Manage Circuits

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

This chapter explains how to manage Cisco ONS 15600 optical and overhead circuits.

Before You Begin

To create circuits, see Chapter 6, "Create Circuits."

To clear any alarm or trouble conditions, refer to the *Cisco ONS 15600 Troubleshooting Guide*.

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

1. NTP-E51 Locate and View Circuits, page 7-2—Complete as needed.

2. NTP-E52 Modify and Delete Circuits, page 7-2—Complete as needed to edit a circuit name, change the active and standby colors of spans, or change signal fail (SF) and signal degrade (SD) thresholds, reversion time, and payload defect indication-path (PDI-P) settings for path protection circuits.

3. NTP-E134 Modify and Delete Overhead Circuits, page 7-3—Complete as needed to change a tunnel type, repair an IP circuit, or delete overhead circuits.

4. NTP-E1 Create a J1 Path Trace, page 7-3—Complete as needed to monitor interruptions or changes to circuit traffic.

5. NTP-E55 Bridge and Roll Traffic, page 7-4—Complete as needed to reroute circuits without interrupting service.

6. NTP-E126 Reconfigure Circuits, page 7-5—Complete as needed to reconfigure circuits.

7. NTP-E127 Merge Circuits, page 7-6—Complete as needed to merge circuits.

> **Note** To provision ONS 15600 circuits from an ONS 15454 and/or ONS 15327 node, the Cisco Transport Controller (CTC) version launched from the ONS 15454 or ONS 15327 must be Software R4.1 or later. Cisco recommends launching CTC from the ONS 15600 node before provisioning circuits.

Note During circuit provisioning in a network that includes ONS 15600s, ONS 15454s, and ONS 15327s, the ONS 15600 raises a temporary UNEQ-P alarm. The alarm clears when the circuit is complete.

NTP-E51 Locate and View Circuits

Purpose	This procedure locates and displays ONS 15600 circuits.
Tools/Equipment	None
Prerequisite Procedures	Circuits must exist on the network. See Chapter 6, "Create Circuits."
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 Complete the "DLP-E26 Log into CTC" task on page 16-39 at any node on the network where you want to view the circuits. If you are already logged in, continue with Step 2.

Step 2 As needed, complete the "DLP-E233 View Circuit Information" task on page 18-44.

Step 3 As needed, complete the "DLP-E64 Search for Circuits" task on page 16-79.

Step 4 As needed, complete the "DLP-E65 Filter the Display of Circuits" task on page 16-80.

Step 5 As needed, complete the "DLP-E66 View Circuits on a Span" task on page 16-81.

Stop. You have completed this procedure.

NTP-E52 Modify and Delete Circuits

Purpose	This procedure edits or changes the properties of ONS 15600 circuits.
Tools/Equipment	None
Prerequisite Procedures	Circuits must exist on the network. See Chapter 6, "Create Circuits."
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the "DLP-E26 Log into CTC" task on page 16-39 at the network containing the circuit you want to modify. If you are already logged in, continue with Step 2.

Step 2 As needed, complete the "DLP-E67 Edit a Circuit Name" task on page 16-82.

Step 3 As needed, complete the "DLP-E188 Change a Circuit Service State" task on page 17-67.

Step 4 As needed, complete the "DLP-E68 Change Active and Standby Span Color" task on page 16-83.

Step 5 As needed, complete the "DLP-E127 Edit Path Protection Circuit Path Selectors" task on page 17-24.

Step 6 As needed, complete the "DLP-E176 Edit Path Protection Dual-Ring Interconnect Circuit Hold-Off Timer" task on page 17-56.

Step 7   As needed, complete the "DLP-E163 Delete Circuits" task on page 17-49.

Stop. You have completed this procedure.

NTP-E134 Modify and Delete Overhead Circuits

Purpose	This procedure changes the tunnel type, repairs IP circuits, and deletes overhead circuits.
Tools/Equipment	None
Prerequisite Procedures	Overhead circuits must exist on the network. See Chapter 6, "Create Circuits."
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

⚠️
Caution   Deleting circuits can be service affecting and should be performed during a maintenance window.

Step 1   Complete the "DLP-E26 Log into CTC" task on page 16-39 for a node on the network where you want to delete the circuit. If you are already logged in, continue with Step 2.

Step 2   As needed, complete the "DLP-E177 Change Tunnel Type" task on page 17-57.

Step 3   As needed, complete the "DLP-E179 Repair an IP Tunnel" task on page 17-58.

Step 4   As needed, complete the "DLP-E178 Delete Overhead Circuits" task on page 17-58.

Stop. You have completed this procedure.

NTP-E1 Create a J1 Path Trace

Purpose	This procedure creates a repeated, fixed-length string of characters used to monitor interruptions or changes to circuit traffic.
Tools/Equipment	ONS 15600 cards capable of transmitting and/or receiving path trace must be installed. See Table 17-1 on page 17-59 for a list of cards.
Prerequisite Procedures	Circuits must exist on the network. See Chapter 6, "Create Circuits."
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

✎
Note   You cannot create a J1 path trace on a TL1-like circuit.

Step 1   Complete the "DLP-E26 Log into CTC" task on page 16-39 at a node on the network where you will create the path trace. If you are already logged in, continue with Step 2.

Step 2   Complete the "DLP-E180 Provision Path Trace on Circuit Source and Destination Ports" task on page 17-59.

Step 3   As needed, complete the "DLP-E181 Provision Path Trace on OC-N Ports" task on page 17-62.

Stop. You have completed this procedure.

NTP-E55 Bridge and Roll Traffic

Purpose	This procedure reroutes live traffic without interrupting service. You can use the Bridge and Roll wizard for maintenance functions such as card replacement or load balancing. A circuit consists of a source facility, destination facility(s), and intermediate facilities (path).
Tools/Equipment	None
Prerequisite Procedures	• Circuits must exist on the network. See Chapter 6, "Create Circuits" for circuit creation procedures.
	• To route circuits on protected ports, you must create a protection group using the "NTP-E25 Create a 1+1 Protection Group" procedure on page 4-7 or the "NTP-E164 Create a BLSR" procedure on page 5-9.
	• When a roll involves two circuits, a data communications channel (DCC) connection must exist. See the "DLP-E114 Provision Section DCC Terminations" task on page 17-14.
	• Use the "NTP-E51 Locate and View Circuits" procedure on page 7-2 to verify that the planned Roll To paths are in service. Verify that the planned Roll To and Roll From paths are not in the Roll Pending status, used in test access, or used in a loopback. Refer to the *Cisco ONS 15600 Troubleshooting Guide* to clear any alarms.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning and higher

✎ **Note**   Using the bridge and roll feature, you can upgrade an unprotected circuit to a fully protected circuit or downgrade a fully protected circuit to an unprotected circuit.

Step 1   Complete the "DLP-E26 Log into CTC" task on page 16-39 at the ONS 15600 circuit source node. If you are already logged in, continue with Step 2.

Step 2   As needed, complete the "DLP-E236 Roll the Source or Destination of One Optical Circuit" task on page 18-50.

Step 3   As needed, complete the "DLP-E237 Roll One Cross-Connect from an Optical Circuit to a Second Optical Circuit" task on page 18-53.

Step 4   As needed, complete the "DLP-E238 Roll Two Cross-Connects on One Optical Circuit Using Automatic Routing" task on page 18-55 or the "DLP-E239 Roll Two Cross-Connects on One Optical Circuit Using Manual Routing" task on page 18-59.

Step 5   As needed, complete the "DLP-E240 Roll Two Cross-Connects from One Optical Circuit to a Second Optical Circuit" task on page 18-61.

Step 6   As needed, complete the "DLP-E242 Cancel a Roll" task on page 18-63.

Step 7   As needed, complete the "DLP-E241 Delete a Roll" task on page 18-62. Use caution when selecting this option. Delete a roll only if it cannot be completed or cancelled. Circuits may have a PARTIAL status when this option is selected.

Stop. You have completed this procedure.

NTP-E126 Reconfigure Circuits

Purpose	This procedure rebuilds circuits, which might be necessary when a large number of circuits are in the PARTIAL status.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1   Complete the "DLP-E26 Log into CTC" task on page 16-39. If you are already logged in, continue with Step 2.

Step 2   Click the **Circuits** tab.

Step 3   Choose the circuits that you want to reconfigure.

Step 4   From the Tools menu, choose **Circuits > Reconfigure Circuits**.

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

Step 6   In the notification box, view the reconfiguration result. Click **Ok**.

Stop. You have completed this procedure.

NTP-E127 Merge Circuits

Purpose	This procedure merges two circuits that create a single, contiguous path but are separate circuits because of different circuit IDs or conflicting parameters. A merge combines a single master circuit with one or more circuits.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1   Complete the "DLP-E26 Log into CTC" task on page 16-39. If you are already logged in, continue with Step 2.

Step 2   Click the **Circuits** tab.

Step 3   Click the circuit that you want to use as the master circuit for a merge.

Step 4   Click **Edit.**

Step 5   In the Edit Circuits window, click the **Merge** tab.

Step 6   Choose the circuits that you want to merge with the master circuit.

Step 7   Click **Merge**.

Step 8   In the confirmation dialog box, click **Yes** to continue.

Step 9   In the notification box, view the merge result. Click **Ok**.

Stop. You have completed this procedure.