Wave Interface Shows Loss of Light*

Possible Problem	Solution
The patch between the wdmrelay interface and the wdm or wavepatch interface is incorrect.	Issue the <b>show patch</b> and <b>show interfaces wdm</b> commands to verify that the patch is correctly configured.
The patch between the OADM module and the line card is incorrect.	Verify that the patch cables are connected correctly between the OADM module and the line card.
The optical connectors are dirty.	Refer to the <a href="#">Cisco ONS 15530 Cleaning Procedures for Fiber Optic Connections</a> document.

## 13.3.4 Wdm Interface Loses Topology Neighbor Learning Via CDP

**Symptom** The wdm interface loses topology neighbor learning through CDP after the patch between the wdmrelay and wdm interfaces is configured.

[Table 13-4](#) describes the potential cause of the symptom and the solution.

**Table 13-4** *Wdm Interface Loses Topology Neighbor Learning Via CDP*

Possible Problem	Solution
The patch between the wdmrelay interface and the wdm or wavepatch interface is incorrect	Issue the <b>show patch</b> and <b>show interfaces wdm</b> commands to verify that the patch is correctly configured. Once this patch is configured, the trunk side interface is no longer an edge interface so topology learning through CDP is disabled.

## 13.3.5 Automatic CDP Learning Is Not Enabled on Wdmsplit Interface

**Symptom** Automatic CDP learning is not enabled on the wdmsplit interfaces after a patch between the wdmrelay and wdm interfaces is configured.

[Table 13-5](#) describes the potential cause of the symptom and the solution.

**Table 13-5** *Automatic CDP Learning Is Not Enabled on Wdmsplit Interface*

Possible Problem	Solution
N/A	Neighbor information must be manually configured. Topology learning through CDP is not supported on wdmsplit interfaces.

13.3.5 Automatic CDP Learning Is Not Enabled on Wdm-split Interface