



# CHAPTER 7

## Manage Circuits

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This chapter explains how to manage Cisco ONS 15600 SDH 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 SDH Troubleshooting Guide*.

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

1. [NTP-F176 Locate and View Circuits, page 7-2](#)—Complete as needed.
2. [NTP-F177 Modify and Delete Circuits, page 7-2](#)—Complete as needed to edit a circuit name, change a circuit service state, 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 subnetwork connection protection (SNCP) circuits.
3. [NTP-F178 Modify and Delete Overhead Circuits and Server Trails, page 7-3](#)—Complete as needed to change a tunnel type, repair an IP circuit, or delete overhead circuits.
4. [NTP-F179 Create a J0 Section Trace, page 7-3](#)—Complete as needed to monitor interruptions or changes to circuit traffic.
5. [NTP-F180 Create a J1 Path Trace, page 7-4](#)—Complete as needed to monitor interruptions or changes to circuit traffic.
6. [NTP-F181 Bridge and Roll Traffic, page 7-5](#)—Complete as needed to reroute circuits without interrupting service.
7. [NTP-F182 Reconfigure Circuits, page 7-6](#)—Complete as needed to reconfigure circuits.
8. [NTP-F183 Merge Circuits, page 7-7](#)—Complete as needed to merge circuits.



#### Note

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

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#### Note

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During circuit provisioning in a network that includes ONS 15600 SDH nodes and ONS 15454 SDH nodes, the ONS 15600 SDH raises a temporary HP-UNEQ or LP-UNEQ alarm. The alarm clears when the circuit is complete.

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## NTP-F176 Locate and View Circuits

<b>Purpose</b>	This procedure locates and displays ONS 15600 SDH circuits. You can also export circuit data from the Circuit and Edit Circuits windows.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	Circuits must exist on the network. See <a href="#">Chapter 6, “Create Circuits.”</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Retrieve or higher

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- Step 1** Complete the “[DLP-F181 Log into CTC](#)” task on page 16-32 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-F348 View Circuit Information](#)” task on page 18-51.
- Step 3** As needed, complete the “[DLP-F214 Search for Circuits](#)” task on page 17-13.
- Step 4** As needed, complete the “[DLP-F215 Filter the Display of Circuits](#)” task on page 17-14.
- Step 5** As needed, complete the “[DLP-F216 View Circuits on a Span](#)” task on page 17-15.
- Step 6** As needed, complete the “[DLP-F379 Export CTC Data](#)” task on page 18-88.

**Stop. You have completed this procedure.**

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## NTP-F177 Modify and Delete Circuits

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

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- Step 1** Complete the “[DLP-F181 Log into CTC](#)” task on page 16-32 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-F217 Edit a Circuit Name](#)” task on page 17-16.
- Step 3** As needed, complete the “[DLP-F313 Change a Circuit Service State](#)” task on page 18-13.
- Step 4** As needed, complete the “[DLP-F218 Change Active and Standby Span Color](#)” task on page 17-17.
- Step 5** As needed, complete the “[DLP-F264 Edit SNCP Circuit Path Selectors](#)” task on page 17-55.
- Step 6** As needed, complete the “[DLP-F301 Edit SNCP Dual-Ring Interconnect Circuit Hold-Off Timer](#)” task on page 18-2.
- Step 7** As needed, complete the “[DLP-F293 Delete Circuits](#)” task on page 17-83.

**Stop. You have completed this procedure.**

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## NTP-F178 Modify and Delete Overhead Circuits and Server Trails

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



### Caution

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

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- Step 1** Complete the [“DLP-F181 Log into CTC” task on page 16-32](#) 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-F302 Change Tunnel Type” task on page 18-2](#).
- Step 3** As needed, complete the [“DLP-F304 Repair an IP Tunnel” task on page 18-4](#).
- Step 4** As needed, complete the [“DLP-F303 Delete Overhead Circuits” task on page 18-3](#).
- Step 5** As needed, complete the [“DLP-F382 Delete a Server Trail” task on page 18-95](#).

**Stop. You have completed this procedure.**

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## NTP-F179 Create a J0 Section Trace

<b>Purpose</b>	This procedure creates a repeated, fixed-length string of characters used to monitor interruptions or changes to traffic between nodes.
<b>Tools/Equipment</b>	Any optical card
<b>Prerequisite Procedures</b>	None
<b>Required/As Needed</b>	As needed (optional if path trace is set)
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Provisioning or higher

- Step 1** Complete the [“DLP-F181 Log into CTC” task on page 16-32](#) at a node on the network where you will create the section trace. If you are already logged in, continue with Step 2.
- Step 2** In node view, double-click the card.

- Step 3** Click the **Provisioning > Line > Section Trace** tabs.
- Step 4** From the Port drop-down list, choose the port for the section trace.
- Step 5** From the Trace Mode drop-down list, enable the section trace expected string by choosing **Auto** or **Manual**:
- **Auto**—The first string received from the source port is automatically provisioned as the current expected string. An alarm is raised when a string that differs from the baseline is received.
  - **Manual**—The string entered in the Current Expected String field is the baseline. An alarm is raised when a string that differs from the Current Expected String is received.
- Step 6** In the Section Trace String Size area, click **1 byte**, **16 byte**, or **64 byte**. In the New Transmit String field, enter the string that you want to transmit. Enter a string that makes the destination port easy to identify, such as the node IP address, node name, or another string. If the New Transmit String field is left blank, the J0 transmits a string of null characters.
- Step 7** If you set the Section Trace Mode field to Manual, enter the string that the destination port should receive from the source port in the New Expected String field. If you set Section Trace Mode to Auto, skip this step.
- Step 8** Click **Apply**.
- Step 9** After you set up the section trace, the received string appears in the Received field. The following options are available:
- Click **Hex Mode** to display section trace in hexadecimal format. The button name changes to ASCII Mode. Click it to return the section trace to ASCII format.
  - Click the **Reset** button to reread values from the port.
  - Click **Default** to return to the section trace default settings (Section Trace Mode is set to Off and the New Transmit and New Expected Strings are null).

**Caution**


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Clicking Default will generate alarms if the port on the other end is provisioned with a different string.

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The expect and receive strings are updated every few seconds if the Section Trace Mode field is set to Auto or Manual.

**Stop. You have completed this procedure.**

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## NTP-F180 Create a J1 Path Trace

<b>Purpose</b>	This procedure creates a repeated, fixed-length string of characters used to monitor interruptions or changes to circuit traffic.
<b>Tools/Equipment</b>	ONS 15600 SDH cards capable of transmitting and/or receiving path trace must be installed. See <a href="#">Table 18-1 on page 18-5</a> for a list of cards.
<b>Prerequisite Procedures</b>	Circuits must exist on the network. See <a href="#">Chapter 6, “Create Circuits.”</a>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Provisioning or higher



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

- Step 1** Complete the “[DLP-F181 Log into CTC](#)” task on page 16-32 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-F305 Provision Path Trace on Circuit Source and Destination Ports](#)” task on page 18-4.
- Step 3** As needed, complete the “[DLP-F306 Provision Path Trace on STM-N Ports](#)” task on page 18-8.
- Stop. You have completed this procedure.**

## NTP-F181 Bridge and Roll Traffic

<b>Purpose</b>	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).
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	<ul style="list-style-type: none"> <li>• Circuits must exist on the network. See <a href="#">Chapter 6, “Create Circuits.”</a> for circuit creation procedures.</li> <li>• To route circuits on protected ports, you must create a protection group using the “<a href="#">NTP-F138 Create a 1+1 Protection Group</a>” procedure on page 4-10 or the “<a href="#">NTP-F148 Create an MS-SPRing</a>” procedure on page 5-8.</li> <li>• When a roll involves two circuits, a data communications channel (DCC) connection must exist. See the “<a href="#">DLP-F253 Provision RS-DCC Terminations</a>” task on page 17-46.</li> <li>• Use the “<a href="#">NTP-F176 Locate and View Circuits</a>” 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, used in a loopback, used in a hairpin circuit, used in a monitor circuit, or have ports in protection group switching. Refer to the <i>Cisco ONS 15600 SDH Troubleshooting Guide</i> to clear any alarms.</li> </ul>
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	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-F181 Log into CTC](#)” task on page 16-32 at the ONS 15600 SDH circuit source node. If you are already logged in, continue with [Step 2](#).

- Step 2** As needed, complete the “DLP-F351 Roll the Source or Destination of One Optical Circuit” task on page 18-56.
- Step 3** As needed, complete the “DLP-F352 Roll One Cross-Connect from an Optical Circuit to a Second Optical Circuit” task on page 18-60.
- Step 4** As needed, complete the “DLP-F353 Roll Two Cross-Connects on One Optical Circuit Using Automatic Routing” task on page 18-62 or the “DLP-F354 Roll Two Cross-Connects on One Optical Circuit Using Manual Routing” task on page 18-66.
- Step 5** As needed, complete the “DLP-F355 Roll Two Cross-Connects from One Optical Circuit to a Second Optical Circuit” task on page 18-68.
- Step 6** As needed, complete the “DLP-F357 Cancel a Roll” task on page 18-70.
- Step 7** As needed, complete the “DLP-F356 Delete a Roll” task on page 18-69. 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.**

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## NTP-F182 Reconfigure Circuits

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

- Step 1** Complete the “DLP-F181 Log into CTC” task on page 16-32. 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.**

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# NTP-F183 Merge Circuits

<b>Purpose</b>	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.
<b>Tools/Equipment</b>	None
<b>Prerequisite Procedures</b>	None
<b>Required/As Needed</b>	As needed
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Provisioning or higher

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- Step 1** Complete the [“DLP-F181 Log into CTC” task on page 16-32](#). 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.**
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