

Upgrade, Add, and Remove Cards and Nodes, for Cisco ONS 15454 DWDM and Cisco NCS 2000 Series

Note Starting with Release 11.1.4, ONS 15454 M12 chassis and TCC3 card are not supported on the ONS 15454 DWDM and WSON software packages. You must not attempt to upgrade ONS 15454 M12 nodes from a previous release to Release 11.1.4.

Note Cisco ONS 15454 M2 chassis has reached its end-of-life status. For more information, see the Retirement Notification page.

Note The terms “Unidirectional Path Switched Ring” and “UPSR” may appear in Cisco literature. These terms do not refer to using Cisco ONS 15xxx NCS products in a unidirectional path switched ring configuration. Rather, these terms, as well as “Path Protected Mesh Network” and “PPMN,” refer generally to Cisco's path protection feature, which may be used in any topological network configuration. Cisco does not recommend using its path protection feature in any particular topological network configuration.

This document provides procedures for adding and removing dense wavelength division multiplexing (DWDM) cards and nodes.

Note With references provided to configuration guides, see:

- For software releases 9.3 to 9.8, the Cisco ONS 15454 DWDM Configuration Guide
- For software release 10.0 and later, an appropriate guide from one of these three:
  - Cisco ONS 15454 DWDM Control Card Configuration Guide or Cisco NCS 2000 Series Control Card Configuration Guide
  - Cisco ONS 15454 DWDM Line Card Configuration Guide or Cisco NCS 2000 Series Line Card Configuration Guide
  - Cisco ONS 15454 DWDM Network Configuration Guide or Cisco NCS 2000 Series Network Configuration Guide

Note The procedures and tasks described in this document for the NCS platform is applicable to the Cisco NCS 2002 and Cisco NCS 2006 platforms, unless noted otherwise.

Note Unless otherwise specified, “ONS 15454” refers to both ANSI and ETSI shelf assemblies.

Note Starting with Release 11.1.4, ONS 15454 M12 chassis and TCC3 card are not supported on the ONS 15454 DWDM and WSON software packages. You must not attempt to upgrade ONS 15454 M12 nodes from a previous release to Release 11.1.4.

Topics include:

- Revision History, on page 3
- Limitations of USB Synchronization with TNC or TSC Cards, on page 3
- NTP-G107 Remove Permanently or Remove and Replace DWDM Cards, on page 4
- NTP-G129 Add a DWDM Node, on page 8
- NTP-G130 Remove a DWDM Node, on page 11
- NTP-G261 Modify ANS Parameters in a Node when Ports are in IS State , on page 13
- NTP-G146 Add a Rack, Passive Shelf, Passive Unit, or Shelf to a Multishelf Node, on page 14
- NTP-G147 Delete a Passive Unit, Passive Shelf, Shelf, or Rack from a Multishelf Node, on page 18
- NTP-G173 Convert an OADM Node to a ROADM Node, on page 21
- NTP-G176 Convert an Line Amplifier Node to an OADM Node, on page 24
- NTP-G182 Convert a Line Amplifier Node to a ROADM Node, on page 26
- NTP-G195 Convert a Protected ROADM Node from two Separate Nodes to a Single Multishelf Node, on page 29
- NTP-G242 Modify the CD setting of TDC-CC and TDC-FC Cards, on page 38
- Additional References, on page 41
- Communications, Services, and Additional Information, on page 42

Revision History

Date	Notes
November 2016	Updated for R10.6.1.
January 2016	Updated for R10.5.2.
December 2013	Revised the part number and included Release 10.0 features.
July 2013	Added the section "Limitations of USB Synchronization with TNC or TSC Cards".
August 2011	Added the section “NTP-G261 Modify ANS Parameters in a Node when Ports are in IS State”.
March 2012	Updated the section, “NTP-G129 Add a DWDM Node”.
July 2012	Updated the section “NTP-G130 Remove a DWDM Node”.

Date	Notes
November 2016	Updated for R10.6.1.
January 2016	Updated for R10.5.2.
December 2013	This is the first release of this publication.

Limitations of USB Synchronization with TNC or TSC Cards

USB synchronization with TNC or TSC cards fails when the USB has the 9.8 package in either its active or protect volume and when the TNC or TSC card is inserted as a standalone card in the chassis.

Scenario 1: The USB has the 9.8 package in its active volume and any other package in its protect volume The TNC or TSC card having a package earlier than version 9.8, is loaded on the Cisco ONS 15454 M2 or Cisco ONS 15454 M6 chassis as a standalone card. The USB acts as the master and pushes the 9.8 package from its active volume on the TNC or TSC card. Despite several attempts, the package copy operation fails.

Scenario 2: The USB has any package earlier than version 9.8 in its active volume and the 9.8 package in its protect volume. The TNC or TSC card having a package earlier than version 9.8, is loaded on the ONS 15454 M2 or ONS 15454 M6 chassis as a standalone card. The USB acts as the master and pushes the package from its active volume on the TNC or TSC card. The card copies the package and resets. When the card boots up after reset, the USB pushes the 9.8 package from its protect volume on the TNC or TSC card. Despite several attempts, the package copy operation fails.

Workarounds:

- For release 9.3 and later releases, use TNC-E or TSC-E cards.

- For scenario 1, ensure that the TNC or TSC card has version 9.8 as the active package.
- For scenario 2, ensure that the protect and the active volumes of USB are the same.

NTP-G107 Remove Permanently or Remove and Replace DWDM Cards

Purpose	This procedure permanently removes or removes and replaces DWDM cards installed in the ONS 15454 and NCS shelf and rack.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G30 Install the DWDM Cards" and "NTP-G179 Install the TXP, MXP, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, ADM-10G, and OTU2_XP Cards" task in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Provisioning or higher

Caution Removing and replacing cards can be traffic affecting.

Caution Do not use this procedure to replace control cards.

Procedure

Step 1 Complete the "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document.

Note
If you cannot log into Cisco Transport Controller (CTC) and you need to remove a card, remove the card as described in Step 6, on page 5. After you log into CTC, troubleshoot the mismatched equipment alarm (MEA) with the *Cisco ONS 15454 DWDM Troubleshooting Guide* or *Cisco NCS 2002 and NCS 2006 Troubleshooting Guide*.

Step 2 Click the **Alarms** tab.

a) Verify that the alarm filter is not on. See the "DLP-G128 Disable Alarm Filtering" task in the Alarm and TCA Monitoring and Management document as necessary.
b) Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them before continuing. Refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide* or *Cisco NCS 2002 and NCS 2006 Troubleshooting Guide* for procedures.

Step 3 If you are removing and replacing a card, go to Step 5, on page 5.

Step 4 If you are permanently removing a card, go to Step 11, on page 6.

Step 5 To remove and replace a card, complete the following tasks, as needed:

- The circuits traversing through the card that needs to be replaced (for example, an amplifier) need to be protection switched. For instance, if the card you want to replace is an active transponder (TXP) or muxponder (MXP) in a Y-cable protection group, complete the "DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch" task in the Manage the Node document to force traffic away from the TXP or MXP that you will remove. If the card you want to replace is the standby TXP or MXP in a Y-cable protection group, complete the "DLP-G182 Apply a Lockout" task in the Manage the Node document to prevent traffic from switching to the TXP or MXP that you will remove. See the *Cisco ONS 15454 Procedure Guide* or the *Cisco ONS 15454 SDH Procedure Guide* for other types of protection switching (path protection, BLSR, optical, and electrical).
- If the card is a node timing reference, complete the "NTP-G112 Change the Node Timing Reference" task in the chapter "Maintain the Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* to change the timing reference to a card that will not be removed.
- If the card is an OSCM or OSC-CSM with an optical service channel (OSC) or TXP, MXP, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, ADM-10G, and OTU2_XP cards with generic communications channel (GCC) termination, complete the "NTP-G85 Modify or Delete OSC Terminations, GCC Terminations, and Provisionable Patchcords" procedure in the Manage the Node document to delete the termination and recreate it on a card that will not be removed.

Step 6 Physically remove the card:

a) Disconnect any cables.
b) Open the card latches/ejectors.
c) Use the latches/ejectors to pull the card forward and away from the shelf.

Step 7 Insert the new card using one of the following procedures as applicable:

- "NTP-G30 Install the DWDM Cards" task in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*
- "NTP-G179 Install the TXP, MXP, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, ADM-10G, and OTU2_XP Cards" task in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*

Step 8 Complete the "NTP-G34 Install Fiber-Optic Cables on DWDM Cards and DCUs" procedure in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.

Step 9 Complete the following tasks or procedures, as needed:

- If you switched a Y-cable protection group in Step 5, on page 5, complete the "DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch" task in the Manage the Node document.

- If you deleted circuits in Step 5, on page 5, complete the "DLP-G105 Provision Optical Channel Network Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.
- If you switched the timing reference in Step 5, on page 5, complete the "NTP-G112 Change the Node Timing Reference" procedure in the chapter "Maintain the Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* to change the reference back to the new card.
- If you deleted an OSC or GCC termination in Step 5, on page 5, complete the "NTP-G38 Provision OSC Terminations" procedure in the chapter "Turn Up a Node" or the "DLP-G76 Provision GCC Terminations" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.

Step 10 Go to Step 13, on page 7.

Step 11 To permanently remove a card, complete the following tasks:

- Delete the circuits associated with the card being removed. Complete the "DLP-G106 Delete Optical Channel Network Connections" task, the "DLP-G347 Delete Optical Channel Client Connections" task, or the "DLP-G418 Delete an Optical Channel Trail" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* as needed.
- Delete the DWDM patchcords and optical side associated with the card being removed. Complete the "NTP-G209 Create, Edit, and Delete Optical Sides" procedure in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.
- If there are pluggable port modules (PPMs) that terminate on the card, complete the "DLP-G280 Delete a PPM" task in the chapter "Provision Transponder and Muxponder Cards" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* to delete these PPMs.
- Physically remove the card:
  - Disconnect and remove any cables, patchcords, and attenuators attached to the card.
  - Open the card latches/ejectors.
- Use the latches/ejectors to pull the card forward and away from the shelf.

Step 12 If the card you are removing is an OSCM, OSC-CSM, DWDM Amplifier, or Filter card, complete the following tasks; otherwise, go to Step 13, on page 7.

- Reconfigure the circuits (OCHCC, OCHNC, Trails) as needed. Complete the "DLP-G280 Delete a PPM" procedure in the chapter "Provision Transponder and Muxponder Cards", the "DLP-G346 Provision Optical Channel Client Connections" task, or the "DLP-G395 Create an Optical Channel Trail" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords"of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.

- Reload ANS provisioning. Complete the "NTP-G143 Import the Cisco Transport Planner NE Update Configuration File" procedure in the chapter "Turn Up a Node"of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.
- Relaunch ANS. Complete the "NTP-G37 Run Automatic Node Setup" task in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.

Step 13 Click the Alarms tab.

a) Verify that the alarm filter is not on. See the "DLP-G128 Disable Alarm Filtering" task in the Alarm and TCA Monitoring and Management document as necessary.

b) Verify that no unexplained alarms appear on the network. If alarms appear, investigate and resolve them. Refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide* or *Cisco NCS 2002 and NCS 2006 Troubleshooting Guide* for procedures.

Stop. You have completed this procedure.

DLP-G254 Place Amplifier Ports Out of Service

Purpose	This task places OPT-BST, OPT-BST-E, OPT-BST-L, OPT-PRE, OPT-AMP-L, or OPT-AMP-17-C card ports out of service in preparation for card removal.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 On the shelf graphic in CTC, double-click the OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-L, OPT-PRE, or OPT-AMP-17-C card with the ports that you want to put out of service.

Step 2 Click the **Provisioning** > **Optical Line** > **Parameters** tabs.

Step 3 In the Admin State column for the card's ports, choose **OOS,MT** (ANSI) or **Locked,disabled** (ETSI) for each port that does not have an OOS-MA,DSBLD or Locked-enabled,disabled service state.

Step 4 Click **Apply.**

Step 5 In the confirmation dialog box, click **Yes.**

Step 6 Click the **Provisioning** > **Opt Ampli Line** > **Parameters** tabs.

Step 7 In the Admin State column for the card's ports, choose **OOS,MT** or **IS,AINS** (ANSI) or **Locked,maintenance** or **unlocked,automaticinservice** (ETSI) for each port that does not have an OOS-MA,DSBLD or Locked,disabled service state.

Step 8 Click **Apply.**

Step 9 In the confirmation dialog box, click **Yes.**

Step 10 Return to your originating procedure (NTP).

DLP-G318 Place Amplifier Ports In Service

Purpose	This task places OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-L, OPT-PRE, or OPT-AMP-17-C card ports in service.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 On the shelf graphic in CTC, double-click the OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-L, OPT-PRE, or OPT-AMP-17-C card with the ports that you want to put in service.

Step 2 Click the **Provisioning** > **Optical Line** > **Parameters** tabs.

Step 3 In the Admin State column for the card's ports, choose **IS,AINS** (ANSI) or Unlocked-**automaticInService** (ETSI) for Port 1 (COM-RX) of the OPT-PRE card (or OPT-AMP-L or OPT-AMP-17-C cards provisioned in OPT-PRE mode), or Port 2 (OSC-RX) and Port 3 (COM-TX) of the OPT-BST, OPT-BST-E, or OPT-BST-L cards (or OPT-AMP-L or OPT-AMP-17-C cards provisioned in OPT-LINE mode).

Step 4 Click **Apply.**

Step 5 In the confirmation dialog box, click **Yes.**

Step 6 Return to your originating procedure (NTP).

NTP-G129 Add a DWDM Node

Purpose	This procedure adds a DWDM node to an existing DWDM network.

Tools/Equipment	None
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • Complete the turn up procedures in the "Turn Up a Node" chapter in the *Cisco ONS 15454 DWDM Network Configuration Guid* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*for the node to be added. • An updated Cisco Transport Planner network plan recalculated with the new node.
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Provisioning or higher

Caution During this procedure, spans will be disconnected in the network at the point where the new node is added. This is traffic affecting for any unprotected circuits that pass through these spans.

Procedure

Step 1 If the Cisco Transport Planner network design has not been updated and recalculated for the new node and client services, update and recalculate it now, using the procedures in the *Cisco Transport Planner - DWDM Operations Guide* .

Step 2 Complete the "NTP-G51 Verify DWDM Node Turn Up" procedure in the chapter "Turn Up a Network" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* for the node to be added. If the node has not been turned up, do not continue. Complete the relevant procedures in the chapters "Turn Up a Node" and "Perform Node Acceptance Tests" in the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*, before you begin this procedure again.

Step 3 Identify the spans that must be disconnected to insert the new node.

Step 4 From the View menu, choose **Go to Network View**.

Step 5 In network view, click the **Circuits** tab.

Step 6 Identify the OCHCC, OCHNC, or OCHTRAIL circuits on the fiber spans identified in Step 3, on page 9 on both the Side B-to-Side A and Side A-to-Side B directions.

Step 7 If the OCHCC, OCHNC, or OCHTRAIL circuit is on the active path and is protected by a splitter or Y-cable protection group, complete the "DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch" task in the Manage the Node document to divert traffic away from the span where the node will be added and continue with Step 9, on page 10. If the circuit is unprotected, go to Step 8, on page 9.

Step 8 (Optional) Place the unprotected circuits in OOS,DSBLD (ANSI) or Locked,disabled (ETSI) state by completing the following steps:

a) In the network view, select the OCHNC, OCHCC, or OCHTRAIL circuit and click **Edit.**

b) In the Edit Circuit dialog box, click the **State** tab.
c) In the State field, choose the **OOS,DSBLD** (ANSI) or **Locked,disabled** (ETSI) option from the drop-down list.
d) Click **Apply**, then click **OK**.

Step 9 Remove the fibers from the cards at the adjacent nodes that will connect to the new node.

Step 10 Install the fibers from the adjacent nodes to the new node using the "NTP-G34 Install Fiber-Optic Cables on DWDM Cards and DCUs" procedure in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.

Step 11 Update the ANS parameters for the adjacent nodes by completing the following steps:

a) Display an adjacent node in the node view.
b) Complete the "NTP-G143 Import the Cisco Transport Planner NE Update Configuration File" procedure in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* to load the new NE Update file to the node.
c) Complete the "NTP-G37 Run Automatic Node Setup" procedure in the chapter "Turn Up a Node"of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* to recalculate the ANS parameters of the node.
d) Repeat Steps 11.b, on page 10 and 11.c, on page 10 for the second adjacent node.

Step 12 Log out of CTC and log back in.

Step 13 From the View menu, choose the **Go to Network View** option to display the nodes. The new node must appear on the network map. Wait for a few minutes to allow all the nodes to appear.

Step 14 Click the **Circuits** tab and wait for all the circuits to appear, including spans. Count the number of incomplete circuits.

Step 15 In the network view, right-click the new node and choose the **Update Circuits With New Node** option from the shortcut menu. Wait for the confirmation dialog box to appear. Verify that the number of updated circuits that appear in the dialog box is correct.

Step 16 If the circuits take more than a minute to appear, log out of CTC, and log back in.

Step 17 Click the **Circuits** tab and verify there are no incomplete circuits.

Step 18 Put the circuits placed in OOS,DSBLD (ANSI) or Locked,disabled (ETSI) in Step 8, on page 9 back in service by completing the following steps:

a) In the network view, select the OCHNC, OCHCC, or OCHTRAIL circuit and click **Edit**.
b) In the Edit Circuit dialog box, click the **State** tab.
c) In the State field, choose the **IS-AINS** (ANSI) or **Unlocked,automaticInService** (ETSI) option from the drop-down list.
d) Click **Apply**, then click **OK**.

Step 19 Complete the "DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch" task in the Manage the Node document for the circuits that were switched in Step 7, on page 9 to return the traffic to its original paths.

Step 20 Complete the "DLP-G105 Provision Optical Channel Network Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* to create new circuits.

Stop. You have completed this procedure.

NTP-G130 Remove a DWDM Node

Purpose	This procedure removes a node from a DWDM network.
Tools/Equipment	None
Prerequisite Procedures	A Cisco Transport Planner network plan recalculated for the new topology.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note During this procedure, you will use TL1 commands to delete and recreate OCHNC or OCHCC cross-connects. You might need to refer to the *Cisco ONS SONET TL1 Command Guide*, *Cisco ONS SDH TL1 Command Guide* or *Cisco NCS TL1 Command Guide*.

Caution This procedure will affect the service of unprotected circuits that pass through the span where the node will be removed.

Procedure

Step 1 If the Cisco Transport Planner network design has not been updated and recalculated with the node removed, update and recalculate the design now by following the procedures in the Cisco Transport Planner documentation.

Step 2 Complete the "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document at the DWDM target node that will be removed.

Step 3 Click the **Circuits** tab.

Step 4 Identify all the OCHNCs and OCHCCs that are passing through or are added and dropped at the node that will be removed.

Step 5 Delete the OCHNCs and OCHCCs identified in Step 4, on page 11 that terminate (add/drop) on the target DWDM node. See the “DLP-G347 Delete Optical Channel Client Connections” task and/or the “DLP-G106 Delete Optical Channel Network Connections” task in the chapter “Create Optical Channel Circuits and Provisionable Patchcords” of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* to delete OCHCCs and OCHNCs, respectively.

Step 6 For the protected pass through circuits on the target node, perform Step 7, on page 12. Else, go to Step 10, on page 12.

Note
Non-protected pass through circuits need not be modified or deleted.

Step 7 If the OCHNC and OCHCC circuits pass through the target node on the active path and are protected by a splitter or Y-cable protection group, navigate to an adjacent node connected to the target node and complete the "DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch" task in the Manage the Node document to force the traffic away from the node that will be deleted. Otherwise, continue with Step 8, on page 12.

Step 8 Complete the following steps for the protected pass through circuits:

a) Select the OCHNCs or OCHCCs and click **Edit.**
b) In the Edit Circuit dialog box, click the **State** tab.
c) In the State field, choose **OOS,DSBLD** (ANSI) or **Locked,disabled** (ETSI) from the drop-down list.
d) Click **Apply**, then click **OK**.

Step 9 Complete the following steps to delete the cross-connects on the target node for each circuit placed in the OOS,DSBLD (ANSI) or Locked,disabled (ETSI) state in Step 8, on page 12:

a) From the Tools menu, choose **Open TL1 Connection**.
b) In the Select Node dialog box, select the new node and click OK.
c) In the TL1 dialog box, use the **DLT-OCHNC** command to delete the OCHNC cross-connects for each unprotected pass-through circuit as follows:

DLT-OCHNC:[<TID>]:<SRC>,<DST>:<CTAG>:::[CKTID=<CKTID>], [CMDMDE=<CMDMDE>];

where:

- <SRC> is the source access identifier from the Channel section in a two-way wavelength.
- <DST> is the destination access identifier from the LINEWL section in a two-way wavelength
- <CKTID> is the cross-connect ID. The default is Blank or None. CKTD is a string of ASCII characters. The maximum length is 48. If CKTID is empty or null, the CKTID field will not be displayed.
- <CMDMDE> is the command execution mode. NORM mode is the default behavior for all commands but you can specify FRCD to force the system to override a state in which the command would normally be denied.

For additional information, including valid command values, refer to the *Cisco ONS SONET TL1 Command Guide*, *Cisco ONS SDH TL1 Command Guide* or *Cisco NCS TL1 Command Guide*.

d) Click **Close** to close the TL1 dialog box.

Step 10 Remove the fibers from the target node, and reconnect the fibers to the adjacent nodes. Note that once the fibers are rerouted, the non-protected pass through circuits will go to OOS-PARTIAL (ANSI) or Locked-partial (ETSI) state.

Step 11 Complete the following steps to update the ANS parameters at the adjacent nodes:

a) Display an adjacent node in node view.
b) Complete the "NTP-G143 Import the Cisco Transport Planner NE Update Configuration File" procedure in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* to load the new NE Update file onto the node.
c) Complete the "NTP-G37 Run Automatic Node Setup" task in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* to recalculate the ANS parameters at the node.
d) Display the next adjacent node in node view.
e) Repeat Steps 11.b, on page 12 and 11.c, on page 12 for the second adjacent node.

Step 12 Repeat Step 8, on page 12 to change the circuits placed in OOS,DSBLD (ANSI) or Locked,disabled (ETSI) back in service by changing the Target Circuit Admin State field to IS-AINS (ANSI) or Unlocked,AutomaticInService (ETSI).

Step 13 Complete the "DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch" task in the Manage the Node document for the OCHNCs and/or OCHCCs that were switched in Step 7, on page 12.

Step 14 To discover the non-protected pass though circuits that are in the OOS-PARTIAL (ANSI) or Locked-partial (ETSI) state after completing Step 10, on page 12, select the circuit and choose **Tools** > **Circuits** > **Reconfigure Circuits** from the menu bar. The Reconfigure Circuits dialog box is displayed; click **Yes.**

Stop. You have completed this procedure.

NTP-G261 Modify ANS Parameters in a Node when Ports are in IS State

Purpose	This task modifies ANS parameters when ports are in IS state.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Caution Provisioning the ANS parameters incorrectly may impact traffic. Therefore, this procedure must be performed by Cisco qualified personnel only.

Procedure

Step 1 Complete the "NTP-G143 Import the Cisco Transport Planner NE Update Configuration File" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to re-import the updated configuration file. If the updated configuration file is not available, complete the "DLP-G681 Modify an ANS Parameter" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to manually edit the ANS parameters.

Step 2 Complete the "NTP-G37 Run Automatic Node Setup" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 3 Verify if the modified ANS parameters were applied. Perform the following steps:

a) In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **WDM-ANS** > **Provisioning** tabs.

b) Verify if the Result column displays the value Success – Changed. This indicates that the ANS parameter has been successfully changed with the ports in IS.

c) Verify if the Set By column displays either of the following values:

- ANS—This indicates that the new value for the ANS parameters is applied immediately.
- APC—This indicates that the new value for the ANS parameters is increased or decreased by 0.5 dB until the new power setpoint is reached.

Stop. You have completed this procedure.

NTP-G146 Add a Rack, Passive Shelf, Passive Unit, or Shelf to a Multishelf Node

Purpose	This procedure adds a rack, passive shelf, passive unit, or subtending shelf to a multishelf node.
Tools/Equipment	None

Prerequisite Procedures	One of the following procedures, in the Cisco ONS 15454 Hardware Installation Guide : • "NTP-G301 Connect the ONS 15454 Multishelf Node and Subtending Shelves to an MS-ISC-100T Card" in the • "NTP-G302 Connect the ONS 15454 Multishelf Node and Subtending Shelves to a Catalyst 2950". • "NTP-G295 Connect the ONS 15454 Multishelf Node and Subtending Shelves to a Catalyst 3560". • "NTP-G296 Upgrade the ONS 15454 Multishelf with MS-ISC Card Configuration Using the Catalyst 3560". • "NTP-G297 Upgrade the ONS 15454 Multishelf with Catalyst 2950 Configuration Using the Catalyst 3560". • "NTP-G308 Connect the ONS 15454 M6 Multishelf Node and the ONS 15454 M6 Subtending Shelves". • "NTP-G309 Connect the ONS 15454 M6 and the ONS 15454 in a Mixed Multishelf Configuration". • "NTP-G310 Upgrade the ONS 15454 Multishelf Configuration using the ONS 15454 M6". • "Turn Up a Node" chapter in the Cisco ONS 15454 Configuration Guide. One of the following procedures, in the Cisco NCS 2002 and NCS 2006 Hardware Installation Guide • NTP-L15 Connecting the NCS 2006 Multishelf Node and the NCS 2006 Subtending Shelves • NTP-G318 Connecting the NCS 2006 Multishelf Node and the NCS 2006 Subtending Shelves in a Ring Topology
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Provisioning or higher

Note Each shelf you want to add to a multishelf configuration must have network connectivity. For more information, see the "Connect the PC and Log into the GUI" document.

Procedure

Step 1 Complete the "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document at the multishelf DWDM node where you want to add a shelf.

Step 2 To add a rack, in the multishelf view, right-click the gray area and choose **Add Rack**. If you do not need to add a rack, continue with Step 3, on page 16.

Step 3 To add a passive unit, in the multishelf view, right-click the gray space inside the rack and choose the passive unit from the **Add Shelf** > **PASSIVE CHASSIS** options. The passive unit is added to the rack.

Note
This step does not apply to passive units that are to be installed within the passive shelf.

Note
To add a passive DCU, you need to choose a slot number from the Slot Number Selection dialog box and click **OK**.

Step 4 To add a MF-6RU unit, in the multishelf view right-click the gray space inside the rack and choose **Add Shelf** > **PASSIVE SHELF MF**. The Shelf ID Section dialog is displayed.

Step 5 Choose a shelf ID and click **OK**. The MF-6RU unit is added to the rack.

Step 6 To add a MF10-6RU unit, in the multishelf view right-click the gray space inside the rack and choose **Add Shelf** > **PASSIVE SHELF MF10**.The Shelf ID Section dialog is displayed.

Step 7 Choose a shelf ID and click **OK**. The MF10-6RU unit is added to the rack.

Step 8 To add a passive unit to the MF-6RU or MF10-6RU shelf, double-click the shelf to open shelf mode or right-click the passive shelf and choose **Open Shelf**.

Step 9 Right-click a slot inside the passive shelf and choose **Add Card** > **WDM** > **PASSIVE** > *passive unit*

The MF-2MPO-ADP, MF-4X4-COFS, MF-DEG-5, MF-MPO-8LC, MF-6AD-CFS, and MF-UPG-4 passive units can be provisioned in the MF-6RU passive shelf.

The MF-10AD-CFS, MF-16AD-CFS, MF-16AE-CFS, MF-MPO-16LC, MF-8X10G-FO, and MF-MPO-20LC passive units can be provisioned in the MF10-6RU passive shelf.

Step 10 To add a shelf for ONS 15454, in the multishelf view right-click the gray space inside the rack and choose **Add Shelf** > **CHASSIS_454SDH**(ETSI) or **CHASSIS_454**(ANSI) or **15454 M6 ANSI** or **15454 M6 ETSI**. and To add a shelf for NCS 2006 in the multishelf view right-click the gray space inside the rack and choose **Add Shelf > NCS 2006**.

Step 11 In the Shelf ID Selection dialog box, choose a shelf ID from the drop-down list.

Step 12 Click **OK**. The shelf appears in the multishelf view.

Step 13 Complete the "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document at the new shelf that has to be configured as a subtending shelf.

Step 14 In multishelf view, click the **Provisioning** > **General** > **Multishelf Config** tabs.

Step 15 Click **Enable as Subtended Shelf**.

Step 16 From the Shelf ID drop-down list, choose the shelf ID that you created in Step 11, on page 16.

Step 17 Click **Apply**.

Step 18 In the confirmation dialog box, click **Yes** to reboot the shelf. The CTC view changes to network view and the node icon changes to gray. (This might take several minutes.)

Step 19 If you are connecting the new ONS 15454 subtending shelf to the Ethernet Adapter Panel (EAP), complete the following steps. If not, continue with Step 22, on page 17.

a) Using a cross-over (CAT 5) LAN cable, plug one connector into the RJ-45 front panel port of the subtending shelf TCC2/TCC2P/TCC3 card in Slot 7 and plug the other end into the SSC port on the left patch panel.

b) Using a cross-over (CAT 5) LAN cable, plug one connector into the RJ-45 front panel port of the subtending shelf TCC2/TCC2P/TCC3 card in Slot 11 and plug the other end into the SSC port on the right patch panel.

Step 20 If you are connecting the ONS 15454 subtending shelf to the Catalyst 2950 or the Catalyst 3560 switch, complete the following steps. If not, continue with Step 22, on page 17.

a) Plug one end of a cross-over (CAT-5) LAN cable into the RJ-45 front panel port of the subtending shelf TCC2/TCC2P/TCC3 card in Slot 7 and plug the other end into Port 2 of the active Catalyst 2950 or Catalyst 3560.

b) Plug one end of a cross-over (CAT-5) LAN cable into the RJ-45 front panel port of the subtending shelf TCC2/TCC2P/TCC3 card in Slot 11 and plug the other end into Port 2 of the standby Catalyst 2950 or Catalyst 3560.

Step 21 To connect an ONS 15454 M6 or NCS 2006 subtending shelf to the Catalyst 3560 switches, complete the following:

a) Using a cross-over (CAT-5) LAN cable, plug one connector into the MSM port that corresponds to the TNC/TNCE/TSC/TSCE card in Slot 1 of the subtending ONS 15454 M6 NCS 2006 shelf and plug the other end into Port 2 of the active Catalyst 3560.

b) Using a cross-over (CAT-5) LAN cable, plug one connector into the MSM port that corresponds to the TNC/TNCE/TSC/TSCE card in Slot 8 and plug the other end into Port 2 of the standby Catalyst 3560.

c) Repeat Steps 21.a, on page 17 and 21.b, on page 17 for each subtending shelf in the multishelf configuration using Ports 3 through 21 on the Catalyst 3560 switches.

Note
In order to connect the ONS 15454 M6 or NCS 2006 subtending shelves to the ONS 15454 M6 or NCS 2006 node controller without using a catalyst, follow the steps described in "NTP-G308 Connect the ONS 15454 M6NCS 2006 Multishelf Node and the ONS 15454 M6 Subtending Shelves" in the Cisco ONS 15454 Hardware Installation Guide or NTP-L15 Connecting the NCS 2006 Multishelf Node and the NCS 2006 Subtending Shelves in the Cisco NCS 2002 and NCS 2006 Hardware Installation Guide. To connect an ONS 15454 subtending shelf to the ONS 15454 M6 node controller without using a catalyst switch, connect the MSM ports that correspond to the TNC/TNCE/TSC/TSCE cards in Slot 1 and Slot 8 of the ONS 15454 M6 node controller to the ONS 15454 subtending shelf TCC2/TCC2P/TCC3 cards in Slot 7 and Slot 11.

Step 22 Repeat Step 10, on page 16 through Step 22, on page 17 for each subtending shelf in the multishelf configuration.

Stop. You have completed this procedure.

NTP-G147 Delete a Passive Unit, Passive Shelf, Shelf, or Rack from a Multishelf Node

Purpose	This procedure deletes a passive unit, passive shelf, shelf, or rack from a multishelf node.
Tools/Equipment	None
Prerequisite Procedures	One of the following procedures, in the Cisco ONS 15454 Hardware Installation Guide : • "NTP-G301 Connect the ONS 15454 Multishelf Node and Subtending Shelves to an MS-ISC-100T Card" in the • "NTP-G302 Connect the ONS 15454 Multishelf Node and Subtending Shelves to a Catalyst 2950". • "NTP-G295 Connect the ONS 15454 Multishelf Node and Subtending Shelves to a Catalyst 3560". • "NTP-G296 Upgrade the ONS 15454 Multishelf with MS-ISC Card Configuration Using the Catalyst 3560". • "NTP-G297 Upgrade the ONS 15454 Multishelf with Catalyst 2950 Configuration Using the Catalyst 3560". • "NTP-G308 Connect the ONS 15454 M6 Multishelf Node and the ONS 15454 M6 Subtending Shelves". • "NTP-G309 Connect the ONS 15454 M6 and the ONS 15454 in a Mixed Multishelf Configuration". • "NTP-G310 Upgrade the ONS 15454 Multishelf Configuration using the ONS 15454 M6". • "Turn Up a Node" chapter in the Cisco ONS 15454 Configuration Guide. One of the following procedures, in the Cisco NCS 2002 and NCS 2006 Hardware Installation Guide • NTP-L15 Connecting the NCS 2006 Multishelf Node and the NCS 2006 Subtending Shelves • NTP-G318 Connecting the NCS 2006 Multishelf Node and the NCS 2006 Subtending Shelves in a Ring Topology

Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note You cannot delete a node controller shelf from a multishelf node configuration.

Procedure

Step 1 Complete the"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document at the multishelf DWDM node where you want to delete a passive unit, shelf, or rack. If you want to delete a passive unit, continue with Step 2, on page 19. If you want to delete a shelf, continue with Step 6, on page 19. If you want to delete only a rack, go to Step 13, on page 20.

Step 2 Complete the following tasks, as needed:

- If passive units on the shelf carry unprotected circuits, you must delete the circuits. Complete the “DLP-G106 Delete Optical Channel Network Connections” task and the “DLP-G347 Delete Optical Channel Client Connections” task in the chapter “Create Optical Channel Circuits and Provisionable Patchcords”of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.
- If passive units use internal patchcords, complete the “DLP-G355 Delete an Internal Patchcord” task in the chapter “Turn Up a Node” of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.

Step 3 From the View menu, choose **Go to Parent View** to return to multishelf view.

Step 4 Right-click the passive unit you want to delete and choose **Delete Unit**. The shelf is automatically deleted.

Step 5 Right-click the passive shelf that you want to delete and choose **Delete Shelf**. The shelf is automatically deleted.

Note
You must first delete the passive units from the passive shelf before deleting the shelf.

Step 6 Complete the following tasks, as needed:

- If cards on the shelf carry unprotected circuits, you must delete the circuits. Complete the “DLP-G106 Delete Optical Channel Network Connections” task and the “DLP-G347 Delete Optical Channel Client Connections” task in the chapter “Create Optical Channel Circuits and Provisionable Patchcords” of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.
- If cards use internal patchcords, complete the “DLP-G355 Delete an Internal Patchcord” task in the chapter “Turn Up a Node” of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.

- If OSCM or OSC-CSM cards with OSC or GCC terminations are on the shelf, complete the "NTP-G85 Modify or Delete OSC Terminations, GCC Terminations, and Provisionable Patchcords" task in the Manage the Node document to delete the terminations.
- Put all ports in the Out-of-Service and Management, Disabled (OOS-MA,DSBLD) (ANSI) or Locked-enabled,disabled (ETSI) service state. For more information, see the chapter "Change DWDM Card Settings" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*.

  Note
  It is not necessary to delete the cards from the shelf before deleting a shelf.

- If the shelf receives the timing signals from any client or trunk port, complete the "DLP-G95 Set Up External or Line Timing" task in the chapter "Turn Up a Network" of the *Cisco ONS 15454 DWDM Network Configuration Guide* or *Cisco NCS 2002 and NCS 2006 Network Configuration Guide*, to receive timing signals from an external source.

Step 7 From the View menu, choose **Go to Parent View** to return to multishelf view.

Step 8 Right-click the subtending shelf you want to delete and choose **Delete Shelf**.

Step 9 In the confirmation dialog box, click **Yes**.

Step 10 To return the deleted shelf to a single-shelf node, you must use the LCD panel:

a) Repeatedly press the **Status** button until Shelf Status appears.
b) Repeatedly press the **Port** button until Controller Status=MS Config appears.
c) Press **Status** again and press **Port** to set multishelf mode to MS=N.
d) Press **Status** again and press **Port** until ID is set to ID=1.
e) Press **Status** again and press **Port** to set VLAN=N.
f) Press **Status** to choose **Done**.
g) Repeatedly press **Status** until "Save and Reboot?" appears, and then press **Slot** to choose Apply. This reboots the shelf. A "Saving changes; TCC may reboot" message appears on the LCD.

Step 11 After the control cards reboot is complete, complete the following steps to disconnect the removed subtending shelf from the patch panel or Catalyst 2950 or Catalyst 3560:

a) Remove the cross-over (CAT 5) LAN cable from the RJ-45 front panel port of the TCC2/TCC2P/TCC3 card in Slot 7 of the ONS 15454 or from the MSM port that corresponds to TNC/TNCE/TSC/TSCE card in Slot 1 of the ONS 15454 M6 or NCS 2006.
b) Remove the cross-over (CAT 5) LAN cable from the RJ-45 front panel port of the TCC2/TCC2P/TCC3 card in Slot 11 of the ONS 15454 or from the MSM port that corresponds to TNC/TNCE/TSC/TSCE card in Slot 8 of the ONS 15454 M6 or NCS 2006.

Step 12 Reconnect the shelf to the LAN through either the backplane or one of the RJ-45 front panel ports of the TCC2/TCC2P/TCC3 cards of the ONS 15454, or the EMS port or one of the RJ-45 front panel ports of the TNC/TNCE/TSC/TSCE cards of the ONS 15454 M6 or NCS 2006. For more information, see the Connect the PC and Log into the GUI document.

Step 13 To delete an empty rack from the CTC window, right-click the gray area on the rack graphic and choose **Delete Rack**.

Stop. You have completed this procedure.

NTP-G173 Convert an OADM Node to a ROADM Node

Purpose	This procedure converts an OADM node to a ROADM node.
Tools/Equipment	None
Prerequisite Procedures	• Turn Up a Network" chapter in the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* • A Cisco Transport Planner site plan recalculated for the new ROADM node.
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Provisioning or higher

Note Do not begin this procedure until the Cisco Transport Planner site plan has been recalculated with the new ROADM node. You will import the new NE Update file and run ANS to recalculate the ANS parameters. In addition, you will run ANS at the two adjacent nodes to recalculate the ANS parameters at those nodes.

Note During this procedure, you will use TL1 commands to delete and recreate OCHNC or OCHCC cross-connects. You might need to refer to the *Cisco ONS SONET TL1 Command Guide*, *Cisco ONS SDH TL1 Command Guide* or *Cisco NCS TL1 Command Guide*.

Caution This procedure will affect the service of unprotected circuits that pass through the OADM node.

Procedure

Step 1 Complete the "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document at a node in the OADM network.

Step 2 In node view (single-shelf mode) or multishelf view (multishelf mode), display the OADM node that you will convert to a ROADM node.

Step 3 Click the **Circuits** tab.

Step 4 Make a list of the following OCHNCs and/or optical channel client connections (OCHCCs) that:

- Terminate (add/drop) at the node.

- Pass through the node on the express path for both the Side B-to-Side A and Side A-to-Side B directions.

Step 5 If OCHNCs and/or OCHCCs identified in are routed on the active path of a splitter or Y-cable protection group, complete the following steps. If not, continue with Step 6, on page 22.

a) Display the node containing the TXP, MXP, ADM-10G, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, or ITU-T line card with the Y-cable or splitter protection.

b) Force the traffic to the protect path in the opposite side of the ring using the "DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch" task in the Manage the Node document.

Step 6 In node view, display the node that will be converted.

Step 7 Complete the "DLP-G347 Delete Optical Channel Client Connections" task and/or the "DLP-G106 Delete Optical Channel Network Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to delete OCHCCs and/or OCHNCs identified inStep 4, on page 21 that:

- Terminate (add/drop) at the node.
- Pass through the node on an unprotected express path for both the Side B-to-Side A and Side A-to-Side B directions.

Step 8 From the Tools menu, choose **Open TL1 Connection**.

Step 9 In the Select Node dialog box, choose the OADM node and click **OK**.

Step 10 In the TL1 dialog box, use the **DLT-OCHNC** command to delete the OCHNC cross-connects for the express path OCHNCs listed in Step 4, on page 21, using the following format:

DLT-OCHNC:[<TID>]:<SRC>,<DST>:<CTAG>:::[CKTID=<CKTID>],[CMDMDE=<CMDMDE>];

where:

- <SRC> is the source access identifier from the Channel section in a two-way wavelength.
- <DST> is the destination access identifier from the LINEWL section in a two-way wavelength.
- <CKTID> is the cross-connect ID. The default is Blank or None. CKTD is a string of ASCII characters. The maximum length is 48. If CKTID is empty or null, the CKTID field will not be displayed.
- <CMDMDE> is the command execution mode. NORM mode is the default behavior for all commands but you can specify FRCD to force the system to override a state in which the command would normally be denied.

For additional information, including valid command values, refer to the *Cisco ONS SONET TL1 Command Guide*, *Cisco ONS SDH TL1 Command Guide*, or *Cisco NCS TL1 Command Guide*.

Step 11 In the TL1 dialog box, use the **DLT-OCHCC** command to delete the OCHCC cross-connects for the express path OCHCCs listed in Step 4, on page 21, using the following format:

DLT-OCHCC:[<TID>]:<AID>:<CTAG>[:::CKTID=<CKTID>],[CMDMDE=<CMDMDE>];

where:

- <AID> is the access identifier from the Facility section.
- <CKTID> is the cross-connect ID. The default is Blank or None. CKTD is a string of ASCII characters. The maximum length is 48. If CKTID is empty or null, the CKTID field will not be displayed.

- <CMDMDE> is the command execution mode. NORM mode is the default behavior for all commands but you can specify FRCD to force the system to override a state in which the command would normally be denied.

For additional information, including valid command values, refer to the *Cisco ONS SONET TL1 Command Guide*, *Cisco ONS SDH TL1 Command Guide*,or *Cisco NCS TL1 Command Guide*.

Step 12 Click **Close** to close the TL1 dialog box.

Step 13 Delete the internal patchcords:

a) In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **WDM-ANS** > **Internal Patchcords** tabs.
b) Highlight all of the internal patchcords.
c) Click **Delete.**
d) Click **Yes** on the confirmation dialog box.

Step 14 Delete the OSC terminations:

a) Click the **Provisioning** > **Comm Channels** > **OSC** tabs.
b) Highlight all of the OSC terminations.
c) Click **Delete.**
d) Click **Yes** on the confirmation dialog box.

Step 15 Remove any amplifier cards (OPT-BST, OPT-PRE) that are installed but not required in the ROADM node.

Step 16 Install the new ROADM cards in the slots identified by your Cisco Transport Planner site plan using the "NTP-G30 Install the DWDM Cards" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 17 Complete the "NTP-G34 Install Fiber-Optic Cables on DWDM Cards and DCUs" procedure in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* for the ROADM node, following the new internal connections table generated by Cisco Transport Planner.

Step 18 Complete the "NTP-G152 Create and Verify Internal Patchcords" procedure in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to recreate the internal patchcords deleted in Step 13, on page 23.

Step 19 Complete the NTP-G38 Provision OSC Terminations" procedure in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to recreate the OSC terminations deleted in Step 14.

Step 20 Import the recalculated ROADM site parameters using the "NTP-G143 Import the Cisco Transport Planner NE Update Configuration File" procedure in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 21 Complete the "NTP-G37 Run Automatic Node Setup" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 22 Update the ANS parameters at the adjacent nodes:

a) Display an adjacent node in node view.
b) Complete the "NTP-G143 Import the Cisco Transport Planner NE Update Configuration File" procedure in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to load the new NE Update file onto the node.
c) Complete the "NTP-G37 Run Automatic Node Setup" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to recalculate the ANS parameters at the node.

d) Display the next adjacent node in node view.
e) Repeat 22.b, on page 23 and 22.c, on page 23 for the second adjacent node.

Step 23 Display the new ROADM node in node view.

Step 24 Recreate the OCHNCs and/or OCHCCs deleted in Step 7, on page 22 using the following tasks:

- "DLP-G346 Provision Optical Channel Client Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.
- "DLP-G105 Provision Optical Channel Network Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 25 Complete the "DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch" task in the Manage the Node document for OCHNCs and/or OCHCCs that were switched to the opposite side of the ring as part of a splitter or Y-cable protection group to return the traffic to its condition before the card was added.

Stop. You have completed this procedure.

NTP-G176 Convert an Line Amplifier Node to an OADM Node

Purpose	This procedure converts a full line amplifier node with OPT-PRE and OPT-BST cards installed on each side of the shelf to an OADM node.
Tools/Equipment	Cisco Transport Planner reports and NE Update file for the new OADM node.
Prerequisite Procedures	• Turn Up a Network" chapter in the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* • A Cisco Transport Planner site plan recalculated for the new ROADM node
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Provisioning or higher

Procedure

Step 1 Complete the "NTP-G139 Verify Cisco Transport Planner Reports and Files" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM*

Network Configuration Guide to verify that you have the files and reports prepared by Cisco Transport Planner for the OADM node.

Step 2 Complete the "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document at the line amplifier node.

Step 3 Click the **Circuits** tab.

Step 4 Make a list of the OCHNCs, OCH trails, and OCHCCs that pass through the node on the express path for both the Side B-to-Side A and Side A-to-Side B directions.

Caution
You will delete the optical channel circuits in the next step and use the list to recreate the circuits later. Do not proceed until you complete the circuit list.

Step 5 Delete the circuits identified in Step 4, on page 25 using one or more of the following tasks:

- "DLP-G347 Delete Optical Channel Client Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- "DLP-G418 Delete an Optical Channel Trail" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- "DLP-G106 Delete Optical Channel Network Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*

Step 6 Click the **Provisioning** > **WDM-ANS** > **Internal Patchcords** tabs.

Step 7 In the internal patchcords table, click the OPT-PRE COM-TX to OPT-BST COM-RX internal patchcord.

Step 8 Click **Delete.**

Step 9 On the confirmation dialog, click **OK.**

Step 10 Remove the physical fiber and attenuators, if present, that connect the COM-TX to COM-RX ports and COM-RX to COM-TX ports between the OPT-BST and OPT-PRE cards installed in Side B.

Step 11 Click **Default Patchcords**.

Step 12 Complete the "NTP-G143 Import the Cisco Transport Planner NE Update Configuration File" procedure in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 13 Complete the "NTP-G37 Run Automatic Node Setup" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 14 In node view, click the **Circuits** tab.

Step 15 Complete one or more of the following procedures to recreate circuits identified in Step 4, on page 25 that will pass through the OADM node:

- "DLP-G346 Provision Optical Channel Client Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- "DLP-G105 Provision Optical Channel Network Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords"of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*

- "DLP-G395 Create an Optical Channel Trail" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*

Note
Cisco recommends that you recreate the circuits one at a time.

Step 16 Verify that each circuit appears on the Circuits table with a DISCOVERED status and an IS/Unlocked state. If not, complete Step 14, on page 25 and Step 15, on page 25.

If the circuits still do not appear with a DISCOVERED status and IS/Unlocked state, contact your next level of support.

Step 17 Referring to the Cisco Transport Planner Traffic Matrix report, repeat Step 15, on page 25 and Step 16, on page 26 to create the new add/drop circuits at the node, as needed.

Stop. You have completed this procedure.

NTP-G182 Convert a Line Amplifier Node to a ROADM Node

Purpose	This procedure converts a line amplifier node with OPT-PRE and OPT-BST cards installed on each side of the shelf to an ROADM node.
Tools/Equipment	Cisco Transport Planner reports and NE Update file for the new ROADM node.
Prerequisite Procedures	• "Turn Up a Network" chapter in the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or*Cisco ONS 15454 DWDM Network Configuration Guide* • A Cisco Transport Planner site plan recalculated for the new ROADM node.
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Provisioning or higher

Caution This procedure will affect the service of unprotected circuits that pass through the ROADM node.

Caution This procedure applies to line amplifier nodes with OPT-BST and OPT-PRE cards installed on both sides of the shelf. If the line amplifier node has a different configuration, the upgrade might affect the adjacent nodes and require an update of their ANS parameters. If the line amplifier node is not a full line amplifier, contact your next level of support.

Procedure

Step 1 Complete the “NTP-G139 Verify Cisco Transport Planner Reports and Files” task in the chapter “Turn Up a Node” of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to verify that you have the files and reports prepared by Cisco Transport Planner for the ROADM node.

Step 2 Complete the "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI document at the line amplifier node.

Step 3 Click the **Circuits** tab.

Step 4 Make a list of the following OCHNCs, OCH trails, and OCHCCs that pass through the node on the express path for both the Side B-to-Side A and Side A-to-Side B directions.

Caution
You will delete the optical channel circuits in the next step and use the list to recreate the circuits later. Do not proceed until you complete the circuit list.

Step 5 Delete the circuits identified in Step 4, on page 27 using one or more of the following tasks:

- “DLP-G347 Delete Optical Channel Client Connections” task in the chapter “Create Optical Channel Circuits and Provisionable Patchcords” of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- “DLP-G418 Delete an Optical Channel Trail” task in the chapter “Create Optical Channel Circuits and Provisionable Patchcords” of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- “DLP-G106 Delete Optical Channel Network Connections” task in the chapter “Create Optical Channel Circuits and Provisionable Patchcords” of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*

Step 6 Click the **Provisioning** > **WDM-ANS** > **Internal Patchcords** tabs.

Step 7 In the internal patchcords table, click the OPT-PRE COM-TX to OPT-BST COM-RX internal patchcord.

Step 8 Click **Delete.**

Step 9 In the confirmation dialog box, click **OK.**

Step 10 Remove the physical fiber and attenuators, if present, that connect the COM-TX to COM-RX ports and COM-RX to COM-TX ports between the OPT-BST and OPT-PRE cards installed in Side B.

Step 11 Referring to the Cisco Transport Planner Shelf Layout report, install one of the following sets of cards on both Side B and Side A of the node as described by the Cisco Transport Planner NE Update file:

- 32WSS and 32DMX cards
- 32WSS-L and 32DMX-L cards

- 40-WSS-C/40-WSS-CE and 40-DMX-C/40-DMX-CE cards

Step 12 Referring to the Cisco Transport Planner Internal Connections report, connect the fibers to the new wavelength selective switch and demultiplexer cards.

Step 13 Complete the "NTP-G143 Import the Cisco Transport Planner NE Update Configuration File" procedure in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*

Step 14 Verify that the new internal patchcords are created for the physical cables connected to the new wavelength selective switch and demultiplexer cards in Step 12, on page 28. If not, complete the "NTP-G242 Create an Internal Patchcord Manually" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to manually create the internal patchcords.

Step 15 Complete the "NTP-G143 Import the Cisco Transport Planner NE Update Configuration File" procedure in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 16 Complete the "NTP-G37 Run Automatic Node Setup" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 17 In node view, click the **Circuits** tab.

Step 18 Complete one or more of the following procedures to recreate circuits identified in Step 4, on page 27 that will pass through the ROADM node:

- DLP-G105 Provision Optical Channel Network Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords"of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- "DLP-G346 Provision Optical Channel Client Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- "DLP-G395 Create an Optical Channel Trail" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*

Note
Cisco recommends that you recreate the circuits one at a time.

Step 19 Verify that each circuit appears on the Circuits table with a DISCOVERED status and an IS/Unlocked state. If not, repeat Step 17, on page 28 and Step 18, on page 28.

If the circuits still do not appear with a DISCOVERED status and IS/Unlocked state, contact your next level of support.

Step 20 Referring to the Cisco Transport Planner Traffic Matrix report, repeat Step 17, on page 28 and Step 18, on page 28 to create the new add/drop circuits at the node, as needed.

Stop. You have completed this procedure.

NTP-G195 Convert a Protected ROADM Node from two Separate Nodes to a Single Multishelf Node

Purpose	This procedure converts a protected ROADM node from two separate nodes to a single multishelf node.
Tools/Equipment	None
Prerequisite Procedures	• "Turn Up a Network" chapter in the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* • A Cisco Transport Planner site plan recalculated for the new node.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Caution This procedure will affect the service of unprotected circuits that pass through the ROADM node.

Caution This procedure applies to two ROADM nodes, where ROADM Node 1 has amplifier cards (such as, OPT-BST and OPT-PRE) or optical service channel cards (OSCM or OSC-CSM) installed on both the sides of the shelf and 40-WSS-C/40-DMX-C card (or the 32WSS/32DMX and 32WSS-L/32DMX-L cards) installed in Side A (Slots 1 through 6) and the ROADM Node 2 has amplifier cards (such as, OPT-BST and OPT-PRE) or optical service channel cards (OSCM or OSC-CSM) installed on both the sides of the shelf and 40-WSS-C/40-DMX-C card (or the 32WSS/32DMX and 32WSS-L/32DMX-L cards) installed in Side B (Slots 12 through 17).

Note In this procedure, ROADM Node 1 will be used as node controller and ROADM Node 2 will be added to the multishelf configuration as a subtending shelf.

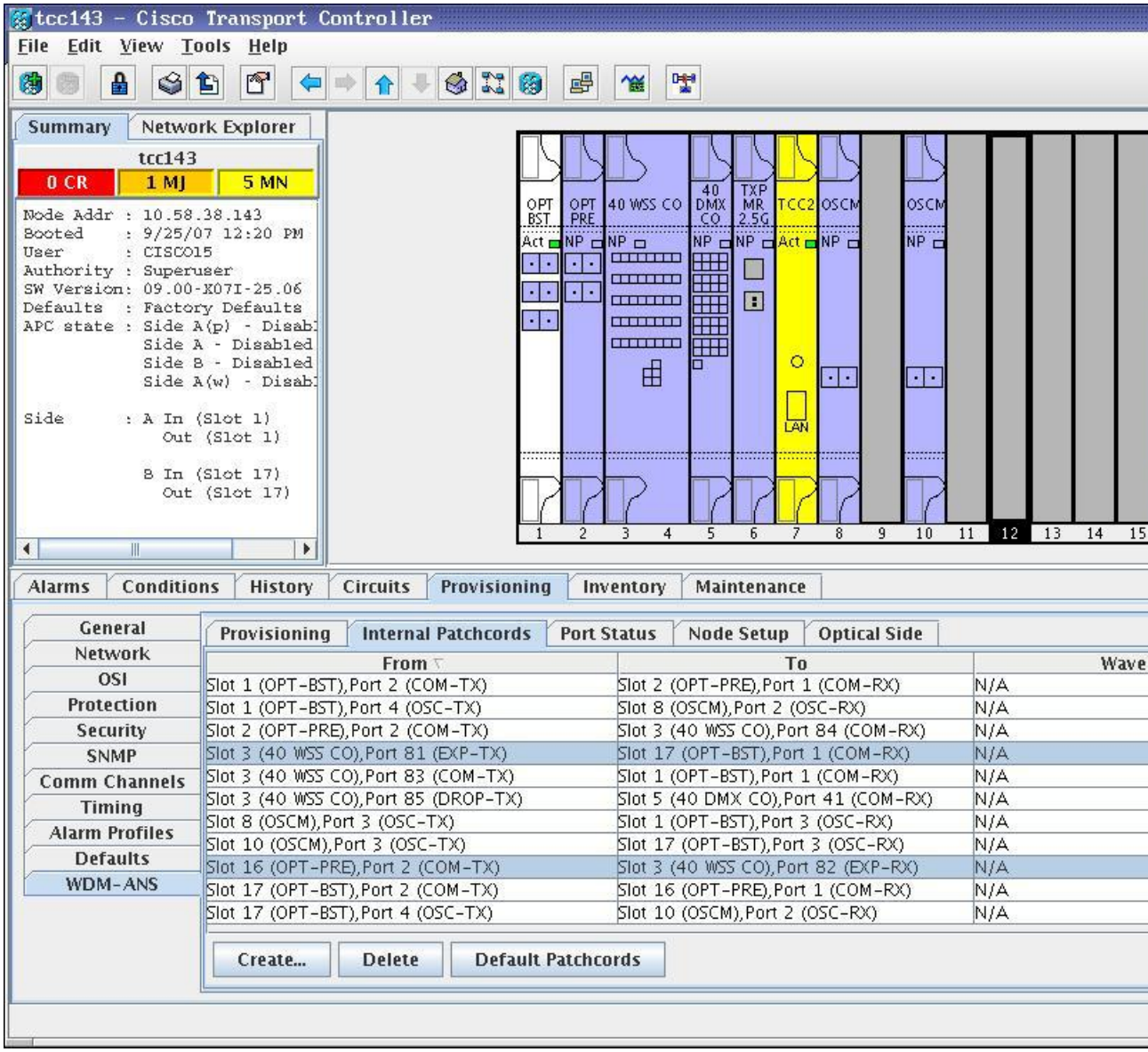
Procedure

Step 1 Complete the "NTP-G139 Verify Cisco Transport Planner Reports and Files" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM*

Network Configuration Guide to verify that you have the files and reports prepared by Cisco Transport Planner for the ROADM nodes.

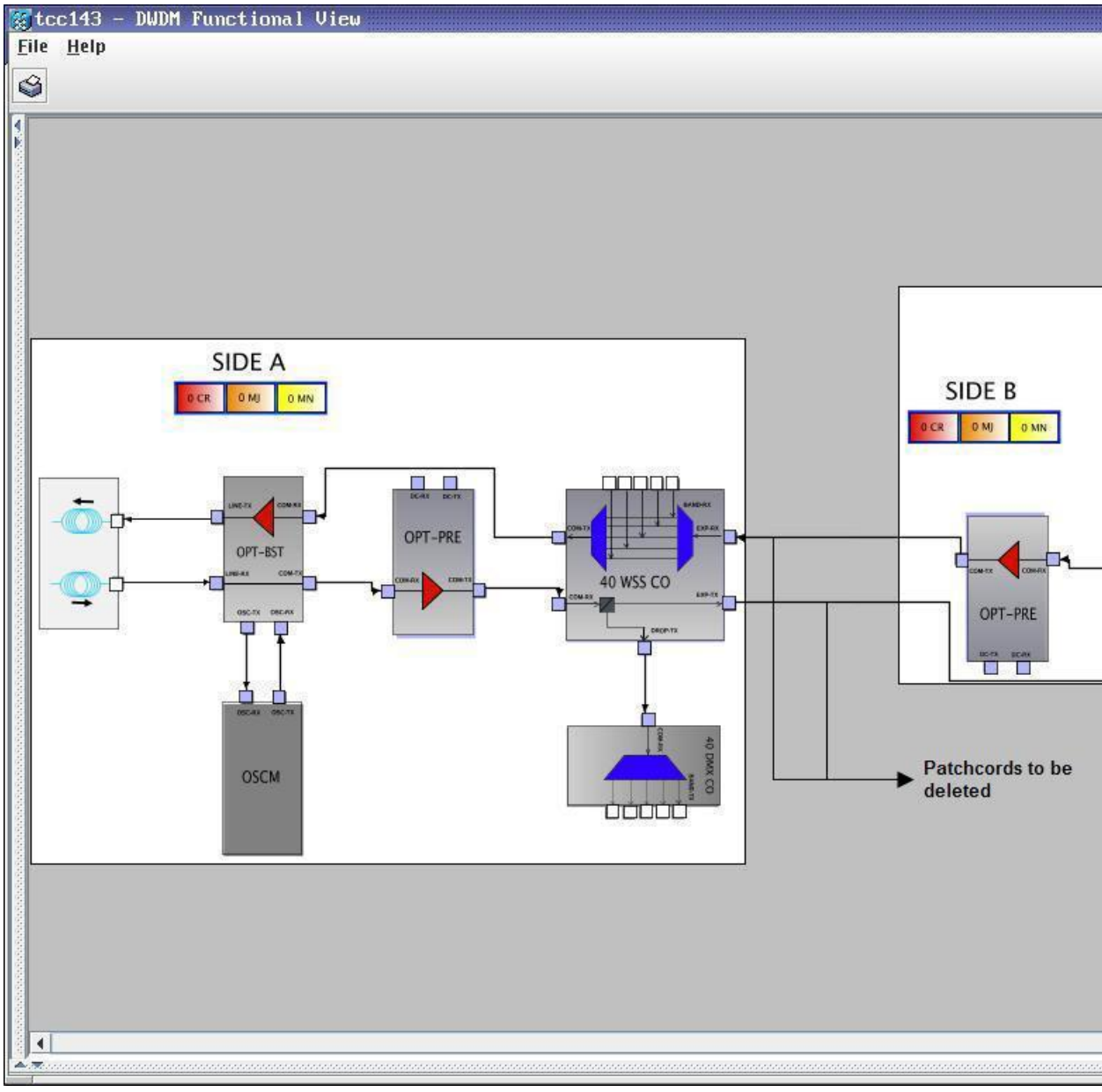
Step 2 Complete the "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document at ROADM Node 1. The following figure shows the shelf view of ROADM Node 1.

Figure 1: ROADM Node 1 Shelf View



The following figure shows the functional view of ROADM Node 1.

Figure 2: ROADM Node 1 Functional View



Step 3 Click the **Circuits** tab.

Step 4 Make a list of all the OCHNCs, OCH trails, and OCHCCs that pass through or terminate (add/drop) at the amplifier or optical service channel cards installed in Side B of ROADM Node 1.

Caution
You will delete only the pass-through circuits in the next step and use the list to recreate the circuits later. Do not proceed until you complete the circuit list. The add/drop circuits will not be deleted and continues to transport traffic.

Step 5 If OCHNCs and/or OCHCCs identified in Step 4, on page 31 are routed on the active path of a splitter or Y-cable protection group, complete the following steps. If not, continue with Step 6, on page 32.

a) Display the node containing the amplifier or optical service channel cards with the Y-cable or splitter protection.

b) Force the traffic to the protect path in the opposite side of the ring using the “DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch” task in the Manage the Node document.

Step 6 Delete the circuits identified in Step 4, on page 31 using one or more of the following tasks:

- “DLP-G347 Delete Optical Channel Client Connections” task in the chapter “Create Optical Channel Circuits and Provisionable Patchcords”of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- “DLP-G418 Delete an Optical Channel Trail” task in the chapter “Create Optical Channel Circuits and Provisionable Patchcords” of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- “DLP-G106 Delete Optical Channel Network Connections” task in the chapter “Create Optical Channel Circuits and Provisionable Patchcords”of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*

Step 7 Click the **Provisioning** > **WDM-ANS** > **Optical Side** tab.

Step 8 In the optical sides table, click the optical side corresponding to the amplifier or optical service channel cards installed in Side B of ROADM Node 1.

Step 9 Click **Delete.**

Step 10 In the confirmation dialog box, click **Yes.**

Step 11 Click the **Provisioning** > **WDM-ANS** > **Internal Patchcords** tab.

Step 12 Look in the To column of the internal patchcords table and make a list of internal patchcords that connect the amplifier or optical service channel cards in Side B to the 40-WSS-C/40-DMX-C card (or the 32WSS/32DMX and 32WSS-L/32DMX-L cards) in Side A of ROADM Node 1.

Step 13 Click **Delete.**

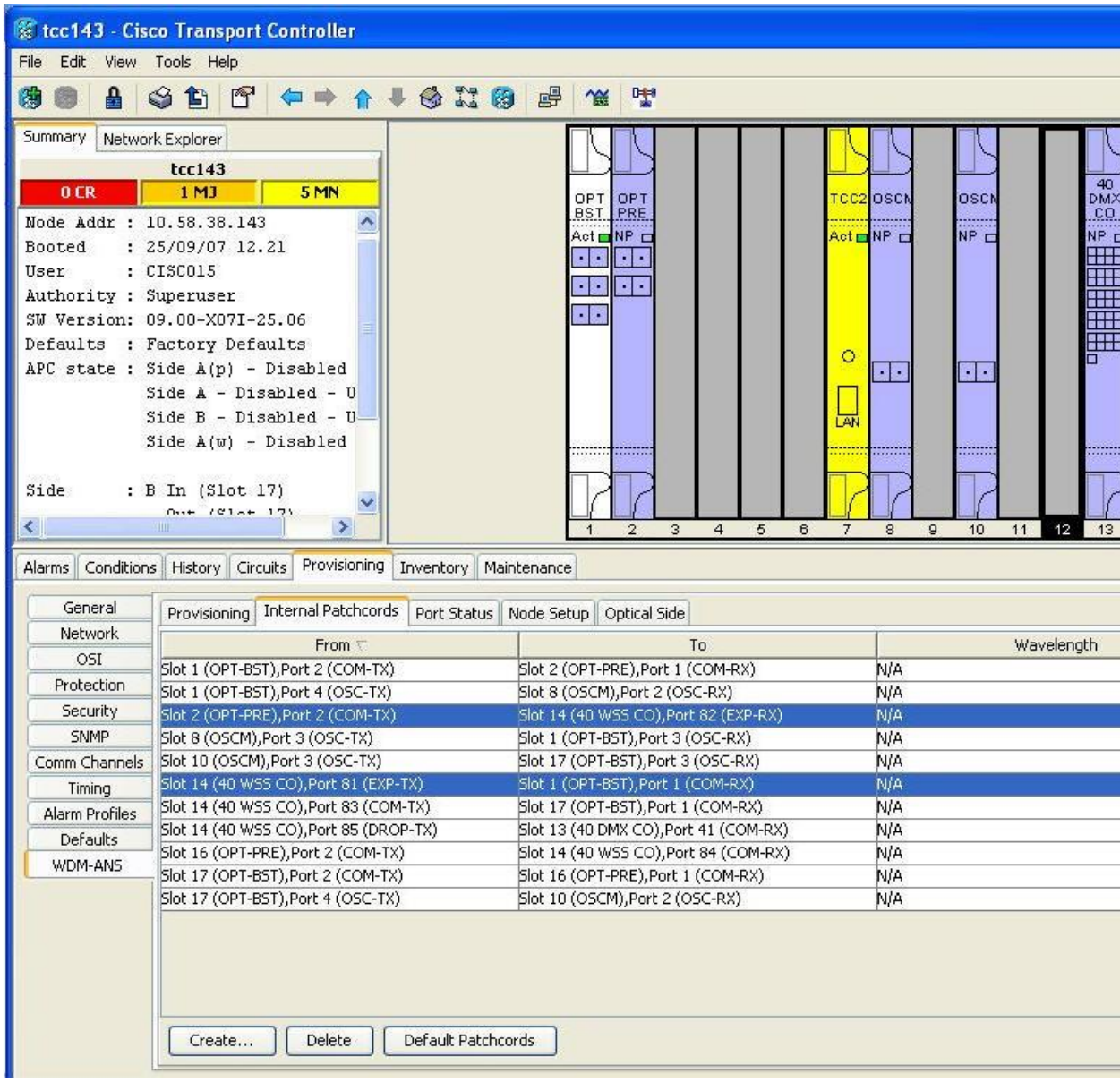
Step 14 In the confirmation dialog box, click **Yes**.

Step 15 Remove the physical fiber and attenuators, if present, that connect the amplifier or optical service channel cards in Side B to the 40-WSS-C/40-DMX-C card (or the 32WSS/32DMX and 32WSS-L/32DMX-L cards) in Side A of ROADM Node 1.

Step 16 Complete the NTP-G107 Remove Permanently or Remove and Replace DWDM Cards, on page 4 to delete the amplifier or optical service channel cards installed in Side B of ROADM Node 1.

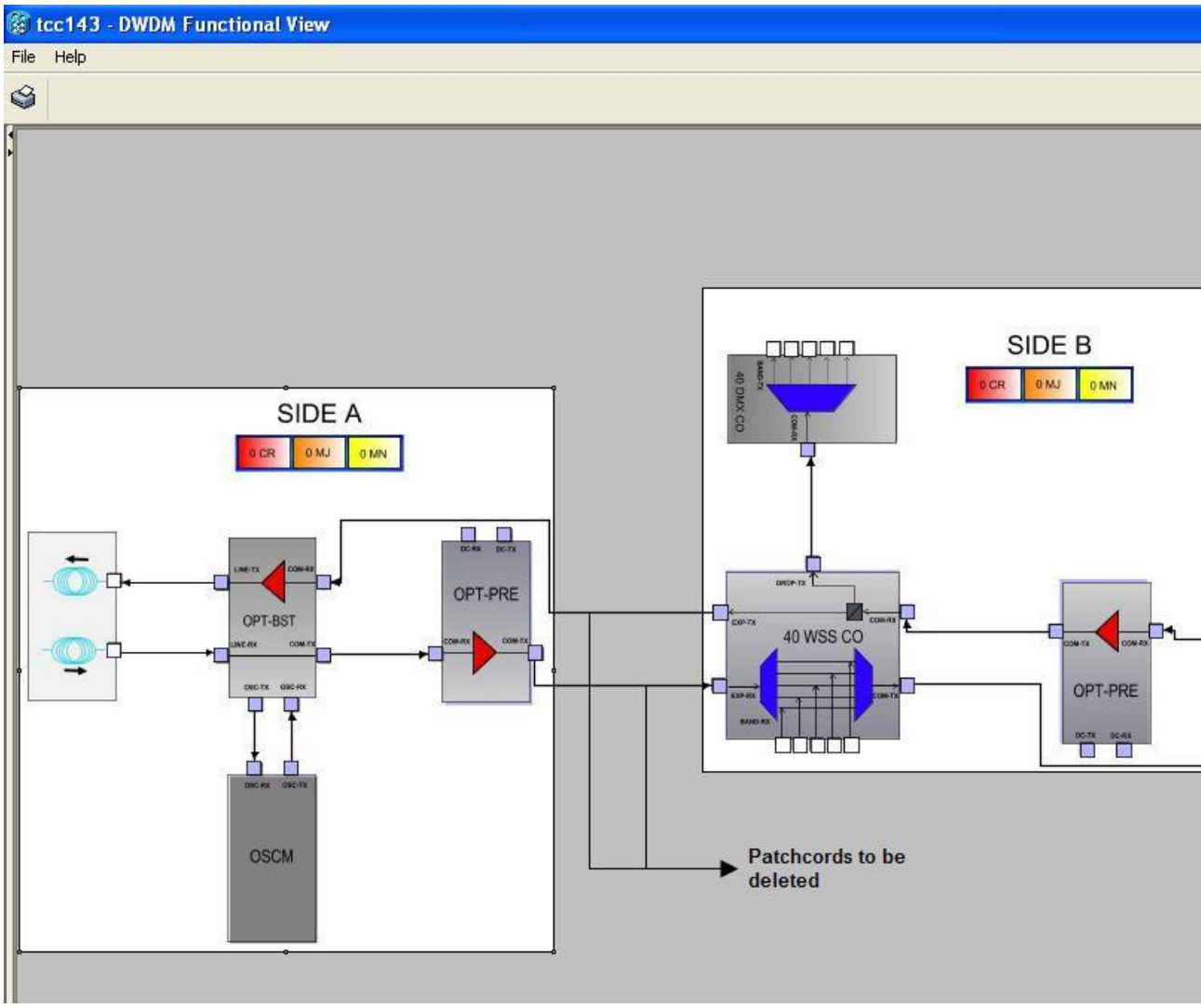
Step 17 Complete the "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document at the ROADM Node 2. The following figure shows the ROADM Node 2 shelf view.

Figure 3: OADM Node 2 Shelf View



The following figure shows the functional view of ROADM Node 1.

Figure 4: ROADM Node 2 Functional View



Step 18 Click the **Circuits** tab.

Step 19 Make a list of all the OCHNCs, OCH trails, and OCHCCs that pass through or terminate (add/drop) at the amplifier or optical service channel cards installed in Side A of ROADM Node 2.

Caution
You will delete all the pass-through and add/drop circuits in the next step and use the list to recreate the circuits later. Do not proceed until you complete the circuit list.

Step 20 If OCHNCs and/or OCHCCs identified in Step 19, on page 34 are routed on the active path of a splitter or Y-cable protection group, complete the following steps. If not, continue with Step 21, on page 35.

a) Display the node containing the amplifier or optical service channel cards with the Y-cable or splitter protection.

b) Force the traffic to the protect path in the opposite side of the ring using the “DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch” task in the Manage the Node document.

Step 21 Delete the circuits identified in Step 19, on page 34 using one or more of the following tasks:

- "DLP-G347 Delete Optical Channel Client Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- "DLP-G418 Delete an Optical Channel Trail" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- "DLP-G106 Delete Optical Channel Network Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*

Step 22 If overhead circuits exist in the amplifier or optical service channel cards installed in Side A of ROADM Node 2, complete "DLP-G112 Delete Overhead Circuits" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to delete these overhead circuits.

Step 23 Click the **Provisioning** > **WDM-ANS** > **Optical Side** tab.

Step 24 In the optical sides table, click the optical side corresponding to the amplifier or optical service channel cards installed in Side A of ROADM Node 2.

Step 25 Click **Delete**.

Step 26 In the confirmation dialog box, click **Yes**.

Step 27 Click the **Provisioning** > **WDM-ANS** > **Internal Patchcords** tab.

Step 28 Look in the To column of the internal patchcords table and make a list of internal patchcords that connect the amplifier or optical service channel cards in Side A to the 40-WSS-C/40-DMX-C card (or the 32WSS/32DMX and 32WSS-L/32DMX-L cards) in Side B of ROADM Node 2.

Step 29 Click **Delete**.

Step 30 In the confirmation dialog box, click **Yes**.

Step 31 Remove the physical fiber and attenuators, if present, that connect the amplifier or optical service channel cards in Side A to the 40-WSS-C/40-DMX-C card (or the 32WSS/32DMX and 32WSS-L/32DMX-L cards) in Side B of ROADM Node 2.

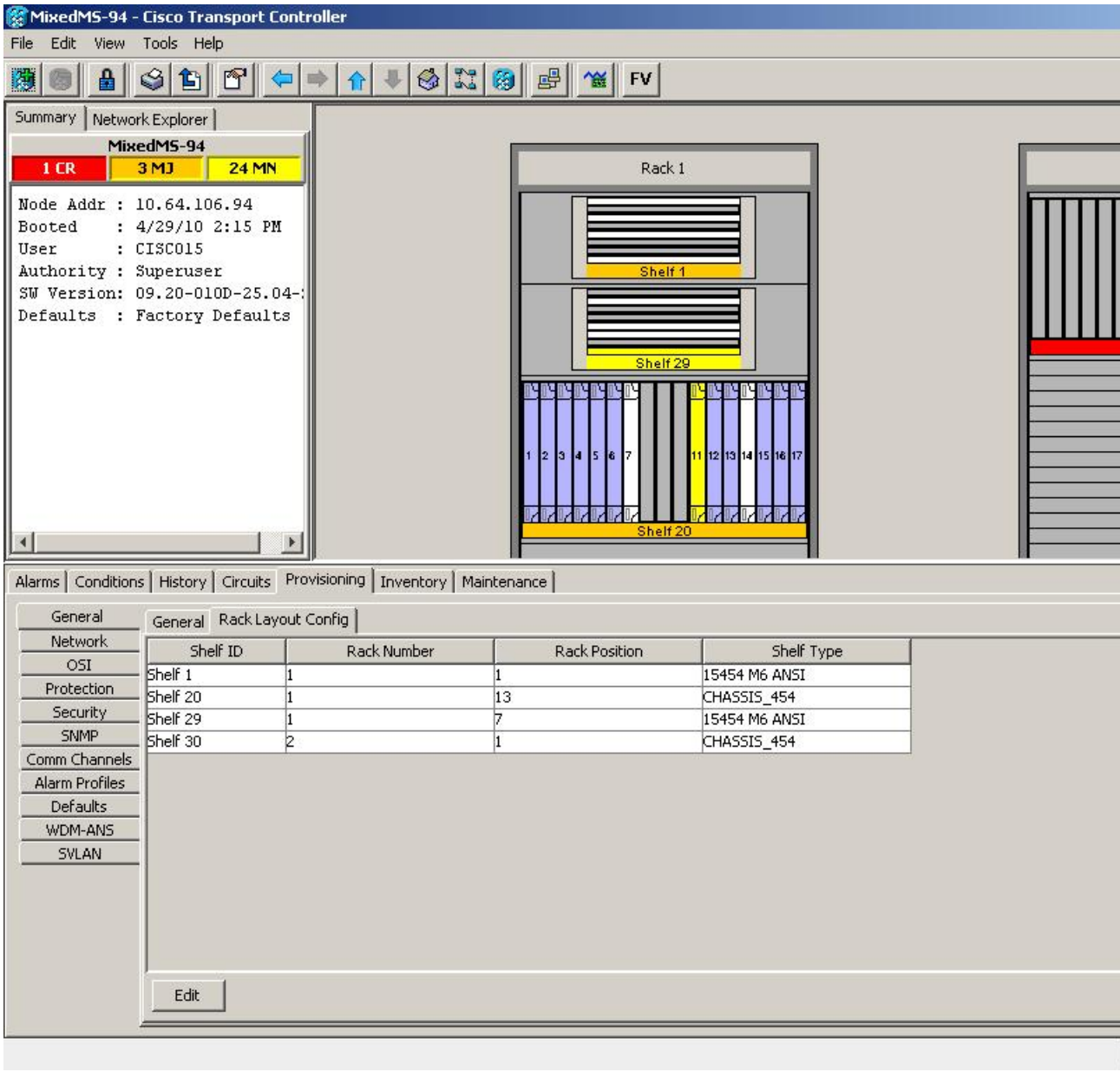
Step 32 If there are pluggable port modules (PPMs) that terminate on the ROADM Node 2, complete the "DLP-G280 Delete a PPM" task in the chapter "Provision Transponder and Muxponder Cards" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to delete these PPMs.

Step 33 Complete the NTP-G107 Remove Permanently or Remove and Replace DWDM Cards, on page 4 to delete the amplifier or optical service channel cards installed in Side A of ROADM Node 2.

Step 34 Complete the "NTP-G163 Upgrade Nodes in Single-Shelf Mode to Multishelf Mode" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to upgrade ROADM Node 1 to a multishelf configuration and add ROADM Node 2 as a subtending shelf. The following figure shows the final multishelf view of the node.

Step 35 In the multishelf view, click the **Provisioning** > **WDM-ANS** > **Internal Patchcords** tab.

Figure 5: Final Multishelf View of the Node



Step 36 Click **Create**. The Internal Patchcord Creation wizard appears.

Step 37 In the Internal Patchcord Attributes page, choose OTS/OCH to OTS/OCH option and select the Bidirectional check box.

Step 38 Click **Next**.

Step 39 In the Internal Patchcord Origination page, provision the internal patchcord origination parameters.

- Shelf—Choose the shelf where the internal patchcord originates.
- Slot—Choose one of the two 40-WSS-C cards (or the 32WSS/32DMX and 32WSS-L/32DMX-L cards) where the internal patchcord originates.

- Tx Port—Choose the EXP TX port were the internal patchcord originates.

Step 40 Click **Next**.

Step 41 In the Internal Patchcord Termination page, provision the internal patchcord origination parameters.

- Shelf—Choose the shelf where the internal patchcord terminates.
- Slot—Choose the other 40-WSS-C card (or the 32WSS/32DMX and 32WSS-L/32DMX-L cards) where the internal patchcord terminates.
- Rx Port—Choose the EXP RX port were the internal patchcord terminates.

Step 42 Click **Next**.

Step 43 Review the display-only information on the Internal Patchcord Origination Reverse page. This page shows the shelf, slot, and port that CTC will use for the opposite internal patchcord origination route

Step 44 Click **Next**.

Step 45 Review the information displayed on the Internal Patchcord Termination Reverse page. This display-only page shows the shelf, slot, and port that CTC will use for the reverse internal patchcord termination route.

Step 46 Click **Finish**. The new internal patchcord appears on the Internal Patchcord table.

Step 47 Complete the "NTP-G37 Run Automatic Node Setup" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 48 In node view, click the **Circuits** tab.

Step 49 Complete one or more of the following procedures to recreate circuits identified in Steps 4 and Step 19, on page 34:

- "DLP-G105 Provision Optical Channel Network Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- "DLP-G346 Provision Optical Channel Client Connections" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*
- "DLP-G395 Create an Optical Channel Trail" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*

Note
Cisco recommends that you recreate the circuits one at a time.

Step 50 Complete the "NTP-G60 Create and Delete Overhead Circuits" task in the chapter "Create Optical Channel Circuits and Provisionable Patchcords" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide* to recreate circuits deleted in Step 22, on page 35.

Step 51 Verify that each circuit appears on the Circuits table with a DISCOVERED status and an IS/Unlocked state. If not, repeat Step 48, on page 37 and Step 49, on page 37.

If the circuits still do not appear with a DISCOVERED status and IS/Unlocked state, contact your next level of support.

Step 52 Click the **Provisioning** > **Pluggable Port Module** > **Pluggable Port Module** tab and click Create to recreate the PPMs deleted in Step 32, on page 35.

Step 53 Complete the "DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch" task in the Manage the Node document for OCHNCs and/or OCHCCs that were switched to the opposite side of the ring as part of a splitter or Y-cable protection group to return the traffic to its original condition.

Stop. You have completed this procedure.

NTP-G242 Modify the CD setting of TDC-CC and TDC-FC Cards

Purpose	This procedure allows you to modify the CD settings of the TDC-CC and TDC-FC cards.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G30 Install the DWDM Cards" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 Complete the "DLP-G46 Log into CTC" task in the Connect the PC and Log into the GUI document at the node where you want to change the TDC-CC or TDC-FC card settings. If you are already logged in, continue with the next step.

Step 2 Complete the "NTP-G103 Back Up the Database" task in the chapter "Maintain the Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Note
Changing the CD value of the T-DCU can severely affect the performance of the channels traveling through the T-DCU. As a general rule the new value is provided through an additional analysis performed by the CTP. In this case, complete the "NTP-G328 Add, Modify, and Delete ANS Parameters" task in the chapter "Turn Up a Node" of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*. If for some reason, the "NTP-G328 Add, Modify, and Delete ANS Parameters" task cannot be applied, then a skilled operator can directly change the CD value according to the CTP findings. To modify the CD setting of the TDC-CC or TDC-FC card proceed to the next step.

Step 3 To modify the CD setting of the TDC-CC or TDC-FC card, perform any of the following tasks as needed:

Note

As the operation is traffic affecting, change the CD value during a maintenance window.

- DLP-G526 Modify the CD Value of the TDC-CC and TDC-FC When Connected to OPT-AMP-C, OPT-PRE, 40-SMR-1 and 40-SMR-2 Cards, on page 39
- DLP-G527 Modify the CD Value of the TDC-CC and TDC-FC Cards when Connected to OPT-RAMP-C and OPT-RAMP-CE Amplifiers, on page 40

Step 4 Complete the “NTP-G103 Back Up the Database” task in the chapter “Maintain the Node” of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Stop. You have completed this procedure.

DLP-G526 Modify the CD Value of the TDC-CC and TDC-FC When Connected to OPT-AMP-C, OPT-PRE, 40-SMR-1 and 40-SMR-2 Cards

Purpose	This procedure allows you to modify the CD value when the TDC-CC and TDC-FC cards are connected to the DC ports of the OPT-PRE, OPT-AMP-C, 40-SMR-1 and 40-SMR-2 cards.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 Before you modify the CD value of the TDC-CC or TDC-FC card, disable the Automatic Power Control (APC) in the domain that has the TDC-CC or TDC-FC card. To disable the APC domain, complete the “DLP-G157 Disable Automatic Power Control” task in the Manage the Node document.

Step 2 Modify the CD value for the TDC-CC or TDC-FC Card. To modify the CD value, Complete the “DLP-G545 Modify the Chromatic Dispersion Value for the TDC-CC and TDC-FC Cards” task in the chapter “Change DWDM Card Settings” of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Step 3 Enable the APC domain that has the TDC-CC or TDC-FC card. To enable the APC domain, complete the “DLP-G158 Enable Automatic Power Control” task in the Manage the Node document.

Step 4 Return to your originating procedure (NTP).

DLP-G527 Modify the CD Value of the TDC-CC and TDC-FC Cards when Connected to OPT-RAMP-C and OPT-RAMP-CE Amplifiers

Purpose	This procedure allows you to modify the CD value of the TDC-CC and TDC-FC cards when connected to the DC ports of the OPT-RAMP-C and OPT-RAMP-CE amplifiers.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 Before you modify the CD value of the TDC-CC or TDC-FC card, run the APC. To run the APC, complete the “DLP-G430 Run Automatic Power Control” task in the Manage the Node document.

Step 2 Modify the CD value for the TDC-CC or TDC-FC Card. To modify the CD value, Complete the “DLP-G545 Modify the Chromatic Dispersion Value for the TDC-CC and TDC-FC Cards” task in the chapter “Change DWDM Card Settings” of the *Cisco NCS 2002 and NCS 2006 Network Configuration Guide* or *Cisco ONS 15454 DWDM Network Configuration Guide*.

Note
Do not change the compensation value directly in one instance. In order to avoid traffic drops and alarms, it is required to change the CD value in steps not too large. For example, if you want to change the CD value of a TDC-CC from -880 to -1320 ps/nm, do not change the CD value in a single step, but in a couple of steps. Change the CD value to an intermediate value of -1100 ps/nm and then to -1320 ps/nm. Change the CD value of the TDC-CC by steps no larger than 330 ps/nm and the CD value of the TDC-FC by steps no larger than 270 ps/nm. This approach of changing the CD value avoids misleading alarms and traffic drops.

Step 3 Run the APC. To run the APC, complete the “DLP-G430 Run Automatic Power Control” task in the Manage the Node document.

Step 4 If the APC correction skipped alarm appears, then force the APC correction. Do the following:

a) Click the alarmed port.
b) Click the **Maintenance** tab.
c) Click the **Force APC correction** button.

Step 5 Repeat Step 2, on page 40 and Step 4, on page 40 until the CD target value is set.

Step 6 Return to your originating procedure (NTP).

Additional References

Related Documents

Use this document in conjunction with the other release-specific documentation listed in this table:

Link	Description
Cisco ONS Documentation Roadmap	Provides quick access to publications of Cisco ONS releases.
Cisco ONS 15454 DWDM Control Card and Node Configuration Guide	Provides background and reference material and procedures for installation and configuration of control cards and node configuration on Cisco ONS 15454 dense wavelength division multiplexing (DWDM) systems.
Cisco ONS 15454 DWDM Line Card Configuration Guide	Provides background and reference material and procedures for installation and configuration of line cards on Cisco ONS 15454 dense wavelength division multiplexing (DWDM) systems.
Cisco ONS 15454 DWDM Network Configuration Guide	Provides background and reference material, procedures for turn up, provisioning, and maintenance of Cisco ONS 15454 dense wavelength division multiplexing (DWDM) systems.
Cisco ONS 15454 DWDM Troubleshooting Guide	Provides general troubleshooting instructions, alarm troubleshooting instructions, and a list of error messages that apply to the Cisco ONS 15454 dense wavelength division multiplexing (DWDM) systems.
Release Notes for Cisco ONS 15454	Provides information about new features and enhancements for the Cisco ONS 15454 DWDM platforms.
Cisco ONS 15454 Hardware Installation Guide	Provides installation information of the Cisco ONS 15454 hardware.
Cisco ONS 15454 DWDM Licensing Guide	Provides information about installing and managing Cisco ONS 15454 DWDM licenses.
Cisco ONS SDH TL1 Command Guide *Cisco ONS SONET TL1 Command Guide*	Provides a comprehensive list of TL1 commands.
Installing the GBIC, SFP, SFP+, XFP, CXP, CFP, and CPAK Optical Modules in Cisco ONS Platforms	Provides information about the Pluggable Port Modules support.

Link	Description
Cisco NCS 2000 Series Documentation Roadmap	Provides quick access to publications of Cisco NCS 2000 Series releases.

Link	Description
Cisco NCS 2000 Series Control Card and Node Configuration Guide	Provides background and reference material and procedures for installation and configuration of control cards and node configuration on Cisco NCS 2000 Series systems.
Cisco NCS 2000 Series Line Card Configuration Guide	Provides background and reference material and procedures for installation and configuration of line cards on Cisco NCS 2000 Series systems.
Cisco NCS 2000 Series Network Configuration Guide	Provides background and reference material, procedures for turn up, provisioning, and maintenance of Cisco NCS 2000 Series systems.
Cisco NCS 2000 Series Troubleshooting Guide	Provides general troubleshooting instructions, alarm troubleshooting instructions, and a list of error messages that apply to the Cisco NCS 2000 Series systems.
Release Notes for Cisco NCS 2000 Series	Provides information about new features and enhancements for the Cisco NCS 2000 Series systems.
Cisco NCS 2000 Series Hardware Installation Guide	Provides installation information of the Cisco NCS 2000 Series hardware.
Cisco NCS 2000 Series Licensing Configuration Guide	Provides information about installing and managing NCS licenses.
Cisco NCS 2000 Series TL1 Command Guide	Provides a comprehensive list of TL1 commands.
Installing the GBIC, SFP, SFP+, XFP, CXP, CFP, and CPAK Optical Modules in Cisco NCS Platforms	Provides information about the Pluggable Port Modules support.

Technical Assistance

Link	Description
http://www.cisco.com/support	The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.

Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at Cisco Profile Manager.

- To get the business results you're looking for with the technologies that matter, visit Cisco Services.
- To submit a service request, visit Cisco Support.
- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit Cisco DevNet.
- To obtain general networking, training, and certification titles, visit Cisco Press.
- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

Cisco Bug Search Tool

Cisco Bug Search Tool (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.