Change Card Settings

This chapter explains how to change transmission settings on cards in a Cisco ONS 15600.

Before You Begin

As necessary, complete the "NTP-E57 Document Existing Provisioning" procedure on page 8-2.

Before performing the following procedures, investigate all alarms and clear any trouble conditions. Refer to the *Cisco ONS 15600 Troubleshooting Guide* as necessary.

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

1. NTP-E155 Manage Pluggable Port Modules on the ASAP Card, page 10-2—Complete this procedure to provision a multirate pluggable port module (PPM), provision or change the line rate or wavelength on a PPM, or delete a PPM.
2. NTP-E66 Modify Line and Status Thresholds for Optical Ports, page 10-3—As needed, complete this procedure to change line (drop) and threshold settings for all OC-N cards.
3. NTP-E105 Change an Optical Port to SDH, page 10-9—As needed, complete this procedure to change an optical port from SONET to SDH.
4. NTP-E125 Change Card Service State, page 10-10—As needed, complete this procedure to change the card service state.

NTP-E155 Manage Pluggable Port Modules on the ASAP Card

Purpose	Use this procedure to provision multirate PPMs, provision or change the optical line rate on a multirate PPM, or delete PPMs. PPMs provide the optical interface to the Any Service, Any Port (ASAP) card.
Tools/Equipment	None
Prerequisite Procedures	NTP-E147 Install the ASAP Card, page 2-5 DLP-E211 Install the ASAP 4PIO (PIM) Modules, page 18-15 DLP-E215 Install an SFP, page 18-20 or DLP-E213 Preprovision an SFP, page 18-17
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the "DLP-E26 Log into CTC" task on page 16-39 to log into an ONS 15600 on the network. If you are already logged in, continue with Step 2.

Step 2 In network view, click the **Alarms** tab:

a. Verify that the alarm filter is not turned on. See the "DLP-E157 Disable Alarm Filtering" task on page 17-46 as necessary.

b. Verify that no unexplained conditions appear on the network. If unexplained conditions appear, resolve them before continuing. Refer to the *Cisco ONS 15600 Troubleshooting Guide*.

c. Complete the "DLP-E265 Export CTC Data" task on page 18-84 to export alarm and condition information.

Step 3 Complete the "DLP-E243 Provision a Multirate PPM" task on page 18-64. If you preprovisioned the Small Form-factor Pluggable (SFP), skip this step and continue with Step 4. Single-rate PPMs do not need to be provisioned.

Step 4 Complete the "DLP-E244 Provision an Optical Line Rate and Wavelength" task on page 18-64 to assign an OC-3, OC-12, OC-48, or Gigabit Ethernet line rate.

Step 5 Complete the "DLP-E245 Change the Optical Line Rate" task on page 18-66 as needed.

Step 6 Complete the "DLP-E246 Delete a PPM" task on page 18-66 as needed.

Stop. You have completed this procedure.

NTP-E66 Modify Line and Status Thresholds for Optical Ports

Purpose	This procedure changes line settings, line status (in service or out of service), and performance monitoring (PM) thresholds for OC-48, OC-192 cards, and OC-N ports on ASAP cards.
Tools/Equipment	None
Prerequisite Procedures	NTP-E11 Install the OC-N Cards, page 2-4 or NTP-E147 Install the ASAP Card, page 2-5
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security	Provisioning or higher

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

Step 2 Complete the "NTP-E69 Back Up the Database" procedure on page 14-4.

Step 3 On the shelf graphic, double-click the OC-N card that you want to provision. The card view appears.

Step 4 Click the **Provisioning > Line** tabs. (Click **Provisioning > Optical > Line** tabs for the ASAP card).

Step 5 As needed, provision the options in Table 10-1 for each OC-N port. (Some options might not be available on every card.)

Table 10-1 OC-N Card Line Settings

Heading	Description	Options
Port	Identifies the port number.	• For an OC-48 card: 1–16 • For an OC-192 card: 1–4 • For an ASAP card: Up to 16 ports, denoted by 4PIO (PIM) followed by port number. (Example: 1-3-1 denotes the third port on 4PIO [PIM] Module 1.)
Port Name	Provides the ability to assign the specified port a name.	User-defined; name can be up to 32 alphanumeric/special characters (blank by default)
SF BER	Sets the signal fail bit error rate.	• 1E-3 • 1E-4 (default) • 1E-5
SD BER	Sets the signal degrade bit error rate.	• 1E-5 • 1E-6 • 1E-7 (default) • 1E-8 • 1E-9

Table 10-1 OC-N Card Line Settings (continued)

Heading	Description	Options
Provides Sync	(Display only) Indicates that the port has been provisioned as a network element (NE) timing reference on another node (ONS 15600, ONS 15454, or ONS 15327).	• Yes (checked) • No (unchecked)
Send Do Not Use	When checked, sends a do not use (DUS) message on the S1 byte	• Yes (checked) • No (unchecked; default)
BLSR Ext. Byte	Chosen extended byte carries information that governs bidirectional line switched ring (BLSR) protection switches.	• K3 • Z2 • E2 • F1
Admin State	Sets the port service state unless network conditions prevent the change.	• IS—Puts the port in service. The port service state changes to IS-NR. • IS,AINS—(Default) Puts the port in automatic in-service. The port service state changes to OOS-AU,AINS. • OOS,DSBLD—Removes the port from service and disables it. The port service state changes to OOS-MA,DSBLD. • OOS,MT—Removes the port from service for maintenance. The port service state changes to OOS-MA,MT.
AINS Soak	Sets the automatic in-service soak period.	Duration of valid input signal, in hh.mm format, after which the card becomes in service (IS) automatically (0 to 48 hours, in 15-minute increments).
SyncMsgIn	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.	• Yes (checked; default) • No (unchecked)
Port Rate	Displays the port rate set for the PPM.	• OC-3 • OC-12 • OC-48 • Ether
Type	Defines the port as SONET or SDH. Sync Msg In and Send Do Not Use must be disabled before the port can be set to SDH.	• SONET (default) • SDH

Table 10-1 OC-N Card Line Settings (continued)

Heading	Description	Options
Service State	Identifies the autonomously generated state that gives the overall condition of the port. Service states appear in the format: Primary State-Primary State Qualifier, Secondary State.	• IS-NR—(In-Service and Normal) The port is fully operational and performing as provisioned. • OOS-AU,AINS—(Out-Of-Service and Autonomous, Automatic In-Service) The port is out-of-service, but traffic is carried. Alarm reporting is suppressed. The ONS node monitors the ports for an error-free signal. After an error-free signal is detected, the port stays in OOS-AU,AINS state for the duration of the soak period. After the soak period ends, the port service state changes to IS-NR. • OOS-MA,DSBLD—(Out-of-Service and Management, Disabled) The port is out-of-service and unable to carry traffic. • OOS-MA,MT—(Out-of-Service and Management, Maintenance) The port is out-of-service for maintenance. Alarm reporting is suppressed, but traffic is carried and loopbacks are allowed.
SyncStatusMsg	Allows you to view the incoming synchronization status message by clicking **Show**.	• PRS (Primary reference source – Stratum 1) • STU (Sync traceability unknown) • ST2 (Stratum 2) • ST3 (Stratum 3) • ST3E (Stratum 3E) • SMC (SONET minimum clock) • ST4 (Stratum 4) • TNC (Transit node clock) • DUS (Do not use for timing synchronization) • RES (Reserved; quality level set by user)

Table 10-1 OC-N Card Line Settings (continued)

Heading	Description	Options
Reach	(ASAP card only) Provisions the reach value.	(The options that appear in the drop-down list depend on the card.) • Auto Provision—Allows the system to automatically provision the reach from the PPM reach value on the hardware. • SR—Short reach, up to 2 km distance • SR-1—Up to 2 km distance • IR-1—Intermediate reach, up to 15 km distance • IR-2—Up to 40 km distance • LR-1—Long reach, up to 40 km distance) • LR-2—Up to 80 km distance • LR-3—Up to 80 km distance
Wavelength	(ASAP card only) Sets the wavelength frequency (nm).	• First Tunable Wavelength • 1310 • 1550 • 1470 • 1490 • 1510 • 1530 • 1570 • 1590 • 1610 Dense wavelength division multiplexing (DWDM) PPMs also have the following options: • 1530.33 to 1560.61 • ITU spacing

Step 6 Click **Apply**.

Step 7 Click the **SONET Thresholds** subtab. The default selection is Near End, 15 Min, and Line.

Step 8 As needed, complete the following:

a. Click **Line**, **Section**, **Path,** or **Physical** to provision the line, section, path, and physical options in Table 10-2 for each OC-N port.

b. Change the selection to Near End/Far End, 15 Min/1Day as necessary.

c. Click **Refresh** to view or modify the thresholds for each selection.

Note For the default threshold values, see the "Network Element Defaults" appendix in the *Cisco ONS 15600 Reference Manual*.

Note Far End section thresholds are not available for the OC-192 card.

Table 10-2 SONET Threshold Options (Line, Section, and Path)

Heading	Description	Options
Port	Port number	1–16 for an OC-48 card, 1–4 for an OC-192 card, 1-1-1 to 4-4-1 for an ASAP port number
CV	Coding violations	Numeric. Can be set for 15-minute or one-day intervals for Line, Section, or Path (Near and Far End). Select the bullet and click **Refresh**.
ES	Errored seconds	Numeric. Can be set for 15-minute or one-day intervals for Line, Section, or Path (Near and Far End). Select the bullet and click **Refresh**. Numeric. The defaults (15 min/1 day) are:
SES	Severely errored seconds	Numeric. Can be set for 15-minute or one-day intervals for Line, Section, or Path (Near and Far End). Select the bullet and click **Refresh**.
SEFS	Severely errored framing seconds	Numeric. Can be set for 15-minute or one-day intervals for Section (Near and Far End). Select the bullet and click **Refresh**.
FC	Failure count	Numeric. Can be set for 15-minute or one-day intervals for Line or Path (Near and Far End). Select the bullet and click **Refresh**.
UAS	Unavailable seconds	Numeric. Can be set for 15-minute or one-day intervals for Line or Path (Near and Far End). Select the bullet and click **Refresh**.
PSC	Protection Switching Count (Line)	Numeric. Can be set for 15-minute or one-day intervals for Line (Near End). Select the bullet and click **Refresh**.
PSD	Protection Switch Duration (Line)	Numeric. Can be set for 15-minute or one-day intervals for Line (Near End). Select the bullet and click **Refresh**.
PSC-W	Protection Switching Count (Working Line)	Numeric. Can be set for 15-minute or one-day intervals for Line (Near End). Select the bullet and click **Refresh**.
PSD-W	Protection Switch Duration (Working Line)	Numeric. Can be set for 15-minute or one-day intervals for Line (Near End). Select the bullet and click **Refresh**.
PSC-S	(Line) Sets the threshold for the span protection switching count. (PSC-S does not increment on OC-3 cards.)	Numeric. Can be set for 15-minute or one-day intervals for Line (Near End). Select the bullet and click **Refresh**.

Table 10-2 SONET Threshold Options (Line, Section, and Path) (continued)

Heading	Description	Options
PSD-S	(Line) Sets the threshold for the span protection switching duration. (PSD-S does not increment on OC-3 cards.)	Numeric. Can be set for 15-minute or one-day intervals for Line (Near End). Select the bullet and click **Refresh**.
PSC-R	(Line) Sets the threshold for the ring protection switching count. (PSC-R does not increment on OC-3 cards.)	Numeric. Can be set for 15-minute or one-day intervals for Line (Near End). Select the bullet and click **Refresh**.
PSD-R	(Line) Sets the threshold for the ring protection switching duration. (PSD-R does not increment on OC-3 cards.)	Numeric. Can be set for 15-minute or one-day intervals for Line (Near End). Select the bullet and click **Refresh**.

Step 9 As needed, complete the following:

a. Click **Optics Thresholds** to provision the options in Table 10-3 for each OC-N port.

b. Select the **TCA** (threshold crossing alert) or **Alarm** radio button.

c. Select a **15 Min** or **1 Day** performance monitoring interval radio button (available for TCA only), and then click **Refresh**.

d. Click **Refresh** to view or modify the thresholds for each selection.

Table 10-3 Optics Threshold Options

Heading	Description	Options
Port	Port number	1–16 for an OC-48 card, 1–4 for an OC-192 card, 1-1-1 to 4-4-1 for an ASAP port number
LBC-HIGH	Laser bias current–maximum. Maximum threshold for LBC.	Numeric percentage of the baseline value
LBC-LOW	Laser bias current–minimum. Minimum threshold for LBC.	Numeric percentage of the baseline value
OPT-HIGH	Optical power transmitted–maximum. Maximum threshold for OPT.	Numeric percentage of the baseline value
OPT-LOW	Optical power transmitted–minimum. Minimum threshold for OPT.	Numeric percentage of the baseline value
OPR-HIGH	Optical power received–maximum. Maximum threshold for OPR.	Numeric percentage of the baseline value
OPR-LOW	Optical power received–minimum. Minimum threshold for OPR.	Numeric percentage of the baseline value
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.	

Step 10 Click **Apply**.

Note See Chapter 8, "Manage Alarms," for information about the Alarm Behavior tab, including alarm profiles and alarm suppression.

Stop. You have completed this procedure.

NTP-E105 Change an Optical Port to SDH

Purpose	This procedure provisions a port on an OC-N card for SDH. The port must be in the OOS-MT admin state before you change the port to SDH.
Tools/Equipment	None
Prerequisite Procedures	NTP-E125 Change Card Service State, page 10-10
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 node where you want to change the settings. If you are already logged in, continue with Step 2.

Step 2 Double-click the OC-N card where you want to provision a port for SDH.

Step 3 Click the **Provisioning > Line** tabs. (Click the **Provisioning > Optical > Line** tabs for the ASAP card.)

Step 4 In the Type field, specify the port and choose SDH.

Note Before you can change the port type to SDH, ensure the following: the EnableSyncMsg and SendDoNotUse fields are unchecked, the card is not part of a BLSR or 1+1 protection group, the card is not part of an orderwire channel, and the card is not a SONET data communications channel/generic communications channel (DCC/GCC) termination point.

Step 5 Click **Apply**.

Step 6 You can repeat Steps 4 and 5 for any other ports on that card.

Stop. You have completed this procedure.

NTP-E125 Change Card Service State

Purpose	This procedure changes card or port's service state, which is an autonomously generated state that gives the overall condition of the port.
Tools/Equipment	None
Prerequisite Procedures	Chapter 2, "Install Cards and Fiber-Optic Cable"
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 node where you want to change the card service state.

Step 2 Click the **Inventory** tab.

Step 3 Click **Admin State** for the card you want to change, and choose an Admin state from the drop-down list: **IS** (In-Service) or **OOS,MT** (Out-of-Service, Maintenance).

Step 4 Click **Apply**.

Step 5 If an error message appears indicating that the card state cannot be changed from its current state, click **OK**.

Depending on the Admin State you choose, the card or port/PPM transitions to a different service state. For more information about the service states and card state transitions, refer to the "Administrative and Service States" appendix of the *Cisco ONS 15600 Reference Manual*.

Stop. You have completed this procedure.