



Upgrading Cisco ONS 15454 SDH Release 4.x to 4.7

This document explains how to upgrade Cisco ONS 15454 Cisco Transport Controller (CTC) software from Release 4.x to Release 4.7 using the TCC2 card.



Note

Release 4.7 supports DWDM nodes only, so references to software Release 4.x throughout this upgrade apply only to Releases 4.5 and 4.6.

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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 all procedures before you begin the upgrade.


Caution

This upgrade is supported only for Software Releases 4.5 and 4.6. If you wish to upgrade from an earlier software release, you must contact Cisco Technical Assistance Center (Cisco TAC). For more information, see the [“Obtaining Technical Assistance”](#) section on page 16.


Note

Upgrades from Release 4.x to 4.7 are expected to be errorless.

Procedures

Procedures in this document 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 SDH, you might wish to check off each procedure on your printed copy of this document as you complete it.

Each non-trouble procedure (NTP) is a list of steps designed to accomplish a specific procedure. Follow the steps until the procedure is complete. If you need more detailed instructions, refer to the detail-level procedure (DLP) specified in the procedure steps. Throughout this guide, NTPs are referred to as “procedures” and DLPs are termed “tasks.” Every reference to a procedure includes its NTP number, and every reference to a task includes its DLP number.

The DLP (task) supplies additional task details to support the NTP. The DLP lists numbered steps that lead you through completion of a task. Some steps require that equipment indications be checked for verification. When the proper response is not obtained, a trouble clearing reference is provided. This section lists the document procedures (NTPs). Turn to a procedure for applicable tasks (DLPs).

1. [NTP-U94 Prepare for Release 4.x to Release 4.7 Upgrade, page 3](#)—This section contains critical information and tasks that you must read and complete before beginning the upgrade process.
2. [NTP-U95 Back Up the Software R4.x Database, page 5](#)—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-U96 Upgrade Software R4.x to Software R4.7, page 6](#)—You must complete this entire procedure before the upgrade is finished.
4. [NTP-U97 Install Public-Key Security Certificate, page 11](#)—You must complete this procedure to be able to run ONS 15454 SDH Software R4.7.
5. [NTP-U98 Revert to Previous Software Load and Database, page 12](#)—Complete this procedure only if you need to return to the software load you were running before activating the Release 4.7 software.

NTP-U94 Prepare for Release 4.x to Release 4.7 Upgrade

Purpose	This procedure provides the critical information checks and tasks you must complete before beginning an upgrade.
Tools/Equipment	ONS 15454 SDH nodes to upgrade PC or UNIX workstation Cisco ONS 15454 SDH Release 4.7 software
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Superuser

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- Step 1** Read the *Release Notes for Cisco ONS 15454 SDH Release 4.7*.
- Step 2** Log into the node that you will upgrade. For detailed instructions, refer to the *Cisco ONS 15454 DWDM Installation and Operations Guide*.
- Step 3** Complete the “[DLP-U161 Verify CTC PC or UNIX Workstation Requirements](#)” task on page 3.
- Step 4** If you have multiple ONS 15454 SDH 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 DWDM Installation and Operations Guide* for LAN-connection suggestions.
- Step 5** Complete the “[DLP-U162 Verify Common Control Cards](#)” task on page 4.
- Step 6** When you have completed the tasks for this section, proceed with the “[NTP-U95 Back Up the Software R4.x Database](#)” procedure on page 5.
- Stop. You have completed this procedure.**
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DLP-U161 Verify CTC PC or UNIX Workstation Requirements

Purpose	This task verifies all PC or UNIX workstation hardware and software requirements. Use this task before upgrading the workstation to run CTC Software R4.7.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser

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- Step 1** Ensure that your workstation is either one of the following:
- IBM-compatible PC with a Pentium III/700 or higher processor, and a CD-ROM drive with a minimum of 256 MB RAM and 50 MB of available hard drive space running Windows 98, Windows NT 4.0, Windows 2000, or Windows XP
 - UNIX workstation running Solaris version 8 or 9, on an UltraSPARC or faster processor, with a minimum of 256 MB RAM and a minimum of 50 MB of available hard drive space

- Step 2** Ensure that your web browser software is one of the following:
- Netscape Navigator 4.73 or higher (Netscape Navigator 7.0 is included on the ONS 15454 SDH software CD shipped with the node)
 - Internet Explorer 4.0.x Service Pack 2 or higher



Note Cisco recommends you use either Internet Explorer 6.x or Netscape 7.x for Windows workstations running Release 4.7. However, Cisco does not recommend upgrading to Netscape 7 or JRE 1.4.2 if CTC still needs to be launched directly from nodes running software prior to Release 4.7.

- Step 3** Verify the following:
- The Java Version installed on your computer is:
 - Java Runtime Environment (JRE) 1.4.2, and Java Plug-in 1.4.2 if you are using Netscape 7.x (also preferred for Internet Explorer 6.x)
 - JRE 1.3.1_02, and Java Plug-in 1.3.1 if you are using Netscape 4.7.x (also works with Internet Explorer 6.x)



Tip You can check the JRE version in your browser window after entering the node IP address in the URL window under Java Version.

- The Java Policy file is installed on your computer.



Note For important information on CTC backward compatibility affected by your choice of JRE versions, see the Readme.txt or Readme.html file on the software CD.



Note If you need to install either the JRE 1.4.2 or the Java Policy file, they are included on the ONS 15454 SDH software CD. For detailed installation instructions, refer to the *Cisco ONS 15454 DWDM Installation and Operations Guide*.

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

DLP-U162 Verify Common Control Cards

Purpose	This task verifies that two TCC2 cards are installed at each node, as appropriate for your network configuration.
Tools/Equipment	PC or UNIX workstation with CTC installed
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser

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- Step 1** Ensure that the cards are installed. The TCC2 cards are in Slots 7 and 11. Software R4.7 does not support simplex operation.
- Step 2** Repeat Step 1 at every node in the network.
- Step 3** Return to your originating procedure (NTP).
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NTP-U95 Back Up the Software R4.x Database

Purpose	This procedure preserves all configuration data for your network before performing the upgrade.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	NTP-U94 Prepare for Release 4.x to Release 4.7 Upgrade, page 3
Required/As Needed	Required
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Maintenance user or higher

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- Step 1** Log into CTC. For detailed instructions, refer to the *Cisco ONS 15454 DWDM Installation and Operations 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. (Cisco recommends that you use the IP address of the node and the date, for example 1010120192061103.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 1 *Manually Recorded Data*

Item	Record Data Here (If Applicable)
IP address of the node.	
Node name.	
Timing settings.	
DCC ¹ connections; list all optical ports that have DCCs activated.	
User IDs; list all, including at least one Superuser.	
Inventory; do a print screen from the Inventory window.	
Active TCC2.	Slot 7 or Slot 11 (circle one)

Table 1 *Manually Recorded Data (continued)*

Item	Record Data Here (If Applicable)
Network information; do a print screen from the Provisioning tab in the network view.	
Current configuration (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.	

1. DCC = data communications channel

Stop. You have completed this procedure.

NTP-U96 Upgrade Software R4.x to Software R4.7

Purpose	This procedure upgrades your CTC software to Software R4.7.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	NTP-U95 Back Up the Software R4.x Database, page 5
Required/As Needed	Required
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser

Step 1 Insert the Release 4.7 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.



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

Step 2 Complete the “[DLP-U163 Download Release 4.7 Software](#)” task on page 7 for all nodes (or groups of eight or less nodes) you are upgrading.

Step 3 Complete the “[DLP-U164 Activate the New Load](#)” task on page 8 for all nodes you are upgrading.



Note Only activate one node at a time.

Step 4 If necessary, complete the “[DLP-U112 Delete Cached JAR Files](#)” task on page 10.

Step 5 Complete the “[DLP-U79 Set the Date and Time](#)” task on page 11 (any nodes not using Simple Network Time Protocol [SNTP]).

Step 6 As needed, upgrade any spare TCC2 cards by installing the spare in the standby slot of a Release 4.7 node.



Note The standby TCC2 card will copy one or both software releases from the active TCC2 card, as needed. Each software copy takes about 5 minutes, and the TCC2 card will reset after each copy. Thus, for a TCC2 card that has no matching software with the active TCC2 card, you should expect to see two TCC2 card resets and software copying lasting about 10 minutes total.

Step 7 If you need to return to the software and database you had before activating Software R4.7, proceed with the [“NTP-U98 Revert to Previous Software Load and Database” procedure on page 12.](#)

Stop. You have completed this procedure.

DLP-U163 Download Release 4.7 Software

Purpose	This task downloads Software R4.7 to the ONS 15454 SDH nodes prior to activation.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	NTP-U95 Back Up the Software R4.x Database, page 5
Required/As Needed	Required
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser or Maintenance



Note The TCC2 card has two flash RAMs. An upgrade downloads the software to the backup RAM on both the backup and active TCC2 cards. The download task does not affect traffic because the active software continues to run at the primary RAM location; therefore, you can download the software at any time.

Step 1 From the View menu, choose **Go to Network View**.

Step 2 Verify that the alarm filter is not on:

- a. Click the **Alarms** tab.
- b. Click the **Filter** tool at the lower-right side of the bottom toolbar. Alarm filtering is enabled if the tool is depressed (selected) and disabled if the tool is raised (not selected).

Step 3 On the Alarms tab, check all nodes for existing alarms. Resolve any outstanding alarms before proceeding.



Note During the software download process, the SWFTDWN alarm indicates that the software download is taking place. The alarm is normal and clears when the download is complete.

Step 4 Return to node view and click the **Maintenance > Software** tabs.

Step 5 Click **Download**. The Download Selection dialog box appears.

Step 6 Browse to locate the software files on the ONS 15454 SDH software CD or on your hard drive, if you are working from a local copy.

Step 7 Open the Cisco15454SDH folder.

Step 8 Select the file with the .pkg extension and click **Open**.

Step 9 In the list of compatible nodes, select the check boxes for all nodes you are downloading the software to.



Note Cisco advises using the central node to complete the download when downloading on an SDCC or LDCC.



Note If you attempt more than eight concurrent software downloads at once, the downloads in excess of eight will be placed in a queue.

Step 10 Click OK. The Download Status column monitors the progress of the download.



Note The software download process can take typically less than 10 minutes per node.

Step 11 Return to your originating procedure (NTP).

DLP-U164 Activate the New Load

Purpose	This task activates Software R4.7 in each node in the network.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	DLP-U163 Download Release 4.7 Software, page 7
Required/As Needed	Required
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser



Note Cisco recommends that the first node you activate be a LAN-connected node. This ensures that the new CTC JAR files download to your workstation as quickly as possible.



Note Ensure that all cards that are part of a protection group (1+1, 1:1, or 1:N) are active on the working card of that protection group and that no protection switches are occurring. In other words, ensure that the protect cards are in standby before proceeding. Move your mouse cursor over a card in node view to see its active or standby status.

Step 1 Record the IP address of the node. The IP address can be obtained either on the LCD or on the upper left corner of the CTC window.

Step 2 Verify that the alarm filter is not on:

- a. Click the **Alarms** tab.
- b. Click the **Filter** tool at the lower-right side of the bottom toolbar.

Alarm filtering is enabled if the tool is depressed (selected) and disabled if the tool is raised (not selected).

- Step 3** On the Alarms tab, check all nodes for existing alarms. Resolve any outstanding alarms before proceeding.
- Step 4** Click the **Maintenance > Software** tabs.
- Step 5** Verify that the protect version is 4.7.
- Step 6** Click **Activate**. The **Activate** dialog box appears with a warning message.
- Step 7** Click **Yes** to proceed with the activation. The “Activation Successful” message appears when the software is successfully activated. Click **OK** in the message box.



Note When you click Yes, CTC loses connection to the node and displays the network view.

- Step 8** After activating the node, wait until the software upgrade reboot finishes at that node before continuing. The following occurs:
- Each card in the node reboots, beginning with the standby TCC2 card. When the standby TCC2 comes back up, it signals to the active TCC2 that it is ready to take over. When the active TCC2 receives this signal, it resets itself, and the standby TCC2 takes over and transitions to active. The originally active TCC2 then comes back up as the standby TCC2.
 - While the second TCC2 is rebooting, the OSCM card in Slot 8 reboots, and then the OSCM card in Slot 10 reboots (if you have OSCM cards installed).
 - Next, the Ethernet cards reset simultaneously; then the traffic cards boot consecutively from left to right.
 - A system reboot (SYSBOOT) alarm is raised while activation is in progress. When all cards have reset, this alarm clears. The activation process can take up to 30 minutes, depending on how many cards are installed.

When all the cards finish rebooting and all alarms clear, you can safely proceed to the next step. If you are upgrading remotely and cannot see the nodes, wait for 30 minutes for the process to complete, then check to ensure that all alarms have cleared before proceeding.

- Step 9** In CTC, choose **File > Exit**.
- Step 10** In your browser window, click Delete CTC Cache.



Note You must ensure that CTC is closed before clicking the Delete CTC Cache button. CTC behavior is unreliable if the button is clicked while the software is still running.



Note It might also be necessary to delete cached files from your browser’s directory or from the temp directory on your MS Windows workstation. If you have trouble reconnecting to CTC, complete the [“DLP-U112 Delete Cached JAR Files” task on page 10](#).

- Step 11** Reconnect to CTC using the IP address from [Step 1](#). The new CTC applet for Software R4.7 uploads. During this logon, type the user name CISCO15. A password is not required.



Note Steps 9 through 11 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.

Step 12 Return to your originating procedure (NTP).

DLP-U112 Delete Cached JAR Files

Purpose	This task deletes cached Jar files. When you upgrade or revert to a different CTC software load, you must reload CTC to your browser. Before you can reload CTC, you must ensure that previously cached files are cleared from your browser and hard drive.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	None
Required/As Needed	As needed.
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser

Step 1 Delete cache files from your browser directory.

In Netscape:

- Choose **Edit > Preferences > Advanced > Cache**.
- Click **Clear Memory Cache**.
- Click **OK**.
- Click **Clear Disk Cache**.
- Click **OK** twice.

In Microsoft Internet Explorer:

- Choose **Tools > Internet Options > General**.
- Choose **Delete Files**.
- Select the **Delete all offline content** check box.
- Click **OK** twice.

Step 2 Close your browser.



Note You cannot delete cached JAR files from your hard drive until you have closed your browser. If you have other applications open that use JAR files, you must also close them.

Step 3 Delete cached files from your workstation (Windows systems only).

- In your Windows start menu, choose **Settings > Control Panel > System > Advanced**.
- Click **Environment Variables**. This shows you a list of user variables and a list of system variables.

- c. In the list of user variables, look for the TEMP variable. The value associated with this variable is the path to your temporary directory where JAR files are stored.
 - d. Open the TEMP directory located in the path you just looked up.
 - e. Select **View > Details**.
 - f. Select and delete all files with “jar” in the Name or Type field.
- Step 4** Reopen your browser. You should now be able to connect to CTC.
- Step 5** Return to your originating procedure (NTP).

DLP-U79 Set the Date and Time

Purpose	This task sets the date and time. If you are not using SNTP, the upgrade procedure can cause the Date/Time setting to change. Perform this task to reset the date and time at each node.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser



Note If you are using SNTP, you do not need this task.

- Step 1** In CTC node view, click the **Provisioning > General** tabs.
- Step 2** Set the correct date and time, then click **Apply**.
- Step 3** Repeat Steps 1 and 2 for each remaining node.
- Step 4** Return to your originating procedure (NTP).

NTP-U97 Install Public-Key Security Certificate

Purpose	This procedure installs the ITU Recommendation X.509 public-key security certificate. The public-key certificate is required to run Software R4.1 or later.
Tools/Equipment	None
Prerequisite Procedures	This procedure is performed when logging into CTC. You cannot perform it at any other time.
Required/As Needed	This procedure is required to run ONS 15454 SDH Software R4.1 or later.
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** Log into CTC.
- Step 2** If the Java Plug-in Security Warning dialog box appears, choose one of the following options:
- **Grant This Session**—Installs the public-key certificate to your PC only for the current session. After the session is ended, the certificate is deleted. This dialog box will appear the next time you log into the ONS 15454 SDH.
 - **Deny**—Denies permission to install the certificate. If you choose this option, you cannot log into the ONS 15454 SDH.
 - **Grant always**—Installs the public-key certificate and does not delete it after the session is over. Cisco recommends this option.
 - **View Certificate**—Allows you to view the public-key security certificate.
- After you complete the security certificate dialog boxes, the web browser displays information about your Java and system environments. If this is the first login, a CTC downloading message appears while CTC files are downloaded to your computer. The first time you connect to an ONS 15454 SDH node, this process can take several minutes. After the download, the CTC Login dialog box appears.
- Step 3** If you need to return to the software and database you had before activating Software R4.7, proceed with the [“NTP-U98 Revert to Previous Software Load and Database” procedure on page 12](#).
- Stop. You have completed this procedure.**
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NTP-U98 Revert to Previous Software Load and Database

Purpose	This procedure returns you to the software and database provisioning you had before you activated Software R4.7.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	NTP-U94 Prepare for Release 4.x to Release 4.7 Upgrade, page 3 NTP-U95 Back Up the Software R4.x Database, page 5 NTP-U96 Upgrade Software R4.x to Software R4.7, page 6
Required/As Needed	As needed
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser



Note

The tasks to revert to a previous load are not a part of the upgrade. They are provided here as a convenience to those wishing to perform a revert after an upgrade. If you have performed all necessary procedures up to this point, you have finished the software upgrade.



Note

Before you upgraded to Software R4.7, you should have backed up the existing database at all nodes in the network (this is part of the [“NTP-U95 Back Up the Software R4.x Database” procedure on page 5](#)). Cisco recommends that you record or export all critical information to your hard drive. If you need to revert to the backup database, use the following tasks, in order.

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- Step 1** Log into the node. For detailed instructions, refer to the *Cisco ONS 15454 DWDM Installation and Operations Guide*. If you are already logged in, continue with Step 2.
- Step 2** Complete the “[DLP-U165 Revert to Protect Load](#)” task on page 13.
- Step 3** If the software revert to your previous release failed, complete the “[DLP-U115 Manually Restore the Database](#)” task on page 14.
- Stop. You have completed this procedure.**
-

DLP-U165 Revert to Protect Load

Purpose	This task reverts to the software you were running prior to the last activation and to restore your database to the provisioning you had prior to the activation.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	NTP-U94 Prepare for Release 4.x to Release 4.7 Upgrade , page 3 NTP-U95 Back Up the Software R4.x Database , page 5 NTP-U96 Upgrade Software R4.x to Software R4.7 , page 6
Required/As Needed	Required for revert
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser



Note To perform a supported (non-service-affecting) revert from Software R4.7, the release you want to revert to must have been working at the time you activated to Software R4.7 on that node. Also, a supported revert automatically restores the node configuration at the time of the previous activation. Thus, any configuration changes made after activation will be lost when you revert the software.

- Step 1** From the node view, click the **Maintenance > Software** tabs.
- Step 2** Verify that the protect software displays the release you upgraded from.
- Step 3** Click **Revert**. Revert activates the protect software and restores the database from the previous load. A dialog box asks you to confirm the choice.
- Step 4** Click **OK**. This begins the revert and drops the connection to the node.
- Step 5** Wait until the software revert finishes before continuing.



Note The system reboot might take up to 30 minutes to complete.

- Step 6** Close your Netscape or Internet Explorer browser.
- Step 7** Wait one minute before restoring another node.
- Step 8** After reverting all of the nodes in the network, restart the browser and log back into the last node that was reverted. This uploads the appropriate CTC applet to your workstation.



Note It might also be necessary to delete cached files from your browser's directory or from the TEMP directory on your MS Windows workstation. If you have trouble reconnecting to CTC, see the [“DLP-U112 Delete Cached JAR Files” task on page 10](#).

Step 9 Return to your originating procedure (NTP).

DLP-U115 Manually Restore the Database

Purpose	This task manually restores the database. Use this task if you were unable to perform a revert successfully and need to restore the database.
Tools/Equipment	PC or UNIX workstation
Prerequisite Procedures	DLP-U165 Revert to Protect Load, page 13
Required/As Needed	As needed
Onsite/Remote	Onsite or remote (but in the presence of the workstation)
Security Level	Superuser



Caution Do not perform these steps unless the software revert failed.



Caution This process is service affecting and should be performed during a maintenance window.

- Step 1** In the CTC node view, click the **Maintenance > Database** tabs.
- Step 2** Click **Restore**. The Open dialog box appears.
- Step 3** Select the previously saved file and choose **Open**.
The database id restored and the TCC2 cards reboot.
- Step 4** When the TCC2 cards have rebooted, log back into CTC and verify that the database is restored.
Wait one minute before restoring the next node.
- Step 5** Repeat Steps 1 to 4 for each node in the network.
You have now completed the manual database backup.
- Step 6** Return to your originating procedure (NTP).

Related Documentation

Use this upgrade guide in conjunction with the following publications:

- *Cisco ONS 15454 DWDM Installation and Operations Guide*
Provides installation, turn up, test, and maintenance procedures, plus technical reference information for cards, nodes, and networks

- *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide*
Provides a list of alarms and troubleshooting procedures, general troubleshooting information, and hardware replacement procedures
- *Release Notes for Cisco ONS 15454 SDH Release 4.7*
Provides caveats, closed issues, and new feature and functionality information

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

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<http://www.cisco.com/univercd/home/home.htm>

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Cisco Optical Networking Product Documentation CD-ROM

Optical networking-related documentation, including Cisco ONS 15454 SDH product documentation, is available in a CD-ROM package that ships with your product. The Optical Networking Product Documentation CD-ROM is updated periodically and may be more current than printed documentation.

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The Cisco TAC website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The Cisco TAC website is available 24 hours a day, 365 days a year. The Cisco TAC website is located at this URL:

<http://www.cisco.com/tac>

Accessing all the tools on the Cisco TAC website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a login ID or password, register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Opening a TAC Case

Using the online TAC Case Open Tool is the fastest way to open P3 and P4 cases. (P3 and P4 cases are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Case Open Tool automatically recommends resources for an immediate solution. If your issue is not resolved using the recommended resources, your case will be assigned to a Cisco TAC engineer. The online TAC Case Open Tool is located at this URL:

<http://www.cisco.com/tac/caseopen>

For P1 or P2 cases (P1 and P2 cases are those in which your production network is down or severely degraded) or if you do not have Internet access, contact Cisco TAC by telephone. Cisco TAC engineers are assigned immediately to P1 and P2 cases to help keep your business operations running smoothly.

To open a case by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553-2447

For a complete listing of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

TAC Case Priority Definitions

To ensure that all cases are reported in a standard format, Cisco has established case priority definitions.

Priority 1 (P1)—Your network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Priority 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Priority 3 (P3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Priority 4 (P4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Go to this URL to visit the company store:
<http://www.cisco.com/go/marketplace/>
- The Cisco *Product Catalog* describes the networking products offered by Cisco Systems, as well as ordering and customer support services. Access the Cisco Product Catalog at this URL:
<http://cisco.com/univercd/cc/td/doc/pcat/>
- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press online at this URL:
<http://www.ciscopress.com>
- *Packet* magazine is the Cisco quarterly publication that provides the latest networking trends, technology breakthroughs, and Cisco products and solutions to help industry professionals get the most from their networking investment. Included are networking deployment and troubleshooting tips, configuration examples, customer case studies, tutorials and training, certification information, and links to numerous in-depth online resources. You can access Packet magazine at this URL:
<http://www.cisco.com/packet>
- *iQ Magazine* is the Cisco bimonthly publication that delivers the latest information about Internet business strategies for executives. You can access iQ Magazine at this URL:
<http://www.cisco.com/go/iqmagazine>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:
<http://www.cisco.com/ipj>
- Training—Cisco offers world-class networking training. Current offerings in network training are listed at this URL:
<http://www.cisco.com/en/US/learning/index.html>

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