Maintain the Node

This chapter provides procedures for maintaining the Cisco ONS 15327.

Before You Begin

Before performing any of the following procedures, investigate all alarms and clear any trouble conditions. Refer to the *Cisco ONS 15327 Troubleshooting Guide* as necessary. This section lists the chapter procedures (NTPs). Turn to a procedure to view its tasks (DLPs).

1. NTP-B107 Inspect and Maintain the Air Filter, page 14-2—Complete as needed.
2. NTP-B108 Back Up the Database, page 14-6—Complete as needed.
3. NTP-B109 Restore the Database, page 14-8—Complete as needed.
4. NTP-B163 Restore the Node to Factory Configuration, page 14-10—Complete as needed to clear the database and upload a blank database and the latest software.
5. NTP-B214 Offload the Security Audit Trail Log, page 14-15—Complete as needed.
6. NTP-B110 Inhibit Protection Switching, page 14-16—Complete as needed.
7. NTP-B111 Revert to an Earlier Software Load, page 14-19—Complete as needed.
8. NTP-B112 Clean Fiber Connectors, page 14-20—Complete as needed.
9. NTP-B113 Reset the XTC Using CTC, page 14-23—Complete this procedure as needed to reset the XTC card and switch the node to the redundant XTC.
10. NTP-B215 View G1000-2 Ethernet Maintenance Information, page 14-24—Complete as needed.
11. NTP-B228 View E10/100-4 Ethernet Maintenance Information, page 14-26--Complete as needed.
12. NTP-B225 Switch the Node Timing Reference, page 14-27—Complete this procedure as needed to switch the node timing reference to perform maintenance or return to normal timing operation.

NTP-B107 Inspect and Maintain the Air Filter

Purpose	This procedure explains how to inspect and maintain reusable and disposable air filters.
Tools/Equipment	Spare air filters
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Retrieve or higher

Warning   **Do not reach into a vacant slot or chassis while you install or remove a module or a fan. Exposed circuitry could constitute an energy hazard.**

Note   Although the filter works if it is installed with either side facing left, Cisco recommends that you install it with the metal bracing facing left to preserve the surface of the filter.

Step 1   As needed, complete the "DLP-B 199 Inspect, Clean, and Replace the Reusable Air Filter" task on page 14-2.

Step 2   As needed, complete the "DLP-B 200 Inspect and Replace the Disposable Air Filter" task on page 14-4.

Stop. You have completed this procedure.

DLP-B199 Inspect, Clean, and Replace the Reusable Air Filter

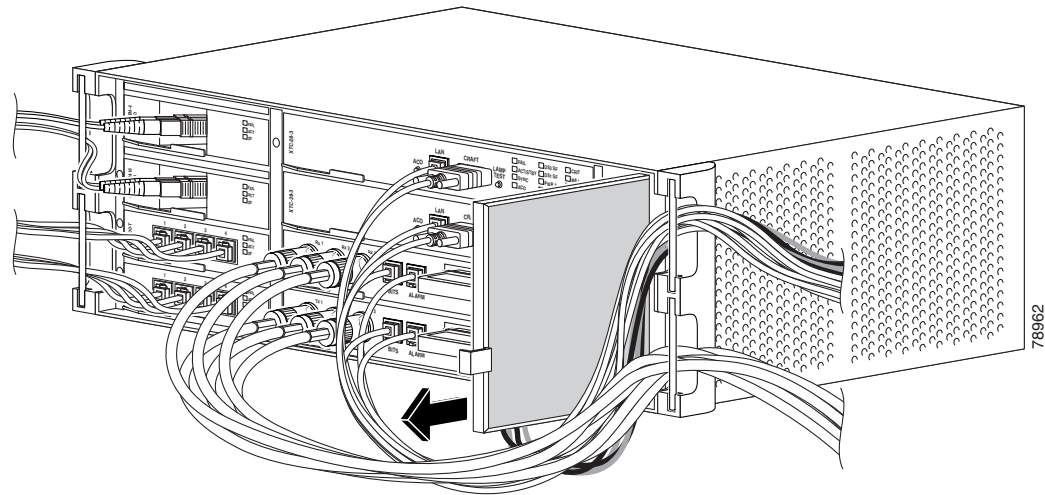|	
Purpose	This task ensures that the air filter is free from dirt and dust, which allows optimum air flow and prevents dirt and dust from entering the shelf.
Tools/Equipment	Vacuum or detergent
	Water faucet
	Spare filter
	Pinned hex key tool
Prerequisite Procedures	None
Required/As Needed	Inspection required every 30 days. Clean as needed.
Onsite/Remote	Onsite
Security Level	Retrieve or higher

Warning   **Do not reach into a vacant slot or chassis while you install or remove a module or a fan. Exposed circuitry could constitute an energy hazard.**

Step 1 Verify that you are replacing a reusable air filter. The reusable filter is made of a gray, open-cell, polyurethane foam that is specially coated to provide fire and fungi resistance. NEBS 3E and later versions of the ONS 15327 use a reusable air filter.

Step 2 Move any cables that are routed in front of the fan-tray assembly and air filter so you can easily slide the filter out (Figure 14-1).

Step 3 Grasp the metal tab at the edge of the filter and slide the filter out of the bracket while being careful not to dislodge any dust that might have collected on the filter.

Figure 14-1   Removing the Reusable Fan-Tray Air Filter

Step 4 Visually inspect the filter material for dirt and dust.

Step 5 If the reusable air filter contains a concentration of dirt and dust, either vacuum or wash the air filter. Prior to washing the air filter, replace the dirty air filter with a spare clean air filter (spare filters should be kept in stock).

Step 6 Wash the dirty air filter under a faucet with a light detergent. After washing the air filter, allow it to completely air dry for at least eight hours before reusing.
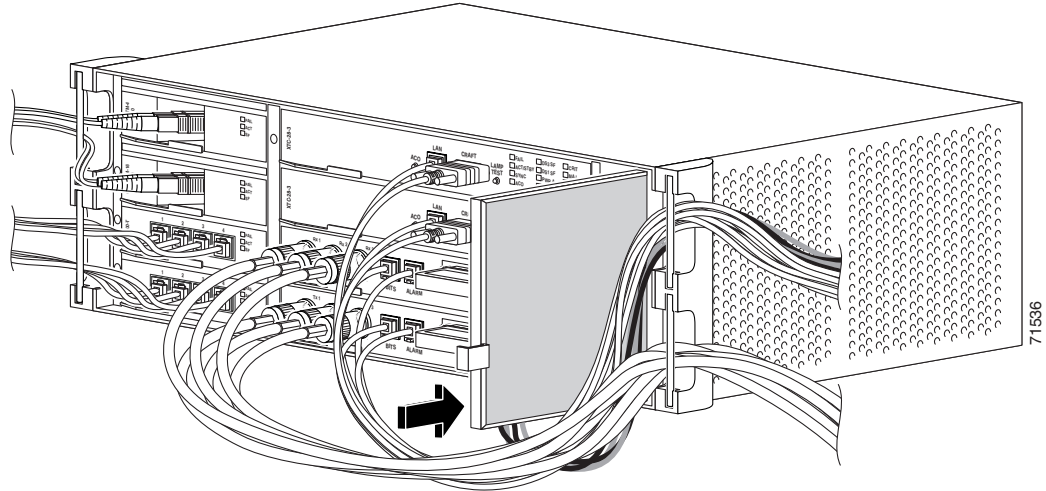
> **Note** Cleaning should take place outside the operating environment to avoid releasing dirt and dust near the equipment.

> **Warning** **Do not put a damp filter back in the ONS 15327.**

Step 7 Slide the clean air filter back into the shelf (Figure 14-2).

Figure 14-2   Replacing the Reusable Fan-Tray Air Filter

Step 8   Return to your originating procedure (NTP).

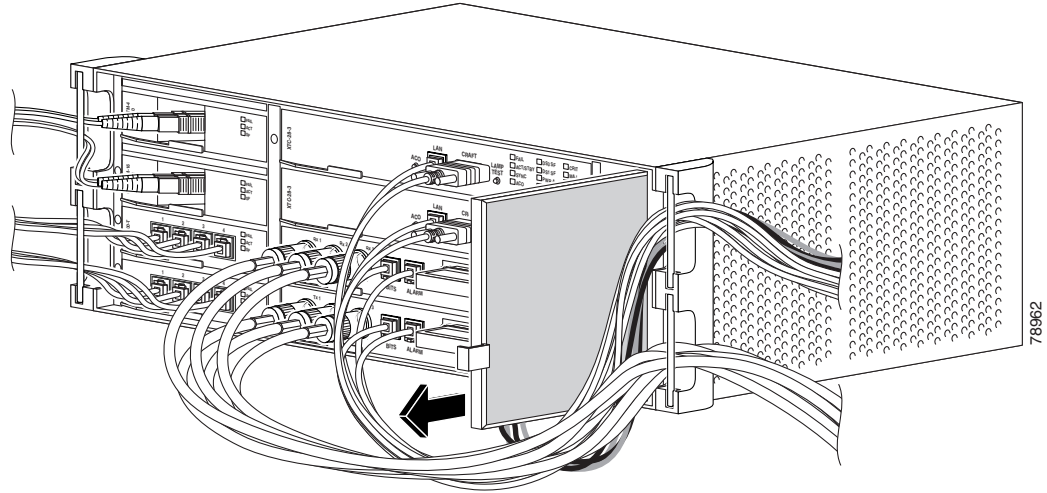# DLP-B200 Inspect and Replace the Disposable Air Filter

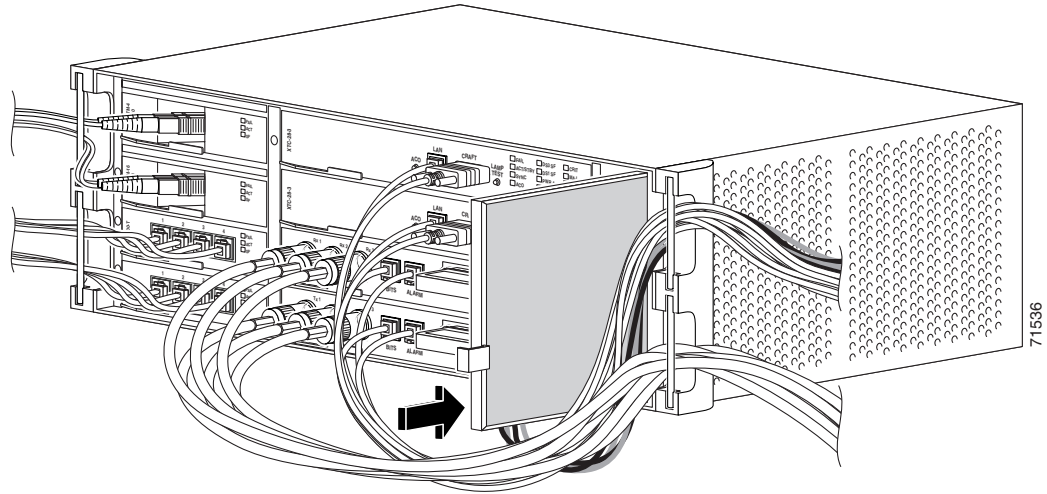|	
Purpose	This task ensures that the air filter is free from dirt and dust to allow optimum air flow and prevent dirt and dust from entering the ONS 15327.
Tools/Equipment	Extra filters
	Pinned hex key
Prerequisite Procedures	None
Required/As Needed	Inspection required every 30 days. Replace as needed.
Onsite/Remote	Onsite
Security Level	Retrieve or higher

Note   The disposable air filter is installed to the right of the fan-tray assembly only, so you must remove the assembly to inspect and replace the disposable air filter.

Step 1   Verify that you are replacing a disposable air filter. The disposable filter is made of spun white polyester that is flame retardant. NEBS 3E and earlier versions of the ONS 15327 use a disposable air filter.

Step 2   Move any cables that are routed in front of the fan-tray assembly and air filter so you can easily slide the filter out (Figure 14-3).

Step 3   Grasp the metal tab at the edge of the filter and slide the filter out of the bracket while being careful not to dislodge any dust that might have collected on the filter.

Figure 14-3   Removing the Disposable Fan-Tray Air Filter

Step 4   Visually inspect the filter material for dirt and dust.

Step 5   If the disposable air filter shows a heavy concentration of dirt and dust, replace it with a new filter.

Step 6   Slide the new air filter back into the shelf (Figure 14-4).

Figure 14-4   Replacing the Disposable Fan-Tray Air Filter

Step 7   Return to your originating procedure (NTP).

NTP-B108 Back Up the Database

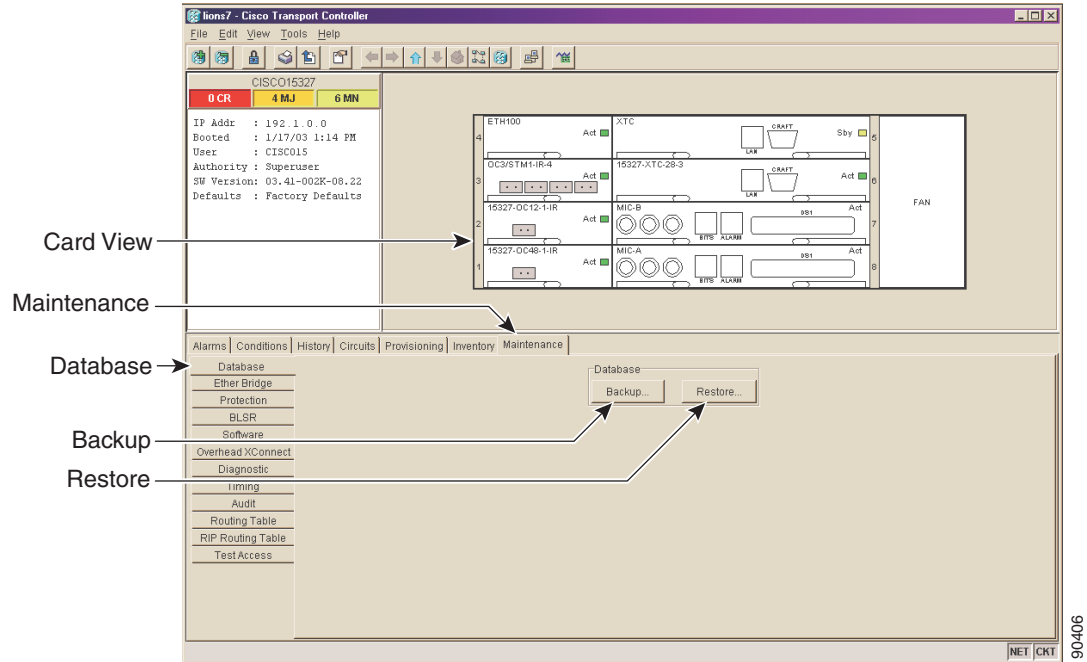|	
Purpose	This procedure stores a backup version of the XTC (software) database on the workstation running CTC or on a network server.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	Required. Cisco recommends performing a database backup at approximately weekly intervals and prior to and after configuration changes.
Onsite/Remote	Onsite or remote
Security Level	Superuser

Note   You must back up and restore the database for each node on a circuit path in order to maintain a complete circuit.

Note   The following parameters are not backed up and restored: node name, IP address, mask and gateway, and IIOP port. If you change the node name and then restore a backed up database with a different node name, the circuits will map to the new node name. Cisco recommends keeping a record of the old and new node names.

Step 1   Complete the "DLP-B 60 Log into CTC" task on page 2-23 at the node where you will perform the database backup. If you are already logged in, continue with Step 2.

Step 2   In node (default) view, click the **Maintenance > Database** tabs (Figure 14-5).

Figure 14-5   Backing Up the XTC Database

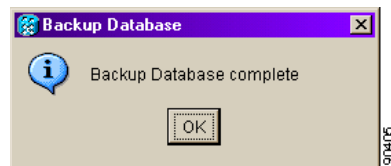**Step 3**   Click **Backup**.

Step 4   Save the database on the workstation's hard drive or on network storage. Use an appropriate file name with the .db file extension; for example, database.db.

Step 5   Click **Save**.

Step 6   Click **OK** in the confirmation dialog box (Figure 14-6).

Figure 14-6   Confirming the Database Backup

Stop. You have completed this procedure.

NTP-B109 Restore the Database

Purpose	This procedure restores the software database.
Tools/Equipment	None
Prerequisite Procedures	NTP-B108 Back Up the Database, page 14-6
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

Note The following parameters are not backed up and restored: node name, IP address, mask and gateway, and IIOP port. If you change the node name and then restore a backed up database with a different node name, the circuits will map to the new renamed node. Cisco recommends keeping a record of the old and new node names.

Caution G1000-2 cards lose traffic for approximately 90 seconds when an ONS 15327 database is restored. Traffic is lost during the period of spanning tree reconvergence. The CARLOSS alarm appears and clears during this period.
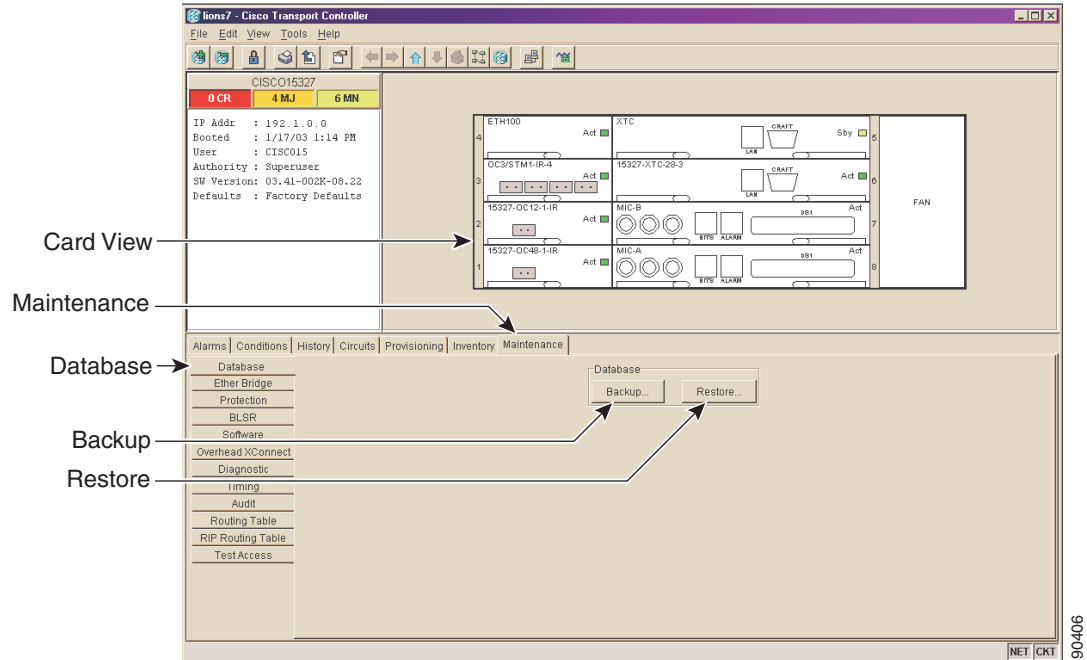
Caution If you are restoring the database on multiple nodes, wait until the XTC reboot has completed on each node before proceeding to the next node.

Step 1 Complete the "DLP-B 60 Log into CTC" task on page 2-23 at the node where you will restore the database. If you are already logged in, proceed to Step 2.

Step 2 If there are switch events that need to be cleared, in node (default) view, click the **Maintenance > BLSR** tabs and view the West Switch and East Switch columns.

   a. If there is a switch event (not caused by a line failure), clear the switch by choosing **CLEAR** from the drop-down menu and click **Apply**.

   b. If there is a switch event caused by the Wait to Restore (WTR) condition, choose **LOCKOUT SPAN** from the drop-down menu and click **Apply**. When the LOCKOUT SPAN is applied, choose **CLEAR** from the drop-down menu and click **Apply**.

Step 3 In node view, click the **Maintenance > Database** tabs (Figure 14-7).

Figure 14-7   Restoring the XTC Database

Step 4   Click **Restore**.

Step 5   Locate the database file stored on the workstation's hard drive or on network storage.

> **Note**   To clear all existing provisioning, locate and upload the database found on the latest ONS 15327 software CD.

Step 6   Click the database file to highlight it.

Step 7   Click **Open**. The DB Restore dialog box appears. Opening a restore file from another node or from an earlier backup might affect traffic on the login node (Figure 14-8).

Figure 14-8   Restoring the Database—Traffic Loss Warning

Step 8   Click **Yes** in the DB Restore dialog box.

The Restore Database dialog box monitors the file transfer (Figure 14-9).

Figure 14-9   Restoring the Database—In-Process Notification

Step 9   Wait for the file to complete the transfer to the XTC.

Step 10   Click **OK** when the "Lost connection to node, changing to Network View" dialog box appears. Wait for the node to reconnect.

Step 11   If you cleared a switch in Step 2, reapply the switch as needed.

Stop. You have completed this procedure.

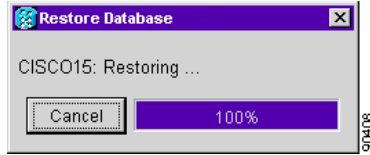# NTP-B163 Restore the Node to Factory Configuration

Purpose	This procedure clears the XTC database and restores customer or factory defaults. This process involves uploading the most recent software package and a blank database. This process is performed by the RE-INIT.jar utility, also called the reinitialization tool.
Tools/Equipment	Software CD containing Release 4.0 software, the node's NE defaults, and the reinitialization tool. JRE 1.03_02 must also be installed on the computer you will use to perform this procedure.
Prerequisite Procedures	NTP-B108 Back Up the Database, page 14-6
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Superuser

⚠️
Caution   If you are restoring the database on multiple nodes, wait until the XTC cards have rebooted on each node before proceeding to the next node.

⚠️
Caution   Cisco strongly recommends that you keep different node databases in separate folders. This is because the reinitialization tool will choose the first product-specific software package in the specified directory if you only use the Search Path field. You might accidentally copy an incorrect database if multiple databases are kept in the specified directory.

✎
Note   The following parameters are not backed up and restored when you delete the database and restore the factory settings: node name, IP address, mask and gateway, and IIOP port. If you change the node name and then restore a backed up database with a different node name, the circuits will map to the new renamed node. Cisco recommends keeping a record of the old and new node names.

Step 1 If you need to install or replace one or more XTC cards, see the "NTP-B 217 Install the XTCs" procedure on page 1-21.

Step 2 If you are using Microsoft Windows, complete the "DLP-B 244 Use the Reinitialization Tool to Clear the Database and Upload Software (Windows)" task on page 14-11.

Step 3 If you are using UNIX, complete the "DLP-B 245 Use the Reinitialization Tool to Clear the Database and Upload Software (UNIX)" task on page 14-13.

Stop. You have completed this procedure.

DLP-B244 Use the Reinitialization Tool to Clear the Database and Upload Software (Windows)

Purpose	This task describes how to use the reinitialization tool in Windows. Use this tool to clear the database on the XTC, upload software, and restore factory or customer defaults.
Tools/Equipment	Software CD containing Release 4.0 software, the NE defaults, and the reinitialization tool
	JRE 1.03_02 must also be installed on the computer you use to perform this procedure.
	Straight-through (Category 5) LAN cable
Prerequisite Procedures	NTP-B108 Back Up the Database, page 14-6
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Superuser

Note The XTC cards reboot several times during this procedure. Wait until they are completely rebooted before continuing.

Step 1 Insert the system software CD containing the reinitialization tool, the CTC software, and the defaults database into the local craft interface PC drive. If the CTC Installation Wizard opens, click **Cancel**.

Step 2 To find the recovery tool file, go to **Start > Run > Browse** and select the CD drive.

Step 3 On the CD drive, go to the CISCO15327 folder and set the Files of Type drop-down menu to **All Files**.

Step 4 Select the **RE-INIT.jar** file and click **Open** to open the reinitialization tool (Figure 14-10).

Figure 14-10 Reinitialization Tool in Windows

Step 5   If the node you are reinitializing is an external network element (ENE) in a proxy server network, enter the IP address of the gateway network element (GNE) in the GNE IP field. If not, leave it blank.

Step 6   Enter the node name or IP address of the node you are reinitializing in the Node IP field (Figure 14-10).

Step 7   Verify that the Re-Init Database, Upload Package, and Confirm check boxes are checked. If one is not checked, click the check box.

Step 8   In the Search Path field, verify that the path to the CISCO15327 folder on the CD drive is listed.

⚠

Caution   Cisco strongly recommends that you keep different node databases in separate folders. This is because the reinitialization tool will choose the first product-specific software package in the specified directory if you use the Search Path field instead of the Package and Database fields. You might accidentally copy an incorrect database if multiple databases are kept in the specified directory.

⚠

Caution   Before you perform the next step, be sure you are uploading the correct database. You cannot reverse the upload process after you click Yes.

Step 9   Click **Go**.

Step 10   A confirmation dialog box opens (Figure 14-11). Click **Yes**.

Step 11   The status bar at the bottom of the screen displays Complete when the node has activated the software and uploaded the database.

✎

Note   The Complete message only indicates that the XTC successfully uploaded the database, not that the database restore was successful. The XTC then tries to restore the database after it reboots.

Step 12   If you are logged into CTC, close the browser window and disconnect the straight-through LAN cable from the RJ-45 (LAN) port on the XTC or on the hub or switch to which the ONS 15327 is physically connected. Reconnect your straight-through LAN cable to the LAN port and log back into CTC. See the "NTP-B 22 Set Up CTC Computer to Connect to the ONS 15327" procedure on page 2-8.

Step 13   Manually set the node name and network configuration to site-specific values. See the "NTP-B 25 Set Up Name, Date, Time, and Contact Information" procedure on page 3-5 and "NTP-B 169 Set Up CTC Network Access" procedure on page 3-7 for information on setting the node name, IP address, mask and gateway, and IIOP port.

Figure 14-11 Confirm NE Restoration

Step 14   Return to your originating procedure (NTP).

DLP-B245 Use the Reinitialization Tool to Clear the Database and Upload Software (UNIX)

Purpose	This task describes how to use the reinitialization tool in a UNIX environment. Use this tool to clear the database on the XTC and restore factory or customer defaults.
Tools/Equipment	Software CD containing Release 4.0 software, the node's NE defaults, and the reinitialization tool.
	JRE 1.03_02 must also be installed on the computer you will use to perform this procedure.
Prerequisite Procedures	NTP-B108 Back Up the Database, page 14-6
Required/As Needed	As needed to clear the existing database from an XTC and restore the node's default settings.
Onsite/Remote	Onsite or remote
Security Level	Superuser

Note   The XTC cards will reboot several times during this procedure. Wait until they are completely rebooted before continuing.

Step 1   Insert the system software CD containing the reinitialization tool, the software, and the defaults database into the local craft interface PC drive. If the CTC Installation Wizard opens, click **Cancel**.

Step 2   To find the recovery tool file, go to the CISCO15327 directory on the CD (usually /cdrom/cdrom0/CISCO15327).

Step 3   If you are using a file explorer, double click the **RE-INIT.jar** file to open the reinitialization tool (Figure 14-12 on page 14-14). If you are working with a command line interface, run `java -jar RE-INIT.jar`.

Figure 14-12 Reinitialization Tool in UNIX

Step 4 If the node you are reinitializing is an external network element (ENE) in a proxy server network, enter the IP address of the gateway network element (GNE) in the GNE IP field. If not, leave it blank.

Step 5 Enter the node name or IP address of the node you are reinitializing in the Node IP field (Figure 14-12).

Step 6 Verify that the Re-Init Database, Upload Package, and Confirm check boxes are checked. If any are not checked, click that check box.

Step 7 In the Search Path field, verify that the path to the CISCO15327 folder on the CD drive is listed.

⚠
Caution Cisco strongly recommends that you keep different node databases in separate folders. This is because the reinitialization tool will choose the first product-specific software package in the specified directory if you use the Search Path field instead of the Package and Database fields. You might accidentally copy an incorrect database if multiple databases are kept in the specified directory.

⚠
Caution Before you perform the next step, be sure you are uploading the correct database. You cannot reverse the upload process after you click Yes.

Step 8 Click **Go**.

Step 9 A confirmation dialog box opens (Figure 14-11 on page 14-13). Click **Yes.**

Step 10 The status bar at the bottom of the screen displays Complete when the node has activated the software and uploaded the database.

✎
Note The Complete message only indicates that the XTC successfully uploaded the database, not that the database restore was successful. The XTC then tries to restore the database after it reboots.

Step 11 If you are logged into CTC, close the browser window and disconnect the straight-through LAN cable from the RJ-45 (LAN) port on the XTC or on the hub or switch to which the ONS 15327 is physically connected. Reconnect your straight-through LAN cable to the LAN port and log back into CTC. See the "DLP-B 53 Set Up a Solaris Workstation for a Craft Connection to an ONS 15327" task on page 2-17.

Step 12 Manually set the node name and network configuration to site-specific values. See the "NTP-B 25 Set Up Name, Date, Time, and Contact Information" procedure on page 3-5 and "NTP-B 169 Set Up CTC Network Access" procedure on page 3-7 for information on setting the node name, IP address, mask and gateway, and IIOP port.

Step 13 Return to your originating procedure (NTP).

NTP-B214 Offload the Security Audit Trail Log

Purpose	This procedure stores up to 650 audit trail log entries in a local or network drive file to maintain a record of actions performed for the node.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed. If the audit trail log is not offloaded, the oldest entries will be overwritten after the log reaches capacity.
Onsite/Remote	Onsite or remote
Security Level	Superuser

Step 1 Complete the "DLP-B 60 Log into CTC" task on page 2-23 at the node where you will offload the audit trail log. If you are already logged in, proceed to Step 2.

Step 2 In the node view, click the **Maintenance > Audit** tabs.

Step 3 Click **Retrieve**.

Step 4 Click **Archive**.

Step 5 In the Archive Audit Trail dialog, navigate to the directory (local or network) where you want to save the file.

Step 6 Enter a name in the File Name field.

You do not have to give the archive file a particular extension. It is readable in any application that supports text files, such as WordPad, Microsoft Word (imported), etc.

Step 7 Click **Save**.

Up to 640 entries will be saved in this file. The next entries will continue with the next number in the sequence, rather than starting over.

Stop. You have completed this procedure.

NTP-B110 Inhibit Protection Switching

Purpose	This procedure describes how to apply and remove a lock on or lock out on a traffic card in a protection configuration. For bidirectional line switch ring (BLSR) span lockouts, see the "DLP-B 301 Initiate a BLSR Manual Ring Switch" task on page 12-10 and the "DLP-B 241 Clear a BLSR Manual Ring Switch" task on page 12-11.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Superuser

Step 1   To prevent traffic on a working or protect card from switching to the other card in the pair, complete the "DLP-B 201 Apply a Lock On" task on page 14-16.

Step 2   To switch traffic from a working or protect card to the other card in the pair to prevent revertive switching, complete the "DLP-B 202 Apply a Lock Out" task on page 14-17.

> **Note**   A combination of lock on and lock out is allowed in 1:1 and 1:N protection; for example, a lock on on the working card and a lock out on the protect card are permissible.

Step 3   To remove a lock on or lock out and return a protection group to its usual switching method, complete the "DLP-B 203 Clear a Lock On or Lock Out" task on page 14-18.

> **Note**   A non-alarmed event (INHSW) is raised when a card is placed in a lock on or lock out state.

> **Note**   Refer to the *Cisco ONS 15327 Reference Manual* for a description of protection switching and switch state priorities.

Stop. You have completed this procedure.

DLP-B201 Apply a Lock On

Purpose	This task prevents traffic from being switched from one card to another.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Maintenance

> **Note** To apply a lock on to a protect card in a 1:1 protection group, the protect card must be active. If the protect card is in standby, the Lock On button is disabled. To make the protect card active, you must switch traffic from the working card to the protect card (Step 4). When the protect card is active, you can apply the lock on.

Step 1 Use the following rules to determine if you can put the intended card in a lock on state:

- For a 1:1 electrical protection group, both the working and protect cards can be placed in the lock on state.
- For a 1+1 optical protection group, only the working card can be placed in the lock on state.

Step 2 In node view, click the **Maintenance > Protection** tabs.

Step 3 Under Protection Groups, click the protection group where you want to apply a lock on.

Step 4 If you determine that the protect card is in standby and you want to apply the lock on to the protect card, make the protect card active:

    a. Under Selected Group, click the protect card.

    b. Under Switch Commands, click **Switch**.

Step 5 Under Selected Group, click the active card where you want to lock traffic.

Step 6 From Inhibit Switching, click **Lock On**.

Step 7 Click **Yes** in the confirmation dialog box.

The lock on has been applied and traffic cannot be switched to the working card. To clear the lock on, see the "DLP-B 203 Clear a Lock On or Lock Out" task on page 14-18.

Step 8 Return to your originating procedure (NTP).

DLP-B202 Apply a Lock Out

Purpose	This task switches traffic from one card to another using a lock out, which is a switching mechanism that overrides other manual switching connections (Force, Manual, and Exercise).
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Maintenance

> **Note** Multiple lock outs in the same protection group are not allowed.

Step 1 Use the following rules to determine if you can put the card in a lock out state:

- For a 1:1 electrical protection group, both the working and protect cards can be placed in the lock out state.

- For a 1+1 optical protection group, only the protect card can be placed in the lock out state.

Step 2 In node view, click the **Maintenance > Protection** tabs.

Step 3 Under Protection Groups, click the protection group that contains the card you want to lock out.

Step 4 Under Selected Group, click the card you want to lock traffic out of.

Step 5 From Inhibit Switching, click **Lock Out**.

Step 6 Click **Yes** in the confirmation dialog box.

The lock out has been applied and traffic is switched to the opposite card. To clear the lock out, see the "DLP-B 203 Clear a Lock On or Lock Out" task on page 14-18.

✎
Note Provisioning a lock out causes a LOCKOUT-REQ or an FE-LOCKOUT condition to be raised on CTC. Clearing the lockout switch request clears these conditions; they are informational only.

Step 7 Return to your originating procedure (NTP).

DLP-B203 Clear a Lock On or Lock Out

Purpose	This task clears a lock on or lock out.
Tools/Equipment	None
Prerequisite Procedures	DLP-B201 Apply a Lock On, page 14-16 or
	DLP-B202 Apply a Lock Out, page 14-17
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Maintenance

Step 1 In node view, click the **Maintenance > Protection** tabs.

Step 2 Under Protection Groups, click the protection group that contains the card you want to clear.

Step 3 Under Selected Group, click the card you want to clear.

Step 4 From Inhibit Switching, click **Unlock**.

Step 5 Click **Yes** in the confirmation dialog box.

The lock on or lock out is cleared.

Step 6 Return to your originating procedure (NTP).

NTP-B111 Revert to an Earlier Software Load

Purpose	This procedure reverts the ONS 15327 database to an earlier software load. Reverting to a R3.3.0 or later load will switch to the older software load and its database without affecting traffic or DCC connectivity.
Tools/Equipment	This feature requires dual XTC cards
Prerequisite Procedures	This feature requires Software R3.3.0 or later as the protect version.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

$\mathcal{Q}$

Tip   The revert feature is useful if a maintenance window closes while you are upgrading CTC software. You can revert to the standby software load without losing traffic. When the next maintenance window opens, complete the upgrade and activate the new software load.

Note   Provisioning performed after a software load is activated (upgraded to a higher software release) will not reinstate with a revert. The database configuration at the time of activation is reinstated by a revert. This note does not apply to maintenance reverts (for example, 2.2.2 to 2.2.1), because maintenance releases use the same database (a revert to a maintenance release software load will use the current active database; therefore, no provisioning is lost).

Step 1   Complete the "DLP-B 60 Log into CTC" task on page 2-23 at the node where you will perform the revert. If you are already logged in, go to Step 2.

Step 2   Record the IP address of that node. The address can be obtained using one of the following methods:

- The IP address is displayed on the left side in node view.
- In node (default) view, click the **Provisioning > Network > General** tabs.

Step 3   If reverting to a previous software release (not a maintenance release), record any new circuits created since the previous software upgrade. These circuits will have to be manually recreated (if needed) after the software reversion has taken place.

Step 4   Click the **Maintenance > Software** tabs.

Step 5   Verify that the protect software is Software R3.3.0 or later. If the protect software is not Software R3.3.0 or later, do not revert.

Step 6   Click **Revert**. The Revert button activates the protect software load.

Step 7   Click **Yes** in the revert confirmation dialog box. The ONS 15327 reboots and loses the connection to CTC.

Step 8   Wait until the software upgrade finishes. This might take as long as 30 minutes.

Step 9   When the software upgrade is finished, click the **Delete CTC Cache** button in the browser window.

Step 10   Close the browser.

Step 11   Restart the browser and log back into the node using the IP address recorded in Step 2. See the "DLP-B 60 Log into CTC" task on page 2-23 as necessary.

The browser downloads the CTC applet for the standby software load.

Step 12 If needed, recreate the circuits recorded in Step 3. See Chapter 5, "Create Circuits and VT Tunnels" for specific circuit creation procedures.

Stop. You have completed this procedure.

NTP-B112 Clean Fiber Connectors

Purpose	This procedure cleans the fiber connectors.
Tools/Equipment	Inspection microscope
	Compressed air/duster
	Type A Fiber Optic Connector Cleaner (CLETOP reel)
	Isopropyl alcohol 70 percent or higher
	Optical swab
	Optical receiver cleaning stick
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Maintenance

⚠ **Warning** **Invisible laser radiation may be emitted from the end of the unterminated fiber cable or connector. Do not stare into the beam or view directly with optical instruments.**

Step 1 Using an inspection microscope, inspect each fiber connector for dirt, cracks, or scratches.

Step 2 Replace any damaged fiber connectors.

✎ **Note** Replace all dust caps whenever the equipment will not be immediately used.

Step 3 Complete the "DLP-B 204 Scope and Clean Fiber Connectors and Adapters with Alcohol and Dry Wipes" task on page 14-21 as necessary.

Step 4 Complete the "DLP-B 205 Clean Fiber Connectors with CLETOP" task on page 14-21 as necessary.

Step 5 Complete the "DLP-B 206 Clean the Fiber Adapters" task on page 14-22 as necessary.

⚠ **Caution** Do not reuse the optical swabs. Keep unused swabs off of work surfaces.

Stop. You have completed this procedure.

DLP-B204 Scope and Clean Fiber Connectors and Adapters with Alcohol and Dry Wipes

Purpose	This task cleans the fiber connectors and adapters with alcohol and dry wipes.
Tools/Equipment	Compressed air/duster
	Isopropyl alcohol, 70 percent or higher
	Optical swab
	Optical receiver cleaning stick
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Maintenance

⚠️

Warning   **Invisible laser radiation may be emitted from the end of the unterminated fiber cable or connector. Do not stare into the beam or view directly with optical instruments.**

Step 1   Remove the dust cap from the fiber connector.

Step 2   Wipe the connector tip with the pre-moistened alcohol wipe.

Step 3   Blow dry using filtered air.

Step 4   Use an inspection microscope to inspect each fiber connector for dirt, cracks, or scratches. If the connector is not clean, repeat Steps 1 through 3.

Step 5   Insert the fiber connector into the applicable adapter or attach a dust cap to the fiber connector.

✎

Note   If you must replace a dust cap on a connector, first verify that the dust cap is clean. To clean the dust cap, wipe the outside of the cap using a dry lint free wipe and the inside of the dust cap using a CLETOP stick swab (14100400).

Step 6   Return to your originating procedure (NTP).

DLP-B205 Clean Fiber Connectors with CLETOP

Purpose	This task cleans the fiber connectors with CLETOP.
Tools/Equipment	Type A fiber optic connector cleaner (CLETOP reel)
	Optical receiver cleaning stick
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Maintenance

Step 1   Remove the dust cap from the fiber connector.

Step 2   Press the lever down to open the shutter door. Each time you press the lever, you expose a clean wiping surface.

Step 3   Insert the connector into the CLETOP cleaning cassette slot, rotate one quarter turn, and gently swipe downwards.

Step 4   Use an inspection microscope to inspect each fiber connector for dirt, cracks, or scratches. If the connector is not clean, repeat Steps 1 through 3.

Step 5   Insert the fiber connector into the applicable adapter or attach a dust cap to the fiber connector.

> **Note**   If you must replace a dust cap on a connector, first verify that the dust cap is clean. To clean the dust cap, wipe the outside of the cap using a dry lint free wipe and the inside of the dust cap using a CLETOP stick swab (14100400).

Step 6   Return to your originating procedure (NTP).

DLP-B206 Clean the Fiber Adapters

Purpose	This task cleans the fiber adapters.
Tools/Equipment	CLETOP stick swab
Prerequisite Procedures	None
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	Maintenance

Step 1   Remove the dust plug from the fiber adapter.

Step 2   Insert a CLETOP stick swab (14100400) into the adapter opening and rotate the swab.

Step 3   Place dust plugs on the fiber adapters when not in use.

Step 4   Return to your originating procedure (NTP).

NTP-B113 Reset the XTC Using CTC

Purpose	This procedure resets the XTC card and switches the node to the redundant XTC.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser

Warning **Do not reach into a vacant slot or chassis while you install or remove a module or a fan. Exposed circuitry could constitute an energy hazard.**

Note Before you reset the XTC, you should wait at least 60 seconds after the last provisioning change you made to avoid losing any changes to the database.

Note A software or card pull reset of an active XTC card causes a standard Telcordia protection switch of less than 50 ms.

Step 1 Complete the "DLP-B 60 Log into CTC" task on page 2-23 at the node where you will perform the software reset. If you are already logged in, go to Step 2.

Step 2 Right-click the XTC card to reveal a drop-down menu.

Step 3 Click **Reset Card**.

Step 4 Click **Yes** when the "Are You Sure?" dialog box appears.

Step 5 Click **OK** when the "Lost connection to node, changing to Network View" dialog box appears.

Note For LED behavior during an XTC reboot, see "NTP-B 217 Install the XTCs" procedure on page 1-21.

Step 6 Confirm that the XTC you reset is in standby mode after the reset. The information can be obtained using one of the following methods:

- The XTC card's LED will be amber for standby or green for active.
- In node view, run the mouse over the XTC card. A popup box displays whether the card is active or standby.

Stop. You have completed this procedure.

NTP-B215 View G1000-2 Ethernet Maintenance Information

Purpose	This procedure enables viewing the maintenance information on a selected G1000-2 Ethernet card.
Tools/Equipment	None
Prerequisite Procedures	Before you view performance monitoring (PM) values, be sure you have created the appropriate circuits and provisioned the card according to your specifications. For more information, see Chapter 5, "Create Circuits and VT Tunnels" and Chapter 10, "Change Port Settings."
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 Complete the "DLP-B 60 Log into CTC" task on page 2-23 at the node that you want to monitor. If you are already logged in, continue with Step 2.

Step 2 As needed, use the following tasks to change the display of Ethernet maintenance information:

- "DLP-B 305 View J1 Path Trace Information" task on page 14-24
- "DLP-B 306 View Loopback Status" task on page 14-25
- "DLP-B 307 View Ethernet Bandwidth Usage" task on page 14-25

Stop. You have completed this procedure.

DLP-B305 View J1 Path Trace Information

Purpose	This task changes the screen view to display J1 path trace information on a selected G1000-2 Ethernet card.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view, double-click a G1000-2 Ethernet card. The card view displays.

Step 2 Click the **Maintenance** tab.

Step 3 Click the **J1 Path Trace** tab.

Step 4 Click the **Retrieve** button.

View columns to the right to the J1 Path Trace information for each port on the card.

Step 5 Return to your originating procedure (NTP).

DLP-B306 View Loopback Status

Purpose	This task changes the screen view to display the loopback status on a selected G1000-2 Ethernet card port.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view, double-click a G1000-2 Ethernet card. The card view displays.

Step 2 Click the **Maintenance** tab.

Step 3 Click the **Loopback** tab.

The # and State columns identify the port number and current operating state (IS, OOS, OOS_MT) of each port on the card. The Loopback Type column identifies the type of loopback (None or Terminal) applied to each port on the card.

Step 4 Return to your originating procedure (NTP).

DLP-B307 View Ethernet Bandwidth Usage

Purpose	This task changes the screen view to display Ethernet bandwidth usage on a selected G1000-2 Ethernet card.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view, double-click a G1000-2 Ethernet card. The card view displays.

Step 2 Click the **Maintenance** tab.

Step 3 Click the **Bandwidth** tab.

The current STS bandwidth usage information appears.

Step 4 Return to your originating procedure (NTP).

NTP-B228 View E10/100-4 Ethernet Maintenance Information

Purpose	This procedure enables viewing the maintenance information on a selected E10/100-4 Ethernet card.
Tools/Equipment	None
Prerequisite Procedures	Before you view PM values, be sure you have created the appropriate circuits and provisioned the card according to your specifications. For more information, see Chapter 5, "Create Circuits and VT Tunnels" and Chapter 10, "Change Port Settings."
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 Complete the "DLP-B 60 Log into CTC" task on page 2-23 at the node that you want to monitor.

Step 2 To view Ethernet spanning tree parameters, click the **Maintenance > Ether Bridge > Spanning Trees** tabs. The current spanning tree information is displayed.

Step 3 As needed, complete the following tasks:

- DLP-B309 View Ethernet MAC Address Table, page 14-26
- DLP-B310 View Ethernet Trunk Utilization, page 14-27

Stop. You have completed this procedure.

DLP-B309 View Ethernet MAC Address Table

Purpose	This task displays the Ethernet MAC address table for any node with one or more E10/100-4 Ethernet cards installed.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view, click the **Maintenance > Ether Bridge > MAC Table** tabs.

Step 2 Select the appropriate E10/100-4 Ethernet card in the Layer 2 Domain field.

Step 3 Click the **Retrieve** button.

The MAC address table information is displayed.

Step 4 Return to your originating procedure (NTP).

DLP-B310 View Ethernet Trunk Utilization

Purpose	This task displays the Ethernet Trunk bandwidth usage on any node with one or more E10/100-4 Ethernet cards installed.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite ore remote
Security Level	Retrieve or higher

Step 1 In node view, click the **Maintenance** tab > **Ether Bridge** > **Trunk Utilization** tabs.

Step 2 Select the desired time interval in the Interval field.

Step 3 Click the **Refresh** button.

The trunk utilization information for the current and previous time intervals is displayed.

Step 4 Return to your originating procedure (NTP).

NTP-B225 Switch the Node Timing Reference

Purpose	This procedure switches the node timing reference to enable maintenance on a timing reference or to return the node timing to normal operation.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Maintenance or higher

Step 1 Complete the "DLP-B 60 Log into CTC" task on page 2-23 at the node you want to monitor. If you are already logged in, continue with Step 2.

Step 2 As needed, use the following tasks to change the display of Ethernet maintenance information:

- "DLP-B 330 Manual or Force Switch the Node Timing Reference" task on page 14-28
- "DLP-B 331 Clear a Manual or Force Switched Node Timing Reference" task on page 14-28

Stop. You have completed this procedure.

DLP-B330 Manual or Force Switch the Node Timing Reference

Purpose	This task commands the node to switch to the timing reference you have selected, as long as the synchronization status message (SSM) quality of the reference is not less than the reference that the node is currently running.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Maintenance or higher

Step 1   In node view, click the **Maintenance** > **Timing** tabs. The Timing Source window appears.

Step 2   Click the Reference drop-down menu for the desired Clock, and choose the desired reference.

Step 3   Click the Operation drop-down menu for the desired Clock, and choose one of the following options:

- Manual—This operation commands the NE to switch to the reference you have selected, as long as the SSM quality of the reference is not less the reference than the node is currently running.
- Force—This operation commands the NE to switch to the reference you have selected, regardless of the SSM quality, as long as the reference is valid.

Step 4   Click the **Apply** button.

Step 5   Click **Yes** in the confirmation dialog.

- If the selected timing reference is invalid, a warning dialog appears. Click **OK**, and the NE remains on the original timing reference without performing the switch.
- If the selected timing reference is an acceptable valid reference, the NE switches to the selected timing reference.

Step 6   Return to your originating procedure (NTP).

DLP-B331 Clear a Manual or Force Switched Node Timing Reference

Purpose	This task clears a manual or forced node timing reference switch that is currently in place so that timing will go back to normal timing as defined by your system configuration.
Tools/Equipment	None
Prerequisite Procedures	DLP-B60 Log into CTC, page 2-23
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Maintenance or higher

Step 1   In node view, click the **Maintenance** > **Timing** tabs. The Timing Source window appears.

Step 2   Find the Clock reference that is currently set to Manual or Force in the Operation menu.

Step 3   Click the Operation drop-down menu for the desired Clock, and choose **Clear**.

Step 4   Click the **Apply** button.

Step 5   Click **Yes** in the confirmation dialog.

- If the normal timing reference is invalid or has failed, a warning dialog appears. Click **OK**, and the NE remains on the previous timing reference without performing the switch.

- If the normal timing reference is an acceptable valid reference, the NE switches back to the normal timing reference as defined by the system configuration.

Step 6   Return to your originating procedure (NTP).