



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 15327 electrical, optical, and Ethernet circuits.

Before You Begin

To create circuits, see [Chapter 5, "Create Circuits and VT Tunnels."](#)

To clear any alarm or trouble conditions, refer to the *Cisco ONS 15327 Troubleshooting Guide*.

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

1. [NTP-B199 Locate and View Circuits, page 8-3](#)—Complete as needed.
2. [NTP-B151 Modify Circuit Characteristics, page 8-8](#)—Complete as needed.
3. [NTP-B151 Modify Circuit Characteristics, page 8-8](#)—Complete as needed to edit a circuit name, change the active and standby colors of spans, or change signal fail thresholds, signal degrade thresholds, reversion time, and PDI-P settings for path protection circuits.
4. [NTP-B416 Convert a CTC Circuit to TL1 Cross-Connects, page 8-13](#)—Complete this procedure if you want to convert a CTC circuit into TL1 cross-connects.
5. [NTP-B417 Upgrade TL1 Cross-Connects to CTC Circuits, page 8-14](#)—Complete this procedure if you want to convert TL1 cross-connects or TL1-like cross-connects created in CTC into a CTC circuit.
6. [NTP-B152 Delete Circuits, page 8-15](#)—Complete as needed.
7. [NTP-B78 Create a Monitor Circuit, page 8-16](#)—Complete as needed to monitor traffic on primary bidirectional circuits.
8. [NTP-B79 Create a J1 Path Trace, page 8-17](#)—Complete as needed to monitor interruptions or changes to circuit traffic.

The Cisco Transport Controller Circuits window displays information about circuits to help you manage the circuits, including circuit status and state. [Table 8-1](#) lists the statuses that CTC can report for each circuit.

Table 8-1 ONS 15327 Circuit Status

Status	Definition/Activity
CREATING	CTC is creating a circuit.
ACTIVE	CTC created a circuit. All components are in place and a complete path exists from the circuit source to the circuit destination.
DELETING	CTC is deleting a circuit.
INCOMPLETE	<p>A CTC-created circuit is missing a cross-connect or network span; a complete path from source to destination(s) does not exist.</p> <p>In CTC, circuits are represented using cross-connects and network spans. If a network span is missing from a circuit, the circuit status is INCOMPLETE. However, an INCOMPLETE status does not necessarily mean a circuit traffic failure has occurred, because traffic can flow on a protect path.</p> <p>Network spans are in one of two states: up or down. In CTC circuit and network maps, up spans are displayed as green lines, and down spans are displayed as gray lines. If a failure occurs on a network span during a CTC session, the span remains on the network map but its color changes to gray. If you restart your CTC session while the failure is active, the new CTC session cannot discover the span and its span line will not display on the network map.</p> <p>Subsequently, circuits routed on a network span that goes down will display as ACTIVE during the current CTC session, but they will display as INCOMPLETE to users who log in after the span failure.</p>
UPGRADABLE	A TL1-created circuit or a TL1-like CTC-created circuit is complete and has upgradable cross-connects. A complete path from source to destination(s) exists. CTC can create an active circuit.
INCOMPLETE_UPGRADABLE	A TL1-created circuit or a TL1-like CTC-created circuit with upgradable cross-connects is missing a cross-connect, and a complete path from source to destination(s) does not exist. The circuit cannot be upgraded until missing cross-connects are in place.

Table 8-1 ONS 15327 Circuit Status (continued)

Status	Definition/Activity
NOT_UPGRADABLE	A TL1-created circuit or a TL1-like CTC-created circuit is complete but has at least one non-upgradable cross-connect. UPSR_HEAD, UPSR_EN, UPSR_DC, and UPSR_DROP cross-connects are not upgradable, so all unidirectional path protection circuits created with TL1 are not upgradable.
INCOMPLETE_NOT_UPGRADABLE	A TL1-created circuit or a TL1-like CTC-created circuit with one or more non-upgradable cross-connects is missing a connection or circuit span (network link); a complete path from source to destination(s) does not exist.

Circuit state, shown in [Table 8-2](#), is a user-assigned, administrative status that defines whether the circuit is in or out of service. To carry circuit traffic, circuits must have a status of active and a state of in service (IS).

Table 8-2 ONS 15327 Circuit States

State	Definition
IS	In service; able to carry traffic
OOS	Out of service; unable to carry traffic
OOS-AINS	Out of service, auto in service; alarm reporting is suppressed, but traffic is carried and loopbacks are allowed. Raised fault conditions, whether their alarms are reported or not, can be retrieved on the CTC Conditions tab or by using the TL1 RTRV-COND command. VT circuits generally switch to IS when source and destination ports are IS, OOS_AINS, or OOS_MT regardless of whether a physical signal is present. STS circuits switch to IS when a signal is received.
OOS-MT	Out of service, maintenance; alarm reporting is suppressed, but traffic is carried and loopbacks are allowed. Raised fault conditions, whether their alarms are reported or not, can be retrieved on the CTC Conditions tab or by using the TL1 RTRV-COND command.

NTP-B199 Locate and View Circuits

Purpose	This procedure provides tasks that you can use to locate and view ONS 15327 circuits.
Tools/Equipment	None
Prerequisite Procedures	Circuit creation procedure(s) in Chapter 5, “Create Circuits and VT Tunnels”
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** Log into the network where you want to view the circuits. See the [“DLP-B60 Log into CTC” task on page 2-23](#) for instructions. If you are already logged in, continue with Step 2.

- Step 2** As needed, complete the “[DLP-B131 Search for Circuits](#)” task on page 8-5.
- Step 3** As needed, complete the “[DLP-B262 Filter the Display of Circuits](#)” task on page 8-4.
- Step 4** As needed, complete the “[DLP-B229 View Circuits on a Span](#)” task on page 8-6.

Stop. You have completed this procedure.

DLP-B262 Filter the Display of Circuits

Purpose	This task filters the display of circuits in the ONS 15327 network, node, or card view Circuits window based on circuit name, size, type, direction, and other attributes.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC , page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** Navigate to the appropriate CTC view:
- To filter network circuits, from the View menu choose **Go to Network View**.
 - To filter circuits that originate, terminate, or pass through a specific node, from the View menu, choose **Go to Other Node**, then choose the node you want to search and click **OK**.
 - To filter circuits that originate, terminate, or pass through a specific card, double-click the card on the shelf graphic in node view to display the card in card view.
- Step 2** Click the **Circuits** tab.
- Step 3** Set the attributes for filtering the circuit display:
- Click the **Filter** button.
 - On the Filter Dialog, set the filter attributes:
 - Name—Enter a complete or partial circuit name to filter circuits based on circuit name; otherwise leave the field blank.
 - Direction—Choose one: **Any** (direction not used to filter circuits), **1-way** (display only one-way circuits), or **2-way** (display only two-way circuits).
 - Status—Choose one: **Any** (status not used to filter circuits), **Active** (display only active circuits), **Incomplete** (display only incomplete circuits, that is, circuits missing a connection or span to form a complete path), or **Upgradable** (display only upgradable circuits, that is, circuits created in TL1 that are ready to upgrade in CTC). See [Table 8-1](#) for more information about circuit statuses. Although other statuses are described in [Table 8-1](#), filtering is only supported for Active, Incomplete, and Upgradable circuits.
 - State—Choose one: **OOS** (display only out-of-service circuits), **IS** (display only inservice circuits), **OOS-AINS** (display only out of service, auto inservice circuits), or **OOS-MT** (display only out of service, maintenance circuits.) See [Table 8-2](#) for more information about circuit states.

- Slot—Enter a slot number to filter circuits based on the source or destination slot; otherwise leave the field blank.
- Port—Enter a port number to filter circuits based on the source or destination port; otherwise leave the field blank.
- Type—Choose one: **Any** (type not used to filter circuits), **STS** (displays only STS circuits), **VT** (displays only VT circuits), **VT Tunnel** (displays only VT tunnels), or **VT Aggregation Point** (displays only VT aggregation points).
- Size—Click the appropriate check boxes to filter circuits based on size: VT1.5, STS-1, STS3c, STS-6c, STS-9c, STS-12c, STS-24c, STS-48c. The check boxes that appear depend on what you entered in the Type field. If you chose Any, all sizes are available. If you chose VT, only VT1.5 is available. If you chose STS, only STS sizes are available, and if you chose VT Tunnel or VT Aggregation Point, only STS-1 is available.

- Step 4** Click **OK**. Circuits matching the attributes in the Filter Circuits dialog box appear in the Circuits window.
- Step 5** To turn filtering off, click the Filter icon in the lower right corner of the Circuits window. Click the icon again to turn filtering on, and click the Filter button to change the filter attributes.
- Step 6** Return to your originating procedure (NTP).
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DLP-B131 Search for Circuits

Purpose	This task searches for an ONS 15327 circuit at the network, node, or card level.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** Navigate to the appropriate CTC view:
- To search the entire network, from the View menu choose **Go to Network View**.
 - To search for circuits that originate, terminate, or pass through a specific node, from the View menu choose **Go to Other Node**, then choose the node you want to search and click **OK**.
 - To search for circuits that originate, terminate, or pass through a specific card, double-click the card on the shelf graphic in node view to display the card in card view.
- Step 2** Click the **Circuits** tab.
- Step 3** If you are in node or card view, choose the scope for the search in the Scope drop-down menu.
- Step 4** Click **Search**.
- Step 5** In the Circuit Name Search dialog box, complete the following:
- Find What—Enter the text of the circuit name you want to find.

- **Match Whole Word Only**—Select this check box to instruct CTC to select circuits only if the entire word matches the text in the Find What field.
- **Match Case**—Select this check box to instruct CTC to select circuits only when the capitalization matches the capitalization entered in the Find What field.
- **Direction**—Choose the direction for the search. Searches are conducted up or down from the currently selected circuit.

Step 6 Click **Find Next**. If a match is found, click **Find Next** again to find the next circuit.

Step 7 Repeat Steps 5 and 6 until you are finished, then click **Cancel**.

Step 8 Return to your originating procedure (NTP).

DLP-B229 View Circuits on a Span

Purpose	This task displays circuits routed on an ONS 15327 span.
Tools/Equipment	None
Prerequisite Procedures	Circuits must be created on the span. See Chapter 5, “Create Circuits and VT Tunnels” DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 From the View menu on the node view choose **Go to Network View**. If you are already in network view, go to [Step 2](#).

Step 2 Right-click the green line containing the circuits you want to view and choose one of the following:

- **Circuits**—To view BLSR, path protection, 1+1, or unprotected circuits on the span.
- **PCA Circuits**—To view circuits routed on a BLSR protected channel. This option does not display if the span you right-clicked is not a BLSR span.

On the Circuits on Span dialog box, you can view the following information for circuits provisioned on the span:

- **STS**—STSs used by the circuits.
- **VT**—VTs used by the circuits (VT circuits).
- **UPSR**—(UPSR span only)—If checked, UPSR circuits are on the span.
- **Circuit**—Displays the circuit name.
- **Switch State**—(UPSR span only) Displays the switch state of the circuit, that is, whether any span switches are active. For UPSR spans, switch types include: CLEAR (no spans are switched), MANUAL (a Manual switch is active), FORCE (a Force switch is active), and LOCKOUT OF PROTECTION (a span lockout is active).

**Note**

You can perform other procedures from the Circuits on Span dialog box. If the span is in a path protection, you can switch the span traffic. See [“DLP-B197 Initiate a Path Protection Force Switch” task on page 13-16](#) for instructions. If you want to edit a circuit on the span, double-click the circuit. See the [“DLP-B231 Edit a Circuit Name” task on page 8-9](#) or the [“DLP-B233 Edit Path Protection Circuit Path Selectors” task on page 8-11](#) for instructions.

Step 3 Return to your originating procedure (NTP).

NTP-B200 View XTC Cross-Connect Resource Usage

Purpose	This procedure displays the percentage of XTC cross-connect resources used by circuits that traverse or terminate at an ONS 15327.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** Log into the node where you want to view the cross-connect card resource usage. See the [“DLP-B60 Log into CTC” task on page 2-23](#) for instructions. If you are already logged in, continue with Step 2.
- Step 2** Click the **Maintenance > Cross-Connect** tabs.
- Step 3** In the Summary section of the Resources Usage tab, view the following information:
- **STS-1 Paths**—Provides the percent of the XTC cross-connect STS-1path resources that are used. 288 STS-1 paths are available.
 - **VT Matrix Ports**—Provides the percent of the XTC cross-connect VT matrix ports that are used. Each port is one STS in size, and each can transport 28 VT1.5s. 24 VT matrix ports are available.
 - **VT Matrix**—Provides the percent of the VT matrix resources that are used. 672 are available, which is the number of VT matrix ports (24) multiplied by the number of VT1.5s in an STS (28).
- Step 4** In the VT Port Matrix Detail section, you can view details of the VT Matrix Port usage:
- **Drop**—Identifies the source slot, port, and STS.
 - **Tunnel Name**—If the VT port is on a VT tunnel origination or termination port, the name of the VT tunnel appears in Tunnel Name.
 - **% Used**—Shows the percent of the matrix port that is used. Each matrix port can carry 28 VT1.5s, so for example, if one STS carries seven VT1.5 circuits, the matrix port will be 25% used.
 - **Usage**—Shows the port usage. For example, if one STS carries seven VT1.5 circuits, the matrix port will show 7 of 28 are used.

Stop. You have completed this procedure.

NTP-B151 Modify Circuit Characteristics

Purpose	This procedure modifies the properties of ONS 15327 circuits.
Tools/Equipment	None
Prerequisite Procedures	Circuits must exist on the network. See Chapter 5, “Create Circuits and VT Tunnels” for circuit creation procedures.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

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- Step 1** Log into the network containing the circuit you want to modify. See the [“DLP-B60 Log into CTC” task on page 2-23](#) for instructions. If you are already logged in, continue with Step 2.
- Step 2** As needed, complete the [“DLP-B231 Edit a Circuit Name” task on page 8-9](#).
- Step 3** As needed, complete the [“DLP-B232 Change Active and Standby Span Color” task on page 8-10](#).
- Step 4** As needed, complete the [“DLP-B233 Edit Path Protection Circuit Path Selectors” task on page 8-11](#).
- Stop. You have completed this procedure.**
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DLP-B230 Change a Circuit State

Purpose	Use this task to change the state of a circuit.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

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- Step 1** Click the **Circuits** tab.
- Step 2** Click the circuit with the state you want to change.



Note You cannot edit the circuit state if the circuit is routed to nodes with a CTC software release older than Release 3.4. These circuits will automatically be in service (IS).

- Step 3** From the Tools menu, choose **Circuits > Set Circuit State**.



Note Alternatively, you can click the **Edit** button, then click the **State** tab on the Edit Circuits window.

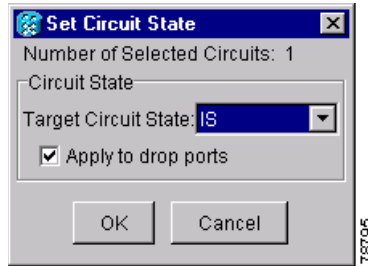
- Step 4** In the Set Circuit State dialog box ([Figure 8-1](#)) change the circuit state by choosing one of the following choices from the Target Circuit State drop-down menu:
- IS—Places the circuit in service

- OOS—Places the circuit out of service
- OOS-AINS—Places the circuit out of service, auto in service
- OOS-MT—Places the circuit out of service, maintenance

See [Table 8-2 on page 8-3](#) for additional information about circuit states.

- Step 5** If you want to apply the state to the circuit source and destination ports, check the **Apply to Drop Ports** check box.

Figure 8-1 Changing Circuit State



- Step 6** Click **OK**.



Note CTC will not change the state of the circuit source and destination port in certain circumstances. For example, if the circuit size is smaller than the port, for example, a VT1.5 circuit on an STS port, CTC will not change the port state from IS to OOS. If CTC cannot change the port state, a message is displayed and you will need to change the port state manually.

- Step 7** Return to your originating procedure (NTP).

DLP-B231 Edit a Circuit Name

Purpose	Use this task to edit a circuit name.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** Click the **Circuits** tab.
- Step 2** Click the circuit you want to rename, then click **Edit**.
- Step 3** On the General tab, click the **Name** field and edit or rename the circuit. Names can be up to 48 alphanumeric and/or special characters. However, to ensure that a monitor circuit can be created on this circuit, do not make the name longer than 44 characters because monitor circuits will add “_MON” (four characters) to the circuit name.
- Step 4** Click the **Apply** button.

- Step 5** From File menu, select **Close**.
- Step 6** On the Circuits window, verify that the circuit was correctly renamed.
- Step 7** Return to your originating procedure (NTP).
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DLP-B232 Change Active and Standby Span Color

Purpose	Use this task to change the color of active (working) and standby (protect) circuit spans on the detailed circuit map of the Edit Circuits window. By default, working spans are green and protect spans are purple.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** From the Edit menu, choose **Preferences**.
- Step 2** On the Preferences dialog box, click the **Circuit** tab.
- Step 3** Complete one or more of the following steps, as required:
- To change the color of the active (working) span, continue with [Step 4](#).
 - To change the color of the standby (protect) span, continue with [Step 5](#).
 - To return active and standby spans to their default colors, continue with [Step 6](#).
- Step 4** Change the color of the active span:
- a. Next to Active Span Color, click the **Color** button.
 - b. On the Pick a Color dialog box, click the color for the active span, or click the **Reset** button if you want the active span to display the last applied (saved) color.
 - c. Click **OK** to close the Pick a Color dialog box. If you want to change the standby span color, continue with [Step 5](#). If not, click **OK** to save the change and close the Preferences dialog box, or click **Apply** to save the change and keep the Preferences dialog box displayed.
- Step 5** Change the color of the standby span:
- a. Next to Standby Span Color, click the **Color** button.
 - b. On the Pick a Color dialog box, click the color for the standby span, or click the **Reset** button if you want the standby span to display the last applied (saved) color.
 - c. Click **OK** to save the change and close the Preferences dialog box, or click **Apply** to save the change and keep the Preferences dialog box displayed.
- Step 6** Return the active and standby spans to their default colors:
- a. From the Edit menu, choose **Preferences**.
 - b. On the Preferences dialog box, click the **Circuits** tab.
 - c. Click the **Reset to Defaults** button.

- d. Click **OK** to save the change and close the Preferences dialog box, or click **Apply** to save the change and keep the Preferences dialog box displayed.

Step 7 Return to your originating procedure (NTP).

DLP-B233 Edit Path Protection Circuit Path Selectors

Purpose	Use this task to change the path protection signal fail and signal degrade thresholds, the reversion and reversion time, and the PDI-P settings for one or more path protection circuits.
Tools/Equipment	None
Prerequisite Procedures	NTP-B44 Provision Path Protection Nodes, page 4-23 DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Click the **Circuits** tab.

Step 2 Click the UPSR circuit(s) you want to edit. To change the settings for multiple circuits, press the **Shift** key (to choose adjoining circuits) or the **Ctrl** key (to choose non-adjoining circuits) and click each circuit you want to change.

Step 3 From the Tools menu, choose **Circuits > Set Path Selector Attributes**.



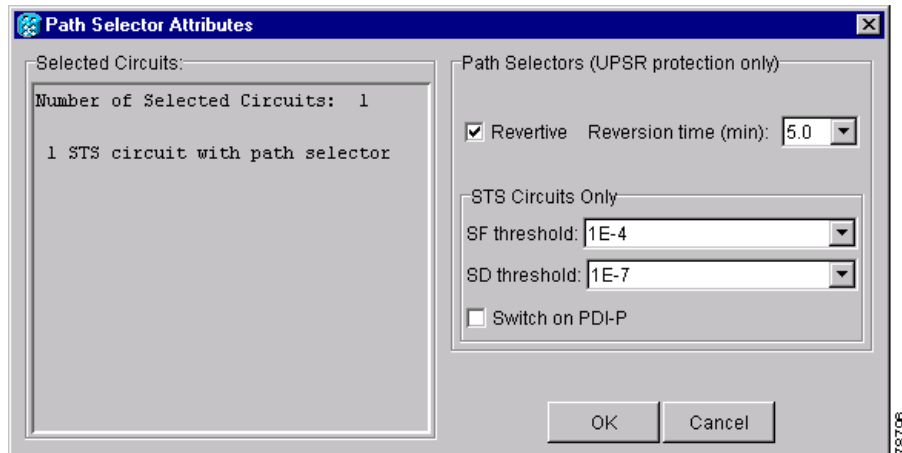
Note Alternatively, for single circuits you can click the **Edit** button, then click the **UPSR Selectors** tab on the Edit Circuits window.

Step 4 In the Path Selectors Attributes dialog box ([Figure 8-2](#)), edit the following path protection selectors, as needed:

- **Revertive**—If checked, traffic reverts to the working path when conditions that diverted it to the protect path are repaired. If the check box is not selected, traffic does not revert.
- **Reversion Time (Min)**—If Revertive is checked, this value sets the amount of time that will elapse before traffic reverts to the working path. The range is 0.5 to 12 minutes in 0.5 minute increments.
- **SF Ber Level**—Sets the path protection signal failure BER threshold (STS circuits only).
- **SD Ber Level**—Sets the path protection signal degrade BER threshold (STS circuits only).
- **PDI-P**—When checked, traffic switches if an STS payload defect indication is received (STS circuits only).

Step 5 Click **OK** and verify that the changed values are correct.

Figure 8-2 Editing Path Protection Path Selectors



Step 6 Return to your originating procedure (NTP).

DLP-B-263 Edit Path Protection Dual Ring Interconnect Circuit Hold-Off Timer

Purpose	Use this task to change the amount of time a circuit routed on path protection dual ring interconnect (DRI) topologies are momentarily prevented from switching. Setting a switch hold off time prevents unnecessary back and forth switching when a circuit is routed through multiple path protection selectors.
Tools/Equipment	None
Prerequisite Procedures	NTP-B44 Provision Path Protection Nodes, page 4-23 DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

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- Step 1 Click the **Circuits** tab.
- Step 2 Click the UPSR circuit you want to edit, then click the **Edit** button.
- Step 3 In the Edit Circuit window, click the **UPSR Selectors** tab.
- Step 4 Under Hold Off Timer, double-click the cell of the circuit span you want to edit, then type the new hold-off time. The range is 0 to 10,000 ms in increments of 100.
- Step 5 Repeat [Step 4](#) as needed to adjust the hold-off timer for each circuit span.
- Step 6 Click **Apply**, then close the Edit Circuit window by choosing **Close** from the File menu.
- Step 7 Return to your originating procedure (NTP).
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NTP-B416 Convert a CTC Circuit to TL1 Cross-Connects

Purpose	Use this procedure to convert CTC circuits to a set of TL1 cross-connects, which enables you to repair a missing cross-connect or change the cross-connect(s) using the TL1-like circuit option during circuit creation.
Tools/Equipment	None
Prerequisite Procedures	Circuits must exist on the network. See Chapter 5, “Create Circuits and VT Tunnels” for circuit creation procedures.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

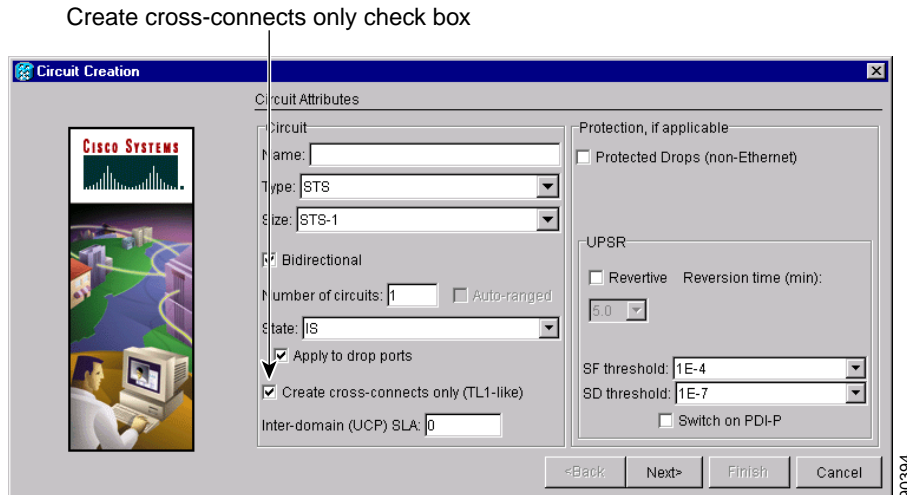
You can only use this procedure with DS-1, DS-3, or OC-N circuits. You cannot use the procedure with Ethernet circuits, VT tunnels, or VT aggregation points.

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- Step 1** Log into an ONS 15327 node on the network where you want to convert the CTC circuits. See the [“DLP-B60 Log into CTC” task on page 2-23](#) for instructions. If you are already logged in, continue with Step 2.
 - Step 2** From the View menu choose **Go to Network View**.
 - Step 3** Click the **Circuits** tab and choose the CTC circuit(s) that you want to convert to TL1 cross-connects. The circuit(s) must have an INCOMPLETE or ACTIVE status.
 - Step 4** From the Tools menu, choose **Circuits > Convert CTC Circuit to TL1 Cross-Connects**.
 - Step 5** In the Convert to TL1 Cross Connect dialog box, click **OK**.

The Convert to TL1 Cross Connect Results dialog box displays the results of the conversion. If any circuits could not be converted, those circuits are listed.
 - Step 6** In the Convert to TL1 Cross Connect Results dialog box, click **OK**.

If the circuit you selected had an INCOMPLETE status, its status will not change. If you selected an ACTIVE (complete) circuit, its status will change to UPGRADABLE.
 - Step 7** If you are repairing a circuit, complete the circuit creation procedure in [Chapter 5, “Create Circuits and VT Tunnels,”](#) appropriate to the circuit you are repairing to replace or repair the circuit cross-connects. On the Circuit Creation wizard, shown in [Figure 8-3](#), check **Create cross-connects only (TL1-like)**.

After you repair or replace all missing cross-connects, CTC automatically merges them and the circuit status changes to UPGRADABLE.

Figure 8-3 Choosing the Cross-Connects Only Option

- Step 8** To upgrade the repaired circuit to a CTC circuit, complete the [“NTP-B417 Upgrade TL1 Cross-Connects to CTC Circuits” procedure on page 8-14](#).

Stop. You have completed this procedure.

NTP-B417 Upgrade TL1 Cross-Connects to CTC Circuits

Purpose	Use this procedure to convert a series of cross-connects displayed as UPGRADABLE in the CTC Circuits window to an ACTIVE CTC circuit.
Tools/Equipment	None
Prerequisite Procedures	TL1-created or CTC-created TL1-like cross-connects must exist on the network. See Chapter 5, “Create Circuits and VT Tunnels” for cross-connect creation procedures.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** Log into an ONS 15327 node on the network where you want to upgrade the TL1-created or CTC-created TL1-like cross-connects. See the [“DLP-B60 Log into CTC” task on page 2-23](#) for instructions. If you are already logged in, continue with Step 2.
- Step 2** From the View menu, choose **Go to Network View**.
- Step 3** Click the **Circuits** tab and choose one or more circuits with an UPGRADABLE status. These circuits contain a series of cross-connects that are linked together to form a circuit path. The cross-connects might have been created with TL1 or with CTC using the TL1-like cross-connects option.
- Step 4** From the Tools menu choose **Circuits > Upgrade TL1 Cross-Connects to CTC Circuits**.
- Step 5** On the Upgrade Circuits dialog box, click **OK**.
The circuit status changes to ACTIVE.

- Step 6** On the Circuit Upgrade Results dialog box, click **OK**.
Stop. You have completed this procedure.
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NTP-B152 Delete Circuits

Purpose	Use this procedure to delete circuits.
Tools/Equipment	None
Prerequisite Procedures	Circuits must exist on the network. See Chapter 5, “Create Circuits and VT Tunnels” for circuit creation procedures.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** Log into an ONS 15327 node on the network where you want to delete the circuit. See the [“DLP-B60 Log into CTC” task on page 2-23](#) for instructions. If you are already logged in, continue with Step 2.
- Step 2** Complete the [“NTP-B108 Back Up the Database” procedure on page 14-6](#).
- Step 3** Investigate all network alarms and resolve any problems that may be affected by the circuit deletion. Refer to the Alarm Troubleshooting chapter in the *Cisco ONS 15327 Troubleshooting Guide*.
- Step 4** Verify that traffic is no longer carried on the circuit, using local site practices, and that the circuit can be safely deleted.
- Step 5** Click the **Circuits** tab.
- Step 6** Choose the circuit(s) you want to delete, then click **Delete**.
- Step 7** On the Delete Circuits confirmation dialog box, check **Set drop ports to OOS** if you want to put the circuit source and destination ports out of service. (CTC will place the ports out of service only if the circuit is the same size as the port or is the only circuit using the port.) Click **Yes** to confirm the deletion.
- Step 8** Complete the [“NTP-B108 Back Up the Database” procedure on page 14-6](#).
Stop. You have completed this procedure.
-

NTP-B78 Create a Monitor Circuit


Purpose	Use this procedure to create a monitor circuit that monitors traffic on primary, bidirectional circuits.
Tools/Equipment	None
Prerequisite Procedures	Bidirectional (2-way) circuits must exist on the network. See Chapter 5, “Create Circuits and VT Tunnels” for circuit creation procedures.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

**Note**

Monitor circuits cannot be used with EtherSwitch circuits.

**Note**

For unidirectional circuits, create a drop to the port where the test equipment is attached.

-
- Step 1** Log into an ONS 15327 node on the network where you will create the monitor circuit. See the [“DLP-B60 Log into CTC” task on page 2-23](#) for instructions. If you are already logged in, continue with Step 2.
- Step 2** From the View menu choose **Go to Network View**.
- Step 3** Click the **Circuits** tab.
- Step 4** Choose the bidirectional (2-way) circuit that you want to monitor and double-click it (or click **Edit**).
- Step 5** Verify that the circuit name is no more than 44 characters. Monitor circuits append a “_MON” to the circuit name. If the name is longer than 44 characters, edit the name in the Name field, then click **Apply**.
- Step 6** On the Edit Circuit window, click the **Monitors** tab.
The Monitors tab displays ports that you can use to monitor the circuit.
- 

Note The Monitor tab is only available when the circuit has an ACTIVE status.
- Step 7** On the Monitors tab, choose the monitor source port. The monitor circuit will display traffic coming into the node at the port you choose.
- Step 8** Click **Create Monitor Circuit**.
- Step 9** In the Circuit Destination section of the Circuit Creation wizard, choose the destination node, slot, port, STS, VT, or DS1 for the monitored circuit.
- Step 10** Click **Next**.
- Step 11** On the Circuit Routing Preferences panel, review the monitor circuit information. If you want the monitor circuit routed on a BLSR protection channel, click **Protection Channel Access**.
- Step 12** Click **Finish**.
- Step 13** On the Edit Circuit window, click **Close**. The new monitor circuit appears on the Circuits tab.
- Stop. You have completed this procedure.**
-

NTP-B79 Create a J1 Path Trace

Purpose	Use this procedure to create a repeated, fixed-length string of characters used to monitor interruptions or changes to circuit traffic.
Tools/Equipment	ONS 15327 cards capable of transmitting and/or receiving path trace must be installed. See Table 8-3 on page 8-18 for a list of cards.
Prerequisite Procedures	Path trace can only be provisioned on OC-N (STS) circuits. See Chapter 5, “Create Circuits and VT Tunnels” for OC-N circuit creation procedures.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

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- Step 1** Log into the node on the network where you will create the path trace. See the [“DLP-B60 Log into CTC” task on page 2-23](#) for instructions. If you are already logged in, continue with Step 2.
- Step 2** Complete the following tasks as needed:
- [DLP-B264 Provision Path Trace on Circuit Source and Destination Ports, page 8-17](#)
 - [DLP-B137 Provision Path Trace on OC-N Ports, page 8-21](#)
- Stop. You have completed this procedure.**
-

DLP-B264 Provision Path Trace on Circuit Source and Destination Ports

Purpose	Use this task to create a path trace on STS circuit source ports and destination ports.
Tools/Equipment	ONS 15327 cards capable of transmitting and receiving path trace must be installed at the circuit source and destination ports. See Table 8-3 on page 8-18 for a list of cards.
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note This procedure assumes you are setting up path trace on a bidirectional circuit and setting up transmit strings at the circuit source and destination.

- Step 1** Click the **Circuits** tab.
- Step 2** For the STS circuit you want to monitor, verify that the source and destination ports are on a card that can transmit and receive the path trace string. See [Table 8-3](#) for a list of cards.

Table 8-3 ONS 15327 Cards Capable of Path Trace

J1 Function	Cards
Transmit and Receive	XTC (DS-1) G1000-2
Receive Only	OC3 IR 4 1310

If neither port is on a transmit/receive card, you will not be able to complete this task. If one port is on a transmit/receive card and the other is on a receive-only card, you can set up the transmit string at the transmit/receive port and the receive string at the receive-only port, but you will not be able to transmit in both directions.

- Step 3** Choose the STS circuit you want to trace, then double-click it (or click **Edit**).
- Step 4** On the Edit Circuit window, click the **Show Detailed Map** check box at the bottom of the window. A detailed map of the source and destination ports is displayed.
- Step 5** Provision the circuit source transmit string:
- On the detailed circuit map right-click the circuit source port (the square on the left or right of the source node icon) and choose **Edit J1 Path Trace (port)** from the shortcut menu.
 - In the New Transmit String field, enter the circuit source transmit string. Enter a string that makes the source port easy to identify, such as the node IP address, node name, circuit name, or another string. If the New Transmit String field is left blank, the J1 transmits a string of null characters.
 - Click **Apply**, then click **Close**.
- Step 6** Provision the circuit destination transmit string:
- On the detailed circuit map, right-click the circuit destination port and choose **Edit Path Trace** from the shortcut menu.
 - In the New Transmit String field, enter the string that you want the circuit destination to transmit. Enter a string that makes the destination port easy to identify, such as the node IP address, node name, circuit name, or another string. If the New Transmit String field is left blank, the J1 transmits a string of null characters.
 - Click **Apply**.
- Step 7** Provision the circuit destination expected string:
- In the Circuit Path Trace window, enable the path trace expected string by choosing **Auto** or **Manual** from the Path Trace Mode drop-down menu:
 - Auto**—The first string received from the source port is the baseline. An alarm is raised when a string that differs from the baseline is received.
 - Manual**—The string entered in the Current Expected String is the baseline. An alarm is raised when a string that differs from the Current Expected String is received.
 - If you set the Path Trace Mode field to Manual, enter the string that the circuit destination should receive from the circuit source in the New Expected String field. If you set the Path Trace Mode field to Auto, skip this step.
 - Click the **Disable AIS and RDI if TIM-P is detected** check box if you want to suppress the alarm indication signal (AIS) and RDI when the STS Path Trace Identifier Mismatch Path (TIM-P) alarm is displayed. Refer to the *Cisco ONS 15454 Troubleshooting Guide* for descriptions of alarms and conditions.

- d. (Check box visibility depends on card selection) Click the **Disable AIS on C2 Mis-Match** check box if you want to suppress the Alarm Indication Signal when a C2 mis-match occurs.
- e. Click **Apply**, then click **Close**.

Step 8 Provision the circuit source expected string:

- a. On the Edit Circuit window (with Show Detailed Map chosen) right-click the circuit source port and choose **Edit Path Trace** from the shortcut menu.
- b. In the Circuit Path Trace window, enable the path trace expected string by choosing **Auto** or **Manual** from the Path Trace Mode drop-down menu:
 - Auto—Uses the first string received from the port at the other end as the baseline string. An alarm is raised when a string that differs from the baseline is received.
 - Manual—Uses the Current Expected String field as the baseline string. An alarm is raised when a string that differs from the Current Expected String is received.
- c. If you set Path Trace Mode to Manual, enter the string that the circuit source should receive from the circuit destination in the New Expected String field. If you set Path Trace Mode to Auto, skip this step.
- d. Click the **Disable AIS and RDI if TIM-P is detected** check box if you want to suppress the alarm indication signal (AIS) and RDI when the STS Path Trace Identifier Mismatch Path (TIM-P) alarm is displayed. Refer to the *Cisco ONS 15454 Troubleshooting Guide* for descriptions of alarms and conditions.
- e. (Check box visibility depends on card selection) Click the **Disable AIS on C2 Mis-Match** check box if you want to suppress the Alarm Indication Signal when a C2 mis-match occurs.
- f. Click **Apply**.

Step 9 After you set up the path trace, the received string appears in the Received field on the path trace setup window. [Figure 8-4](#) shows an example. The following options are available:

- Click **Hex Mode** to display path trace in hexadecimal display. The button name changes to ASCII Mode. Click it to return the path trace to ASCII display.
- Click the **Reset** button to reread values from the port.
- Click **Default** to return to the path trace default settings (Path Trace Mode is set to Off and the New Transmit and New Expected Strings are null).



Caution

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

The Expect and Receive strings are updated every few seconds if the Path Trace Mode field is set to Auto or Manual.

Step 10 Click **Close**.

Figure 8-4 *Setting Up a Path Trace*

Path Trace Mode: **Manual** ☐ Disable AIS/RDI on TIM-P? Received C2: 0x02

Transmit

Current Transmit String: Switch Mode

New Transmit String:

Expected

Current Expected String: Switch Mode

New Expected String:

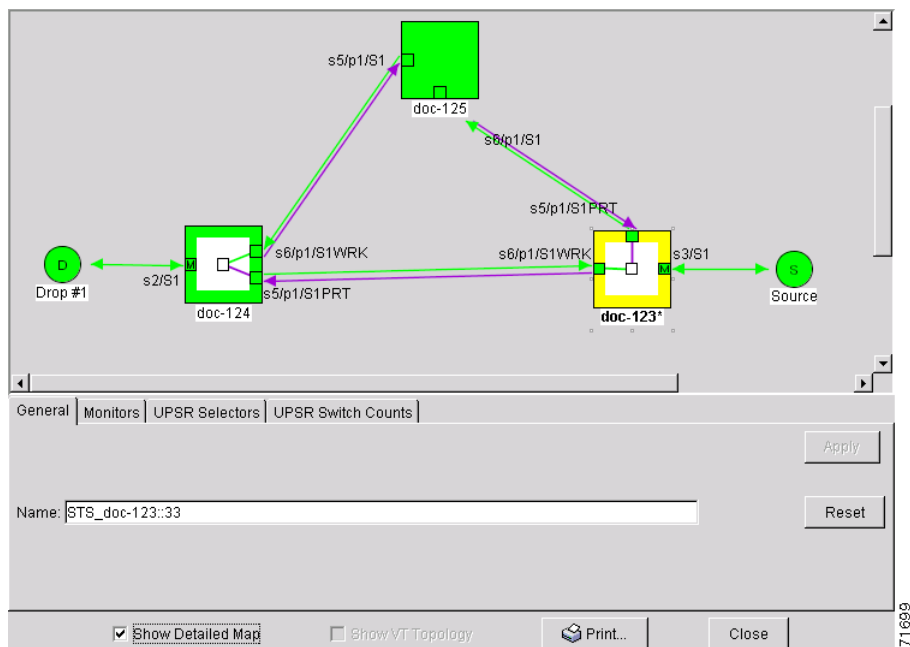
Received

Current Received String: Switch Mode

Close

71698

When you display the detailed circuit window, path trace is indicated by an M (manual path trace) or an A (automatic path trace) at the circuit source and destination ports. [Figure 8-5](#) shows an example.

Figure 8-5 *Detailed Circuit Window With Manual Expected String Enabled*

Step 11 Return to your originating procedure (NTP).

DLP-B137 Provision Path Trace on OC-N Ports

Purpose	Use this task to monitor a path trace on OC-N ports within the circuit path.
Tools/Equipment	The OC-N ports you want to monitor must be on OC-N cards capable of receiving path trace. See Table 8-3 on page 8-18 .
Prerequisite Procedures	DLP-B264 Provision Path Trace on Circuit Source and Destination Ports, page 8-17 DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** Display the node where path trace was provisioned on the circuit source and destination ports.
- Step 2** Click **Circuits**.
- Step 3** Choose the STS circuit that has path trace provisioned on the source and destination ports, then click **Edit**.
- Step 4** On the Edit Circuit window, click the Show Detailed Map check box at the bottom of the window. A detailed circuit graphic showing source and destination ports appears.
- Step 5** In the detailed circuit map right-click the circuit OC-N port (the square on the left or right of the source node icon) and choose **Edit Path Trace** from the shortcut menu.



Note The OC-N port must be on a receive-only card listed in [Table 8-3 on page 8-18](#). If not, the Edit Path Trace menu item will not appear.

- Step 6** In the Circuit Path Trace window, enable the path trace expected string by choosing **Auto** or **Manual** from the Path Trace Mode drop-down menu:
- **Auto**—Uses the first string received from the port at the other end as the baseline string. An alarm is raised when a string that differs from the baseline is received. For OC-N ports, Auto is recommended, since Manual mode requires you to trace the circuit on the Edit Circuit window to determine whether the port is the source or destination path.
 - **Manual**—Uses the Current Expected String field as the baseline string. An alarm is raised when a string that differs from the Current Expected String is received.
- Step 7** If you set the Path Trace Mode field to Manual, enter the string that the OC-N port should receive in the New Expected String field. To do this, trace the circuit path on the detailed circuit window to determine whether the port is in the circuit source or destination path, then set the New Expected String field to the string transmitted by the circuit source or destination. If you set the Path Trace Mode field to Auto, skip this step.
- Step 8** Click **Apply**, then click **Close**.
- Step 9** Return to your originating procedure (NTP).
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