



Upgrading Cisco ONS 15327 Release 1.0.x to 3.3

Introduction

This document explains how to upgrade the Cisco ONS 15327 software from Release 1.0.x to Release 3.3. In past releases, the CTC and network element software of the ONS 15327 retained separate version numbers. Release 1.0.x of the ONS 15327 software contains network element software 1.0.x and CTC software 2.3.x. Release 1.0.2 of the ONS 15327 contains network element software 1.0.2 and CTC software 2.3.2. With Release 3.3, both the ONS 15327 network element software and the CTC software are versioned as 3.3.

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



Caution

Read each procedure before you begin the upgrade.



Caution

You cannot upgrade from ONS 15327 Release 1.0.0 directly to Release 3.3. If you are currently running Release 1.0.0, you must first upgrade to Release 1.0.2 before upgrading to Release 3.3. Refer to *Upgrading Cisco ONS 15327 Release 1.0.x to 1.0.2* for instructions on performing an upgrade from Release 1.0.0.

If you are currently running either Release 1.0.1 or 1.0.2, you may proceed with this upgrade.



Note

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 15327, you may wish to check off each procedure on your printed copy of this document as you complete it.

Upgrade Requirements

This section contains critical information that you must read before the upgrade process.

Read the *Release Notes for Cisco ONS 15327 Release 3.3* before you begin this upgrade procedure.

CTC Workstation Requirements

Before upgrading the workstation to run CTC Release 2.3.2, verify all PC or UNIX workstation hardware and software requirements.

- A Windows or Unix workstation:
 - IBM-compatible PC with a 486 or higher processor, CD ROM drive, and 128 MB RAM running Windows 95, Windows 98, Windows 2000, or Windows NT
 - UNIX workstation running Solaris
- Browser software (select one):
 - Netscape Navigator 4.73 or higher (Netscape Navigator is included on the ONS 15327 software CD shipped with the node.)
 - Netscape Communicator 4.61 or higher
 - Internet Explorer 4.0 Service Pack 2 or higher
- The Java Policy and Java Runtime Environment (JRE), Release 1.2.2_005 or later (JRE 1.3.1.02 is included on the ONS 15327 software CD)



Note

If you upgrade to JRE 1.3.1.02, you will no longer be able to log into an ONS 15454 running Release 2.2.1 or prior, or an ONS 15327 running release 1.0.0. If you must later revert to a release that requires a previous version of the JRE, you will have to reinstall Java and delete the jar files from your workstation's user "temp" directory after reverting all of the nodes in the network. If you are currently running a release that is also compatible with JRE 1.3.1.02, or if you retain your JRE 1.2.2 installation, the extra steps are not necessary.

IP Address Caveat

Disable all other Ethernet devices (such as a dial-up adapter) on the workstation that runs CTC.

If you have multiple IP addresses on your workstation, you should remove them; you cannot install CTC Release 2.3.2 if multiple IP addresses are running.

Telnet Session

Make sure all active telnet sessions to any node in the network are closed.

Back Up the Database

Before upgrading from Release 1.0.x to Release 3.3 software, you must back up the current database for all nodes in the network.

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- Step 1** Log into CTC.
- Step 2** From the node 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**. The Backup Complete dialog box appears.
- Step 6** Click **OK**.
- Step 7** Repeat Steps 1-6 for each node in the network.
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Cisco recommends that you manually log critical information by either writing it down or printing screens where applicable. This step is optional after you have backed up the database. Use the following table to determine the information you should log; complete the table (or your own version) for every node in the network.

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	
Network information; record all the information from the Provisioning tab in the network view.	
Current configuration: linear, etc.	
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	

Upgrade the Software

After backing up the database and logging all of the required information, insert the Release 3.3 software CD into the workstation (or otherwise acquire access to the software) and begin the upgrade process. You must download and activate the software.



Caution

A traffic interruption of less than 60 ms on each circuit is possible during the activation, with Ethernet traffic impacted for approximately one second during each XTC switch and also when each Ethernet line card reboots (45–60 seconds per card).



Caution

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

There are two flash RAMs on the XTC card. An upgrade downloads the software to the backup RAM on both the backup and active XTCs. This procedure 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.

Download

Step 1 Check all nodes in the ring for existing alarms. Resolve any outstanding alarms before proceeding.



Note

During the software download process, an alarm, SFTWDWN, indicates that the software download is taking place. This is normal and clears when the download is complete.

Step 2 Using CTC Release 2.3, log into the node from which you will download the software.



Note

Starting with the node most directly connected to your workstation will achieve the best download performance; however, in some networks it may be safer to begin your upgrade at the farthest node and proceed toward the one you are most directly connected to. This ensures that no node will be at risk of being stranded if unforeseen circumstances cause the upgrade to fail. This issue is a matter of network administration policy.

Step 3 From the CTC network view, click the **Maintenance > Software** tabs.

Step 4 Click **Download**. The Software Download dialog box opens.

Step 5 Click **Browse** to locate the software files. The File Open dialog box opens.

Step 6 Open the ONS 15327 folder.

Step 7 Select the file with the “.pkg” extension and click **Open**. The Software Download dialog box opens.

Step 8 In the list of compatible nodes, select the checkboxes for all nodes you are downloading the software to.

Step 9 Enter the number of nodes you have selected in the “Concurrent Downloads” field.

Step 10 Click **OK**.

**Note**

CTC will display the download status on the **Maintenance > Software** pane so you can monitor the file transfer. The status changes to “complete” when the software has finished downloading. The software download process can take 30 minutes or more, depending on the number of nodes in the network.

Activate the New Load

Log into and activate each node in the network, beginning with the node you performed the download from.

**Note**

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

**Note**

Make sure 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, make sure that the protect cards are in standby before proceeding.

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- Step 1** Log into the first node.
 - Step 2** Record the IP address of that node.
 - Step 3** Verify that the node has no active alarms. If alarms exist, clear them before proceeding.
 - Step 4** From the CTC node view, click the **Maintenance > Software** tabs.
 - Step 5** Verify that the protect version is 3.3.
 - Step 6** Click **Activate**. The **Activate** dialog box appears with a warning message. Click **Yes**.
 - Step 7** The “Activation Successful” message appears upon successful completion of the activation. Click **OK** to begin the node rebooting process.
 - Step 8** After activating the node, wait until the software upgrade finishes at that node before continuing.

Each card installed in the node will activate and reboot, beginning with the standby XTC. Once the standby XTC is fully activated and fully rebooted, the other XTC activates. Then the line cards reboot consecutively from bottom to top (slot one to four). This process is service affecting for Ethernet traffic only. Cisco recommends that you activate the new load during a maintenance window. Ethernet traffic will be impacted for approximately one second during each XTC switch and again while each Ethernet line card reboots. The Ethernet outage for any one of these cards could range from 45–60 seconds. After all cards have rebooted, the standby XTC reboots again to ensure that all circuits are updated correctly. The entire process takes up to 12 minutes. Once the standby XTC finishes its final reboot and all alarms clear you can safely proceed to the next step.

**Note**

Be patient. The system can take up to 12 minutes to reboot.

**Note**

During the rebooting process your CTC session will lose connection to the node and change to network view. This is normal.

Step 9 In CTC, choose **File > Exit**.



Note Steps 10 and 11 are only necessary after upgrading the first node. 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 10 Follow all steps in the “Delete Cached Jar Files” procedure on page 6. When you have performed all of the steps in that procedure, continue here with the next step (Step 11).

Step 11 Reconnect to CTC using the IP address from Step 2 (if the IP address is still in the browser location bar you can simply hold down the shift key and click the browser Reload/Refresh button). The new CTC applet for Release 2.3.2 uploads. Because this applet is backwardly compatible with the older version of CTC, it affords you network visibility while you are upgrading.



Note Only activate one node at a time.

Step 12 Log into and activate each of the remaining nodes one at a time. After successful activation, wait ten minutes before activating the next node.

Delete Cached Jar Files

When you upgrade or revert to a different CTC software load, you must reload CTC to your browser. In most cases, you can do this by simply clicking “Delete CTC Cache” in your browser window; however, in some circumstances, you may need to delete cache files from your browser’s directory, or from the “temp” directory on your MS Windows workstation. If you have trouble reconnecting to CTC after upgrading or reverting, follow the steps below.

Step 1 Delete cache files from your browser directory.

In Netscape:

- a. Choose **Edit > Preferences > Advanced > Cache**.
- b. Click **Clear Memory Cache**.
- c. Click **OK**.
- d. Click **Clear Disk Cache**.
- e. Click **OK** twice.

In Microsoft Internet Explorer:

- a. Choose **Tools > Internet Options > General**.
- b. Choose **Delete Files**.
- c. Select the **Delete all offline content** checkbox.
- d. Click **OK** twice.

Step 2 Close your browser.

- 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 will show you a list of user variables and a list of system variables.
 - In the list of user variables, look for the variable “TEMP.” The value associated with this variable is the path to your temporary directory where jar files are stored.
 - Open the “TEMP” directory located in the path you just looked up.
 - Select **View > Details**.
 - Select and delete all files with “jar” in either the name or type field.
- Step 4** Reopen your browser. You should now be able to connect to CTC.
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After deleting cached jar files, you should return to the referring procedure, either the “Activate the New Load” procedure on page 5, or the “Revert to Protect Load” procedure on page 7, and continue with the steps there.

Date Setting

If you are not using SNTP, the upgrade procedure can cause the Date setting to change.

- Step 1** In CTC node view, click the **Provisioning > General** tabs.
- Step 2** Set the correct date and click **Apply**.
- Step 3** Repeat Steps 1 and 2 for each remaining node.
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Revert to Previous Load

Before upgrading from Release 1.0.x to Release 3.3 software, you should have backed up the current database at all nodes in the network (this is part of the “Upgrade the Software” section on page 4). Cisco highly recommends that you record or export all critical information to your hard drive. If you need to revert to the previous software load, you might need the database backup to restore your original settings. To revert to the previous software load, use the following procedure.

Revert to Protect Load

- Step 1** Record the IP address of the node.
- Step 2** From the node view, click the **Maintenance > Software** tabs.
- Step 3** Verify that the protect software displays 1.0.x (the older release you were upgrading from).
- Step 4** Click **Revert**. Revert activates the protect software. A dialog box asks you to confirm the choice.
- Step 5** Click **OK**. This begins the revert and drops the connection to the node.
- Step 6** Wait until the revert finishes at one node before continuing or reverting other nodes.



Note Be patient. The system reboot might take up to 12 minutes to complete.

- Step 7** Wait ten minutes before reverting another node.
- Step 8** After reverting all of the nodes in the network, you must exit CTC and clear the Java cache. From the **File** menu, choose **Exit**.
- Step 9** In your browser window, click **Delete CTC Cache**.



Note It might also be necessary to delete cache files from your browser's directory, or from the "temp" directory on your MS Windows workstation. If you have trouble reconnecting to CTC, refer to the "Delete Cached Jar Files" procedure on page 6.

- Step 10** Log back into the last node that was reverted with the IP address that you recorded in Step 1. This uploads the appropriate CTC applet for Release 1.0.x to your workstation.
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Manually Restore the Database

Provisioning might be lost during a revert. When this happens it is necessary to restore the database backup.



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

- Step 1** From the CTC node view, click the **Maintenance > Database** tabs.
- Step 2** Click **Backup**. The "Open..." dialog box opens.
- Step 3** Select the previously-saved file and choose **Open**.
The database will be restored and the XTCs will reboot.
- Step 4** Once the XTCs have rebooted, log back into CTC and verify that the database is restored.
Wait one minute before restoring the next node.
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This document is to be used in conjunction with the *Release Notes for Cisco ONS 15327 Release 3.3* publication.

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