



# Upgrading Release 3.x to 4.0.x Using the TCC+ Card

This chapter explains how to upgrade Cisco ONS 15454 Cisco Transport Controller (CTC) software from Release 3.x to Release 4.0.x using the TCC+ card.

## Before You Begin

Before beginning, write down the following information about your site; the data will be useful during and after the upgrade: Date, Street Address, Site Phone Number, and Dial Up Number.

  
**Caution**

Read each procedure before you begin the upgrade.

  
**Caution**

This chapter is only supported for Release 3.x. If you wish to upgrade from Releases 2.2.0 – 2.2.2, use the procedures in [Chapter 1, “Upgrading Software Release 2.2.x to 4.0.x Using the TCC+ Card”](#). If you wish to upgrade from a release prior to Release 2.2.0, you must contact Technical Assistance Center (TAC). For more information, see [“Obtaining Technical Assistance” section on page ix](#).



**Note**

Procedures in this chapter are to be performed in consecutive order unless otherwise noted. In general, you are not done with a procedure until you have completed it for each node you are upgrading, and you are not done with the upgrade until you have completed each procedure that applies to your network. If you are new to upgrading the ONS 15454, you may wish to check off each procedure on your printed copy of this chapter as you complete it.



**Note**

For a description of non-trouble procedures (NTP) and detailed level procedures (DLP), see the [“Document Organization” section on page vi](#).

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

1. [NTP-U7 Prepare for Release 3.x to Release 4.0.x Upgrade, page 2-2](#)—This section contains critical information and tasks that you must read and complete before beginning the upgrade process.

2. [NTP-U8 Back Up the Software R3.x Database, page 2-3](#)—Complete the database backup to ensure that you have preserved your node and network provisioning in the event that you need to restore them.
3. [NTP-U22 Upgrade Software R3.x to Software R4.0.x, page 2-4](#)—You must complete this entire procedure before the upgrade is finished.
4. [NTP-U5 Revert to Previous Software Load and Database, page 1-18](#)—Complete this procedure only if you need to return to the software load you were running before activating the Release 4.0.x software.
5. [NTP-U6 Upgrade the TCC+ Card to the TCC2 Card, page 1-23](#)—Complete this procedure only if you want to upgrade the TCC+ card to a TCC2 card.
6. [NTP-U10 Download Release 4.0.x Software Using TL1, page 2-5](#)—Complete this procedure only if you want to upgrade to Software R4.0.x in TL1.

## NTP-U7 Prepare for Release 3.x to Release 4.0.x Upgrade

<b>Purpose</b>	This procedure provides the critical information checks and tasks you must complete before beginning an upgrade.
<b>Tools/Equipment</b>	ONS 15454s to upgrade PC or UNIX workstation Cisco ONS 15454 Release 4.0.x software
<b>Prerequisite Procedures</b>	None
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite or remote
<b>Security Level</b>	Superuser

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- Step 1** Read the *Release Notes for Cisco ONS 15454 Release 4.0.x*.
- Step 2** Log into the node that you will upgrade. For detailed instructions, refer to the *Cisco ONS 15454 Procedure Guide*.
- Step 3** Complete the “DLP-U1 Verify CTC Workstation Requirements” task on page 1-3.
- Step 4** Complete the “DLP-U2 Verify LAN Connections” task on page 1-4.
- Step 5** If you have multiple ONS 15454 nodes configured in the same IP subnet, ensure that only one is connected to a router. Otherwise, the remaining nodes might be unreachable. Refer to the *Cisco ONS 15454 Reference Manual* for LAN-connection suggestions.
- Step 6** Complete the “DLP-U3 Verify Common Control Cards” task on page 1-4.
- Step 7** When you have completed the tasks for this section, proceed with the “NTP-U8 Back Up the Software R3.x Database” procedure on page 2-3.

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

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# NTP-U8 Back Up the Software R3.x Database

<b>Purpose</b>	Use this procedure to preserve all configuration data for your network before performing the upgrade.
<b>Tools/Equipment</b>	PC or UNIX workstation
<b>Prerequisite Procedures</b>	<a href="#">NTP-U7 Prepare for Release 3.x to Release 4.0.x Upgrade, page 2-2</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite or remote (but in the presence of the workstation)
<b>Security Level</b>	Superuser

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- Step 1** Log into CTC. For detailed instructions, refer to the *Cisco ONS 15454 Procedure Guide*. If you are already logged in, continue with Step 2.
- Step 2** In the node (default) view, click the **Maintenance > Database** tabs.
- Step 3** Click **Backup**.
- Step 4** Save the database on the workstation's hard drive or on network storage. Use an appropriate file name with the file extension .db (for example, myDatabase.db).
- Step 5** Click **Save**. A message appears indicating that the backup is complete.
- Step 6** Click **OK**.
- Step 7** Repeat Steps 1 through 6 for each node in the network.
- Step 8** (Optional) Cisco recommends that you manually log critical information by either writing it down or printing screens where applicable. Use the following table to determine the information you should log; complete the table (or your own version) for every node in the network.

**Table 2-1 Manually Recorded Data**

Item	Record data here (if applicable)
IP address of the node	
Node name	
Timing settings	
DCC connections; list all optical ports that have DCCs activated	
User IDs (List all, including at least one super user)	
Inventory; do a print screen from the inventory window	
Active TCC+	Slot 7 or Slot 11 (circle one)
Active XC/XCVT/XC10G	Slot 8 or Slot 10 (circle one)
Network information; do a print screen from the Provisioning tab in the network view.	
Current configuration: BLSR, linear, etc. (do print screens as needed)	
List all protection groups in the system; do a print screen from the protection group window	
List alarms; do a print screen from the alarm window	
List circuits; do a print screen from the circuit window	

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

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## NTP-U22 Upgrade Software R3.x to Software R4.0.x

<b>Purpose</b>	Use this procedure to upgrade your CTC software to Software R4.0.x.
<b>Tools/Equipment</b>	PC or UNIX workstation
<b>Prerequisite Procedures</b>	<a href="#">NTP-U8 Back Up the Software R3.x Database, page 2-3</a>
<b>Required/As Needed</b>	Required
<b>Onsite/Remote</b>	Onsite or remote (but in the presence of the workstation)
<b>Security Level</b>	Superuser

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- Step 1** Insert the Release 4.0.x software CD into the workstation CD-ROM (or otherwise acquire access to the software) to begin the upgrade process.



**Note** Inserting the software CD activates the CTC Setup Wizard. You can use the setup wizard to install components or click **Cancel** to continue with the upgrade.

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**Caution**

A traffic interruption of less than 50 ms on each circuit is possible during the activation task, with Ethernet traffic disruption possibly lasting up to several minutes on each circuit.

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**Caution**

Do not perform maintenance or provisioning activities during the activation task.

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- Step 2** Complete the “DLP-U6 Download Release 4.0.x Software” task on page 1-11 (all nodes).
- Step 3** Complete the “DLP-U7 Perform a BLSR Lock Out” task on page 1-12 (BLSR nodes only).
- Step 4** Complete the “DLP-U28 Activate the New Load” task on page 1-13 (all nodes).
- Step 5** Complete the “DLP-U9 Delete Cached JAR Files” task on page 1-15.
- Step 6** Reconnect to CTC using the IP address from [Step 4](#). The new CTC applet for Release 4.0.x uploads. During this logon, you will need to type the user name CISCO15. A password is not required.



**Note** Steps 5 and 6 are only necessary after upgrading the first node in a network because cached files only need to be removed from your workstation once. For the remaining nodes, you will still be disconnected and removed to the network view during the node reboot, but after the reboot is complete, CTC will restore connectivity to the node.

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- Step 7** Repeat [Step 4](#) (activation) for all nodes in the network that need to be upgraded. Allow each node to finish (all alarms cleared for 10 minutes) before activating the next node.



**Note** Only activate one node at a time.

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- Step 8** Complete the “DLP-U10 Remove the BLSR Lock Out” task on page 1-16 (BLSR nodes only).
- Step 9** Complete the “DLP-U12 Set the Date and Time” task on page 1-17 (any nodes not using SNTP).
- Step 10** As needed, upgrade any spare TCC+ cards by installing the spare in the standby slot of a Software R4.0.x node.



**Note** The standby TCC+ card will copy one or both software releases from the active TCC+ card, as needed. Each software copy takes about 15 minutes, and the TCC+ card will reset after each copy. Thus, for a TCC+ card that has no matching software with the active TCC+ card, you should expect to see two TCC+ card resets, lasting about 30 minutes total.

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

## NTP-U10 Download Release 4.0.x Software Using TL1

<b>Purpose</b>	Use this procedure to download the Release 4.0.x software using TL1 rather than CTC.
<b>Tools/Equipment</b>	PC or UNIX workstation
<b>Prerequisite Procedures</b>	<a href="#">NTP-U7 Prepare for Release 3.x to Release 4.0.x Upgrade, page 2-2</a> <a href="#">NTP-U8 Back Up the Software R3.x Database, page 2-3</a>
<b>Required/As Needed</b>	Optional
<b>Onsite/Remote</b>	Onsite or remote (but in the presence of the workstation)
<b>Security Level</b>	Superuser

- Step 1** From the PC connected to the ONS 15454, start Netscape or Internet Explorer.
- Step 2** Enter the ONS 15454 IP address of the node you want to communicate with in the Netscape or Internet Explorer Web address (URL) field.
- Step 3** In CTC, the IP address at the CTC window should match the IP address you entered in step 2.
- Step 4** In CTC, click **Tools > Open TL1 Connection**.
- Step 5** Choose the node you want to communicate with from the Select Node dialog box.
- Step 6** Click **OK**.

A TL1 interface window opens. There are three sub-windows in the TL1 interface window: Request history, Message log, and TL1 request. Type commands in the TL1 request window. You will see responses in the Message log window. The Request history window allows you to recall previous commands by clicking on them.

- Step 7** Verify that the Connect button is selected (grayed out).
- Step 8** Type the **Activate User** command in the TL1 request window to open a TL1 session:

```
ACT-USER:[<TID>]:<UID>:<CTAG>::<PID>;
```

where:

- TID is the target identifier.
- UID is the OSS profile name.

- CTAG is the correlation tag that correlates command and response messages.
- PID is the password identifier.

**Step 9** Press **Enter**.



**Note** You must press Enter after the semicolon in each TL1 command, or the command will not be issued.

**Step 10** Type the **COPY-RFILE** command in the TL1 window. The **COPY-RFILE** command downloads a new software package from the location specified by the FTP URL into the inactive flash partition residing on either the TCC+ card.

**COPY-RFILE:[<TID>]:[<SRC>]:<CTAG>::TYPE=<XFERTYPE>,[SRC=<SRC1>];**

where:

- TID is the target identifier.
- SRC is the type of file being transferred.
- CTAG is the correlation tag that correlates command and response messages.
- XFERTYPE is the file transfer protocol
- SRC1 specifies the source of the file to be transferred. Only the FTP URL is supported.

**Step 11** Press **Enter**.

**Step 12** Type the **REPT EVT FXFR** command in the TL1 window. REPT EVT FXFR is an autonomous message used to report the start, completion, and completed percentage status of the FTP software download. REPT EVT FXFR also reports any failure during the software upgrade including invalid package, invalid path, invalid userid/password, and loss of network connection.

**REPT EVT FXFR “<FILENAME>,<FXFR\_STATUS>,[<FXFR\_RSLT>],[<BYTES\_XFRD>]”**

where:

- <FILENAME> indicates the transferred file path name and is a string
- <FXFR\_STATUS> indicates the file transferred status: Start, IP (in progress), or COMPLD
- <FXFR\_RSLT> indicates the file transferred result: success or failure. <FXFR\_RSLT> is optional
- <BYTES\_XFRD> indicates the percentage transfer complete and is optional

**Step 13** Type the **APPLY** command to activate the system software.

**APPLY:[<TID>]:<CTAG>[:<MEM\_SW\_TYPE>]:**

where:

- TID is the target identifier.
- CTAG is the correlation tag that correlates command and response messages.
- <MEM\_SW\_TYPE> indicates memory switch action during the software upgrade.  
<MEM\_SW\_TYPE> is ACT for activate.

If this command is successful the appropriate flash is selected and the TCC+/TCC2 or XTC card will reboot.

**Step 14** Type the **Cancel User** command in the TL1 request window or press the **Disconnect** button to close a TL1 session:

**CANC-USER:[<TID>]:<USERID>:<CTAG>;** and press **Enter**.

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

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