



## CHAPTER 2

# Install the Control Cards

This chapter explains how to install the control cards needed for the Cisco ONS 15454, Cisco ONS 15454 M2, and Cisco ONS 15454 M6 platforms.



### 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.

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

1. [NTP-G15 Install the Common Control Cards, page 2-1](#)—Complete this procedure to install the control cards needed for the ONS 15454 platform.
2. [NTP-G313 Install and Configure the TNC or TSC Card, page 2-8](#)—Complete this procedure to install the control cards needed for the ONS 15454 M2 and ONS 15454 M6 platforms.

## NTP-G15 Install the Common Control Cards

|                                |                                                                                                                                                                                               |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose</b>                 | This procedure describes how to install the control cards needed for the ONS 15454 platform.                                                                                                  |
| <b>Tools/Equipment</b>         | Redundant TCC2/TCC2P/TCC3 cards on ONS 15454 shelf (required)<br>AIC-I card (optional)<br>MS-ISC-100T (optional; for multishelf node configurations)                                          |
| <b>Prerequisite Procedures</b> | “NTP-G7 Install the Power and Ground” in the <i>Cisco ONS 15454 Hardware Installation Guide</i><br>“NTP-G14 Install DWDM Equipment” in the <i>Cisco ONS 15454 Hardware Installation Guide</i> |
| <b>Required/As Needed</b>      | Required                                                                                                                                                                                      |
| <b>Onsite/Remote</b>           | Onsite                                                                                                                                                                                        |
| <b>Security Level</b>          | Provisioning or higher                                                                                                                                                                        |

**Warning**

**During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.** Statement 94

**Caution**

Always use the supplied ESD wristband when working with a powered ONS 15454. For detailed instructions on how to wear the ESD wristband, refer to the [Cisco ONS Electrostatic Discharge \(ESD\) and Grounding Guide](#).

**Note**

If protective clips are installed on the backplane connectors of the cards, remove the clips before installing the cards.

**Note**

If you install a card incorrectly, the FAIL LED flashes continuously.

**Step 1**

(ONS 15454 only) Complete the “[DLP-G33 Install the TCC2, TCC2P, or TCC3 Card](#)” task on page 2-2.

**Note**

If you install the wrong card in a slot, see the “NTP-G107 Remove Permanently or Remove and Replace DWDM Cards” procedure in the “Upgrade, Add and Remove Cards and Nodes” chapter of the *Cisco ONS 15454 DWDM Procedure Guide*.

**Step 2**

(ONS 15454 only) Complete the “[DLP-G34 Install the AIC-I Card](#)” task on page 2-6, if necessary.

**Step 3**

(ONS 15454 only) Complete the “[DLP-G309 Install the MS-ISC-100T Card](#)” task on page 2-7, if necessary.

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

## DLP-G33 Install the TCC2, TCC2P, or TCC3 Card

**Purpose**

This task installs redundant TCC2/TCC2P/TCC3 cards. The first card you install in the ONS 15454 must be a TCC2/TCC2P/TCC3 card, and it must initialize before you install any cross-connect or traffic cards. Cross-connect cards are only required in hybrid nodes.

**Tools/Equipment**

Two TCC2/TCC2P/TCC3 cards

**Prerequisite Procedures**

None

**Required/As Needed**

Required

**Onsite/Remote**

Onsite

**Security Level**

None

**Caution**

Do not remove a TCC2/TCC2P/TCC3 card during the software transfer process, which is indicated by alternate flashing FAIL and ACT/STBY LEDs. Removing a TCC2/TCC2P/TCC3 during the software transfer process will corrupt the system memory.

**Note**

Allow each card to boot completely before installing the next card.

**Step 1** Open the latches/ejectors of the first TCC2/TCC2P/TCC3 card that you will install.

**Step 2** Use the latches/ejectors to firmly slide the card along the guide rails until the card plugs into the receptacle at the back of the slot (Slot 7 or 11).

**Note**

In [Step 4](#), you will be instructed to watch the LED activity (sequence) on the front of the TCC2/TCC2P/TCC3 card. This activity begins immediately after you close the latches in [Step 3](#).

**Step 3** Verify that the card is inserted correctly and close the latches/ejectors on the card.

**Note**

It is possible to close the latches/ejectors when the card is not completely plugged into the back panel of the shelf. Ensure that you cannot insert the card any farther.

If you insert a card into a slot provisioned for a different card, all LEDs turn off.

**Step 4** As needed, go to [Step a](#) to verify the LED activity on the TCC2 card. For the TCC2P go to [Step b](#). For the TCC3 card go to [Step c](#).

a. For the TCC2 card:

- All LEDs turn on briefly. The red FAIL LED and the yellow ACT/STBY LED turn on for about 15 seconds. (For TCC3 card it takes around 20 to 25 seconds)
- The red FAIL LED and the green ACT/STBY LED turn on for about 40 seconds.
- The red FAIL LED blinks for about 15 seconds.
- The red FAIL LED turns on for about 15 seconds. All LEDs turn on for about 3 seconds before turning off for about 3 seconds.
- Both green PWR LEDs turn on for 10 seconds. The PWR LEDs then turn red for 2 to 3 minutes before going to steady green.
- While the PWR LEDs are red for two to three minutes, the ACT/STBY turn on.
- The boot-up process is complete when the PWR LEDs turn green and the ACT/STBY remains on. (The ACT/STBY LED will be green if this is the first TCC2 card installed, and amber if this is the second TCC2 card installed.)

**Note**

It might take up to four minutes for the A and B power alarms to clear.

**Note**

Alarm LEDs might be on; disregard alarm LEDs until you are logged into CTC and can view the Alarms tab.

**Note**

If you are logged into CTC, the SFTWDOWN alarm might appear as many as two times while the TCC2 card initializes. The alarm should clear after the card completely boots.



**Note** If the FAIL LED is on continuously, see the tip in [Step 8](#) about the TCC2 card automatic upload.

**b.** For the TCC2P card:

- All LEDs turn on briefly. The red FAIL LED, the yellow ACT/STBY LED, the green SYNC LED, and the green ACO LED turn on for about 15 seconds.
- The red FAIL LED and the green ACT/STBY LED turn on for about 30 seconds.
- The red FAIL LED blinks for about 3 seconds.
- The red FAIL LED turns on for about 15 seconds.
- The red FAIL LED blinks for about 10 seconds and then becomes solid.
- All LEDs (including the CRIT, MAJ, MIN, REM, SYNC, and ACO LEDs) blink once and turn off for about 5 seconds.
- Both green PWR LEDs turn on for 10 seconds. The PWR LEDs then turn red for 2 to 3 minutes before going to steady green. During this time, the ACT/STBY, MJ, and MN LEDs might turn on, followed by the SNYC LED briefly.
- The boot-up process is complete when the PWR LEDs turn green and the yellow ACT/STBY remains on. (The ACT/STBY LED will be green if this is the first TCC2P card installed, and yellow if this is the second TCC2P card installed.)



**Note** It might take up to three minutes for the A and B power alarms to clear.



**Note** Alarm LEDs might be on; disregard alarm LEDs until you are logged into CTC and can view the Alarms tab.



**Note** If you are logged into CTC, the SFTWDOWN alarm might appear as many as two times while the TCC2P card initializes. The alarm should clear after the card completely boots.



**Note** If the FAIL LED is on continuously, see the tip in [Step 8](#) about the TCC2P card automatic upload.

**c.** For the TCC3 card:

- All LEDs turn on briefly. The red FAIL LED, the yellow ACT/STBY LED, the green SYNC LED, and the green ACO LED turn on for about 25 seconds.
- The red FAIL LED and the green ACT/STBY LED turn on for about 15 seconds.
- The red FAIL LED blinks for about 3 seconds.
- The red FAIL LED turns on for about 60 seconds.
- The red FAIL LED blinks for about 15 seconds and then becomes solid (the LED is turned on for about 20 seconds).
- All LEDs (including the CRIT, MAJ, MIN, REM, SYNC, and ACO LEDs) blink once and turn off for about 5 seconds.

- Both green PWR LEDs turn on for 10 seconds. The PWR LEDs then turn red for 2 to 3 minutes before going to steady green. During this time, the ACT/STBY, MJ, and MN LEDs might turn on, followed by the SNYC LED briefly.
- The boot-up process is complete when the PWR LEDs turn green and the yellow ACT/STBY remains on. (The ACT/STBY LED will be green if this is the first TCC3 card installed, and yellow if this is the second TCC3 card installed.)

**Note**

It might take up to three minutes for the A and B power alarms to clear.

**Note**

Alarm LEDs might be on; disregard alarm LEDs until you are logged into CTC and can view the Alarms tab.

**Note**

If you are logged into CTC, the SFTWDOWN alarm might appear as many as two times while the TCC3 card initializes. The alarm should clear after the card completely boots.

**Note**

If the FAIL LED is on continuously, see the tip in [Step 8](#) about the TCC3 card automatic upload.

- Step 5** Verify that the ACT/STBY LED is green if this is the first powered-up TCC2/TCC2P/TCC3 card installed, or yellow for standby if this is the second powered-up TCC2/TCC2P/TCC3. The IP address, temperature of the node, and time of day appear on the LCD. The default time and date is 12:00 AM, January 1, 1970.
- Step 6** The LCD cycles through the IP address (the default is 192.1.0.2), node name, and software version. Verify that the correct software version is shown on the LCD. The software text string indicates the node type (SDH or SONET) and software release. (For example: SDH 09.20-05L-20.10 indicates it is an SDH software load, Release 9.2. The numbers following the release number do not have any significance.)
- Step 7** If the LCD shows the correct software version, continue with [Step 8](#). If the LCD does not show the correct software version, refer to your next level of technical support, upgrade the software, or remove the TCC2/TCC2P/TCC3 card and install a replacement card.
- Refer to the release-specific software upgrade document to replace the software. To replace the TCC2/TCC2P/TCC3 card, refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide*.
- Step 8** Repeat Steps [1](#) through [7](#) for the redundant TCC2/TCC2P/TCC3 card. If both TCC2/TCC2P/TCC3 cards are already installed, proceed to [Step 9](#).

**Tip**

If you install a standby TCC2/TCC2P/TCC3 card that has a different software version than the active TCC2/TCC2P/TCC3 card, the newly installed standby TCC2/TCC2P/TCC3 card automatically copies the software version from the active TCC2/TCC2P/TCC3 card. You do not need to do anything in this situation. However, the loading TCC2/TCC2P/TCC3 card does not boot up in the normal manner. When the standby card is first inserted, the LEDs follow most of the normal boot-up sequence. However, after the red FAIL LED turns on for about 5 seconds, the FAIL LED and the ACT/STBY LED begin to flash alternately for up to 30 minutes while the new software loads onto the active TCC2/TCC2P/TCC3 card. After loading the new software, the upgraded TCC2/TCC2P/TCC3 card's LEDs repeat the appropriate bootup sequence, and the amber ACT/STBY LED turns on.



**Note** If you insert a card into a slot provisioned for a different card, all LEDs turn off.



**Note** Alarm LEDs might be on; disregard alarm LEDs until you are logged into CTC and can view the Alarms tab.

**Step 9** Return to your originating procedure (NTP).

## DLP-G34 Install the AIC-I Card

|                                |                                                                                                                                 |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose</b>                 | This task installs the AIC-I card. The AIC-I card provides connections for external alarms and controls (environmental alarms). |
| <b>Tools/Equipment</b>         | AIC-I card                                                                                                                      |
| <b>Prerequisite Procedures</b> | <a href="#">DLP-G33 Install the TCC2, TCC2P, or TCC3 Card, page 2-2</a>                                                         |
| <b>Required/As Needed</b>      | As needed                                                                                                                       |
| <b>Onsite/Remote</b>           | Onsite                                                                                                                          |
| <b>Security Level</b>          | None                                                                                                                            |



**Note** When installing cards, allow each card to boot completely before installing the next card.

**Step 1** Open the latches/ejectors on the card.

**Step 2** Use the latches/ejectors to firmly slide the card along the guide rails in Slot 9 until the card plugs into the receptacle at the back of the slot.

**Step 3** Verify that the card is inserted correctly and close the latches/ejectors on the card.



**Note** It is possible to close the latches/ejectors when the card is not completely plugged into the backplane. Ensure that you cannot insert the card any further.

**Step 4** Verify the following:

- The red FAIL LED blinks for up to 10 seconds.



**Note** If the red FAIL LED does not turn on, check the power.

- The PWR A and PWR B LEDs become red, the two INPUT/OUTPUT LEDs become amber, and the ACT LED turns green for approximately 5 seconds.
- The PWR A and PWR B LEDs turn green, the INPUT/OUTPUT LEDs turn off, and the green ACT LED remains on.



**Note** It might take up to 3 minutes for the PWR A and PWR B LEDs to update.

**Note**

If you insert a card into a slot provisioned for a different card, no LEDs turn on.

**Note**

If the red FAIL LED is on continuously or the LEDs act erratically, the card is not installed properly. Remove the card and repeat Steps 1 to 4.

**Step 5** Return to your originating procedure (NTP).

## DLP-G309 Install the MS-ISC-100T Card

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose</b>                 | This task installs redundant MS-ISC-100T cards. The MS-ISC-100T card is required for a multishelf node configuration. It provides LAN redundancy on the node controller shelf. An alternative to using the MS-ISC-100T card is the Cisco Catalyst 2950, although Cisco recommends using the MS-ISC-100T. For more information on the Catalyst 2950 installation, refer to the Catalyst 2950 product documentation. |
| <b>Tools/Equipment</b>         | MS-ISC-100T card (2)                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Prerequisite Procedures</b> | <a href="#">DLP-G33 Install the TCC2, TCC2P, or TCC3 Card, page 2-2</a>                                                                                                                                                                                                                                                                                                                                            |
| <b>Required/As Needed</b>      | As needed                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Onsite/Remote</b>           | Onsite                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Security Level</b>          | None                                                                                                                                                                                                                                                                                                                                                                                                               |

**Note**

When installing cards, allow each card to boot completely before installing the next card.

**Note**

The MS-ISC-100T is not supported in a subtended shelf.

- Step 1** Open the latches/ejectors on the card.
- Step 2** Use the latches/ejectors to firmly slide the card along the guide rails into the appropriate slot in the node controller shelf until the card plugs into the receptacle at the back of the slot. The card can be installed in any slot from Slot 1 to 6 or 12 to 17. Cisco recommends that you install the MS-ISC-100T cards in Slot 6 and Slot 12.
- Step 3** Verify that the card is inserted correctly and close the latches/ejectors on the card.

**Note**

It is possible to close the latches/ejectors when the card is not completely plugged into the backplane. Ensure that you cannot insert the card any further.

- Step 4** Verify the LED activity:
- The red FAIL LED blinks for 35 to 45 seconds.
  - The red FAIL LED turns on for 15 to 20 seconds.

- The red FAIL LED blinks for approximately 3 minutes.
- The red FAIL LED turns on for approximately 6 minutes.
- The green ACT or ACT/STBY LED turns on. The SF LED can persist until all card ports connect to their far end counterparts and a signal is present.



**Note** If the red FAIL LED does not turn on, check the power.



**Note** If you insert a card into a slot provisioned for a different card, all LEDs turn off.

**Step 5** Repeat Steps 1 through 4 for the redundant MS-ISC-100T card.

**Step 6** Return to your originating procedure (NTP).

## NTP-G313 Install and Configure the TNC or TSC Card

|                                |                                                                                                                                                                                                                           |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose</b>                 | This procedure describes how to install and configure the TNC or TSC card. TNC and TSC cards are the control cards needed for the ONS 15454 M2 and ONS 15454 M6 platforms.                                                |
| <b>Tools/Equipment</b>         | Redundant TNC/TSC cards on ONS 15454 M6 shelf (required)<br>Stand-alone TNC/TSC card on ONS 15454 M2 shelf (required)                                                                                                     |
| <b>Prerequisite Procedures</b> | “NTP-G271 Install the Power and Ground to the ONS 15454 M2 Shelf” in the <i>Cisco ONS 15454 Hardware Installation Guide</i><br>“NTP-G14 Install DWDM Equipment” in the <i>Cisco ONS 15454 Hardware Installation Guide</i> |
| <b>Required/As Needed</b>      | Required                                                                                                                                                                                                                  |
| <b>Onsite/Remote</b>           | Onsite                                                                                                                                                                                                                    |
| <b>Security Level</b>          | Provisioning or higher                                                                                                                                                                                                    |



### Warning

**During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.** Statement 94



### Caution

Always use the supplied ESD wristband when working with a powered ONS 15454 M2 and ONS 15454 M6 shelf assemblies. For detailed instructions on how to wear the ESD wristband, refer to the [Cisco ONS Electrostatic Discharge \(ESD\) and Grounding Guide](#).



### Note

If you install a card incorrectly, the FAIL LED flashes continuously.

**Step 1** Complete the “[DLP-G604 Install the TNC or TSC Card](#)” task on page 2-9.

**Note**

If you install the wrong card in a slot, see the “[NTP-G107 Remove Permanently or Remove and Replace DWDM Cards](#)” task on page 13-2.

**Step 2** Complete the “[DLP-G605 Provision PPM and Port for the TNC Card](#)” task on page 2-12.

**Step 3** Complete the “[DLP-G606 Configure UDC and VoIP for the TNC Card](#)” task on page 2-13.

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

## DLP-G604 Install the TNC or TSC Card

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose</b>                 | (ONS 15454 M2 and ONS 15454 M6 only) This task installs redundant TNC/TSC cards on the ONS 15454 M6 shelf and a stand-alone TNC/TSC card on the ONS 15454 M2 shelf. Install and initialize the TNC/TSC card before installing any other line cards into the shelf assemblies. On the ONS 15454 M6 shelf, install the TNC/TSC cards in slots 1 and 8 for redundancy. On the ONS 15454 M2 shelf, install the stand-alone TNC/TSC card in slot 1. |
| <b>Tools/Equipment</b>         | Two TNC/TSC cards for the ONS 15454 M6 shelf and one TNC/TSC card for the ONS 15454 M2 shelf                                                                                                                                                                                                                                                                                                                                                   |
| <b>Prerequisite Procedures</b> | None                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Required/As Needed</b>      | Required                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Onsite/Remote</b>           | Onsite                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Security Level</b>          | None                                                                                                                                                                                                                                                                                                                                                                                                                                           |

**Note**

The ONS 15454 M2 shelf supports stand-alone control cards such as TNC and TSC. During replacement or removal of the control card, ensure that the optical fibers are not disturbed. The fibers must be correctly routed in the retention feature mounted on the front side of the shelf.

**Caution**

Do not remove the TNC/TSC cards during the software installation process, which is indicated by alternate flashing FAIL and ACT/STBY LEDs. Removing the TNC/TSC cards during the software installation process will corrupt the system memory.

**Note**

Allow each TNC/TSC card to boot completely before installing the redundant TNC/TSC card.

**Note**

On the ONS 15454 M6 shelf, install the TNC/TSC cards in slots 1 and 8 for redundancy. On the ONS 15454 M2 shelf, install the stand-alone TNC/TSC card in slot 1. For more information, see the “Card Slot Requirements” section in the *Cisco ONS 15454 DWDM Reference Manual*.

**Note**

You cannot insert the TNC/TSC cards in other slots due to mechanical constraints. To identify the card slot, match the symbol placed on the lower side of the card front panel with the symbol in the shelf.

**Caution**

To achieve redundancy, two TNC cards or two TSC cards must be installed in the ONS 15454 M6 shelf. Do not install one TNC card and a redundant TSC card in the same shelf.

- Step 1** Open the latches/ejectors of the first TNC/TSC card that you will install.
- Step 2** Use the latches/ejectors to firmly slide the card horizontally along the guide rails until the card plugs into the receptacle at the back of the slot (slot 1 or 8 in the ONS 15454 M6 shelf and slot 1 in the ONS 15454 M2 shelf).
- Step 3** Verify that the card is inserted correctly, and close the latches/ejectors on the card.  
If you insert a card into a slot assigned for a different card, all LEDs turn off.
- Step 4** As needed, verify the LED activity on the TNC/TSC card.
- The red FAIL LED, PWR LED turn on briefly.
  - The red FAIL LED turns on for about 10 seconds.
  - The red FAIL LED and the amber ACT/STBY LED turn on for about 30 seconds.
  - The red FAIL LED blinks for about 10 seconds.
  - The red FAIL LED turns on for about 15 seconds.
  - All the LEDs including the CRIT, MAJ, MIN, REM, SYNC, and ACO LEDs blink once and turn off for about 10 seconds.
  - ACT/STBY LED blinks for about 1 second.
  - All the LEDs including the CRIT, MAJ, MIN, REM, SYNC, and ACO LEDs turn off for about 10 seconds.
  - The ACT/STBY, ACO, and PWR LEDs turn on.
  - The boot-up process is complete when the PWR LEDs turn green and the amber ACT/STBY remains on. The ACT/STBY LED turns green if this is the first TNC/TSC card installed, and amber if this is the second TNC/TSC card installed.

**Note**

It might take up to four minutes for the power alarms to clear.

**Note**

Alarm LEDs might be on. After completing the TNC/TSC card installation, log in to CTC and click the Alarms tab to display the alarms raised on the card. For procedure to clear the alarm, see the *Cisco ONS DWDM Troubleshooting Guide*.

**Note**

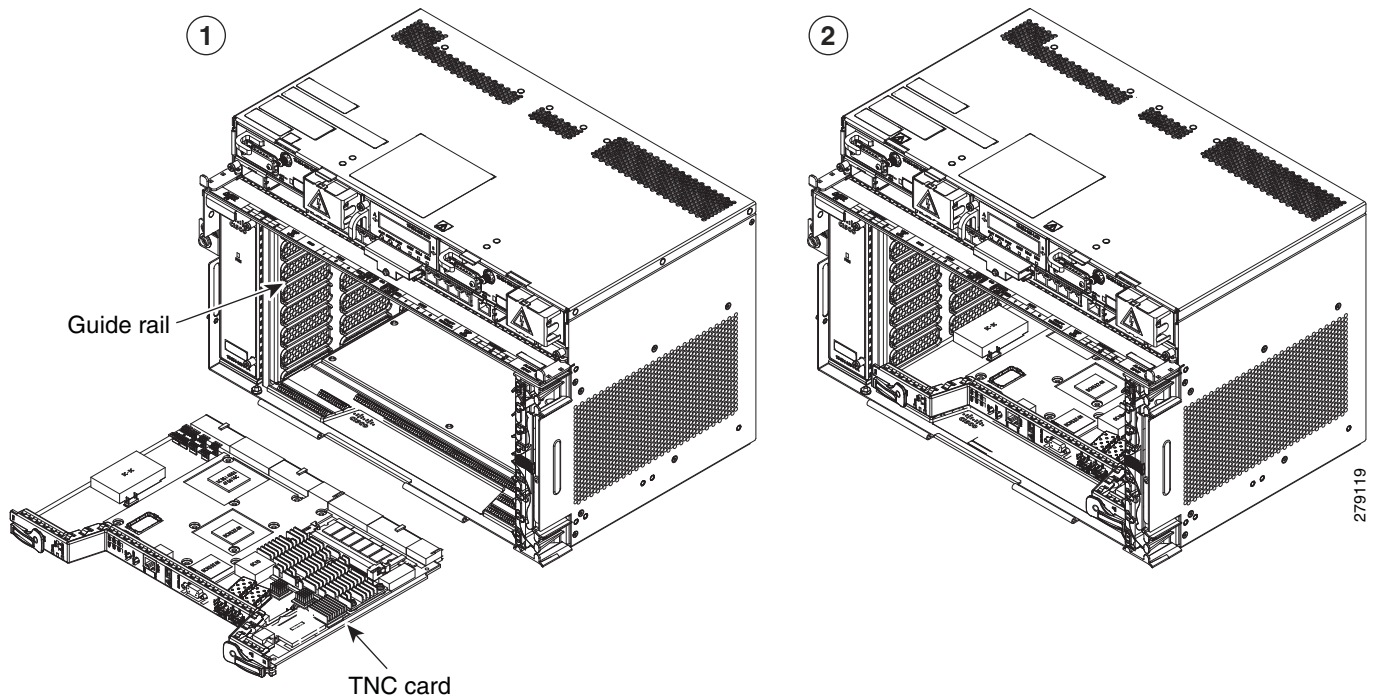
During the TNC/TSC card initialization, the SFTWDOWN alarm appears twice. The alarm clears after the TNC/TSC card boots completely.

**Note**

If the FAIL LED is on continuously, see the tip in [Step 8](#) about the TNC/TSC card automatic upload.

[Figure 2-1](#) illustrates the installation of TNC card on ONS 15454 M6 shelf.

**Figure 2-1** Installing TNC Card on ONS 15454 M6 Shelf



- Step 5** Verify that the ACT/STBY LED is green if this is the first powered-up TNC/TSC card installed or amber if this is the second powered-up TNC/TSC. The IP address, temperature of the node, and time of day appear on the LCD. The default time and date is 12:00 AM, January 1, 1970.
- Step 6** The LCD cycles through the IP address (the default is 192.1.0.2), node name, and software version. Verify that the correct software version is shown on the LCD. The software text string indicates the node type (SDH or SONET) and software release. (For example: SDH 09.20-05L-20.10 indicates it is an SDH software load, Release 9.2. The numbers following the release number do not have any significance.)
- Step 7** If the LCD shows the correct software version, continue with [Step 8](#). If the LCD does not show the correct software version, refer to your next level of technical support, upgrade the software, or remove the TNC/TSC card and install a replacement card. Refer to the release-specific software upgrade document to replace the software.
- Step 8** (ONS 15454 M6 shelf only) Repeat Steps [1](#) through [7](#) for the redundant TNC/TSC card.

**Tip**

If you install a standby TNC/TSC card that has a different software version than the active TNC/TSC card, the standby TNC/TSC card copies the software version from the active TNC/TSC card. When the standby card is first inserted, the LEDs follow the normal boot-up sequence. However, after the red FAIL LED turns on for about 5 seconds, the FAIL LED and the ACT/STBY LED begin to flash alternately for up to 30 minutes. After loading the new software, the upgraded TNC/TSC cards LEDs repeat the appropriate bootup sequence, and the amber ACT/STBY LED turns on.

**Step 9** Return to your originating procedure (NTP).

## DLP-G605 Provision PPM and Port for the TNC Card

|                                |                                                                                                                                       |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose</b>                 | (ONS 15454 M2 and ONS 15454 M6 only) This task provisions a PPM and port on a TNC card. PPMs are created to support the OSC function. |
| <b>Tools/Equipment</b>         | None                                                                                                                                  |
| <b>Prerequisite Procedures</b> | <a href="#">“DLP-G46 Log into CTC” task on page 3-30</a>                                                                              |
| <b>Required/As Needed</b>      | As needed                                                                                                                             |
| <b>Onsite/Remote</b>           | Onsite or remote                                                                                                                      |
| <b>Security Level</b>          | None                                                                                                                                  |

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TNC card where you want to provision PPM and port settings.
- Step 2** Click the **Provisioning > Pluggable Port Modules** tabs.
- Step 3** In the Pluggable Port Modules area, click **Create**. The Create PPM dialog box appears.
- Step 4** In the Create PPM dialog box, complete the following:
- PPM—Choose 1 or 2 from the PPM drop-down list.
  - PPM Type—Displays the PPM associated with the chosen PPM in the above step.
- Step 5** Click **OK**. The newly created PPM appears in the Pluggable Port Modules area. The row in the Pluggable Port Modules area becomes white when the PPM is inserted and the Actual Equipment Type column lists the name of PPM.
- Step 6** In the Pluggable Ports area, click **Create**. The Create Port dialog box appears.
- Step 7** In the Create Ports dialog box, complete the following:
- Port—Choose the port you want to configure from the Port drop-down list.
  - Port Type—Choose the port type, such as OC-3, FE, or ONE-GE from the Port Type drop-down list.

**Note**

OC-3 can be configured only on PPM port 1. FE and ONE-GE can be configured on both the ports. If the port type is FE, then disable ALS before provisioning OSC on that port.

- Step 8** Click **OK**. The newly created port appears in the Pluggable Ports area. The port type you provisioned is listed in the Rate column.

- Step 9** Repeat Steps 3 through 8 to provision another PPM and port on the TNC card.
- Step 10** Return to your originating procedure (NTP).

## DLP-G606 Configure UDC and VoIP for the TNC Card

|                                |                                                                                                                                                                                                  |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose</b>                 | (ONS 15454 M2 and ONS 15454 M6 only) This task configures UDC and VoIP traffic for the TNC card.                                                                                                 |
| <b>Tools/Equipment</b>         | None                                                                                                                                                                                             |
| <b>Prerequisite Procedures</b> | <a href="#">DLP-G46 Log into CTC, page 3-30</a><br><a href="#">NTP-G38 Provision OSC Terminations, page 4-128</a><br><a href="#">DLP-G605 Provision PPM and Port for the TNC Card, page 2-12</a> |
| <b>Required/As Needed</b>      | As needed                                                                                                                                                                                        |
| <b>Onsite/Remote</b>           | Onsite or remote                                                                                                                                                                                 |
| <b>Security Level</b>          | None                                                                                                                                                                                             |



### Note

Each TNC card supports UDC/VoIP configuration. You can configure UDC or VoIP on the two SFP ports present on the TNC card. The TNC card supports the UDC/VoIP configuration only when OSC is provisioned on the SFP ports.



### Note

If two nodes are connected through the fiber and if the TNC card in one node has UDC configuration, the TNC card in the other node must also have UDC configuration. The same rule applies to VoIP configuration.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TNC card where you want to configure UDC and VoIP.
- Step 2** Click the **Provisioning > UDC / VOIP** tabs.
- Step 3** From the Service Type drop-down list, choose UDC or VOIP.



### Note

You can configure UDC or VoIP on only one SFP port at a time per TNC card. If you want to configure UDC or VoIP on the second SFP port, choose NONE from the Service Type drop-down list for the first port and then choose UDC or VoIP for the second port.

- Step 4** Click **Apply**.
- Step 5** Return to your originating procedure (NTP).

