Manage the Node

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Manage the Node

This document explains how to modify node provisioning for the Cisco ONS 15454 and perform common management tasks such as monitoring the dense wavelength division multiplexing (DWDM) automatic power control (APC) and span loss values. To provision a new node, see the chapter, "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide*. To change default network element (NE) settings and to view a list of those settings, refer to the *Network Element Defaults* document.

Note The procedures and tasks described in this chapter for the Cisco ONS 15454 platform is applicable to the Cisco ONS 15454 M2 and Cisco ONS 15454 M6 platforms, unless noted otherwise.

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

Revision History

Date	Notes
June 2023	Added the following procedures for R11.1.3: • Configure the Node for ACL • Configure the Network for ACL
May 2020	Updated the "NTP-G357 Perform OTDR Scan and OTDR Event Scan" procedure for R11.1.1.2.
December 2017	Updated the "DLP-G786 Perform OTDR Scan on TNCS-O Cards" and "DLP-G787 Perform OTDR Event Scan on TNCS-O Cards" procedures for R10.8.
March 2017	Updated the "DLP-G787 Perform OTDR Event Scan on TNCS-O Card" procedure for R10.6.2.
November 2016	Added the section, "System Mode Conversion".
January 2016	Updated the following procedures: • NTP-G357 Perform OTDR Scan and OTDR Event Scan • DLP- G785 Zooming In/Out with Graphs • DLP-G786 Perform OTDR Scan on TNCS-O Cards • DLP-G787 Perform OTDR Event Scan on TNCS-O Cards
November 2014	Added the section "DLP-G776 Configure the Node for TACACS+ Authentication".
October 2011	Updated the section "DLP-G281 Configure the Node for RADIUS Authentication".

Date	Notes
December 2011	Updated the following procedures: • NTP-G85 Modify or Delete OSC Terminations, DCC/GCC Terminations, and Provisionable Patchcords • DLP-G184 Change a DCC/GCC Termination • DLP-G185 Delete a DCC/GCC Termination

Before You Begin

Before performing the following procedures, investigate all alarms and clear any trouble conditions. Refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide* as necessary.

This section lists the procedures (NTPs). Turn to a procedure for applicable tasks (DLPs).

1. NTP-G357 Perform OTDR Scan and OTDR Event Scan, on page 6—Complete this procedure as needed to perform OTDR scan and OTDR event scan.

2. NTP-G76 Verify Optical Span Loss Using CTC, on page 14—Complete this procedure as needed to view or modify the DWDM span loss values.

3. NTP-G77 Manage Automatic Power Control, on page 16—Complete this procedure as needed to manage the DWDM APC.

4. NTP-G78 View Side Power Monitoring, on page 22—Complete this procedure as needed to view and update a reconfigurable optical add/drop multiplexing (ROADM) node's power equalization.

5. NTP-G80 Change Node Management Information, on page 23—Complete this procedure as needed to change node name, contact information, latitude, longitude, date, time, and login legal disclaimer.

6. NTP-G134 Modify OSI Provisioning, on page 26—Complete this procedure as needed to modify Open System Interconnection (OSI) parameters including the OSI routing mode, Target Identifier Address Resolution Protocol (TARP), routers, subnets, and IP-over-connectionless network service (CLNS) tunnels.

7. NTP-G81 Change CTC Network Access, on page 36—Complete this procedure as needed to change the IP address, default router, subnet mask, network configuration settings, and static routes.

8. NTP-G82 Customize the CTC Network View, on page 46—Complete this procedure as needed to create domains and customize the appearance of the network map, including specifying a different default map, creating domains, consolidating links in the network view, selecting your own map or image, and changing the background color.

9. NTP-G83 Modify or Delete Card Protection Settings, on page 55—Complete this procedure as needed.

10. NTP-G84 Initiate and Clear Y-Cable and Splitter External Switching Commands, on page 60—Complete this procedure as needed.

11. NTP-G85 Modify or Delete OSC Terminations, DCC/GCC Terminations, and Provisionable Patchcords, on page 65—Complete this procedure as needed to modify or delete generic communications channel (GCC) terminations, optical service channel (OSC) terminations, and provisionable patchcords.

12. NTP-G86 Convert a Pass-Through Connection to Add/Drop Connections, on page 70—Complete this procedure as needed to convert a pass-through connection to an add/drop connection.

13. NTP-G87 Change Node Timing Parameters, on page 71—Complete this procedure as needed.

14. NTP-G88 Modify Users and Change Security, on page 73—Complete this procedure as needed to make changes to user settings, including security level and security policies, and to delete users.

15. NTP-G89 Change SNMP Settings, on page 92—Complete this procedure as needed.

System Mode Conversion

The system mode can be changed from ANSI (SONET) to ETSI (SDH) or vice-versa. Changing the system mode removes the provisioned data and the system reverts to the default configuration.

This is available on the single controller and dual controller cards. The node can be in a standalone or multishelf configuration.

The system mode cannot be changed, under the following conditions:

- "SHELF-COMM-FAIL" alarm is present
- any SSC is in limited state
- ONS 15454 chassis is present as a part of the multishelf set-up

DLP-G796 Change System Mode Using CTC

This task enables the user to change the system mode using CTC.

Purpose	This task enables the user to change the System Mode.
Tools/Equipment	None
Prerequisite Procedures	• DLP-G46 Log into CTC
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Procedure

Step 1 In tab view, click the **Provisioning** > **General** tabs.

Step 2 In the **System Mode** area, the current System Mode is displayed (ETSI or ANSI).

Step 3 Click the **Change System Mode** tab to change the system mode. If the system is currently in ANSI mode, the system mode is changed to ETSI, or vice-versa.

Step 4 To proceed with the mode change, click **Yes** on the displayed pop-up.

What to do next

Start a new CTC session and check the system mode.

NTP-G357 Perform OTDR Scan and OTDR Event Scan

Purpose	This task allows you to perform OTDR scan and OTDR event scan and displays the scan details in graphical format.
Tools/Equipment	None
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • "DLP-G788 Configuring Operating Mode for the TNC, TNCE, TNCS, TNCS-2, TNCS-2O, and TNCS-O Cards" task in the "Cisco NCS 2000 Series Control Card and Node Configuration Guide, Release 10.x.x".
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Perform any of the following tasks as needed:

- DLP-G786 Perform OTDR Scan, on page 6
- DLP-G787 Perform OTDR Event Scan , on page 11
- Perform OTDR Scan with RI & BS
- DLP-G785 Zoom In/Out with Graphs, on page 13

Stop. You have completed this procedure.

DLP-G786 Perform OTDR Scan

Purpose	This task allows you to perform a hybrid or fast OTDR scan and displays the scan details in graphical format.
Tools/Equipment	TNCS-O or TNCS-2O card
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • "DLP-G788 Configuring Operating Mode for the TNC, TNCE, TNCS, and TNCS-O Cards" task in the "Cisco NCS 2000 Series Control Card and Node Configuration Guide, Release 10.x.x". • "NTP-G209 Creating, Editing, and Deleting Optical Sides" task in the "Cisco NCS 2000 Series Control Card and Node Configuration Guide, Release 10.x.x".

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

Note When the optical side is not configured, the user could start the OTDR scan on that fiber. However, the user must ensure that the far end of the fiber has no OSC in service.

Procedure

Step 1 In the node view, click the **Maintenance** > **DWDM** > **OTDR** tabs.

Step 2 From the **OTDR Port** drop-down list, choose the port on which you want to perform the scan.

Note Only after you perform a scan and raise alarms, you can view the scan related details of an alarm.

CTC can log the data of a maximum of 32 historical OTDR scans. The history is maintained for OTDR scans in the same zone and direction. The values of the Back reflection and Insertion Loss are also listed for each scan along with the date and timestamp. If an OTDR-ABSOLUTE-x-EXCEEDED-xx or OTDR-BASELINE-x-EXCEEDED-xx alarm is raised, the triggering event is highlighted.

Step 3 Click **Line Rx** or **Line Tx** tabs.

Step 4 From the **Sector** drop-down list, choose a sector to perform the scan.

The OTDR scan parameters such as Capture Start Point, Capture End Point, Pulse Width, Measure Time, and Resolution can be configured by user in Expert sector. For all other sectors, the above parameters are provided as predefined set of values. In case of Expert sector, these parameters can be configured in OTDR configuration panel, for every OTDR port.

Table 1: OTDR Configuration Parameters in Expert Mode

Parameter	Description	Range	Default
Capture Start Point (in km)	This parameter is the initial location for expert scan.	0 to 150	0
Capture End Point (in km)	This parameter is the ending location for expert scan. The user must follow the rule that Capture Start Point must be lesser than the Capture End Point.	0 to 150	80

Parameter	Description	Range	Default
Pulse Width (micro sec)	This value is related to light pulse length in time. This value can be configured with a value selected in the ranges provided here. It is suggested to use a value that is as close as possible to one of the four predefined legacy zones, according to the configured scan length. After this initial selection the pulse width can be changed around the configured value in order to get a new scan that will result in a cleaner trace with less resolution using an higher pulse width, or a better resolution trace but with more noise using a lower pulse width. For example, if the Capture End Point is equal to 70 km , then the scan falls mainly in Zone-3. Hence, it is suggested to start using the pulse width defined for Zone-3 and after initial scan, adopt the value according to the specific needs and guideline suggested here.	0.01 to 10.0	1.0
Measure Time (in sec)	It is recommended to use the same value defined in the legacy scan. This value is related to the average of the OTDR measures. For higher values, OTDR executes more measures and the average is taken in the final scan. It is recommended to set a value > 60 seconds.	60, 360	180
Resolution (in m)	This parameter is the distance in meters between two adjacent points. A scan trace is composed of a maximum of 10.000 points. For this reason the resolution is to be selected with respect to the maximum point constraint. For example if the scan length is 50 km the maximum resolution is (50000/10000) = 5 meters	0.4, 50	25

Step 5 Choose **Base Scan** or **Last Scan**.

When the last scan and baseline configurations differ, the last scan details are displayed on the graph. Choose Base Scan in the drop-down list to view the baseline scan.

Step 6 Click **Hybrid Scan** or **Fast Scan** from the **Manual Scan** area to start an OTDR scan manually.

Fast scan trace is displayed to the user for quick reference before the composite trace. It is displayed at the end of OTDR training operation and before start of the composite trace. A progress bar is provided to the user for each scan in the sector that displays the percentage of execution of the entire scan operation.

In R10.8, auto sector is substituted with the composite trace. The composite trace is stitched through scans executed on legacy zones (1km, 25km, 80km, 100km). The composite trace is provided only when OTDR training is successfully executed. When you start a fast scan on the RX port, an OTDR-FAST-SCAN-IN-PROGRESS-RX alarm is raised. When you start a fast scan on the TX port, an OTDR-FAST-SCAN-IN-PROGRESS-TX alarm is raised. The fast scan shuts down the OSC channel.

Note If an OTDR fast scan is triggered on a span with channels, an LOS-O alarm is raised. This alarm occurs as CTC cannot suppress the alarm on a port that holds traffic channels. An LOS alarm is also raised if all the provided channels are deleted during the scan. The LOS alarms, which are related to channels, are high priority alarms and are not hidden.

When you start a Hybrid scan on the RX port, an OTDR-HYBRID-SCAN-IN-PROGRESS-RX condition is raised. When you start a Hybrid scan on the TX port, an OTDR-HYBRID-SCAN-IN-PROGRESS-TX condition is raised. Hybrid scan does not shut down the OSC channel and takes longer time to complete.

The alarms are raised at both near-end and far-end if the OSC link is established. If no OSC link is up, then the alarms are raised only at the near-end.

Note If no OSC link is up after you click **Hybrid Scan**, a fast scan is triggered.

In case of EDRA, When you start a Fast scan on the RX port, an OTDR-FAST-SCAN-IN-PROGRESS-TX alarm is raised. When you start Fast scan on the TX port, an OTDR-FAST-SCAN-IN-PROGRESS-RX alarm is raised. Fast scan shuts down the OSC channel. When you start a Hybrid scan on the RX port, an OTDR-HYBRID-SCAN-IN-PROGRESS-TX alarm is raised. When you start a Hybrid scan on the TX port, an OTDR-HYBRID-SCAN-IN-PROGRESS-RX alarm is raised. Hybrid scan does not shut down the OSC channel and takes longer time to complete.

Step 7 Click **Yes** in the **Start Scan** dialog box and click **OK** in the confirmation **Start Scan** dialog box.

Any ongoing scan operation can be stopped by clicking **Cancel**.

When the scan is completed, click **OK** in the **Scan Completed** dialog box. The OTDR scan results are displayed in the graph having Distance (km or mile) on the x-axis and Loss (dB) on the y-axis. To zoom in or zoom out of a graph, see DLP-G785 Zoom In/Out with Graphs, on page 13.

Step 8 Click **Baseline** to set the last scan result as a baseline and click **Yes** in the **Baseline Setting** dialog box.

The baseline scan is indicated by blue color and the last scan is indicated by red color on the graph. When a baseline scan is set, you can compare the last scan result with the baseline scan values in the graph.

Step 9 Click **Refresh** to refresh the scan details.

Step 10 Click **Details** to display the details of the parameters of the baseline scan and the last scan.

Step 11 Choose **File** > **Export** to export the measurement results as an HTML, CSV, TSV or SOR file.

Step 12 Save the HTML, CSV, or SOR file format.

Step 13 Return to your originating procedure (NTP).

What to do next

View Alarmed Events

From the **Alarms** drop-down list, choose an alarm to view its details as a graph and in the **Reflection** and **Insertion Loss** tabs.

The alarms in the drop-down list contain details of the side, direction, slot, and zone.

DLP-G802 Exporting OTDR Scan Results to an SOR File

Important Notes

- Marker locations are not available and are not present in the exported SOR file.
- Terminating location of the OTDR measurement is not exported, only the originating location is exported.
- Event loss and event reflection can appear in the same or different event, depending on the tools used to view the SOR file.
- Comment field of the general parameters block contains information of the Network Element and other scan details.

Purpose	This task allows you to export the OTDR scan details to an SOR file.
Tools/Equipment	TNCS-O or TNCS-2O card
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • "DLP-G788 Configuring Operating Mode for the TNC, TNCE, TNCS, and TNCS-O Cards" task in the "Cisco NCS 2000 Series Control Card and Node Configuration Guide, Release 10.x.x". • "NTP-G209 Creating, Editing, and Deleting Optical Sides" task in the "Cisco NCS 2000 Series Control Card and Node Configuration Guide, Release 10.x.x". • DLP-G786 Perform OTDR Scan, on page 6
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note This procedure is applicable only for the **OTDR** tab.

Note External SOR viewer application may offset the loss reported in Y-axis of SOR file generated by NCS 2000 system because certain applications use relative value instead of absolute value.

Procedure

Step 1 In the node view, click the **Maintenance** > **DWDM** > **OTDR** tabs.

Step 2 Choose **File** > **Export**. The **Export** window opens and displays the various formats of export.

Step 3 Click the **AS SOR** radio button to export the last OTDR scan information as a SOR file.

While exporting the SOR file, ensure the following:

- The SOR file is exported as per the specification mentioned in SR-4731.
- When no information is available for any field, default values are added to the SOR file.
- Link Parameters block is not exported.
- Checksum block is optional as per the specification. A dummy checksum value is added, as many tools require checksum.

Note When there are two events in the same location, the events appear separately or as a single event depending on the tool used for viewing the SOR file.

DLP-G787 Perform OTDR Event Scan

Purpose	This task allows you to perform the OTDR event scan and displays the event scan details in graphical format.
Tools/Equipment	TNCS-O or TNCS-2O card
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • "DLP-G788 Configuring Operating Mode for the TNC, TNCE, TNCS, and TNCS-O Cards" task in the "Cisco NCS 2000 Series Control Card and Node Configuration Guide, Release 10.x.x". • "NTP-G209 Creating, Editing, and Deleting Optical Sides" task in the "Cisco NCS 2000 Series Control Card and Node Configuration Guide, Release 10.x.x".
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note When the optical side isn't configured, you could start the OTDR scan on that fiber. However, you must ensure that the far end of the fiber has no OSC in service.

Procedure

Step 1 In the node view, click the **Maintenance** > **DWDM** > **OTDR** tabs.

Step 2 From the **OTDR Port** drop-down list, choose the port on which you want to perform the scan.

Step 3 Click **Line Rx** or **Line Tx** tabs.

Step 4 Click **Reflection** or the **Insertion Loss** tabs.

Step 5 Right-click **Location [km] Accuracy (km)** row in the Reflection table or the Insertion Loss table and choose **Scan for Event** to start an OTDR event scan.

Step 6 Click **Yes** in the **Start Event Scan** dialog box.

When the event scan is completed, the OTDR event scan result is displayed on the graph. The value in the **Sector** drop-down list changes to **Event Scan Result**. To zoom in or zoom out of a graph, see DLP-G785 Zoom In/Out with Graphs, on page 13.

Note You can set the Refractive Index (RI) and Backscatter Coefficient (BS) parameters before performing the OTDR scan in the **Provisioning** > **WDM-ANS** > **OTDR** > **Side** > **RI & BS** tab. These parameters help to know the location of the fiber cut, adapt the OTDR scan to specific fiber used, and retrieve a better event location measure. To set RI and BS values for the OTDR scan, see Perform OTDR Scan with RI & BS.

When you change the RI value and run the expert scan, the baseline line graph is displayed instead of the new graph. After changing the RI value, run the scan, and after the scan is completed, set it as the baseline and refresh.

Note When OTDR measures variation of reflection or insertion loss higher than the threshold values set in the **Provisioning** > **WDM-ANS** > **OTDR** > **Side** > **Baseline Thresholds** tab, the corresponding alarms are raised in CTC. This check is performed only on the detected events. The corresponding row in the Last Scan column turns yellow.

Scan on event executes an Expert Scan with a specific set of parameters defined for any kind of fiber plant. Since the set of parameters computed doesn't take into account the specific characteristics of the fiber plant, it's possible that the event under analysis isn't found and reported in the event table associated to the scan on the event panel even if the graph is correctly reported. To overcome the issue, follow this procedure:

a) Copy the Scan on Event scan parameters from the OTDR details panel.

b) Configure Expert Scan using copied parameters as the starting point. Execute several Expert Scans by incrementing the following parameters, until the event is correctly identified and the related amplitude is reported in the table.

- Capture Offset (start point)
- Capture Length (end point)
- Pulse Width
- Resolution

Step 7 Click the **Fiber End** tab to view the baseline and last scan values of EOF (End of Fiber).

OTDR identifies EOF as a fiber termination event along with the reflection or loss event. EOF is checked along the life of the fiber plant to check for possible changes to fiber length. If the fiber length is higher than 20dB or 100 km, it's not guaranteed to find the EOF.

Note Fiber end accuracy isn't available for legacy scan.

Step 8 Click the **ORL** tab to view the baseline and last scan values of the measured ORL.

Step 9 Return to your originating procedure (NTP).

Perform OTDR Scan with RI & BS

This task enables you to perform the OTDR scan with Refractive Index (RI) and Backscatter Coefficient (BS) parameters to know the location of the fiber cut.

Note OTDR system can autonomously trigger ORL training for calibration when required without user trigger.

Procedure

Step 1 In the node view, click the **Provisioning** > **WDM-ANS** > **OTDR** tabs.

Step 2 Click **Side** tab.

Step 3 From the **OTDR Position** drop-down list, choose a slot position on which you choose to perform the scan.

Step 4 Click **RI & BS** tab to enable configuration of the RI and BS parameters on the port by navigating to **Provisioning** > **WDM-ANS** > **OTDR** > **Side** > **RI & BS** tab.

Step 5 Enter the values in the table under the RI and BS parameter columns.

There are default values set in the table for both the RI and BS parameters. The value for RI is 1.4986 and BS is -82. To configure and define the fiber, the values of parameters in the table can be changed. There is a defined range of values that can be entered in both the RI and BS columns. The value range for RI is from 1 to 2, and for BS is 0 to -100.

Step 6 Click **Apply**.

Click **Reset** to reset values to default.

Note Updating the values of RI results in change of the Line graph located at **Maintenance** > **DWDM** > **OTDR**. It is recommended that after you change the value of the RI, set a new baseline scan as an existing baseline cannot be deleted.

An External SOR viewer application reports Loss in the SOR file for applications that use relative value.

The Backscatter Coefficicent value can translate in upward or downward plotting of trace depending on the backscatter coefficient.

The RI & BS are configured as per the fiber connected to the node. Wrong RI & BS values may cause unexpected results.

Accuracy of fiber end will not be available if the scan is performed over legacy sectors. Accuracy will be available once the fiber end is detected through OTDR scan in Auto Sector.

Successful OTDR scan over the fiber length of more than 100 km can trigger the OTDR-FIBER-END-NOT-DETECTED alarm.

DLP-G785 Zoom In/Out with Graphs

Purpose	This task allows you to zoom in or zoom out of a graph.

Tools/Equipment	TNCS-O or TNCS-2O card
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 To zoom in, into the desired section in the graph displayed on the CTC screen, position the mouse cursor at one end of the section, click, and draw a box over the section. Repeat this step to zoom in further.

Step 2 To zoom out, simultaneously do the following:

- Press and hold the Shift Key on your keyboard.
- Click the mouse cursor anywhere on the graph and draw a box at that point.

Step 3 Click **Refresh** to zoom out completely and return to the original view of the graph.

Step 4 To move to the desired view of graph section displayed on the CTC screen, do the following:

- Right click the mouse cursor on a point on the graph and move to the desired view.

Step 5 Return to your originating procedure (NTP).

NTP-G76 Verify Optical Span Loss Using CTC

Purpose	This procedure verifies the span loss between two DWDM nodes using Cisco Transport Controller (CTC). Perform this procedure after a node or network modification has occurred and you want to verify that the span loss between the nodes has not changed.
Tools/Equipment	None

Prerequisite Procedures	- In the *Cisco ONS 15454 DWDM Configuration Guide*: - All procedures in the chapter "Turn Up a Node". - If an OSC exists on the link, create an OSC termination link by completing the "NTP-G38 Provision OSC Terminations" procedure in the chapter "Turn Up a Node". - If an OSC is not present on the link, create OTS provisionable patchcord terminations on line ports by completing the "NTP-G184 Create a Provisionable Patchcord" procedure in the chapter "Create Optical Channel Circuits and Provisionable Patchcords", as required. - Ensure at least one channel is activated before performing this procedure on Raman links. - "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	Superuser only

Note Using CTC to verify span loss is faster than a span loss measurement using an optical time domain reflectometer (OTDR) and does not require fibers to be removed. However, the resolution is not as precise as an OTDR measurement.

Note For a PSM card in line (or path) protection configuration, the span loss is measured for both the working and protect paths.

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning > Comm Channels > OSC** tabs. Verify that two OSC terminations are provisioned and have an In-Service and Normal (IS-NR) (ANSI) or Unlocked-enabled (ETSI) service state.

Note If a DCN extension is provisioned, verify that two provisionable patchcords are provisioned between the nodes

Step 2 Click the **Maintenance > DWDM > WDM Span Check** tabs.

Step 3 Click **Retrieve Span Loss Values** to retrieve the latest span loss data.

Step 4 View the following information:

- Side—Shows the side to which the span loss values apply, from A through H.
- Measured By—Shows the different methods used to measure span loss:
  - OSC—The OSC is used to measure the span loss
  - CHANNEL—The provisioned circuits are used to measure the span loss.

    Note CTC automatically chooses the method (OSC or CHANNEL) to use for span loss measurement depending on which method is available and more accurate .

  - Current Span Measure with Raman—Estimated span loss with Raman pump turned ON.
  - Wizard Span Measure with Raman Off—Span loss with Raman pump turned OFF, during Raman installation.
  - Last Span Measure with Raman Off—Span loss after a fiber cut restoration procedure.

  Note The first span loss measurements must be triggered by the user and subsequent measurements are performed automatically on an hourly basis.

- Min Expected Span Loss (dB)—Shows the expected minimum span loss (in dB). You can change the minimum by entering a new value in the field.
- Max Expected Span Loss (dB)—Shows the expected maximum span loss (in dB). You can change the maximum by entering a new value in the field.

  Note The minimum and maximum expected span loss values are calculated by Cisco TransportPlanner and imported to the node when you perform the "NTP-G143 Import the Cisco TransportPlanner NE Update Configuration File" task in the chapter, "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide*.

- Meas. Span Loss (dB)—Shows the measured span loss (in dB).
- Resolution (dB)—Shows the accuracy of the span loss measurement (in dB).

If the measured span loss is not between the minimum and maximum expected span loss, which includes a measurement tolerance that is compliant with the Resolution value, the Span Loss Out of Range alarm is raised. Refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide* for instructions on how to clear this alarm.

Stop. You have completed this procedure.

NTP-G77 Manage Automatic Power Control

Purpose	This procedure manages APC. It displays APC information at the network-level and node-level APC domain level, and it enables and disables APC domains.
Tools/Equipment	None

Prerequisite Procedures	• All procedures in the chapters "Turn Up a Node" and "Turn Up a Network" in the *Cisco ONS 15454 DWDM Configuration Guide*. • Complete the "DLP-G46 Log into CTC" task as described in the "Connect the PC and Log into the GUI" document at a node where you want to manage APC.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Note An APC domain is a set of nodes that are regulated by the same instance of APC at the network level. An APC domain optically identifies a network portion that can be independently regulated. Every domain is terminated by two node sides residing on a terminal node, ROADM node, hub node, line termination meshed node, or an XC termination meshed node. For more information about APC, refer to the "Automatic Power Control" section in the Network Reference chapter in the *Cisco ONS 15454 DWDM Configuration Guide*.

Procedure

Complete the following tasks as necessary:

- DLP-G157 Disable Automatic Power Control, on page 17
- DLP-G158 Enable Automatic Power Control , on page 18
- DLP-G430 Run Automatic Power Control, on page 19
- DLP-G159 View Node-Level Automatic Power Control Information, on page 20
- DLP-G431 View Network-Level Automatic Power Control Information, on page 21

Stop. You have completed this procedure.

DLP-G157 Disable Automatic Power Control

Purpose	This task disables APC.
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	Superuser only

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Caution Disable APC only to perform specific troubleshooting or node provisioning tasks. Always enable and run APC as soon as the tasks are completed. Leaving APC disabled can cause traffic loss.

Procedure

Step 1 From the View menu, choose **Go to Network View** .

Step 2 Click the **Maintenance** > **APC** tabs.

Step 3 Click **Refresh**.

The APC Discovery dialog box appears with the discovered APC domains. It may take 10-15 seconds for all the domains to appear. Each discovered domain will be identified as "Discovered: Domain" followed by "node name side, node name side". If APC could not be discovered on a node, a triangle with an exclamation point appears next to the node. If this occurs, double-click the node to display the reason. If you want to save the APC discovery results to a text file, complete the following sub-steps. Otherwise, continue with Step 4, on page 18.

a) Click **Save**.
b) In the Save Detailed Error Dialog to File dialog box, enter the path to a local or network server where you want to save the file, or click **Browse** to navigate to the directory.
c) Click **OK**.

Step 4 Click **Close** to close the APC Discovery dialog box.

Step 5 Choose the domain that you want to disable.

Only domains with a status, APC State: Enabled, can be disabled.

Step 6 Click **Disable APC**.

Step 7 In the APC window, verify that the Check APC State status changes to Disable.

Step 8 Return to your originating procedure (NTP).

DLP-G158 Enable Automatic Power Control

Purpose	This task enables the DWDM APC.
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	Superuser only

Procedure

Step 1 From the View menu, choose **Go to Network View**.

Step 2 Click the **Maintenance** > **APC** tabs.

Step 3 Click **Refresh**.

The APC Discovery dialog box appears with the discovered APC domains. It may take 10-15 seconds for all the domains to appear. Each discovered domain will be identified as "Discovered: Domain" followed by "node name side, node name side". If APC could not be discovered on a node, a triangle with an exclamation point appears next to the node. If this occurs, double-click the node to display the reason. If you want to save the APC discovery results to a text file, complete the following sub-steps. Otherwise, continue with Step 4, on page 19.

a) Click **Save**.

b) In the Save Detailed Error Dialog to File dialog box, enter the path to a local or network server where you want to save the file, or click **Browse** to navigate to the directory.

c) Click **OK**.

Step 4 Click **Close** to close the APC Discovery dialog box.

Step 5 Choose the domain that you want to enable. (Only domains with a status, APC State: Disabled can be enabled.)

Step 6 Click **Enable APC**.

Step 7 In the APC window, verify that the Check APC State status changes to Enable.

Step 8 Return to your originating procedure (NTP).

DLP-G430 Run Automatic Power Control

Purpose	This task runs the DWDM APC.
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	Superuser only

Procedure

Step 1 From the View menu, choose **Go to Network View**.

Step 2 Click the **Maintenance** > **APC** tabs.

Step 3 Click **Refresh**.

The APC Discovery dialog box appears with the discovered APC domains. It may take 10-15 seconds for all the domains to appear. Each discovered domain will be identified as "Discovered: Domain" followed by "node name side, node name side". If APC could not be discovered on a node, a triangle with an exclamation point appears next to the node. If this occurs, double-click the node to display the reason. If you want to save the APC discovery results to a text file, complete the following sub-steps. Otherwise, continue with Step 4, on page 20.

a) Click **Save**.

b) In the Save Detailed Error Dialog to File dialog box, enter the path to a local or network server where you want to save the file, or click **Browse** to navigate to the directory.

c) Click **OK**.

Step 4 Click **Close** to close the APC Discovery dialog box.

Step 5 Click **Run APC**.

Step 6 Return to your originating procedure (NTP).

DLP-G159 View Node-Level Automatic Power Control Information

Purpose	This task displays the node-level APC information.
Tools/Equipment	A node provisioning plan prepared by Cisco Transport Planner is required.
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	Superuser only

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Maintenance** > **DWDM** > **APC** tabs.

Step 2 In the Side field, choose the side where you want to view the APC information. Options include A, B, C, D, E, F, G, and H (D through H do not appear if the sides are not provisioned). Choose **All** to choose all sides.

Note If you have created a side for the PSM card, the Side field will display both the working (w) and the protected (p) side.

Step 3 Click **Refresh**.

Step 4 View the APC information:

- Position—The node, side, and slot.
- Last Modification-—The last time a modification to the APC parameters occurred, in Date-Hour-Time Zone format. APC parameters are reported only when their ports are in IS-NR/Unlocked-enabled service state.
- Parameter—The parameter that was last modified. Parameters can include:
  - Gain and optical power setpoints on the LINE-TX ports of the OPT-BST, OPT-BST-L, OPT-BST-E, OPT-AMP-L, OPT-AMP-17-C, OPT-AMP-C, OPT-EDFA-17,OPT-EDFA-24, and OPT-EDFA-35 cards.
  - Gain and optical power setpoints on the COM-TX port of the OPT-PRE card.
  - Gain setpoints on the DC-TX ports of the OPT-RAMP-C and OPT-RAMP-CE cards.
  - VOA target attenuation on the DC-TX ports of the OPT-RAMP-C and OPT-RAMP-CE cards.

    - VOA target attenuation on the COM-RX ports of 32DMX, 32DMX-O, 32DMX-L, and 40-DMX-C/40-DMX-CE cards.
    - VOA target attenuation on the COM-RX ports of 32DMX, 32DMX-O, 32DMX-L, and 40-DMX-C/40-DMX-CE cards.
    - VOA target attenuation on the W-RX and P-RX ports of the PSM card.

- Last Check—The date and time the APC parameters were last monitored, in Date-Hour-Time Zone format. APC parameters are reported only when their ports are in IS-NR/Unlocked-enabled service state.
- Side—The letter of the side, A through H.

  Note If you have created a side for the PSM card, the Side field will display both the working (w) and the protected (p) side.

- APC State-Displays the APC state:
    - Enabled—APC is enabled.
    - Disabled—User-APC was disabled by a user action.
    - Disabled Internal—APC was disabled by an internal action.
    - Not Applicable—APC parameters are not reported, for example, does not apply to the side, for example, no amplifiers are installed.

Step 5 Return to your originating procedure (NTP).

DLP-G431 View Network-Level Automatic Power Control Information

Purpose	This task displays the network-level APC information.
Tools/Equipment	A node provisioning plan prepared by Cisco Transport Planner is required.
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	Superuser only

Procedure

Step 1 From the View menu, choose **Go to Network View**.

Step 2 Click the **Maintenance** > **APC** tabs.

Step 3 Double-click the domain for which you want to view APC information.

Step 4 Right-click the APC span under the domain and choose the node and span.

Step 5 View the APC information:

- Domain—Optically identifies a set of nodes that can be independently regulated by the same instance of APC at the network level. Every domain is terminated by two node sides residing on a terminal node, ROADM node, hub node, line termination meshed node, or an XC termination meshed node.
- APC State—Displays the APC state:
  - Enabled—APC is enabled.
  - Disabled—User-APC was disabled by a user action.
  - Disabled—Internal-APC was disabled by an internal action.
  - Not Applicable—APC parameters are not normally reported, for example, a gain set point when working mode is set to Control Power.
- Admin State—Displays the admin state of the APC engine:
  - Free to run
  - APC Disabled
  - APC Disabled Internal
- Progress State—Indicates the APC engine state:
  - APC Running
  - APC Aborted
  - APC Run Completed
- Run APC—Runs the APC function manually for the selected domain. To run APC on multiple domains, press CTRL and select the desired domains, before clicking Run APC.

Step 6 Return to your originating procedure (NTP).

NTP-G78 View Side Power Monitoring

Purpose	This procedure allows you to view the side power levels.
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	Superuser only

Note This procedure applies to all DWDM node types except nodes without add/drop cards (for example, line sites) or nodes with add/drop cards such as AD-xC or AD-xB cards.

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Maintenance** > **DWDM** > **Side Power Monitoring** > **Optical Side** n tabs, where n = A, B, C,D.

Step 2 On the **Side Power Monitoring** tab, view the bar charts of the input and output spectrum on each optical side of the node.

The IN bar graph displays the optical spectrum at the input port (LINE-RX) of the side in the direction from the fiber to the node provided the OCM functionality is available on this port else the graph displays the aggregate signal spectral distribution on the first port in the signal flow (indicated in the title of the bar chart) that is downstream of the LINE-RX port where an OCM measurement is available (For example, in node using a booster and 40-SMR1-C card, the measurement is done on the EXP port of the 40-SMR1-C card).

The OUT bar graph displays the optical spectrum at the output port (LINE-TX) of the side in the direction from the node to the fiber provided the OCM functionality is available on this port else the graph displays the aggregate signal spectral distribution on the first port (indicated in the title of the bar chart) that is upstream of the LINE-TX port where an OCM measurement is available.

Note Depending on the side layout, the LINE-TX port (output) and the LINE-RX port (input) of the card facing the fiber cannot measure the optical spectrum in a reliable manner if the OCM functionality is not available on these ports.

Note The DWDM cards supporting this feature are designed to handle minor differences in output power. The output power does not need to be exactly the same for all wavelengths.

Step 3 If needed, click **Refresh** to update the display.

Stop. You have completed this procedure.

NTP-G80 Change Node Management Information

Purpose	This procedure changes the node name, date, time, contact information, and login legal disclaimer.
Tools/Equipment	None

Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • "NTP-G24 Set Up Name, Date, Time, and Contact Information" in the chapter, "Turn Up a Node" of the *Cisco ONS 15454 DWDM Configuration Guide*. • "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **General** tabs.

Step 2 Complete the "DLP-G160 Change the Node Name, Date, Time, and Contact Information, on page 24" task, as needed.

Step 3 Complete the "DLP-G161 Change the Login Legal Disclaimer, on page 25" task, as needed.

Stop. You have completed this procedure.

DLP-G160 Change the Node Name, Date, Time, and Contact Information

Purpose	This task changes basic information such as node name, date, time, and contact information.
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 Changing the date, time, or time zone might invalidate the node's performance monitoring counters.

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **General** tabs.

Step 2 Change any of the following:

- General: Node Name
- General: Contact
- Location: Latitude
- Location: Longitude
- Location: Description
- Time: Use NTP/SNTP Server
- Time: NTP/SNTP Server IP Address (if Use NTP/SNTP Server is checked)
- Time: Date (M/D/Y)
- Time: Time (H:M:S)
- Time: Time Zone
- Time: Use Daylight Saving Time
- S-V Insertion On STS-1 Signal Degrade - Path: Insert AIS-V on STS-1 SD-P
- AIS-V Insertion On STS-1 Signal Degrade - Path: SD-P BER

Note To see changes to longitude or latitude on the network map, you must go to network view and right-click the specified node, then click **Reset Node Position**.

See the "NTP-G24 Set Up Name, Date, Time, and Contact Information" procedure in the chapter "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide* for detailed field descriptions.

Step 3 Click **Apply**.

Step 4 Return to your originating procedure (NTP).

DLP-G161 Change the Login Legal Disclaimer

Purpose	This task modifies the legal disclaimer statement shown in the CTC login dialog box so that it will display customer-specific information when users log in to the network.
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	Superuser only

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **Legal Disclaimer** > **HTML** tabs

Step 2 The existing statement is a default, non-customer-specific disclaimer. If you want to edit this statement with specifics for your company, you can change the text. Use the HTML commands in the following table to format the text, as needed.

Command	Description
<b>	Begins boldface font
</b>	Ends boldface font
<center>	Aligns type in the center of the window
</center>	Ends the center alignment
<font=n> (where n = font point size)	Changes the font to the new size
</font>	Ends the font size command
<p>	Creates a line break
<sub>	Begins subscript
</sub>	Ends subscript
<sup>	Begins superscript
</sup>	Ends superscript
<u>	Begins underline
</u>	Ends underline

Step 3 If you want to preview your changed statement and formatting, click the **Preview** subtab.

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

NTP-G134 Modify OSI Provisioning

Purpose	This procedure modifies the ONS 15454 OSI parameters including the OSI routing mode, TARP, routers, subnets, and IP-over-CLNS tunnels.
Tools/Equipment	None

Prerequisite Procedures	"NTP-G132 Provision OSI" procedure in the "Turn Up a Node" chapter of the *Cisco ONS 15454 DWDM Configuration Guide*. "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 Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Step 2 Perform any of the following tasks as needed:

- DLP-G284 Modify the TARP Operating Parameters, on page 27
- DLP-G285 Add a Static TID-to-NSAP Entry to the TARP Data Cache. Refer the chapter, "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide*.
- DLP-G186 Delete an OSC Termination, on page 68
- DLP-G287 Add a TARP Manual Adjacency Table Entry, on page 30
- DLP-G292 Remove a TARP Manual Adjacency Table Entry, on page 31
- DLP-G293 Change the OSI Routing Mode, on page 31
- DLP-G294 Edit the OSI Router Configuration, on page 33
- DLP-G295 Edit the OSI Subnetwork Point of Attachment, on page 34
- DLP-G296 Edit an IP-Over-CLNS Tunnel, on page 35
- DLP-G297 Delete an IP-Over-CLNS Tunnel, on page 36

Step 3 Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Stop. You have completed this procedure.

DLP-G284 Modify the TARP Operating Parameters

Purpose	This task modifies the TARP operating parameters including TARP protocol data unit (PDU) propagation, timers, and loop detection buffer (LDB).
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	Superuser only

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **OSI** > **TARP** > **Config** tabs.

Step 2 Provision the following parameters, as needed:

- TARP PDUs L1 Propagation—If checked (default), TARP Type 1 PDUs that are received by the node and are not excluded by the LDB are propagated to other NEs within the Level 1 OSI area. (Type 1 PDUs request a protocol address that matches a target identifier [TID] within a Level 1 routing area.) The propagation does not occur if the NE is the target of the Type 1 PDU, and PDUs are not propagated to the NE from which the PDU was received

  Note The TARP PDUs L1 Propagation parameter is not used when the Node Routing Area (Provisioning > OSI > Main Setup tab) is set to End System.

- TARP PDUs L2 Propagation—If checked (default), TARP Type 2 PDUs received by the node that are not excluded by the LDB are propagated to other NEs within the Level 2 OSI areas. (Type 2 PDUs request a protocol address that matches a TID within a Level 2 routing area.) The propagation does not occur if the NE is the target of the Type 2 PDU, and PDUs are not propagated to the NE from which the PDU was received.

  Note The TARP PDUs L2 Propagation parameter is only used when the Node Routing Area is provisioned to Intermediate System Level 1/Level 2

- TARP PDUs Origination—If checked (default), the node performs all TARP origination functions including:
  - TID to Network Service Access Point (NSAP) resolution requests (originate TARP Type 1 and Type 2 PDUs)
  - NSAP to TID requests (originate Type 5 PDUs)
  - TARP address changes (originate Type 4 PDUs)

  Note TARP Echo and NSAP to TID are not supported.

- TARP Data Cache—If checked (default), the node maintains a TARP data cache (TDC). The TDC is a database of TID-to-NSAP pairs created from TARP Type 3 PDUs that are received by the node and modified by TARP Type 4 PDUs (TID-to-NSAP updates or corrections). TARP 3 PDUs are responses to Type 1 and Type 2 PDUs. The TDC can also be populated with static entries entered on the TARP > Static TDC tab.

  Note This parameter is only used when the TARP PDUs Origination parameter is enabled.

- L2 TARP Data Cache—If checked (default), the TIDs and NSAPs of NEs originating Type 2 requests are added to the TDC before the node propagates the requests to other NEs.

Note The L2 TARP Data Cache parameter is designed for Intermediate System Level 1/Level 2 nodes that are connected to other Intermediate System Level 1/Level 2 nodes. Enabling the parameter for Intermediate System Level 1 nodes is not recommended.

- LDB—If checked (default), enables the TARP loop detection buffer. The LDB prevents TARP PDUs from being sent more than once on the same subnet.

  Note The LDB parameter is not used if the Node Routing Mode is provisioned to End System or if the TARP PDUs L1 Propagation parameter is not enabled.

- LAN TARP Storm Suppression—If checked (default), enables TARP storm suppression. This function prevents redundant TARP PDUs from being unnecessarily propagated across the LAN network.
- Send Type 4 PDU on Startup—If checked, a TARP Type 4 PDU is originated during the initial ONS 15454 startup. Type 4 PDUs indicate that a TID or NSAP change has occurred at the NE. (The default setting is not enabled.)
- Type 4 PDU Delay—Sets the amount of time that will pass before the Type 4 PDU is generated when Send Type 4 PDU on Startup is enabled. 60 seconds is the default. The range is 0 to 255 seconds.

  Note The Send Type 4 PDU on Startup and Type 4 PDU Delay parameters are not used if the TARP PDUs Origination parameter is not enabled.

- LDB Entry—Sets the TARP loop detection buffer timer. The LDB buffer time is assigned to each LDB entry for which the TARP sequence number (tar-seq) is zero. The default is 5 minutes. The range is 1 to 10 minutes.
- LDB Flush—Sets the frequency period for flushing the LDB. The default is 5 minutes. The range is 0 to 1440 minutes.
- T1—Sets the amount of time to wait for a response to a Type 1 PDU. Type 1 PDUs seek a specific NE TID within an OSI Level 1 area. The default is 15 seconds. The range is 0 to 3600 seconds.
- T2—Sets the amount of time to wait for a response to a Type 2 PDU. TARP Type 2 PDUs seek a specific NE TID value within OSI Level 1 and Level 2 areas. The default is 25 seconds. The range is 0 to 3600 seconds.
- T3—Sets the amount of time to wait for an address resolution request. The default is 40 seconds. The range is 0 to 3600 seconds.
- T4—Sets the amount of time to wait for an error recovery. This timer begins after the T2 timer expires without finding the requested NE TID. The default is 20 seconds. The range is 0 to 3600 seconds.

Note The T1, T2, and T4 timers are not used if TARP PDUs Origination is not enabled.

Step 3 Click **Apply**.

Step 4 Return to your originating procedure (NTP).

DLP-G286 Remove a Static TID to NSAP Entry from the TARP Data Cache

Purpose	This task removes a static TID to NSAP entry from the TDC.
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 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **OSI** > **TARP** > **Static TDC** tabs.

Step 2 Click the static entry that you want to delete.

Step 3 Click **Delete Static Entry**.

Step 4 n the Delete TDC Entry dialog box, click **Yes**.

Step 5 Return to your originating procedure (NTP).

DLP-G287 Add a TARP Manual Adjacency Table Entry

Purpose	This task adds an entry to the TARP manual adjacency table (MAT). Entries are added to the MAT when the ONS 15454 must communicate across routers or non-SONET NEs that lack TARP capability.
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 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **OSI** > **TARP** > **MAT** tabs.

Step 2 Click **Add**.

Step 3 In the Add TARP Manual Adjacency Table Entry dialog box, enter the following:

- Level-Sets the TARP Type Code that will be sent:
  - **Level 1**—Indicates that the adjacency is within the same area as the current node. The entry generates Type 1 PDUs.
  - **Level 2**—Indicates that the adjacency is in a different area from the current node. The entry generates Type 2 PDUs.

- NSAP—Enter the OSI NSAP address in the NSAP field or, if preferred, click **Use Mask** and enter the address in the Masked NSAP Entry dialog box.

Step 4 Click **OK** to close the Masked NSAP Entry dialog box, if used, and then click **OK** to close the Add Static Entry dialog box.

Step 5 Return to your originating procedure (NTP).

DLP-G292 Remove a TARP Manual Adjacency Table Entry

Purpose	This task removes an entry from the TARP MAT.
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** If TARP manual adjacency is the only means of communication to a group of nodes, loss of visibility will occur when the adjacency table entry is removed.

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **OSI** > **TARP** > **MAT** tabs.

Step 2 Click the MAT entry that you want to delete.

Step 3 Click **Remove**.

Step 4 the Delete TDC Entry dialog box, click **OK**.

Step 5 Return to your originating procedure (NTP).

DLP-G293 Change the OSI Routing Mode

Purpose	This task changes the OSI routing mode.
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 Do not complete this procedure until you confirm the role of the node within the network. It will be either an ES, IS Level 1, or IS Level 1/Level 2. This decision must be carefully considered. For additional information about OSI provisioning, refer to the "Management Network Connectivity" chapter of the *Cisco ONS 15454 DWDM Configuration Guide*.

⚠

Caution Link state PDU (LSP) buffers must be the same at all NEs within the network, or loss of visibility could occur. Do not modify the LSP buffers unless you are sure that all NEs within the OSI have the same buffer size.

⚠

Caution LSP buffer sizes cannot be greater than the LAP-D MTU size within the OSI area.

Procedure

Step 1 Verify the following:

- All L1/L2 virtual routers on the NE must reside in the same area. This means that all neighboring virtual routers must have at least one common area address.
- For OSI L1/L2 to ES routing mode changes, only one L1/L2 virtual router and no more than one subnet can be configured.
- For OSI L1 to ES routing mode changes, only one L1 virtual router and no more than one subnet can be configured.

Step 2 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **OSI** > **Main Setup** tabs.

Step 3 Choose one of the following node routing modes:

- End System—The ONS 15454 performs OSI IS functions. It communicates with IS and ES nodes that reside within its OSI area. It depends upon an IS L1/L2 node to communicate with IS and ES nodes that reside outside its OSI area.
- Intermediate System Level 1—The ONS 15454 performs IS functions. It communicates with IS and ES nodes that reside within its OSI area. It does not communicate with IS nodes that reside in other OSI areas except through an IS L1/L2 node residing in its own area
- Intermediate System Level 1/Level 2—The ONS 15454 performs IS functions. It communicates with IS and ES nodes that reside within its OSI area. It also communicates with IS L1/L2 nodes that reside in other OSI areas. Before choosing this option, verify the following:
  - The node is connected to another IS Level 1/Level 2 node that resides in a different OSI area.
  - The node is connected to all nodes within its area that are provisioned as IS L1/L2.

Note Changing a routing mode should be carefully considered. Additional information about OSI ESs and ISs and the ES-IS and IS-IS protocols are provided in the "Management Network Connectivity" chapter of the *Cisco ONS 15454 DWDM Configuration Guide*.

Step 4 Although Cisco does not recommend changing the LSP buffer sizes, you can adjust the buffers in the following fields:

- L1 LSP Buffer Size—Adjusts the Level 1 link state PDU buffer size.
- L2 LSP Buffer Size—Adjusts the Level 2 link state PDU buffer size.

Step 5 Return to your originating procedure (NTP).

DLP-G294 Edit the OSI Router Configuration

Purpose	This task allows you to edit the OSI router configuration, including enabling and disabling OSI routers, editing the primary area address, and creating or editing additional area addresses.
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 Click the **Provisioning** > **OSI** > **Routers** > **Setup** tabs.

Step 2 Choose the router you want to provision and click **Edit**.

Step 3 In the OSI Router Editor dialog box:

a) Check or uncheck the Enabled box to enable or disable the router.

Note Router 1 must be enabled before you can enable Routers 2 and 3.

b) For enabled routers, edit the primary area address, if needed. The address can be between 8 and 24 alphanumeric characters in length.

c) If you want to add or edit an area address to the primary area, enter the address at the bottom of the Multiple Area Addresses area. The area address can be 2 to 26 numeric characters (0-9) in length. Click **Add**.

d) Click **OK**.

Step 4 Return to your originating procedure (NTP).

DLP-G295 Edit the OSI Subnetwork Point of Attachment

Purpose	This task allows you to view and edit the OSI subnetwork point of attachment parameters. The parameters are initially provisioned when you create a section data communications channel (SDCC) (ANSI) or regeneration section (RS-DCC) (ETSI), Line data communications channel (LDCC) (ANSI) or multiplex section (MS-DCC) (ETSI), generic communications channel (GCC), or optical service channel (OSC), or when you enable the LAN subnet.
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 If the subnet router is not enabled, complete the DLP-G294 Edit the OSI Router Configuration, on page 33 task to enable it. If it is enabled, continue with Step 2, on page 34.

Step 2 In the node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **OSI** > **Routers** > **Subnet** tabs.

Step 3 Choose the subnet you want to edit, then click **Edit**.

Step 4 In the Edit <*subnet type*> Subnet <*slot/port*> dialog box, edit the following fields:

- ESH—The End System Hello (ESH) PDU propagation frequency. An end system NE transmits ESHs to inform other ESs and ISs about the NSAPs it serves. The default is 10 seconds. The range is 10 to 1000 seconds.
- ISH—The Intermediate System Hello (ISH) PDU propagation frequency. An intermediate system NE sends ISHs to other ESs and ISs to inform them about the NEs it serves. The default is 10 seconds. The range is 10 to 1000 seconds.
- IIH—The Intermediate System to Intermediate System Hello (IIH) PDU propagation frequency. The IS-IS Hello PDUs establish and maintain adjacencies between ISs. The default is 3 seconds. The range is 1 to 600 seconds .

Note The IS-IS Cost and DIS Priority parameters are provisioned when you create or enable a subnet. You cannot change the parameters after the subnet is created. To change the DIS Priority and IS-IS Cost parameters, delete the subnet and create a new one.

Step 5 Click **OK**.

Step 6 Return to your originating procedure (NTP).

DLP-G296 Edit an IP-Over-CLNS Tunnel

Purpose	This task allows you to edit the parameters of an IP-over-CLNS tunnel.
Tools/Equipment	None
Prerequisite Procedures	DLP-G291 Create an IP-Over-CLNS Tunnel. Refer the chapter "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide*. "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 Click the **Provisioning** > **OSI** > **Tunnels** tabs.

Step 2 Click **Edit**.

Step 3 In the Edit IP Over OSI Tunnel dialog box, complete the following fields:

- Tunnel Type-Edit the tunnel type:
  - **Cisco**—Creates the proprietary Cisco IP tunnel. Cisco IP tunnels add the CLNS header to the IP packets.
  - **GRE**—Creates a generic routing encapsulation (GRE). GRE tunnels add the CLNS header and a GRE header to the IP packets.

    The Cisco proprietary tunnel is slightly more efficient than the GRE tunnel because it does not add the GRE header to each IP packet. The two tunnel types are not compatible. Most Cisco routers support the Cisco IP tunnel, while only a few support both GRE and Cisco IP tunnels. You generally should create Cisco IP tunnels if you are tunneling between two Cisco routers or between a Cisco router and an ONS node.

    Caution Always verify that the IP-over-CLNS tunnel type you choose is supported by the equipment at the other end of the tunnel.

- IP Address—Enter the IP address of the IP-over-CLNS tunnel destination.
- IP Mask—Enter the IP address subnet mask of the IP-over-CLNS destination.
- OSPF Metric—Enter the Open Shortest Path First (OSPF) metric for sending packets across the IP-over-CLNS tunnel. The OSPF metric, or cost, is used by OSPF routers to calculate the shortest path. The default is 110. Normally, it is not changed unless you are creating multiple tunnel routes and want to prioritize routing by assigning different metrics.
- NSAP Address—Enter the destination NE or OSI router NSAP address.

Step 4 Click **OK**.

Step 5 Return to your originating procedure (NTP).

DLP-G297 Delete an IP-Over-CLNS Tunnel

Purpose	This task allows you to delete an IP-over-CLNS tunnel.
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** Deleting an IP-over-CLNS tunnel might cause the nodes to lose visibility or cause node isolation. If node isolation occurs, onsite provisioning might be required to regain connectivity. Always confirm tunnel deletions with your network administrator.

Procedure

Step 1 Click the **Provisioning** > **OSI** > **Tunnels** tabs.

Step 2 Choose the IP-over-CLNS tunnel that you want to delete.

Step 3 Click **Delete**.

Step 4 Click **OK**.

Step 5 Return to your originating procedure (NTP).

NTP-G81 Change CTC Network Access

Purpose	This procedure changes or deletes network information, including IP settings, static routes, OSPF options, proxy tunnels, and firewall tunnels.
Tools/Equipment	None

Prerequisite Procedures	- "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. - Complete the "NTP-G26 Set Up CTC Network Access" procedure in the chapter, "Turn Up a Node" of the *Cisco ONS 15454 DWDM Configuration Guide*. - Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note Additional ONS 15454 networking information, including IP addressing examples, dual IP addressing (secure mode) information, static route scenarios, OSPF protocol information, and Routing Information Protocol (RIP) options are provided in the "Management Network Connectivity" chapter of the *Cisco ONS 15454 DWDM Configuration Guide*.

Procedure

Step 1 Perform any of the following tasks as needed:

- DLP-G162 Change IP Settings, on page 38
- DLP-G265 Lock Node Security, on page 39
- DLP-G266 Modify Backplane Port IP Settings in Security Mode, on page 40
- DLP-G267 Disable Secure Mode, on page 42
- DLP-G163 Modify a Static Route, on page 43
- DLP-G164 Delete a Static Route, on page 44
- DLP-G165 Disable OSPF, on page 45
- DLP-G59 Set Up or Change Open Shortest Path First Protocol. Refer the chapter, "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide*.
- DLP-G167 Delete a Firewall Tunnel, on page 45

Step 2 Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Stop. You have completed this procedure.

DLP-G162 Change IP Settings

Purpose	This task changes the IP address, subnet mask, default router, Dynamic Host Configuration Protocol (DHCP) access, firewall Internet Inter-Object Request Broker Protocol (IIOP) listener port, LCD IP display, and proxy server settings.
Tools/Equipment	None
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • DLP-G56 Provision IP Settings in the chapter, "Turn Up a Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Caution Changing the node IP address, subnet mask, or IIOP listener port causes the TCC2/TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards to reboot. If Ethernet circuits using Spanning Tree Protocol (STP) originate or terminate on E-Series Ethernet cards installed in the node, circuit traffic will be lost for several minutes while the spanning trees reconverge. Other circuits are not affected by TCC2/TCC2P/TCC3/TNC/TNCE/TSC/TSCE reboots.

Note If the node contains TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards and is in default (repeater) mode, the node IP address refers to the TCC2P/TCC3/TNC/TNCE/TSC/TSCE front-access TCP/IP (LAN) port as well as the backplane LAN port. If the node is in secure mode, this task only changes the front-access port IP address only. If the node is in secure mode and has been locked, the IP address cannot be changed unless the lock is removed by Cisco Technical Support.

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Network** > **General** tabs.

Step 2 Change any of the following, as required:

- IP Address
- Net/Subnet Mask Length
- Default Router
- IPv6 Configuration
- LCD Setting
- Suppress CTC IP Display

- Forward DHCP Request To

Gateway Settings

- Enable SOCKS proxy on Port. If enabled, one of the following:
    - External Network Element
    - Gateway Network Element
    - SOCK Proxy only

See the "DLP-G56 Provision IP Settings" task in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Configuration Guide* for detailed field descriptions.

Step 3 Click **Apply**.

If you changed a network field that will cause the node to reboot, such as the IP address, or subnet mask, the Change Network Configuration confirmation dialog box appears. If you changed a gateway setting, a confirmation appropriate to the gateway field appears.

Step 4 If a confirmation dialog box appears, click **Yes**.

If you changed an IP address, subnet mask length, TCC2/TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards reboot, one at a time. A TCC2/TCC2P/TCC3/TNC/TNCE/TSC/TSCE card reboot causes a temporary loss of connectivity to the node, but traffic is unaffected.

Step 5 Confirm that the changes appear on the **Provisioning** > **Network** > **General** tabs. If not, refer to the chapter, "General Troubleshooting" in the *Cisco ONS 15454 DWDM Troubleshooting Guide*.

Step 6 Return to your originating procedure (NTP).

DLP-G265 Lock Node Security

Purpose	This task locks the secure mode. When secure mode is locked, two IP addresses must always be provisioned for the node. The first address is provisioned for the TCC2P/TCC3/TNC/TNCE/TSC/TSCE LAN (TCP/IP) port. The second address is provisioned for the backplane LAN port (ONS 15454), EMS RJ-45 port on the ECU (ONS 15454 M6), EMS RJ-45 port on the power module (ONS 15454 M2).
Tools/Equipment	TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards must be installed.
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. "DLP-G264 Enable Node Security Mode" in the chapter, "Turn Up a Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

⚠

Caution When a node is locked, it cannot be unlocked by any user or action. It can only be changed by Cisco Technical Support. Even if the node's database is deleted and another unlocked database is loaded, the node will remain locked. Do not proceed unless you want the node to permanently retain the current secure configuration including dual IP addresses.

Note The options in this task are available only when TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards are installed.

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **Data Comm** tabs.

Step 2 Click **Lock**.

Step 3 In the Confirm Lock Secure Mode dialog box, click **Yes**.

Step 4 Return to your originating procedure (NTP).

DLP-G266 Modify Backplane Port IP Settings in Security Mode

Purpose	This task modifies the ONS 15454 backplane IP address, subnet mask, and default router when security mode is enabled. It also modifies settings that control backplane IP address visibility in CTC and the ONS 15454 LCD.
Tools/Equipment	TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards must be installed.
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • In the *Cisco ONS 15454 DWDM Configuration Guide*: • "NTP-G103 Back Up the Database" procedure in the chapter "Maintain the Node". • DLP-G264 Enable Node Security Mode in the chapter "Turn Up a Node" .
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

⚠

Caution Provisioning an IP address that is incompatible with the ONS 15454 network might be service affecting.

Caution This task cannot be performed on a secure mode NE that has been locked.

Note The options in this task are available only when TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards are installed.

Procedure

Step 1 Click the **Provisioning** > **Security** > **Data Comm** tabs.

Step 2 Modify the following fields, as necessary:

- IP Address
- Subnet Mask
- Default Router
- LCD IP Setting—Choose one of the following:
  - **Allow Configuration**—Displays the backplane IP address on the LCD and allows it to be changed using the LCD buttons.
  - **Display only**—Displays the backplane IP address on the LCD but does not allow it to be changed using the LCD buttons.
  - **Suppress Display**—Suppresses the display of the IP address on the LCD.
- Suppress CTC IP Address—If checked, suppresses the IP address from display on the Data Comm subtab, CTC node view or multishelf view information area, and other locations.
- IPv6 Configuration—Allows provisioning of IPv6 addresses. After you provision an IPv6 address, you can access the device using the IPv6 address. Configure these settings only if you want to enable IPv6 on the node. IPv6 cannot be configured using the LCD push buttons.
- Enable IPv6—Select this check box to assign an IPv6 address to the node. The IPv6 Address, Prefix Length, and IPv6 Default Router fields are enabled only if this check box is selected. The check box is disabled by default.

  Note The Enable SOCKS Proxy on Port check box is enabled when you enable IPv6 and can be disabled only when IPv6 is disabled.

- IPv6 Address—Enter the IPv6 address that you want to assign to the node. This IP address is the global unicast IPv6 address. This field is disabled if the Enable IPv6 check box is not selected.
- Prefix Length-Enter the prefix length of the IPv6 address. This field is disabled if the Enable IPv6 check box is not selected.
- IP6 Default Router—Enter the IPv6 address of the default router of the IPv6 NE. This is optional. This field is disabled if the Enable IPv6 check box is not selected.

  Note ONS platforms use NAT-PT internally to support native IPv6. NAT-PT uses the IPv4 address range 128.x.x.x for packet translation. Do not use this address range when you enable the IPv6 feature.

Caution Ensure that the IPv6 address assigned to the node is unique in the network. Duplicate IP addresses in the same network causes loss of visibility.

Step 3 Click **Apply**.

If you changed the IP address, subnet mask, or default router, the node will reboot. This will take 5 to 10 minutes.

Step 4 Return to your originating procedure (NTP).

DLP-G267 Disable Secure Mode

Purpose	This task disables the secure mode and allows only one IP address to be provisioned for the backplane LAN port (ONS 15454), EMS RJ-45 port on the ECU (ONS 15454 M6), EMS RJ-45 port on the power module (ONS 15454 M2), and the TCC2P/TCC3/TNC/TNCE/TSC/TSCE LAN port.
Tools/Equipment	TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards must be installed.
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • "DLP-G264 Enable Node Security Mode" task in the "Turn Up a Node" chapter of the *Cisco ONS 15454 DWDM Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Note The node will reboot after you complete this task, causing a temporary disconnection between the CTC computer and the node.

Note If you change an NE from secure mode to the default (repeater) mode, the backplane IP address becomes the node IP address.

Note This task cannot be performed if the NE's secure mode configuration is locked. If secure mode is locked, you must contact Cisco Technical Support to change the node configuration.

Note The options in this task are only available when TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards are installed.

Procedure

Step 1 Click the **Provisioning** > **Security** > **Data Comm** tabs.

Step 2 Click **Change Mode**.

Step 3 view the information on the Change Secure Mode wizard page, then click **Next**.

Step 4 On the Node IP Address page, choose the address you want to assign to the node:

- **Backplane Ethernet Port**—Assigns the backplane IP address as the node IP address.
- **TCC Ethernet Port**—Assigns the TCC2P/TCC3/TNC/TNCE/TSC/TSCE port IP address as the node IP address.
- **New IP Address**—Allows you to define a new IP address. If you choose this option, enter the new IP address, subnet mask, and default router IP address.

Step 5 Click **Next**.

Step 6 On the SOCKS Proxy Server Settings page, choose one of the following:

- **External Network Element (ENE)**—If selected, SOCKS proxy will be disabled by default, and the CTC computer is only visible to the ONS 15454 where the CTC computer is connected. The computer is not visible to the secure mode data communications channel (DCC)-connected nodes. Firewall is enabled, which means that the node prevents IP traffic from being routed between the DCC and the LAN port.
- **Gateway Network Element (GNE)**—If selected, the CTC computer is visible to other DCC-connected nodes and SOCKS proxy remains enabled. However, the node prevents IP traffic from being routed between the DCC and the LAN port.
- **Proxy-only**—If selected, the ONS 15454 responds to CTC requests with a list of DCC-connected nodes within the firewall for which the node serves as a proxy. The CTC computer is visible to other DCC-connected nodes. The node does not prevent traffic from being routed between the DCC and LAN port.

Step 7 Click **Finish**.

Within the next 30 to 40 seconds, the TCC2P/TCC3/TNC/TNCE/TSC/TSCE cards reboot. CTC switches to network view, and the CTC Alerts dialog box appears. In network view, the node changes to gray and a DISCONNECTED condition appears.

Step 8 In the CTC Alerts dialog box, click **Close**. Wait for the reboot to finish. (This might take several minutes.)

Step 9 Return to your originating procedure (NTP).

DLP-G163 Modify a Static Route

Purpose	This task modifies a static route on an ONS 15454.
Tools/Equipment	None
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • DLP-G58 Create a Static Route. Refer the chapter, "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide*.

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

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Network** tabs.

Step 2 Click the **Static Routing** tab.

Step 3 Click the static route you want to edit.

Step 4 Click **Edit**.

Step 5 In the Edit Selected Static Route dialog box, enter the following:

- Mask
- Next Hop
- Cost

See the "DLP-G58 Create a Static Route" task in the chapter, "Turn Up a Node" of the *Cisco ONS 15454 DWDM Configuration Guide* for detailed field descriptions.

Step 6 Click **OK**.

Step 7 Return to your originating procedure (NTP).

DLP-G164 Delete a Static Route

Purpose	This task deletes an existing static route on an ONS 15454.
Tools/Equipment	None
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • DLP-G58 Create a Static Route. Refer the chapter, "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Network** > **Static Routing** tabs.

Step 2 Click the static route that you want to delete.

Step 3 Click **Delete**. A confirmation dialog box appears.

Step 4 Click **Yes**.

Step 5 Return to your originating procedure (NTP).

DLP-G165 Disable OSPF

Purpose	This task disables the OSPF routing protocol process for an ONS 15454 LAN.
Tools/Equipment	None
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • DLP-G59 Set Up or Change Open Shortest Path First Protocol. Refer the chapter, "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Network** > **OSPF** tabs. The OSPF subtab has several options.

Step 2 In the OSPF on LAN area, uncheck the **OSPF active on LAN** check box.

Step 3 Click **Apply**. Confirm that the changes appear.

Step 4 Return to your originating procedure (NTP).

DLP-G167 Delete a Firewall Tunnel

Purpose	This task removes a firewall tunnel.
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	Superuser only

Procedure

Step 1 Click the **Provisioning** > **Network** > **Firewall** subtabs.

Step 2 Click the firewall tunnel that you want to delete.

Step 3 Click **Delete**.

Step 4 Return to your originating procedure (NTP).

NTP-G82 Customize the CTC Network View

Purpose	This procedure modifies the CTC network view, including grouping nodes into domains for a less-cluttered display, changing the network view background color, and using a custom image for the network view background.
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	Superuser only

Procedure

Complete the following tasks, as needed:

- DLP-G168 Change the Network View Background Color, on page 47
- DLP-G169 Change the Default Network View Background Map, on page 47
- DLP-G170 Apply a Custom Network View Background Map, on page 48
- DLP-G171 Create Domain Icons, on page 49
- DLP-G172 Manage Domain Icons, on page 50
- DLP-G173 Enable Dialog Box Do-Not-Display Option, on page 51
- DLP-G174 Switch Between TDM and DWDM Network Views, on page 52
- DLP-G330 Consolidate Links in Network View, on page 53

Stop. You have completed this procedure.

DLP-G168 Change the Network View Background Color

Purpose	This task changes the network view background color or the domain view background color (the area displayed when you open a domain).
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	Retrieve or higher

Note If you modify background colors, the change is stored in your CTC user profile on the computer. The change does not affect other CTC users.

Procedure

Step 1 From the View menu in CTC, choose **Go to Network View**.

Step 2 If you want to change a domain background, double-click the domain. If not, continue with Step 3, on page 47.

Step 3 Right-click the network view or domain map area and choose **Set Background Color** from the shortcut menu.

Step 4 In the Choose Color dialog box, select a background color.

Step 5 Click **OK**.

Step 6 Return to your originating procedure (NTP).

DLP-G169 Change the Default Network View Background Map

Purpose	This task changes the default map of the CTC network view.
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	Superuser only

Note If you modify the background image, the change is stored in your CTC user profile on the computer. The change does not affect other CTC users.

Procedure

Step 1 From the Edit menu, choose **Preferences** > **Map** and check the **Use Default Map** check box.

Step 2 Click **Apply**.

Step 3 Click **OK**. Verify that the United States map is displayed.

Step 4 In network view, double-click any node on the map.

Step 5 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Defaults** tabs. Wait for the Defaults selector frame to load the defaults. This could take a few minutes.

Step 6 In the Defaults Selector area, choose **CTC** and then **network**.

You might have to scroll down on the list to find "network."

Step 7 Click the **Default Value** field and choose a default map from the drop-down list. Map choices are Germany, Japan, Netherlands, South Korea, United Kingdom, and the United States.

Step 8 Click **Apply**.

Step 9 Click **OK**.

Step 10 From the View menu, select **Go to Network View**. Confirm that the new map is displayed.

Step 11 If the ONS 15454 icons are not visible, right-click the network view and choose **Zoom Out**. Repeat until all the ONS 15454 icons are visible. (You can also choose **Fit Graph to Window**.)

Step 12 If you need to reposition the node icons, drag and drop them one at a time to a new location on the map.

Step 13 If you want to change the magnification of the icons, right-click the network view and choose **Zoom In**. Repeat until the ONS 15454 icons are displayed at the magnification you want.

Step 14 Return to your originating procedure (NTP).

DLP-G170 Apply a Custom Network View Background Map

Purpose	This task changes the background image or map of the CTC network view.
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	Retrieve or higher

Note You can replace the network view background image with any JPEG or GIF image that is accessible on a local or network drive. If you apply a custom background image, the change is stored in your CTC user profile on the computer. The change does not affect other CTC users.

Procedure

Step 1 From the Edit menu, choose **Preferences** > **Map** and uncheck the **Use Default Map** check box.

Step 2 From the View menu, choose **Go to Network View**.

Step 3 Right-click the network or domain map and choose **Set Background Image**.

Step 4 Click **Browse**. Navigate to the graphic file you want to use as a background.

Step 5 Select the file. Click **Open**.

Step 6 Click **Apply** and then click **OK**.

Step 7 If the ONS 15454 icons are not visible, right-click the network view and choose **Zoom Out**. Repeat this step until all the ONS 15454 icons are visible.

Step 8 If you need to reposition the node icons, drag and drop them one at a time to a new location on the map.

Step 9 If you want to change the magnification of the icons, right-click the network view and choose **Zoom In**. Repeat until the ONS 15454 icons are displayed at the magnification you want.

Step 10 Return to your originating procedure (NTP).

DLP-G171 Create Domain Icons

Purpose	This task creates a domain, which is an icon that groups ONS 15454 icons in CTC network view. By default, domains are visible to all CTC sessions that log in to the network.
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	Superuser only

Note To allow users of any security level to create local domains, that is, domains that are visible on the home CTC session only, superusers can change the CTC.network.LocalDomainCreationAndViewing NE default value to TRUE. A TRUE value means any user can maintain the domain information in his or her Preferences file, meaning domain changes will not affect other CTC sessions. The Preferences file is available in the user's HOME directory. The filename is *CTC.ini* (Windows PC) and *.ctcrc* (Linux, Apple MAC, and Solaris). (The default value is FALSE, meaning domain information affects all CTC sessions and only superusers can create a domain or put a node into a domain.) See the "NTP-G135 Edit Network Element Defaults" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide* to change NE default values.

Procedure

Step 1 From the View menu, choose **Go to Network View**.

Step 2 Right-click the network map and choose **Create New Domain** from the shortcut menu.

Step 3 When the domain icon appears on the map, click the map name and type the domain name.

Step 4 Press **Enter**.

Step 5 Return to your originating procedure (NTP).

DLP-G172 Manage Domain Icons

Purpose	This task manages CTC network view domain icons. By default, domains are visible to all CTC sessions that log in to the network.
Tools/Equipment	None
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • DLP-G171 Create Domain Icons, on page 49
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Note To allow users of any security level to create local domains, that is, domains that are visible on the home CTC session only, superusers can change the CTC.network.LocalDomainCreationAndViewing NE default value to TRUE. A TRUE value means any user can maintain the domain information in his or her Preferences file, meaning domain changes will not affect other CTC sessions. The CTC preferences file is available in the user's HOME directory. The filename is *CTC.ini* (Windows PC) and *.ctcrc* (Linux, Apple MAC, and Solaris). (The default value is FALSE, meaning domain information affects all CTC sessions and only superusers can create a domain or put a node into a domain.) See the "NTP-G135 Edit Network Element Defaults" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide* to change NE default values.

Procedure

Step 1 From the View menu, choose **Go to Network View**.

Step 2 Locate the domain action that you want to perform in the following table and complete the appropriate steps.

Domain Action	Steps
Move a domain	Press **Ctrl** and drag and drop the domain icon to the new location.
Rename a domain	Right-click the domain icon and choose **Rename Domain** from the shortcut menu. Type the new name in the domain name field.
Add a node to a domain	Drag and drop the node icon to the domain icon.
Move a node from a domain to the network map	Open the domain and right-click a node. Choose **Move Node Back to Parent View**.
Open a domain	Complete one of the following: • Double-click the domain icon. • Right-click the domain and choose **Open Domain**.
Return to network view	Right-click the domain view area and choose **Go to Parent View** from the shortcut menu.
Preview domain contents	Right-click the domain icon and choose **Show Domain Overview**. The domain icon shows a small preview of the nodes in the domain. To turn off the domain overview, right-click the overview and select **Show Domain Overview**.
Remove domain	Right-click the domain icon and choose **Remove Domain**. Any nodes in the domain are returned to the network map.

Step 3 Return to your originating procedure (NTP).

DLP-G173 Enable Dialog Box Do-Not-Display Option

Purpose	This task ensures that a user-selected do-not-display dialog box preference is enabled for subsequent sessions or disables the do-not-display option.
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

Note If any user who has rights to perform an operation (for example, creating a circuit) selects the "Do not show this message again" check box in a dialog box, the dialog box is not displayed for any other users who perform that operation on the network from the same computer unless the command is overridden using the following task. (The preference is stored on the computer, not in the node database.)

Procedure

Step 1 From the Edit menu, choose **Preferences**.

Step 2 In the Preferences dialog box, click the **General** tab.

The Preferences Management area field lists all dialog boxes where "Do not show this message again" is enabled.

Step 3 Choose one of the following options, or uncheck the individual dialog boxes that you want to appear:

- **Don't Show Any**—Hides all do-not-display check boxes.
- **Show All**—Overrides do-not-display check box selections and displays all dialog boxes.

Step 4 Click **OK**.

Step 5 Return to your originating procedure (NTP).

DLP-G174 Switch Between TDM and DWDM Network Views

Purpose	Use this task to switch between time division multiplexing (TDM) and DWDM network views.
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	Retrieve or higher

Procedure

Step 1 From the View menu, choose **Go to Network View**.

Step 2 From the Network Scope drop-down list on the toolbar, choose one of the following:

- **All**—Displays both TDM and DWDM nodes.
- **DM**—Displays only ONS 15454s with SONET or SDH cards including the transponder (TXP) and muxponder (MSP) cards.
- **DWDM**—Displays only ONS 15454s with DWDM cards, including the TXP and MXP cards.

Step 3 Return to your originating procedure (NTP).

DLP-G330 Consolidate Links in Network View

Purpose	This task consolidates DCC, GCC, optical transport service (OTS) and provisionable patchcord (PPC) links in CTC network view.
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	Retrieve or higher

Note Global consolidation persists when CTC is re-launched but local consolidation does not persist.

Procedure

Step 1 From the View menu, choose **Go to Network View**. CTC shows the link icons by default.

Step 2 Perform the following steps as needed:

- To toggle between the links, go to Step 3.
- To consolidate all the links on the network map, go to Step 4.
- To consolidate a link or links between two nodes, go to Step 5.
- To view information about a consolidated link, go to Step 6.
- To access an individual link within a consolidated link, go to Step 7.
- To expand consolidated links, go to Step 8.
- To filter the links by class, go to Step 9.

Step 3 Right-click on the network map and choose **Show Link Icons** to toggle the link icons on and off.

Step 4 To consolidate all the links on the network map (global consolidation):

a) Right-click anywhere on the network map.

b) Choose **Collapse/Expand Links** from the shortcut menu. The Collapse/Expand Links dialog window appears.

c) Select the check boxes for the link classes you want to consolidate.

d) Click **OK**. The selected link classes are consolidated throughout the network map.

Step 5 To consolidate a link or links between two nodes (local consolidation):

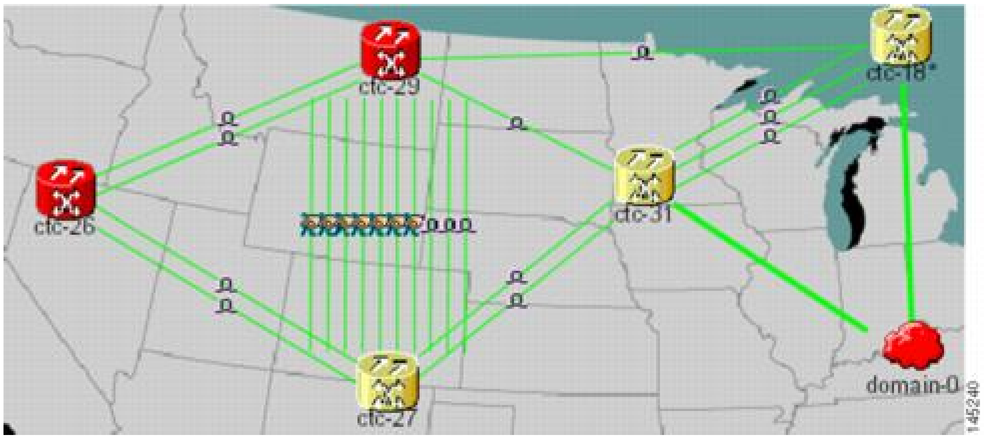
a) Right-click the link on the network map.

b) Choose **Collapse Link** from the shortcut menu. The selected link type consolidates to show only one link.

The links consolidate by class. For example, if you select a DCC link for consolidation only the DCC links will consolidate, leaving any other link classes expanded.

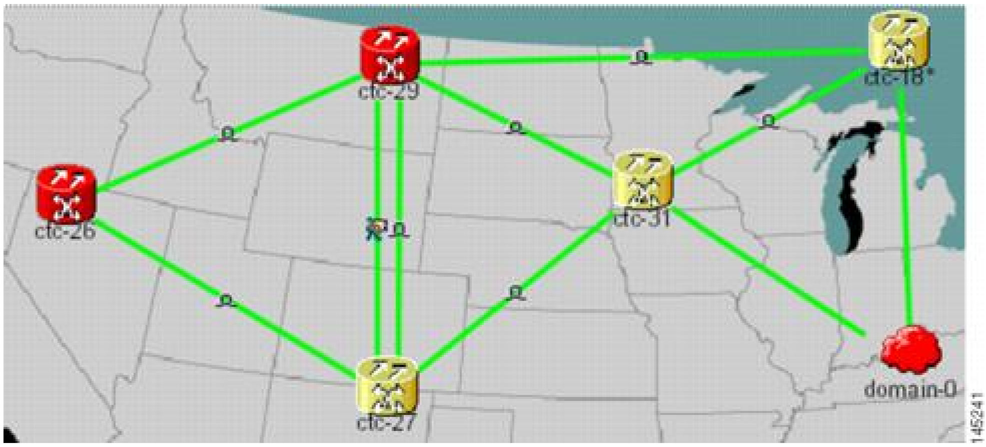
The following figure shows the network view with unconsolidated DCC and PPC links.

Figure 1: Unconsolidated Links in the Network View



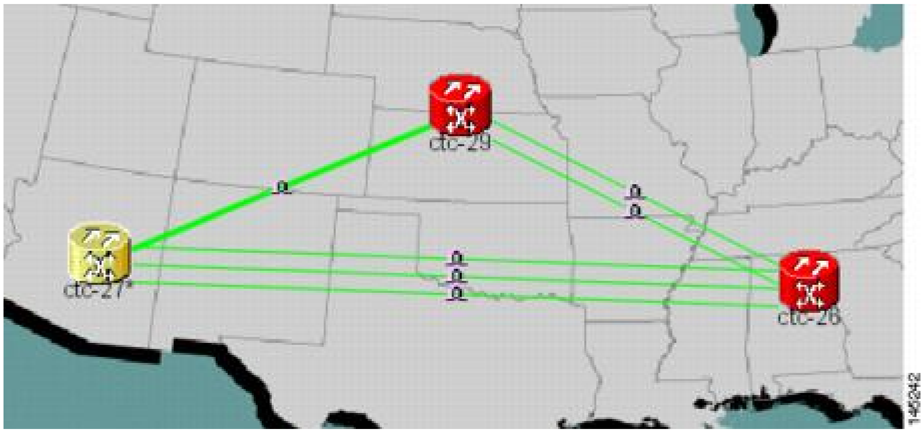
The following figure shows a network view with globally consolidated links.

Figure 2: Consolidated Links in the Network View



The following figure shows a network view with local DCC link consolidation between two nodes.

Figure 3: Network View with Local Link Consolidation



Step 6 To view information about a consolidated link, either move your mouse over the link (the tooltip displays the number of links and the link class) or single-click the link to display detailed information on the left side of the window.

Step 7 To access an individual link within a consolidated link (for example, if you need to perform a span upgrades):

a) Right-click the consolidated link. A shortcut menu appears with a list of the individual links.

b) Hover the mouse over the selected link. A cascading menu appears where you can select an action for the individual link or navigate to one of the nodes where the link is attached.

Step 8 To expand locally consolidated links, right-click the consolidated link and choose Expand [link class] Links from the shortcut menu, where "link class" is DCC, PPC, etc.

Step 9 To filter the links by class:

a) Click the **Link Filter** button in the upper right area of the window. The Link Filter dialog appears.

The link classes that appear in the Link Filter dialog are determined by the Network Scope you choose in the network view , as listed in the following table.

Network Scope	Displayed Link Classes
ALL	DCC, GCC, OTS, PPC, Server Trail
DWDM	GCC, OTS, PPC
TDM	DCC, PPC

b) Check the check boxes next to the links you want to display.

c) Click **OK**.

Step 10 Return to your originating procedure (NTP).

NTP-G83 Modify or Delete Card Protection Settings

Purpose	This procedure modifies and deletes card protection settings.
Tools/Equipment	None

Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • "NTP-G33 Create a Y-Cable Protection Group" procedure in the chapter, "Provision Transponder and Muxponder Cards" of the *Cisco ONS 15454 DWDM Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

⚠

Caution Modifying and deleting protection groups can be service affecting.

Procedure

Step 1 Perform any of the following tasks as needed:

- DLP-G175 Modify a Y-Cable Protection Group, on page 56
- DLP-G176 Modify a Splitter Protection Group, on page 57
- DLP-G177 Delete a Y-Cable Protection Group, on page 58
- DLP-G459 Delete a Splitter Protection Group, on page 59

Step 2 Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Stop. You have completed this procedure.

DLP-G175 Modify a Y-Cable Protection Group

Purpose	This task modifies a Y-cable protection group that has been created for two TXP, MXP, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, or OTU2_XP card client ports.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. NTP-G33 Create a Y-Cable Protection Group. Refer the chapter, "Provision Transponder and Muxponder Cards" in the *Cisco ONS 15454 DWDM Configuration Guide*.

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

Procedure

Step 1 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Provisioning** > **Protection** tabs.

Step 2 In the Protection Groups area, click the Y-cable protection group that you want to modify.

Step 3 Click **Edit**.

Step 4 In the Selected Group area, you can modify the following, as needed:

- Name—Type the changes to the protection group name. The name can have up to 32 alphanumeric characters.
- Revertive—Check this box if you want traffic to revert to the working card after failure conditions stay corrected for the amount of time chosen from the Reversion Time list. Uncheck this box if you do not want traffic to revert.
- Reversion time—If the Revertive check box is selected, choose the reversion time from the Reversion time drop-down list. The range is 0.5 to 12.0 minutes. The default is 5.0 minutes. This is the amount of time that will elapse before the traffic reverts to the working card. Traffic can revert when conditions causing the switch are cleared.

Step 5 Click **OK**. Confirm that the changes appear.

Step 6 Return to your originating procedure (NTP).

DLP-G176 Modify a Splitter Protection Group

Purpose	This task modifies a splitter protection group that has been created on a TXPP_MR_2.5G, MXPP_MR_2.5G, PSM, or OTU2_XP card. Splitter protection is automatically created when the TXPP_MR_2.5G, MXPP_MR_2.5G, or PSM card is installed. For the OTU2_XP card, a splitter protection group is configurable and can be created on Ports 3 and 4 .
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 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Provisioning** > **Protection** tabs.

Step 2 In the Protection Groups area, click the splitter protection group that you want to modify.

Step 3 Click **Edit**.

Step 4 In the Selected Group area, you can modify the following, as needed:

- Name—Type the changes to the protection group name. The name can have up to 32 alphanumeric characters.
- Revertive—Check this box if you want traffic to revert to the working card after failure conditions stay corrected for the amount of time chosen from the Reversion Time list. Uncheck this box if you do not want traffic to revert.

  Note The reversion pulse width is configurable in the card view > Provisioning > Reversion tab in CTC only if the protection is revertive. This is applicable only to PSM cards. The reversion pulse width is calculated using the following formula :

  Minimum reversion pulse width= ROADM delay + 10 seconds

  ROADM delay = N x 5 x 2

  Where

  N = number of filter cards in the network between the source and destination PSM nodes on the working path.

  5= maximum startup delay in seconds

  2= bidirectional communication

- Reversion time—If the Revertive check box is selected, choose the reversion time from the Reversion time drop-down list. The range is 0.5 to 12.0 minutes. The default is 5.0 minutes. This is the amount of time that will elapse before the traffic reverts to the working card. Traffic can revert when conditions causing the switch are cleared.

Step 5 Click **OK**. Confirm that the changes appear.

Step 6 Return to your originating procedure (NTP).

DLP-G177 Delete a Y-Cable Protection Group

Purpose	This task deletes a Y-cable protection group.
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 In node view (single-shelf mode) or shelf view (multishelf mode), double-click the near end transponder card to open it in the card view.

Step 2 In the card view mode, click the **Provisioning** tab. The Line tab view with the ports provisioned is displayed.

Step 3 Click the **Admin State** list box and select the **Out-of-Service (OOS)** option for the near end transponder trunk and client ports (for example, "1-1(OC3), 2(OC48)").

Step 4 Click **Apply**. Repeat above two steps for the far end transponder card.

Step 5 Right-click the transponder card in card view mode and select **Go to Parent View**.

Step 6 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Provisioning** > **Protection** tabs.

Step 7 In the Protection Groups area, disconnect the Y-cable fiber for the protection transponder ports in the protection group you want to delete.

Step 8 Select the protection group and click **Delete**.

Step 9 Click **Yes** in the Delete Protection Group dialog box. Confirm that the changes appear.

Step 10 Return to your originating procedure (NTP).

Note When you delete the protection group, traffic drops because both the transponder TX ports will be in IS state (protect TX port gets turned on). The transponder TX ports are connected through a Y-cable and as a result two signals will be passing through the same fiber. Therefore, you should put the protect port out of service, remove the fiber for the protect port, and then delete the protection group.

DLP-G459 Delete a Splitter Protection Group

Purpose	This task deletes a splitter protection group on the OTU2_XP card. For the TXPP_MR_2.5G or MXPP_MR_2.5G card, the splitter protection group is deleted when you delete the card.
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 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Provisioning** > **Protection** tabs.

Step 2 In the Protection Groups area, click the protection group you want to delete.

Step 3 Click **Delete**.

Step 4 Click **Yes** in the Delete Protection Group dialog box. Confirm that the changes appear.

Step 5 Return to your originating procedure (NTP).

NTP-G84 Initiate and Clear Y-Cable and Splitter External Switching Commands

Purpose	This procedure describes how to apply and remove Manual and Force protection switches on Y-cable and splitter protection groups. It also describes how to apply and remove a Lock On or Lock Out protection command to a Y-cable protection group.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. In the *Cisco ONS 15454 DWDM Configuration Guide*: • NTP-G179 Install the TXP, MXP, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, ADM-10G, and OTU2_XP Cards in the chapter, "Turn Up a Node" • NTP-G33 Create a Y-Cable Protection Group in the chapter, "Provision Transponder and Muxponder Cards"
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Procedure

Step 1 To perform a Manual protection switch, complete the DLP-G178 Apply a Manual Y-Cable or Splitter Protection Switch, on page 61.

Step 2 To perform a Force protection switch, complete the DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch, on page 61.

Step 3 To clear a Force or Manual protection switch, complete the DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch, on page 62.

Step 4 To prevent traffic on a working or protect card from switching to the other card in the pair, complete the DLP-G181 Apply a Lock-On, on page 63.

Step 5 To prevent traffic from switching to the protect card, complete the DLP-G182 Apply a Lockout, on page 64.

Step 6 To remove a lock-on or lockout and return a protection group to its usual switching method, complete the DLP-G183 Clear a Lock-On or Lockout, on page 64.

Stop. You have completed this procedure.

DLP-G178 Apply a Manual Y-Cable or Splitter Protection Switch

Purpose	This task performs a Manual protection switch on a Y-cable or splitter protection group.
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	Maintenance or higher

Caution A Manual switch will move traffic from the active to the standby card only if network conditions permit it. If conditions change during the switch, CTC will attempt to place traffic back on the original active card.

Procedure

Step 1 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Maintenance** > **Protection** tabs.

Step 2 In the Protection Groups list, click the Y-cable or splitter protection group where you want to apply the Manual protection switch.

Step 3 In the Selected Group area, click the active card or port .

Step 4 In the Switch Commands drop-down list, click **Manual**.

Step 5 In the Confirm Manual Operation dialog box, click **Yes**.

If conditions permit, the Manual switch will be applied. To clear the Manual switch, see the DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch, on page 62.

Step 6 Return to your originating procedure (NTP).

DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch

Purpose	This task performs a Force protection switch on a Y-cable or splitter protection group.
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	Maintenance or higher

⚠

Caution A Force switch will move traffic from the active to the standby card or port immediately, regardless of network conditions. The switch will remain in effect until it is cleared.

Procedure

Step 1 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Maintenance** > **Protection** tabs.

Step 2 In the Protection Groups list, click the Y-cable or splitter protection group where you want to apply the Force protection switch.

Step 3 In the Selected Group area, click the active card or port.

Step 4 In the Switch Commands drop-down list, click **Force**.

Step 5 In the Confirm Manual Operation dialog box, click **Yes**.

The Force switch will be applied. To clear the Force switch, see the DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch, on page 62.

Step 6 Return to your originating procedure (NTP).

DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch

Purpose	This task clears a Manual or Force protection switch on a Y-cable or splitter protection group.
Tools/Equipment	None
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • One of the following tasks: • DLP-G178 Apply a Manual Y-Cable or Splitter Protection Switch, on page 61 • DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch, on page 61
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Maintenance or higher

Procedure

Step 1 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Maintenance** > **Protection** tabs.

Step 2 In the Protection Groups area, click the protection group that contains the card you want to clear.

Step 3 In the Selected Group area, click the card that you want to clear.

Step 4 In the Switch Commands drop-down list, click **Clear**.

Step 5 Click **Yes** in the confirmation dialog box.

The Manual or Force protection switch is cleared.

Step 6 Return to your originating procedure (NTP).

DLP-G181 Apply a Lock-On

Purpose	This task prevents traffic from being switched from the working/active card in a Y-cable protection group or port in a splitter protection group.
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	Maintenance or higher

⚠ **Caution** You can apply the Lock On command only to the working/active card or port. If the working card or port is standby (traffic is switched), the Lock On button is not available.

Procedure

Step 1 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Maintenance** > **Protection** tabs.

Step 2 In the Protection Groups area, click the protection group that contains the card (Y-cable) or port (splitter) that you want to lock on.

Step 3 In the Selected Group area, click the working/active card.

Step 4 In the Inhibit Switching drop-down list, click **Lock On**.

Step 5 Click **Yes** in the confirmation dialog box.

The lock-on has been applied. Traffic cannot switch to the protect card. To clear the lock-on, see the DLP-G183 Clear a Lock-On or Lockout, on page 64.

Note Provisioning a lock-on raises a LOCKON-REQ or an FE-LOCKON condition in CTC. Clearing the lock-on switch request clears these conditions.

Step 6 Return to your originating procedure (NTP).

DLP-G182 Apply a Lockout

Purpose	This task keeps traffic from switching to the protect/standby card or port. The Lock Out command overrides the Force and Manual switching commands.
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	Maintenance or higher

Note You can apply the lockout to the protect/standby card or port. If the protect card or port is active (traffic is switched), the lockout task cannot be performed.

Procedure

Step 1 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Maintenance** > **Protection** tabs.

Step 2 In the Protection Groups area, click the protection group that contains the card (Y-cable) or port (splitter) that you want to lock out.

Step 3 In the Selected Group area, click the protect/standby card.

Step 4 In the Inhibit Switching drop-down list, click **Lock Out**.

Step 5 Click **Yes** in the confirmation dialog box.

The lockout has been applied. Traffic cannot switch to the protect card. To clear the lockout, see the DLP-G183 Clear a Lock-On or Lockout, on page 64.

Note Provisioning a lockout raises a LOCKOUT-REQ or an FE-LOCKOUT condition in CTC. Clearing the lockout switch request clears these conditions.

Step 6 Return to your originating procedure (NTP).

DLP-G183 Clear a Lock-On or Lockout

Purpose	This task clears a lock-on or lockout.
Tools/Equipment	None

Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • One of the following tasks: • DLP-G181 Apply a Lock-On, on page 63 • DLP-G182 Apply a Lockout, on page 64
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Maintenance or higher

Procedure

Step 1 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Maintenance** > **Protection** tabs.

Step 2 In the Protection Groups area, click the protection group that contains the card you want to clear.

Step 3 In the Selected Group area, click the card you want to clear.

Step 4 In the Inhibit Switching drop-down list, click **Unlock**.

Step 5 Click **Yes** in the confirmation dialog box.

The lock-on or lockout is cleared.

Step 6 Return to your originating procedure (NTP).

NTP-G85 Modify or Delete OSC Terminations, DCC/GCC Terminations, and Provisionable Patchcords

Purpose	This procedure modifies DCC/GCC terminations, and deletes provisionable patchcords, OSC terminations, and DCC/GCC terminations.
Tools/Equipment	None

Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. One or more of the following tasks in the in the *Cisco ONS 15454 DWDM Configuration Guide*: • DLP-G76 Provision DCC/GCC Terminations in the chapter, "Create Optical Channel Circuits and Provisionable Patchcords" • NTP-G38 Provision OSC Terminations in the chapter, "Turn Up a Node" • NTP-G184 Create a Provisionable Patchcord in the chapter, "Create Optical Channel Circuits and Provisionable Patchcords".
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

In node view (single-shelf mode) or multishelf view (multishelf mode), complete the following tasks as needed:

- DLP-G184 Change a DCC/GCC Termination, on page 66
- DLP-G185 Delete a DCC/GCC Termination, on page 67
- DLP-G186 Delete an OSC Termination, on page 68
- DLP-G187 Delete a Provisionable Patchcord, on page 69

Stop. You have completed this procedure.

DLP-G184 Change a DCC/GCC Termination

Purpose	This task modifies a DCC/GCC termination. You can enable or disable OSPF and enable or disable the foreign node setting.
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 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Provisioning** > **Comm Channels**.

Step 2 Select the DCC or GCC tabs as necessary. Available tabs are:

- GCC (both ANSI and ETSI)
- DCC
  - SDCC and LDCC (for ANSI)
  - RS-DCC and MS-DCC (for ETSI)

Step 3 Select the DCC/GCC that you want to change.

Step 4 Click **Edit**. The Edit Termination dialog box appears

Step 5 Complete the following as necessary:

- GCC Rate—(Display only) Indicates the communication channel rate.
- Disable OSPF on Link—If checked, OSPF is disabled on the link. OSPF should be disabled only when the slot and port connect to third-party equipment that does not support OSPF.
- Far End is Foreign—Check this box to specify that the DCC/GCC termination is a non-ONS node
- Far end IP—If you checked the Far End is Foreign check box, type the IP address of the far-end node or leave the 0.0.0.0 default. An IP address of 0.0.0.0 means that any address can be used by the far end.

Step 6 Click **OK**.

Step 7 Return to your origination procedure (NTP).

DLP-G185 Delete a DCC/GCC Termination

Purpose	This task deletes the DWDM DCC/GCC terminations required for network setup when using TXP, MXP, or XP 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

Note Deleting the DCC/GCC termination on a port also deletes any provisionable patchcord links that might exist on the port.

Procedure

Step 1 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Provisioning** > **Comm Channels**.

Step 2 Select the DCC or GCC tabs as necessary. Available tabs are:

- GCC (both ANSI and ETSI)
- DCC
  - SDCC and LDCC (for ANSI)
  - RS-DCC and MS-DCC (for ETSI)

Step 3 Select the DCC/GCC that you want to delete.

Step 4 Click **Delete**.

Step 5 In the Delete Terminations dialog box, check the **Set port OOS** check box if you want to place ports out of service.

Step 6 Click **Yes**. The following alarms will appear until all network terminations are deleted and the ports are out of service:

- GCC-EOC for GCC termination
- EOC for SDCC termination
- EOC-L for LDCC termination

Step 7 Return to your originating procedure (NTP).

DLP-G186 Delete an OSC Termination

Purpose	This task deletes an OSC termination on the ONS 15454 node.
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 Deleting an OSC termination might cause node isolation and loss of visibility to nodes that do not have other OSCs or network connections to the CTC computer.

Note To delete OSC on a TNC or TNCE port, UDC/VoIP configuration must be set to None .

Procedure

Step 1 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Provisioning** > **Comm Channels** > **OSC** tab.

Step 2 Click the OSC termination that you want to delete and click **Delete**.

Step 3 In the Delete OSC Termination confirmation box, click **Yes**. Confirm that the changes appear.

Until all network OSC terminations are deleted, loss of signal (LOS) or power failure alarms might appear on the OPT-BST amplifier, OSCM card, and OSC-CSM card.

Step 4 Return to your originating procedure (NTP).

DLP-G187 Delete a Provisionable Patchcord

Purpose	This task deletes a provisionable patchcord.
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 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Comm Channels** > **PPC** tab. If you are in network view, click the **Provisioning** > **Provisionable Patchcords** tab.

Step 2 Click the provisionable patchcord that you want to delete.

Step 3 Click **Delete**.

Step 4 In the confirmation dialog box, click **Yes**.

Step 5 Return to your originating procedure (NTP).

NTP-G86 Convert a Pass-Through Connection to Add/Drop Connections

Purpose	This procedure converts a pass-through connection into add/drop connections (one on the add side and the other on the drop side). Use this procedure during a network upgrade. Pass-through channel connections can be provided between channel input and output ports for the AD-xC-xx.x, 4MD-xx.x, 32MUX-O, 32DMX-O, 32DMX, 32DMX-L, 40-MUX-C, and 40-DMX-C/40-DMX-CE cards. You can set up pass-through connections in nodes that might require more add or drop channel capability or configuration.
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 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Circuits** tab. Delete the unidirectional or bidirectional pass-through optical channel network connection (OCHNC) that applies to the pass-through connection to be removed.

Step 2 Remove the physical pass-through cabling. Click the **Provisioning** > **WDM-ANS** > **Internal Patchcords** tabs to identify the card ports to be removed. The pass-through connection that you are removing can be connected in both OADM and hub nodes.

- For a hub node—Connect the 32DMX-O, 32DMX, or 32DMX-L output port to the 32MUX-O input port. Alternatively, connect the 40-DMX-C/40-DMX-CE output port to the 40-MUX-C input port.
- For an OADM node—Connect the AD-xC-xx.x drop (TX) port to the AD-xC-xx.x add (RX) port.

Step 3 Physically connect the proper client interface to the correct add and drop ports.

Step 4 Delete the filter connections related to the pass-through connection that is being converted to an add/drop connection:

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

b) Highlight the pass-through connections between ITU-T channel add and drop port filters.

c) Click **Delete**.

Step 5 Create two new unidirectional OCHNCs (one heading Side B, the other heading Side A) to support the new add/drop channels. See 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 Configuration Guide*.

Step 6 As necessary, complete the "NTP-G184 Create a Provisionable Patchcord" procedure in the chapter, "Create Optical Channel Circuits and Provisionable Patchcords" in the *Cisco ONS 15454 DWDM Configuration Guide*.

Step 7 As necessary, add an optical attenuator between the channel TX port of the AD-xC-xx.x, 4MD-xx.x, 32DMX-O, 32DMX, 32-DMX-L, or 40-DMX-C/40-DMX-CE card and the DWDM RX port on the TXP, MXP, or OC-N/STM-N ITU-T line card.

Note If the channel is coming from a 32DMX-O, the optical power can be adjusted in CTC by modifying the value of the internal per-channel variable optical attenuator (VOA).

Step 8 (Optional) The following verification steps might be needed for an intermediate node when a pass-through connection is converted:

a) Verify that the received channels are at the specified power level. See the NTP-G76 Verify Optical Span Loss Using CTC, on page 14 for instructions.

b) Verify that the added channels are equalized with the express channels within +/-1 dB.

c) If the channels are not equalized with the express channels within +/-1 dB, check the attenuation of the VOAs.

d) Check all the fiber adapters to minimize their insertion losses. For instructions, see the "NTP-G115 Clean Fiber Connectors" procedure in the Cisco ONS 15454 Hardware Installation Guide.

Stop. You have completed this procedure.

NTP-G87 Change Node Timing Parameters

Purpose	This procedure changes the timing parameters for the ONS 15454. To switch the timing reference, see the "NTP-G112 Change the Node Timing Reference" procedure in the chapter "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. NTP-G53 Set Up Timing. Refer the chapter, "Turn Up a Network" in the *Cisco ONS 15454 DWDM Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

⚠ **Caution** The following procedure might be service affecting and should be performed during a scheduled maintenance window.

Procedure

Step 1 Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Step 2 Click the **Provisioning** > **Timing** > **General** tabs.

Step 3 In the General Timing section, change any of the following information:

- Timing Mode
- SSM Message Set
- Quality of RES
- Revertive
- Revertive Time

Note Because mixed timing can cause timing loops, Cisco does not recommend using the Mixed Timing option. Use this mode with care.

See the "NTP-G53 Set Up Timing" task in the chapter, "Turn Up Network" of the *Cisco ONS 15454 DWDM Configuration Guide* field descriptions.

Step 4 In the Reference Lists area, you can change the following information:

- NE Reference
- BITS 1 Out
- BITS 2 Out

Note Reference lists define up to three timing references for the node and up to six BITS Out references. BITS Out references define the timing references used by equipment that can be attached to the node's BITS Out pins on the backplane. If you attach equipment to BITS Out pins, you normally attach it to a node with Line mode because equipment near the external timing reference can be directly wired to the reference.

Step 5 In node view (single-shelf mode) or shelf view (multishelf mode), click the **Provisioning** > **Timing** > **BITS Facilities** tabs.

Step 6 In the BITS In section, you can change the following information:

- BITS In State
- Coding
- State
- Framing
- Sync Messaging
- Admin SSM

Note The BITS Facilities section sets the parameters for your BITS1 and BITS2 timing references. Many of these settings are determined by the timing source manufacturer. If equipment is timed through BITS Out, you can set timing parameters to meet the requirements of the equipment.

Step 7 In the BITS Out section, you can change the following information:

- Coding
- Framing

- AIS Threshold
- LBO

Step 8 Click **Apply**. Confirm that the changes appear.

Stop. You have completed this procedure.

NTP-G88 Modify Users and Change Security

Purpose	This procedure modifies user and security properties for the ONS 15454.
Tools/Equipment	None
Prerequisite Procedures	• "DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. • NTP-G23 Create Users and Assign Security. Refer the chapter, "Turn Up a Node" in the *Cisco ONS 15454 DWDM Configuration Guide*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Procedure

Step 1 Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Step 2 Perform any of the following tasks as needed:

- DLP-G188 Change Security Policy for a Single Node, on page 74
- DLP-G189 Change Security Policy for Multiple Nodes, on page 75
- DLP-G317 Change Node Access and PM Clearing Privilege, on page 77
- DLP-G328 Grant Superuser Privileges to a Provisioning User, on page 79
- DLP-G191 Change User Password and Security Level on a Single Node, on page 79
- DLP-G192 Change User Password and Security Level for Multiple Nodes, on page 80
- DLP-G193 Delete a User From a Single Node, on page 81
- DLP-G194 Delete a User From Multiple Nodes, on page 82
- DLP-G195 Log Out a User on a Single Node, on page 83

- DLP-G196 Log Out a User on Multiple Nodes, on page 84
- DLP-G281 Configure the Node for RADIUS Authentication, on page 84
- DLP-G776 Configure the Node for TACACS+ Authentication, on page 87
- DLP-G282 Viewing and Terminating Active Logins, on page 91

Step 3 Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Stop. You have completed this procedure.

DLP-G188 Change Security Policy for a Single Node

Purpose	This task changes the security policy for a single node, including idle user timeouts, user lockouts, password changes, and concurrent login policies.
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	Superuser or Security super user

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **Policy** tabs.

Step 2 If you want to modify the idle user timeout period, click the hour (H) and minute (M) arrows in the Idle User Timeout area for the security level that you want to provision: RETRIEVE, MAINTENANCE, PROVISIONING, SUPERUSER, SECURITY USER, SECURITY SUPER USER, or ROOT15 USER. The idle period time range is 0 and 16 hours, and 0 and 59 minutes. The user is logged out after the idle user timeout period is reached.

Step 3 In the User Lockout area, you can modify the following:

- Failed Logins Before Lockout—The number of failed login attempts a user can make before the user is locked out from the node. You can choose a value between 0 and 10.
- Manual Unlock by Superuser—Allows a user with Superuser privileges to manually unlock a user who has been locked out from a node.
- Lockout Duration—Sets the amount of time the user will be locked out after a failed login. You can choose a value between 0 and 10 minutes, and 0 and 55 seconds (in five-second intervals).

Note Manual Unlock by Superuser and Lockout Duration are mutually exclusive.

Step 4 In the Password Change area, you can modify the following:

- Prevent Reusing Last [ ] Passwords—Choose a value between 1 and 10 to set the number of different passwords that the user must create before they can reuse a password.
- New Password must Differ from the Old Password—Choose the number of characters that must differ between the old and new password. The default number is 1. The range is 1 to 5.
- Cannot Change New Password for [ ] days—If checked, prevents users from changing their password for the specified period. The range is 20 to 95 days.
- Require Password Change on First Login to New Account—If checked, requires users to change their password the first time they log in to their account.
- Minimum Length—The minimum length can be set to two, four, six, eight, ten, or twelve characters. If two is chosen as the minimum length, the password can contain any two characters.

  In release 9.8.1, for non-FIPS and CC mode node, the minimum password length cannot be configured to 15 characters, even though the option is listed. In FIPS and CC mode node, the minimum password length for newly created users must be 15 characters.

Step 5 To require users to change their password at periodic intervals, check the Enforce Password Aging check box in the Password Aging area. If checked, provision the following parameters:

- Aging Period—Sets the amount of time that must pass before the user must change his or her password for each security level: RETRIEVE, MAINTENANCE, PROVISIONING, SUPERUSER, SECURITY USER, SECURITY SUPER USER, and ROOT15 USER. The range is 20 to 95 days.
- Warning Period—Sets the number of days the user will be warned to change his or her password for each security level. The range is 2 to 20 days.

Step 6 In the Other area, you can provision the following:

- Single Session Per User—If checked, limits users to one login session at one time.
- Disable Inactive User—If checked, disables users who do not log in to the node for the period of time specified in the Inactive Duration box. The Inactive Duration range is 1 to 99 days.

Step 7 Click **Apply**. Confirm that the changes appear.

Step 8 Return to your originating procedure (NTP).

DLP-G189 Change Security Policy for Multiple Nodes

Purpose	This task changes the security policy for multiple nodes including idle user timeouts, user lockouts, password changes, and concurrent login policies.
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	Superuser or Security super user

Procedure

Step 1 From the View menu, choose **Go to Network View**.

Step 2 Click the **Provisioning** > **Security** > **Policy** tabs. A read-only table of nodes and their policies appears.

Step 3 Click a node on the table that you want to modify, then click **Change**.

Step 4 If you want to modify the idle user timeout period, click the hour (H) and minute (M) arrows in the Idle User Timeout area for the security level that you want to provision: RETRIEVE, MAINTENANCE, PROVISIONING, SUPERUSER, SECURITY USER, SECURITY SUPER USER, or ROOT15 USER. The idle period time range is 0 and 16 hours, and 0 and 59 minutes. The user is logged out after the idle user timeout period is reached.

Step 5 In the User Lockout area, you can modify the following:

- Failed Logins Before Lockout—The number of failed login attempts a user can make before the user is locked out from the node. You can choose a value between 0 and 10.
- Manual Unlock by Superuser—Allows a user with Superuser privileges to manually unlock a user who has been locked out from a node.
- Lockout Duration—Sets the amount of time the user will be locked out after a failed login. You can choose a value between 0 and 10 minutes, and 0 and 55 seconds (in five-second intervals).

Note Manual Unlock by Superuser and Lockout Duration are mutually exclusive.

Step 6 In the Password Change area, you can modify the following:

- Prevent Reusing Last [ ] Passwords—Choose a value between 1 and 10 to set the number of different passwords that the user must create before they can reuse a password.
- New Password must Differ from the Old Password—Choose the number of characters that must differ between the old and new password. The default number is 1. The range is 1 to 5.
- Cannot Change New Password for [ ] days—If checked, prevents users from changing their password for the specified period. The range is 20 to 95 days.
- Require Password Change on First Login to New Account—If checked, requires users to change their password the first time they log in to their account.
- Minimum Length—The minimum length can be set to two, four, six, eight, ten, or twelve characters. If two is chosen as the minimum length, the password can contain any two characters.

  In release 9.8.1, for non-FIPS and CC mode node, the minimum password length cannot be configured to 15 characters, even though the option is listed. In FIPS and CC mode node, the minimum password length for newly created users must be 15 characters.

Step 7 To require users to change their password at periodic intervals, check the Enforce Password Aging check box in the Password Aging area. If checked, provision the following parameters:

- Aging Period—Sets the amount of time that must pass before the user must change his or her password for each security level: RETRIEVE, MAINTENANCE, PROVISIONING, SUPERUSER, SECURITY USER, SECURITY SUPER USER, and ROOT15 USER. The range is 20 to 95 days.
- Warning Period—Sets the number of days the user will be warned to change his or her password for each security level. The range is 2 to 20 days.

Step 8 In the Other area, you can provision the following:

- Single Session Per User—If checked, limits users to one login session at one time.
- Disable Inactive User—If checked, disables users who do not log in to the node for the period of time specified in the Inactive Duration box. The Inactive Duration range is 1 to 99 days.

Step 9 In the Select Applicable Nodes area, uncheck any nodes where you do not want to apply the changes.

Step 10 Click **OK**.

Step 11 In the Security Policy Change Results dialog box, confirm that the changes are correct, then click **OK**.

Step 12 Return to your originating procedure (NTP).

DLP-G317 Change Node Access and PM Clearing Privilege

Purpose	This task provisions the physical access points and shell programs used to connect to the ONS 15454 and sets the user security level that can clear node performance monitoring (PM) data.
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	Superuser only

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **Access** tabs.

Step 2 In the Access area, provision the following:

- LAN access—Choose one of the following options to set the access paths to the node:
  - **No LAN Access**—Allows access to the node only through DCC connections. Access through the TCC2/TCC2P/TCC3/TNC/TNCE/TSC/TSCE RJ-45 port and backplane is not permitted.
  - **Front only**—Allows access through the TCC2/TCC2P/TCC3/TNC/TNCE/TSC/TSCE RJ-45 port. Access through the DCC and the backplane is not permitted.

    - **Backplane only**—Allows access through DCC connections and the backplane. Access through the TCC2/TCC2P/TCC3/TNC/TNCE/TSC/TSCE RJ-45 port is not allowed.
    - **Front and Backplane**—Allows access through DCC, TCC2/TCC2P/TCC3/TNC/TNCE/TSC/TSCE RJ-45 port, and backplane connections.

- Restore Timeout—Sets a time delay for enabling of front and backplane access when DCC connections are lost and "DCC only" is chosen in LAN Access. Front and backplane access is enabled after the restore timeout period has passed. Front and backplane access is disabled as soon as DCC connections are restored.
- Disable IPv4 access for IPv6 enabled ports—Select this option to disable IPv4 on ports which are IPv6 enabled. Before you select this option, ensure that IPv6 is enabled and the node is not in multishelf mode.

Step 3 In the Shell Access area, set the shell program used to access the node:

- Access State—Allows you to set the shell program access mode to Disable (disables shell access), Non-Secure, or Secure. Secure mode allows access to the node using the Secure Shell (SSH) program. SSH is a terminal-remote host Internet protocol that uses encrypted links.
- Telnet Port—Allows access to the node using the Telnet port. Telnet is the terminal-remote host Internet protocol developed for the Advanced Agency Research Project Network (ARPANET). Port 23 is the default.
- Enable Shell Password—If checked, enables the SSH password. To enable the shell password, check the box and click Apply. To disable the password, uncheck the check box, click Apply, type the current password in the Disable Shell Password dialog box, then click OK.

Step 4 In the TL1 Access area, select the desired level of TL1 access. Disabled completely disables all TL1 access; Non-Secure and Secure allow access using SSH.

Step 5 In the PM Clearing Privilege field, choose the minimum security level that can clear node PM data: PROVISIONING or SUPERUSER.

Step 6 Check the **Enable Craft Port** check box to turn on the shelf controller serial ports.

Step 7 Select the EMS access state from the list. Available states are Non-Secure and Secure (allows access using SSH).

Step 8 In the TCC CORBA (IIOP/SSLIOP) Listener Port area, choose a listener port option:

- Default - TCC Fixed—Uses Port 57790 to connect to ONS 15454s on the same side of the firewall or if no firewall is used (default). This option can be used for access through a firewall if Port 57790 is open.
- Standard Constant—Uses Port 683 (IIOP) or Port 684 (SSLIOP), the CORBA default port number.
- Other Constant—If the default port is not used, type the IIOP or SSLIOP (Secure Socket Layer Inter-ORB Protocol) port specified by your firewall administrator.

Step 9 In the SNMP Access area, set the Simple Network Management Protocol (SNMP) access state to Non-Secure or Disabled (disables SNMP access).

Step 10 Click **Apply**.

Step 11 Return to your originating procedure (NTP).

DLP-G328 Grant Superuser Privileges to a Provisioning User

Purpose	This task enables a provisioning user to retrieve audit logs, restore databases, clear PMs, and activate and revert software loads.
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	Superuser only

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Defaults** tabs.

Step 2 In the Defaults Selector area, choose **NODE**.

Step 3 In the Default Name area, choose one of the following parameters:

- NODE.security.grantPermission.RetrieveAuditLog
- NODE.security.grantPermission.RestoreDB
- NODE.security.grantPermission.PMClearingPrivilege
- NODE.security.grantPermission.ActivateRevertSoftware

Step 4 Click the Default Value column and choose **Provisioning** from the drop-down list for each property listed in the previous step, that you want to change.

Step 5 Click **Apply**.

A pencil icon will appear next to the default name that will be changed as a result of editing the defaults file.

Step 6 Return to your originating procedure (NTP).

DLP-G191 Change User Password and Security Level on a Single Node

Purpose	This task changes settings for an existing user at one node.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "" document.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Note Each ONS 15454 must have one user with a Superuser security level. The default CISCO15 user name and security level cannot be changed unless you create another user with Superuser security.

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **Users** tabs.

Step 2 Click the user whose settings you want to modify, then click **Edit**.

Step 3 In the Change User dialog box, you can:

- Change a user password. The maximum length can be set to 20, 80 or 127 characters. If the user provides a longer password, than the set length, only the first 20, 80, 127 characters (respectively) are considered.

  Note For telnet and FTP sessions, the password length should not exceed 20 characters.

- Modify the user security level.
- Lock out the user.
- Disable the user.
- Force the user to change password on next login.

See the "DLP-G54 Create a New User on a Single Node" task in the chapter, "Turn Up a Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Step 4 Click **OK**.

Step 5 Click **OK** in the confirmation dialog box.

Note User settings that you changed during this task will not appear until that user logs out and logs back in.

Step 6 Return to your originating procedure (NTP).

DLP-G192 Change User Password and Security Level for Multiple Nodes

Purpose	This task changes settings for an existing user at multiple nodes.
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	Superuser only

Procedure

Step 1 From the View menu, choose **Go to Network View**. Verify that you can access all the nodes where you want to change the users.

Step 2 Click the **Provisioning** > **Security** > **Users** tabs. Highlight the user's name whose settings you want to change.

Step 3 Click **Change**. The Change User dialog box appears.

Step 4 In the Change User dialog box, you can:

- Change a user password. The maximum length can be set to 20, 80 or 127 characters. If the user provides a longer password, than the set length, only the first 20, 80, 127 characters (respectively) are considered.

  Note For telnet and FTP sessions, the password length should not exceed 20 characters.

- Modify the user security level.
- Lock out the user.
- Disable the user.
- Force the user to change password on next login.

See the "DLP-G54 Create a New User on a Single Node" task in the chapter, "Turn Up a Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Step 5 In the Select Applicable Nodes area, uncheck any nodes where you do not want to change the user's settings (all network nodes are selected by default).

Note The Select Applicable Nodes area does not appear for users who are provisioned for only one node.

Step 6 Click **OK**. A Change Results confirmation dialog box appears.

Step 7 Click **OK** to acknowledge the changes.

Step 8 Return to your originating procedure (NTP).

DLP-G193 Delete a User From a Single Node

Purpose	This task deletes an existing user from a single node.
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	Superuser only

Note You cannot delete a user who is currently logged in. To log out a user, you can complete the "DLP-G195 Log Out a User on a Single Node, on page 83" task, or you can choose the "Logout before delete" option in the Delete User dialog box.

Note CTC will allow you to delete other Superusers if one Superuser remains. For example, you can delete the CISCO15 user if you have created another Superuser. Use this option with caution.

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **Users** tabs.

Step 2 Choose the user that you want to delete.

Step 3 Click **Delete**.

Step 4 In the Delete User dialog box, verify that the user name displayed is the one that you want to delete. Check the **Logout before delete** checkbox if the user is currently logged in. (You cannot delete users if they are logged in.)

When the**Logout before delete** checkbox is checked, the DISCONNECTED alarm is raised.

Step 5 Click **OK**.

Step 6 In the User Deletion Results box, click **OK**.

Step 7 Return to your originating procedure (NTP).

DLP-G194 Delete a User From Multiple Nodes

Purpose	This task deletes an existing user from multiple nodes.
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	Superuser only

Note You cannot delete a user who is currently logged in. To log out a user, you can complete the "DLP-G195 Log Out a User on a Single Node, on page 83" task, or you can choose the "Logout before delete" option in the Delete User dialog box.

Note CTC will allow you to delete other Superusers if one Superuser remains. For example, you can delete the CISCO15 user if you have created another Superuser. Use this option with caution.

Procedure

Step 1 From the View menu, choose **Go to Network View**.

Step 2 Click the **Provisioning** > **Security** tabs. Highlight the name of the user you want to delete.

Step 3 Click **Delete**. The Delete User dialog box appears.

Step 4 In the Select Applicable Nodes area, uncheck any nodes where you do not want to delete this user.

Note The Select Applicable Nodes area does not appear for users who are provisioned for only one node.

Step 5 Click **OK**. A User Deletion Results confirmation dialog box appears.

Step 6 Click **OK** to acknowledge the changes.

Step 7 Return to your originating procedure (NTP).

DLP-G195 Log Out a User on a Single Node

Purpose	This task logs out a user from a single node.
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	Superuser only

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **Active Logins** tabs.

Step 2 Choose the user that you want to log out and click **Logout**.

Step 3 In the Logout User dialog box, check **Lockout before Logout** if you want to lock the user out. This prevents the user from logging in after logout based on user lockout parameters provisioned in the Policy tab. A manual unlock by a Superuser is required, or else the user is locked out for the amount of time specified in the Lockout Duration field. See the "DLP-G188 Change Security Policy for a Single Node, on page 74" task for more information.

Step 4 Click **OK**.

Step 5 Click **OK** to confirm the logout.

Step 6 Return to your originating procedure (NTP).

DLP-G196 Log Out a User on Multiple Nodes

Purpose	This task logs out a user from multiple nodes.
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	Superuser only

Procedure

Step 1 From the View menu, choose **Go to Network View**.

Step 2 Click the **Provisioning** > **Security** > **Active Logins** tabs.

Step 3 Choose the user that you want to log out.

Step 4 Click **Logout**.

Step 5 In the Logout User dialog box, check the nodes where you want to log out the user.

Step 6 Check the **Lockout before Logout** check box if you want to lock the user out prior to logout. This prevents the user from logging in after logout based on user lockout parameters provisioned in the Policy tab. A manual unlock by a Superuser is required, or else the user is locked out for the amount of time specified in the Lockout Duration field. See the "DLP-G189 Change Security Policy for Multiple Nodes, on page 75" task for more information.

Step 7 In the Select Applicable Nodes area, uncheck any nodes where you do not want to change the user's settings (all network nodes are selected by default).

Step 8 Click **OK**.

Step 9 Click **OK** in the confirmation dialog box.

Step 10 Return to your originating procedure (NTP).

DLP-G281 Configure the Node for RADIUS Authentication

Purpose	This task allows you to configure a node for Remote Authentication Dial In User Service (RADIUS) authentication. RADIUS validates remote users who are attempting to connect to the network.
Tools/Equipment	None

Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. Before configuring the node for RADIUS authentication, you must first add the node as a network device on the RADIUS server. Refer to the *User Guide for Cisco Secure ACS for Windows Server* for more information about configuring a RADIUS server.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser or Security super user

Caution Do not configure a node for RADIUS authentication until after you have added that node to the RADIUS server and added the RADIUS server to the list of authenticators. If you do not add the node to a RADIUS server prior to activating RADIUS authentication, no user will be able to access the node. Refer to the *User Guide for Cisco Secure ACS for Windows Server* for more information about adding a node to a RADIUS server.

Note The following Cisco vendor-specific attribute (VSA) needs to be specified when adding users to the RADIUS server:

shell:priv-lvl=*N*

where *N* is equal to:

- 0 for Retrieve User
- 1 for Maintenance User
- 2 for Provisioning User
- 3 for Super User
- 4 for Security User
- 5 for Security Super User
- 6 for Root User

Note

- Security user and Security super user roles are supported through CTC, whereas Root15 user is supported through CPO.
- You must have the Security super user privilege to create a Security user and Security super user privilege to create another Security super user.
- To get the default username and password of the Security super user and the Root15 user contact Cisco Technical Support.

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **RADIUS Server** tabs.

Step 2 Click **Create** to add a RADIUS server to the list of authenticators. The Create RADIUS Server Entry dialog box appears.

Step 3 Enter the RADIUS server IP address in the Node Address field. If the node is an end network element (ENE), enter the IP address of the gateway network element (GNE) in this field.

The GNE passes authentication requests from the ENEs in its network to the RADIUS server, which grants authentication if the GNE is listed as a client on the server.

The RADIUS port numbers used for the ENE RADIUS configuration map to the RADIUS configuration entries in the GNE. For example, the first RADIUS authentication port number configured in ENE (1860) maps to the first RADIUS authentication entry in the GNE. The port number 1863 maps to the fourth entry in the GNE and so on.

The above logic applies to the configuration of the RADIUS accounting ports starting with port number 1870 for the first entry.

Note In ONS 15454 Software Release 9.1 and later, you can configure IPv6 addresses for RADIUS servers, in addition to IPv4 addresses.

Caution Because the ENE nodes use the GNE to pass authentication requests to the RADIUS server, you must add the ENEs to the RADIUS server individually for authentication. If you do not add the ENE node to a RADIUS server prior to activating RADIUS authentication, no user will be able to access the node. Refer to the *User Guide for Cisco Secure ACS for Windows Server* for more information about adding a node to a RADIUS server.

For example, if there are 5 NEs namely, A, B, C, D, and E with A as GNE and others as ENE, the sequence must be as follows:

a. Add all the 5 IPs (A, B, C, D, and E) in RADIUS Server.

b. Enable RADIUS authentication on the nodes in the sequence: A, B, C, D, and E where A is GNE and others are ENE.

In the above sequence, if CTC disconnects after enabling RADIUS on A, the user will still be able to access the ENEs even though RADIUS is not enabled on them. If the above sequence is reversed, the user will not be able to login to the ENE nodes if CTC disconnects.

Step 4 Enter the shared secret in the Shared Secret field. A shared secret is a masked text string that serves as a password between a RADIUS client and RADIUS server.

Step 5 Re-enter the shared secret in the Confirm Shared Secret field.

Note The shared secret used for TACACS+ authentication is not masked.

Step 6 Enter the RADIUS authentication port number in the Authentication Port field. The default port is 1812. If the node is an ENE, set the authentication port to a number within the range of 1860 to 1869.

Step 7 Enter the RADIUS accounting port in the Accounting Port field. The default port is 1813. If the node is an ENE, set the accounting port to a number within the range of 1870 to 1879.

Step 8 Click **OK**.

The RADIUS server details such as node address, authentication port, and accounting port is added to the list of RADIUS authenticators. The RADIUS authenticators list does not display shared secret since it is masked.

Note You can add up to 10 RADIUS servers to a node's list of authenticators.

Step 9 Click **Edit** to make changes to an existing RADIUS server. You can change the IP address, the shared secret, the authentication port, and the accounting port.

Step 10 Click **Delete** to delete the selected RADIUS server.

Step 11 Select a server and click **Move Up** or **Move Down** to reorder that server in the list of RADIUS authenticators. The node requests authentication from the servers sequentially from top to bottom. If one server is unreachable, the node will request authentication from the next RADIUS server on the list.

Step 12 Click the **Enable RADIUS Authentication** check box to activate remote-server authentication for the node.

Step 13 Click the **Enable RADIUS Accounting** check box if you want to show RADIUS authentication information in the audit trail.

Step 14 Click the **Enable the Node as the Final Authenticator** check box if you want the node to be the final authenticator. This means that if every RADIUS authenticator is unavailable, the node will authenticate the login rather than locking the user out.

Step 15 Click **Apply** to save all changes or **Reset** to clear all changes.

Step 16 Return to your originating procedure (NTP).

DLP-G776 Configure the Node for TACACS+ Authentication

Purpose	This task allows you to configure a node for Terminal Access Controller Access-Control System Plus (TACACS+) authentication. TACACS+ validates remote users who are attempting to connect to the network.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task in the "Connect the PC and Log into the GUI" document. Before configuring the node for TACACS+ authentication, you must first add the node as a network device on the TACACS+ server. Refer to the *Cisco IOS Security Configuration Guide* for more information about configuring a TACACS+ server.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

⚠ **Caution** Do not configure a node for TACACS+ authentication until after you have added that node to the TACACS+ server and added the TACACS+ server to the list of authenticators. If you do not add the node to a TACACS+ server prior to activating TACACS+ authentication, no user will be able to access the node.

Note The following Cisco vendor-specific attribute (VSA) needs to be specified when adding users to the TACACS+ server:

shell:priv-lvl=*N*

where *N* is equal to:

- 0 for Retrieve user
- 1 for Maintenance user
- 2 for Provisioning user
- 3 for Superuser

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **TACACS Server** tabs.

Step 2 Click **Create** to add a TACACS server to the list of authenticators. The Create TACACS+ Server Entry dialog box appears.

Step 3 Enter the IPv4 address of the TACACS+ server in the Node Address field.

Step 4 Enter the shared secret in the Shared Secret field. A shared secret is a text string that serves as a password between a TACACS+ client and TACACS+ server.

Step 5 Enter the TACACS+ authentication port number in the Authentication Port field. The default port is 49.

Step 6 Click **OK**. The TACACS+ server is added to the list of TACACS+ authenticators.

Note You can add up to five TACACS+ servers to a node's list of authenticators.

Step 7 Click **Edit** to make changes to an existing TACACS+ server. You can change the IP address, the shared secret, and the authentication port.

Step 8 Click **Delete** to delete the selected TACACS+ server.

Step 9 Select a server and click **Move Up** or **Move Down** to reorder that server in the list of TACACS+ authenticators. The node requests authentication from the servers sequentially from top to bottom. If one server is unreachable, the node will request authentication from the next TACACS+ server on the list.

Step 10 Click the **Enable TACACS Authentication** check box to activate remote server authentication for the node.

Step 11 Click the **Enable node as Final Authenticator when no TACACS+ Server is reachable** check box if you want the node to be the final authenticator. This means that if each TACACS+ server is unavailable, the node attempts to authenticate the login rather than locking the user out.

Step 12 Click **Apply** to save all changes or **Reset** to clear all changes.

Step 13 Return to your originating procedure (NTP).

Configure the Node for ACL

Purpose	This task allows you to configure a list of host IP addresses to access the nodes through Access Control List (ACL). ACL restricts the access to remote users who are attempting to connect to the node from unauthorized IP addresses.
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	Security user or Super security user

Procedure

Step 1 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **Security** > **ACL** tabs.

Step 2 To add the allowed IP address, perform one of the following actions:

- To add IPv4 addresses, perform the following steps:
  - Click **IPV4**.
  - Click **Add IP Address**.

    The **Add IP** dialog box appears.
  - In the **IP Address** field, enter IPv4 address.
  - Click **OK**.

    The entered IPv4 address is added to the list.
  - Repeat the steps to add more IPv4 addresses.
- To add IPv6 addresses, perform the following steps:
  - Click **IPV6**.
  - Click **Add IP Address**.

    The **Add IP** dialog box appears.
  - In the **IP Address** field, enter IPv6 address.
  - Click **OK**.

    The entered IPv6 address is added to the list.
  - Repeat the steps to add more IPv6 addresses.

Note You can add up to 100 IPv4 and IPv6 addresses together to a node's list of allowed hosts.

Step 3 (Optional) To delete a single or multiple IP addresses, perform one of the following actions.

- To delete the IPv4 address, perform the following steps:
  - Select a single or multiple IPv4 addresses.
  - Click **Delete** to delete the selected IPv4 addresses.
- To delete the IPv6 address, perform the following steps:
  - Select a single or multiple IPv6 addresses.
  - Click **Delete** to delete the selected IPv6 addresses.

Step 4 Click the **Enable ACL** check box to enable ACL for the node.

The access control list must contain at least one permit IP address to enable ACL.

Step 5 Click **Refresh** to refresh the pane with the latest changes.

Step 6 Return to your originating procedure (NTP).

Configure the Network for ACL

Purpose	This task allows you to configure a list of host IP addresses to access the large network nodes simultaneously through Access Control List (ACL). ACL restricts the access to remote users who are attempting to connect to the node from unauthorized IP addresses.
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	Security user or Super security user

Procedure

Step 1 In the network view, click the **Provisioning** > **Security** > **ACL** tabs.

The **Selector** pane appears displaying a list of ACL-enabled nodes in the network.

Step 2 To add host IP address for multiple nodes, perform the following steps:

- Click **Add**.

  The **Add Host IP Selection** dialog box appears.
- Enter the IP address in **Host IP Address**.
- Select the **IPV4** or **IPV6** radio button.
- Select the required nodes.

Note The default list of nodes appear in the selected state only.

- Click **OK** to add the host IP for the selected nodes into ACL list.

Step 3 To delete the host IP address for multiple nodes, perform the following steps:

- Click **Delete**.

  The **Delete Host IP** dialog box appears.

- Enter the IP address in **Host IP Address**.
- Select the required nodes.

  Note The default list of nodes appear in the selected state only.

- Click **OK** to delete the host IP for the selected nodes from the ACL list.

Step 4 To configure ACL for the network, perform the following steps:

- Click **Configuration**.

  The **ACL configuration** dialog box appears.

- Check the **Configuration ACL** check box.
- Select the nodes to enable or disable the ACL configuration.
- Click **OK**.

Step 5 Click **Refresh** to refresh the pane with the latest changes.

Step 6 Return to your originating procedure (NTP).

DLP-G282 Viewing and Terminating Active Logins

Purpose	This task allows you to view active CTC logins, retrieve the last activity time, and terminate all current logins.
Tools/Equipment	None
Prerequisite Procedures	• DLP-G46 Log into CTC
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Procedure

Step 1 In node view or network view, click the **Provisioning** > **Security** > **Active Logins** tabs. The Active Logins tab displays the following information:

- Node
- User
- Source IP address
- Session Type (EMS, TL1, FTP, Telnet, or SSH)
- Login time
- Last activity time

Note Active Login tab always display the two telnet sessions for a single CTC session, open by a user using a single IP address.

Step 2 Click **Logout** to end the session of every logged-in user. This will log out all current users, excluding the initiating Superuser.

Step 3 Click **Retrieve Last Activity Time** to display the most recent activity date and time for users in the Last Activity Time field.

Step 4 Return to your originating procedure (NTP).

NTP-G89 Change SNMP Settings

Purpose	This procedure modifies the SNMP settings for the ONS 15454 node.
Tools/Equipment	None
Prerequisite Procedures	• "NTP-G29 Set Up SNMP" procedure in the chapter "Turn Up a Node" of the *Cisco ONS 15454 DWDM Configuration Guide* • "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 Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Step 2 Perform any of the following tasks as needed:

- DLP-G197 Modify SNMP Trap Destinations, on page 93
- DLP-G198 Delete SNMP Trap Destinations, on page 94

Step 3 Complete the "NTP-G103 Back Up the Database" procedure in the chapter, "Maintain the Node" of the *Cisco ONS 15454 DWDM Configuration Guide*.

Stop. You have completed this procedure.

DLP-G197 Modify SNMP Trap Destinations

Purpose	This task modifies the SNMP trap destinations on an ONS 15454 node including community name, default User Datagram Protocol (UDP) port, SNMP trap version, and maximum traps per second.
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 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **SNMP** tabs.

Step 2 Select a trap from the **Trap Destinations** area.

For a description of SNMP traps, refer to the "SNMP" document.

Step 3 Highlight the Destination row field entry in the Community column and change the entry to another valid community name.

The community name is a form of authentication and access control. The community name assigned to the ONS 15454 is case-sensitive and must match the community name of the network management system (NMS).

Step 4 If needed, modify the UDP port in the UDP Port field. The default UDP port for SNMP is 162.

Step 5 Set the Trap Version field for either SNMPv1 or SNMPv2.

Refer to your NMS documentation to determine whether to use SNMPv1 or SNMPv2.

Step 6 If you want the SNMP agent to accept SNMP SET requests on certain MIBs, check the **Allow SNMP Sets** check box. If this box is not checked, SET requests are rejected.

Step 7 If you want to set up the SNMP proxy feature to allow network management, message reporting, and performance statistics retrieval across ONS firewalls, check the **Enable SNMP Proxy** check box located on the SNMP tab.

Step 8 Click **Apply**.

Step 9 SNMP settings are now modified. To view SNMP information for each node, highlight the node IP address in the Trap Destinations area of the Trap Destinations area. Confirm that the changes appear; if not, repeat the task.

Step 10 Return to your originating procedure (NTP).

DLP-G198 Delete SNMP Trap Destinations

Purpose	This task deletes SNMP trap destinations on an ONS 15454 node.
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 In node view (single-shelf mode) or multishelf view (multishelf mode), click the **Provisioning** > **SNMP** tabs.

Step 2 In the Trap Destinations area, click the trap that you want to delete.

Step 3 Click **Delete**. A confirmation dialog box appears.

Step 4 Click **Yes**. Confirm that the changes appear; if not, repeat the task.

Step 5 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 NCS 2000 Series Documentation Roadmap	Provides quick access to publications of Cisco NCS 2000 Series releases.
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.

Link	Description
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.

Short Description

Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at Cisco Profile Manager.
- To get the business impact 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 Marketplace.
- 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.

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